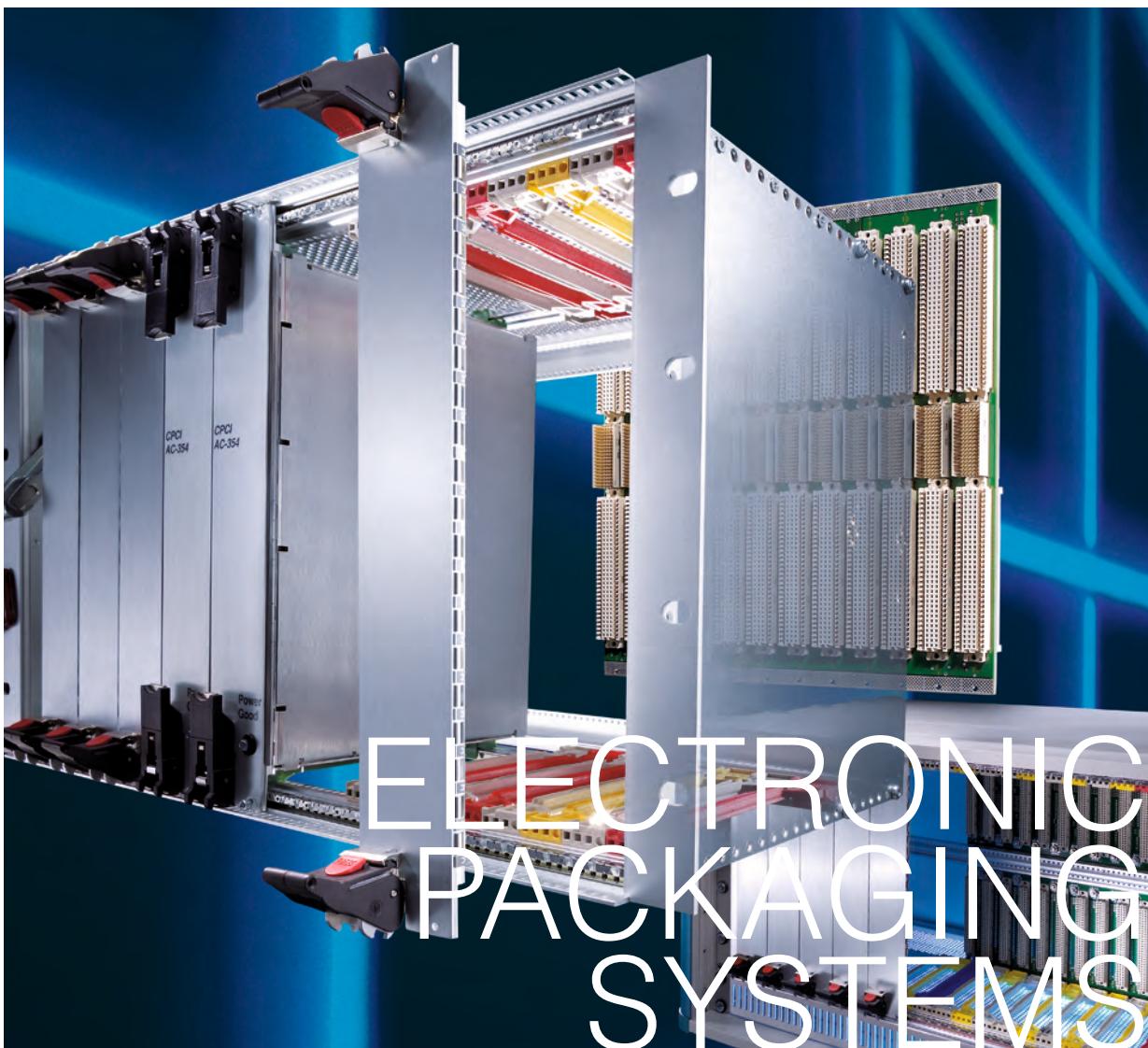




PROFESSIONAL SYSTEM CHASSIS TECHNOLOGY



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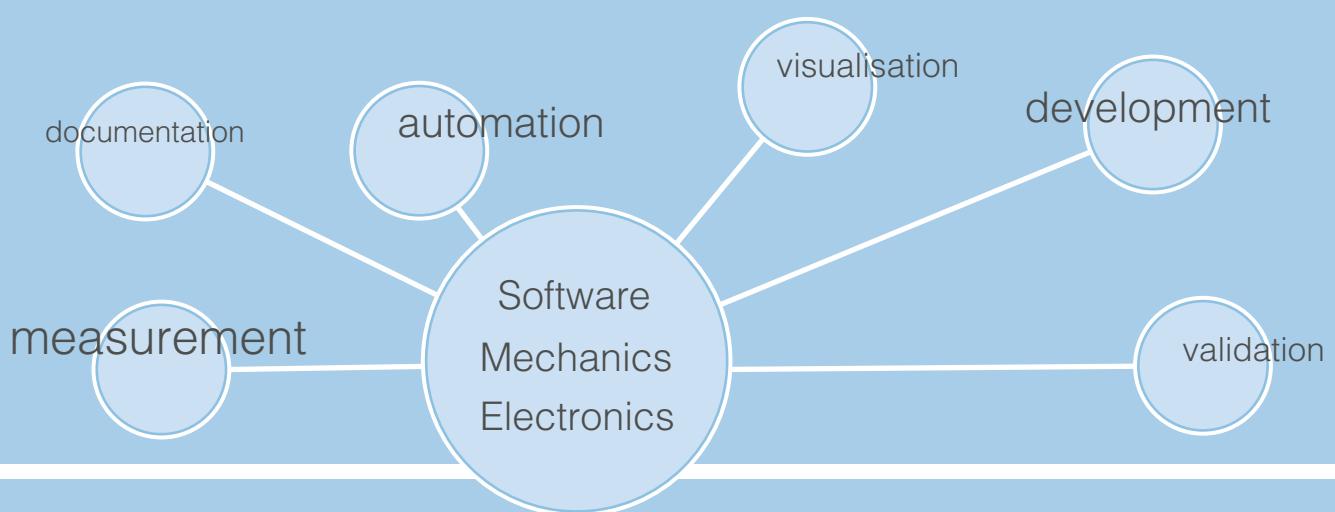
INTEGRATED INDUSTRIAL SOLUTIONS



For more than 25 years now HEITEC AG has been a synonym for solution, engineering and industry competence in the fields of software, mechanics and electronics. Being a single-source provider, we offer both high-quality standard applications and customer-specific solutions. It is our objective to provide sustainable, cost-reducing and innovative "engineering solutions" for our customers.

In cooperation with renowned universities and research institutes we are establishing the basis for future key technology.

Engineering Competence



Consulting & Planning

Design & Development

Manufacturing & Test

Commissioning & Training

Service & Maintenance

Solution Competence

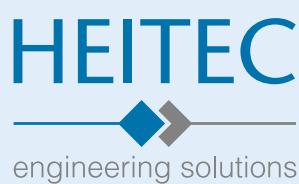


With more than 950 employees in 18 German branch offices and numerous locations abroad, we are close to our customers and provide highly comprehensive expertise.

Our success results from a long-term, trustworthy and partnership-based cooperation with our customers.

More than 1000 customers from medium to large sized companies benefit from our services and products.

Integrated Industrial Solutions



Industry Competence

- Plant Engineering and Machine Tool Industry
- Automotive Industry
- Electrical Industry
- Power Generation and Distribution
- Information and Communication Engineering
- Logistics Industry
- Aerospace Industry
- Food and Beverage Industry
- Medical Device Engineering
- Pharmaceutical Industry
- Traffic Engineering

INTEGRATED INDUSTRIAL SOLUTIONS



INDUSTRY EXPERTISE: THE APPLICATION IS IN FOCUS

Our employees do not only have profound, technical knowledge, but also are familiar with many key industries, such as industrial engineering, medical systems, energy, computing, telecommunications or aerospace.

This results in a thorough understanding of your requirements, even if they have not been explicitly spelled out.

HEITEC CORE BUSINESS SECTORS

AUTOMATION



PRODUCTION SYSTEMS



MEASUREMENT AND TEST ENGINEERING



ELECTRONICS



INTEGRATED INDUSTRIAL SOLUTIONS



QUALITY IS AT THE CORE OF OUR ACTIVITIES.

Our products and services are based on established and certified processes and methods. Additionally, we have industry-sector-specific process know-how, for example:

- Quality Management (DIN EN ISO 9001)
- Aerospace (DO 178B, DO254)
- Nuclear energy (KTA 1401, KTA 3507)
- Medical (DIN EN ISO 13485, IEC 62304)

SOFTWARE SOLUTIONS

DOCUMENTATION AND INFORMATION MANAGEMENT



WE FOCUS ON OUR CUSTOMERS

All our business sectors pay special attention to one point: the needs of our customers and how we can contribute to best meet their respective requirements. Be it during the planning phase and realisation of automation plants or manufacturing systems, be it with the design and assembly of test and measurement systems, the design of software solutions or documentation. Or the design and manufacturing of components and integrated system solutions for industrial electronics - the business sector we are going to focus on in the following pages.

www.heitec.de

INTEGRATED INDUSTRIAL SOLUTIONS



CONSULTANCY – IMPLEMENTATION – MANUFACTURING

The greatest strength of HEITEC AG is our know-how regarding the design, development and manufacturing of electronic systems.

Our experience ranges from the definition of the system architecture to the development and implementation of individual components as well as manufacturing including product life cycle management. With more than 150 experts just in electronics design/manufacturing, we can react flexibly to customer requirements.

CUSTOMER

REQUIREMENT ANALYSIS SYSTEM ARCHITECTURE

DEVELOPMENT & PRODUCTION

CONSULTANCY

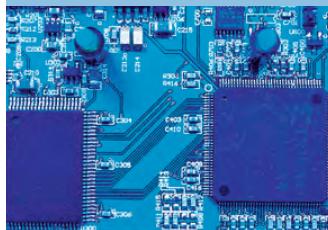
CHIP-DESIGN

ASIC (Digital,
Mixed Signal),
SoC, FPGA



HARDWARE DEVELOPMENT

Board Design,
Layout,
EMV/SI



FIRMWARE-/ SOFTWARE- DEVELOPMENT

RTOS,
Driver, BSP,
API



ELECTRONIC PACKAGING

Housing Technology
Modular Systems



INTEGRATION & VERIFICATION APPROVALS

Product Lifecycle Management: From the initial concept to product discontinuation. HEITEC AG is at your side during

COMPETENCE IN ELECTRONICS DESIGN AND MANUFACTURING



UNIQUE COMPETENCE

Our business unit Electronics offers electronics system design, electronics manufacturing and electronic packaging solutions. We do not only know how to design complex electronic systems but we also know how to manufacture and “package” it into industrial enclosures. It is this combination of wide-ranging know-how and profound expertise that defines our unique position in the market.

PRODUCTION

Prototypes,
Mass Production



PROJECT & QUALITY MANAGEMENT

We support you in hardware development from chip and board design or layout up to totally integrated system solutions. We develop software – on firmware or driver level . We design electronic packaging components and even complete enclosures, optionally with backplane, cooling/ventilation and power supply. You decide to which level we may serve you. We contribute our long term experience in creating solutions.

Our electronic manufacturing team assembles your products using state-of-the-art manufacturing and soldering technologies. Be it prototype or volume manufacturing – from low volume/high mix to medium volume/medium mix. In either case we constantly guarantee high quality by extensive test and measurement procedures. Our processes meet complex requirements even for sophisticated fields of applications, which – for example – demand component traceability or product longevity.

Our Electronic Packaging team is specialised in industrial enclosure technology. We package your electronics properly – based on standard components or individually tailored solutions. You will learn more about it on the following pages.

all project phases.

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PARTNERSHIP RITTAL – HEITEC



YOUR PARTNER FOR ELECTRONICS ENCLOSURES AND SYSTEMS

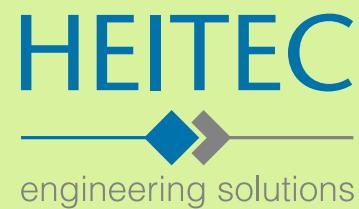
Since the beginning of 2010 HEITEC has been "Exclusive Rittal Partner" for customer specific and project business in the field of Electronic Packaging Systems.

In December 2012 HEITEC acquired the complete product line "Electronic Packaging Systems" from Rittal. This enables HEITEC now to offer the complete range of Electronic System Design, Electronic Manufacturing and Electronic Packaging Systems – from one single source.

2009

2010

Customer
specific
Electronic-
Packaging
Systems and
Components



Standard
Catalogue
Products



Product Line
Ownership



HEITEC ELECTRONIC PACKAGING SYSTEMS



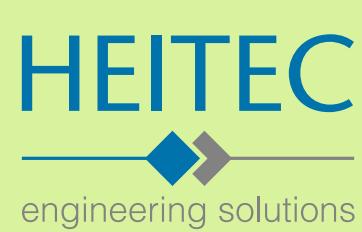
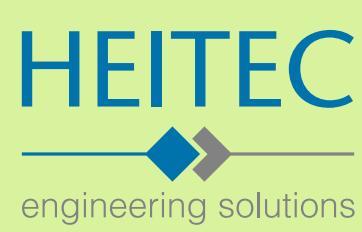
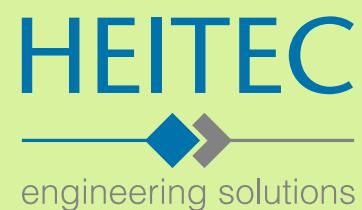
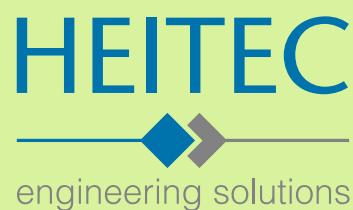
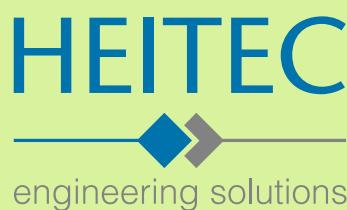
CONSISTENCY AND CONTINUITY

HEITEC does not only maintain the original Rittal part numbers but guarantees consistency, product longevity, supply chain security and continuous enhancement of the wide product range. Due to a continued strong partnership with Rittal subsidiaries and channel partners abroad, HEITEC provides global customer support.

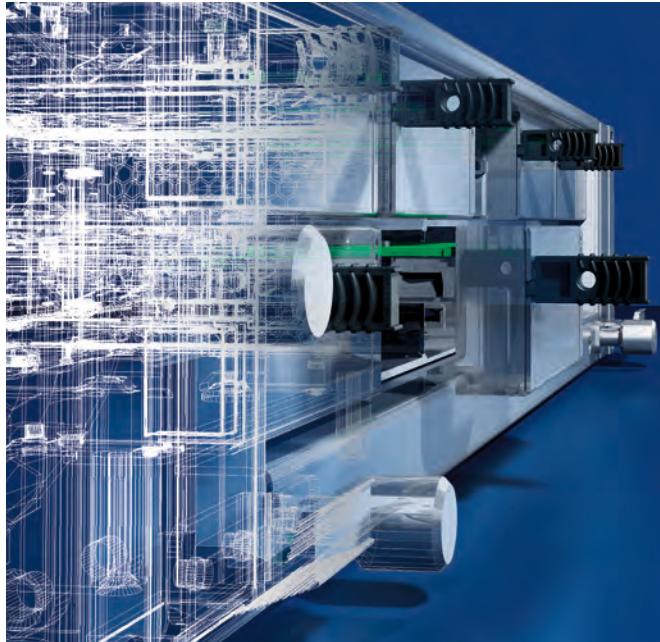
2011

2012

2013



PRODUCTS AND SERVICES



The product portfolio of the business unit Electronic Packaging Systems (EPS) ranges from individual components through the assembly of electronics enclosures to completely integrated system solutions. Should you prefer to perform most of the system integration by yourself, we just deliver individual components, pre-assembled elements or system enclosures. If you prefer partly or completely integrated solutions - even using your own hard- and software - HEITEC EPS offers full service up to level 5. We support you whichever way fits best to your business model.

Consulting &
Planning

Design &
Development

Prototyping

Solution competence

Precise analysis of the respective requirements comprising relevant factors such as operational environment, functionality and state-of-the-art technology, are the basis for sound consultancy.

Our design engineers create a concept that incorporates the results of the analysis on the one hand and the extensive experience of our engineers in 19" technology, industrial enclosures, cooling systems, backplane technologies and embedded systems on the other hand.

After having decided on the Electronic Packaging System we build a prototype. In close cooperation with you the prototype will be optimised to perfectly meet your specific requirements.

HEITEC ELECTRONIC PACKAGING SYSTEMS



Test & Measurement

Volume Manufacturing

After Sales Service

The test laboratory performs extensive test and measurement programs verifying mechanical stability, dust and moisture protection or even behavior under extreme climate conditions. In case there is a need for optimisation, it is defined, implemented and again tested.

Volume manufacturing starts with functional reliability. All systems pass through function and safety tests before being delivered. The seal of approval guarantees HEITEC quality.

We continuously support you providing advice, service and our complete know-how so that no concerns remain unsolved.

PRODUCTS AND SERVICES



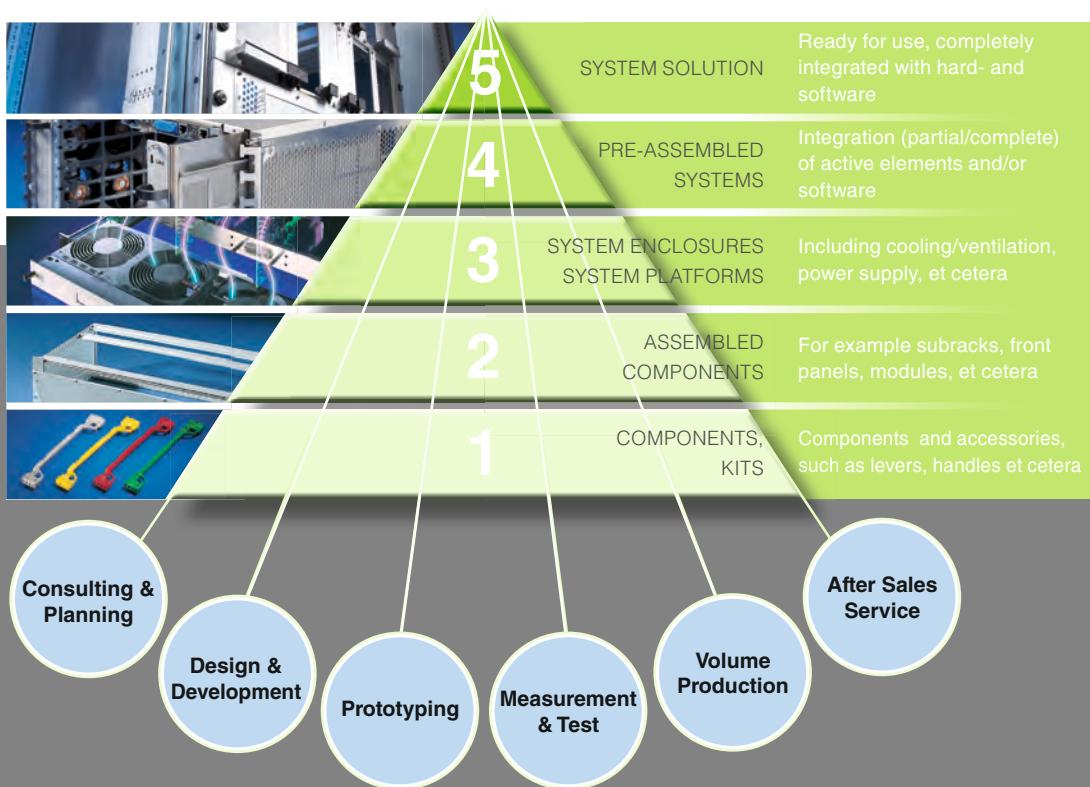
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HEITEC ELECTRONIC PACKAGING SYSTEMS



Besides a multitude of standard products in this catalogue, we provide individual, tailor made solutions.

Be it customer specific front panels - drilled, milled or printed according to your requirements, be it subracks, system enclosures or system configurations adapted to your application: we create the appropriate product for you. Please do not hesitate to contact our specialists.



MicroTCA/AdvancedMC



MicroTCA – compact package, wide range of applications

As an amendment to the AdvancedTCA standard, the MicroTCA specification mTCA.x was created as a compact version for a variety of applications. MicroTCA offers standardised modularity, compact design and a high scalability and bandwidth.

Additionally, the consistent platform strategy reduces the time to market. Whenever ultra fast data transmission or data storage is required, MicroTCA systems are the first choice. This is true not only for telecom applications but also for industrial control systems or medical engineering.

HEITEC ELECTRONIC PACKAGING SYSTEMS offers the “complete know-how” for professional Electronic Packaging – for MicroTCA-, CPCI-, VME- and customer specific applications.

Our range of services comprises complete “plug & play”- systems including backplanes, power supply and effective cooling units.



MicroTCA- systems 2, 3, 4, 5 U



AdvancedMC Face Plate Kits

xTCA™

AdvancedMC™

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HEITEC MicroTCA / TCA OVERVIEW

**MicroTCA development system
VP1 single/double**



3/5 U, 12 slots
Order no. see page 20

Applications:

MicroTCA specification is designed as an amendment to the ATCA standard as a lower-cost compact version for the low-end sector. The main features are a compact design, high scalability, modularity and considerably reduced system costs. MicroTCA development systems are suited for design of hardware and software or for testing AMC modules.

Technical specifications:

- 19" rack-mount system 3 or 5 U, 200 mm deep
- For installing single (3 U) or double (5 U) AMC modules
- 12 x AMC slots (8 x full, 4 x compact)
- 2 x MCH slots
- 2 x Power slots
- Integrated power adapter
- Fan unit for cooling up to 40W/slot
- Backplane 14 slots
- Support brackets

Benefits at a glance:

- Conforms to PICMG MicroTCA.0 R1.0 and AMC.0 R2.0
- Integrated fan unit
- Integrated power adapter
- Fully wired and tested

**MicroTCA rack-mount system
VP1 single/double**



2/4 U, 12 slots
Order no. see page 20

Applications:

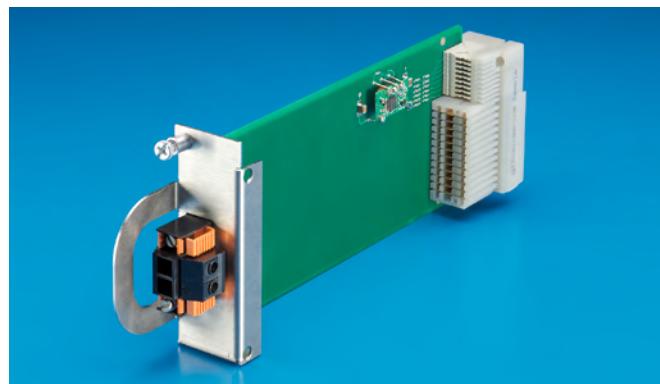
MicroTCA specification is designed as an amendment to the ATCA standard as a lower-cost compact version for the low-end sector. The main features are a compact design, high scalability, modularity and considerably reduced system costs. The rack-mount systems are suited for applications in the low-end telecommunication or industrial sectors.

Technical specifications:

- 19" rack-mount system 2 (+10 mm) or 4 U, 200 mm deep
- For installing single (2 U) or double (4 U) AMC modules
- 12 x AMC slots (8 x full, 4 x compact)
- 2 x MCH slots
- 2 x Power slots
- Backplane 14 slots

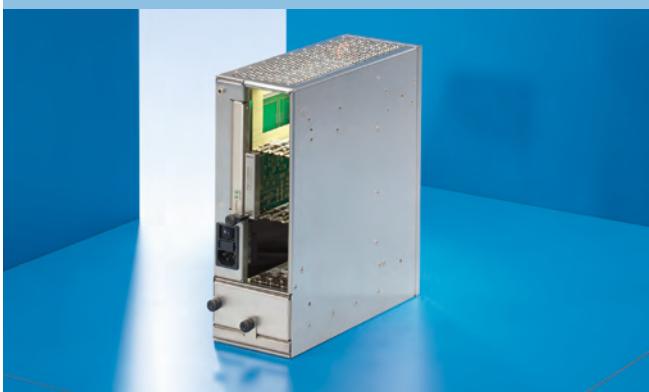
Benefits at a glance:

- Conforms to PICMG MicroTCA.0 R1.0 and AMC.0 R2.0
- Fully wired and tested



HEITEC MicroTCA / TCA OVERVIEW

CubeTCA



7 slots

109 x 307 x 286 mm (width/height/depth)

Available on request

Applications:

Based on the MTCA specification the compact CubeTCA offers a wide range of application fields in the industrial sector. The CubeTCA can either be assembled directly on the mounting plate or integrated within the target system.

Technical specifications:

- Frame 109 x 307 x 286 mm
- 7 slots – 6 x AMC, 1 x MCH
- Removable cooling unit with two axial-flow fans and filter
- AC/DC power supply, 350 W
- Optional brackets for assembly on mounting plates
- Optional adapter for cap rail installation

Benefits at a glance:

- Conforms to MicroTCA.0 R1.0
- Compact design
- Assembly on mounting plate or in the target system
- Plug-in fan unit
- 7 slots
- Fully assembled, wired and tested

PicoTCA



2 U, 13 slots

Order no. see page 21

Applications:

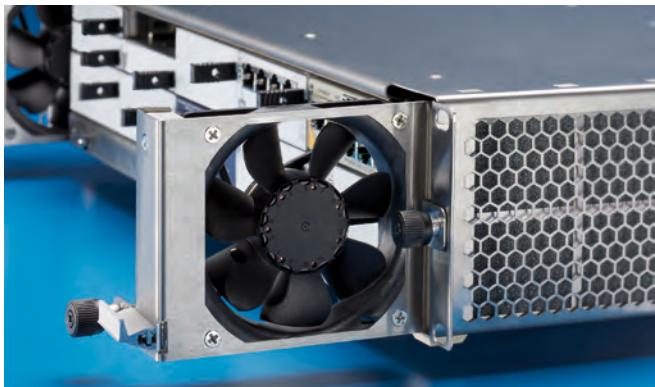
Based on the MTCA specification, PicoTCA is a modular ready-to-run system, which carries up to 12 AMCs and 1 MCH. Due to the robust construction, the 19" rack can be used both in the telecommunication and in the industrial sector.

Technical specifications:

- 19" rack-mount system, 2 U, 250 mm deep
- Supports 12 AMCs (full-size, compact) and 1 MCH
- Cooling via 2 stand-alone cooling units with removable air filter
- EMC version
- AC/DC power supply: 450 W
- Backplane and AMC-connector in con:card+ quality from HARTING
- Integrated JTAG-connector for debug and test
- Support up to 12.5 Gb/s

Benefits at a glance:

- Conforms to PIGMG MicroTCA.0 R1.0
- Ready-to-run system of minimum space
- For installation in 300 mm deep enclosures
- Support up to 12.5 Gb/s
- Removable air filter
- Robust industrial model guarantees shock and vibration protection
- Compliant to NEBS
- Fully assembled, wired and tested



MicroTCA

DEVELOPMENT SYSTEMS/RACK-MOUNT SYSTEMS



Development systems/rack-mount systems

MicroTCA development systems for hardware and software development or testing of AMC modules

Technical specifications:

- Complies with PICMG Micro-TCA.0 R1.0 and AMC.0 R1.0
- 482.6 mm (19") development systems in 3 and 5 U, 200 mm deep for installing Single or Double AdvancedMC modules
- Integral fan unit for cooling up to 40 W/slot
- Including backplane, 14 slots
- Fully wired and tested

MicroTCA rack-mounted system for applications in the low-end telecommunications and industry sectors.

Technical specifications:

- Complies with PICMG Micro-TCA.0 R1.0 and AMC.0 R1.0
- 482.6 mm (19") rack-mount systems in 2 and 4 U, 200 mm deep for installing Single or Double AdvancedMC modules
- Including backplane, 14 slots (complies with MTCA.0 R1.0)
- Fully wired and tested
- Order climate control units separately

Material:

Rack-mount systems of sheet steel, zinc-plated, spray-finished

Supply includes:

1 482.6 mm (19") system,
200 mm deep,
1 backplane

For additional development system:
1 fan unit,
2 support brackets.

Notice:

Power Module has to be ordered separately, see page 23.
For 4 or 5 U systems you may optionally order a 6 HP divider rail in order to cover the free space above the power module.

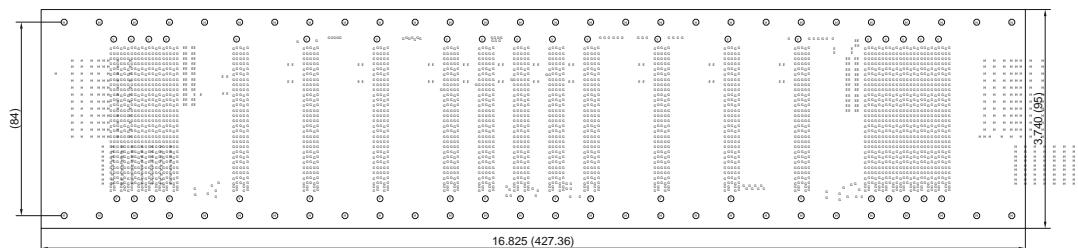
MicroTCA development systems

| µTCA system | U | AMC-Slots | MCH-Slots | Power-Slots | Order No. |
|--------------------|----------|----------------------------|------------------|--------------------|------------------|
| VP 1 single | 3 | 12 (8 x full, 4 x compact) | 2 | 2 | 3666.006 |
| VP 1 double | 5 | 12 (8 x full, 4 x compact) | 2 | 2 | 3666.007 |

Power modules available on request.

MicroTCA rack-mount systems

| µTCA system | U | AMC-Slots | MCH-Slots | Power-Slots | Order No. |
|--------------------|-----------|----------------------------|------------------|--------------------|------------------|
| VP 1 single | 2 (10 mm) | 12 (8 x full, 4 x compact) | 2 | 2 | 9911.758 |
| VP 1 double | 4 | 12 (8 x full, 4 x compact) | 2 | 2 | 9911.760 |



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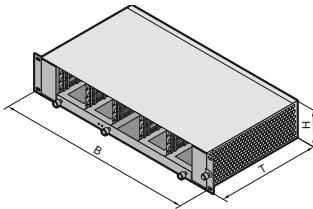
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MicroTCA PicoTCA, 482.6 mm (19"), 2 U



B = Width
T = Depth
H = Height

PicoTCA, 19", 2 U

The PicoTCA is a modular 19" chassis in 2 U design supporting up to 12 AMCs (fullsize, compact) and an MCH (fullsize). The chassis is designed such that communication protocols compliant with AMC.1 type 4 (PCIe and Advanced Switching), AMC.2 type 4, AMC.2 E2 (GbE) and AMC.3 (SAS/SATA) can all be handled. For SAS and SATA/AMC boards, a point-to-point connection is realised via the backplane, so that each slot is able to communicate directly with its neighbouring slots via ports 2 and 3. In the initial version, an MCH (Micro-TCA Carrier Hub) is supported via the backplane. Customer-specific designs and backplanes can be supplied upon request.

Benefits at a glance:

- Conforms to PICMG MicroTCA.0 R1.0
- Extremely compact ready-to-run system
- Chassis depth of 250 mm for installation in 300 mm deep enclosures
- Includes AC/DC power supply
- Support for up to 12.5 Gb/s
- Support for different AMC form factors
- Exchangeable air filters
- High EMC shielding
- Robust industrial design
- Fully assembled, wired and tested. Ready to run

Technical specifications:

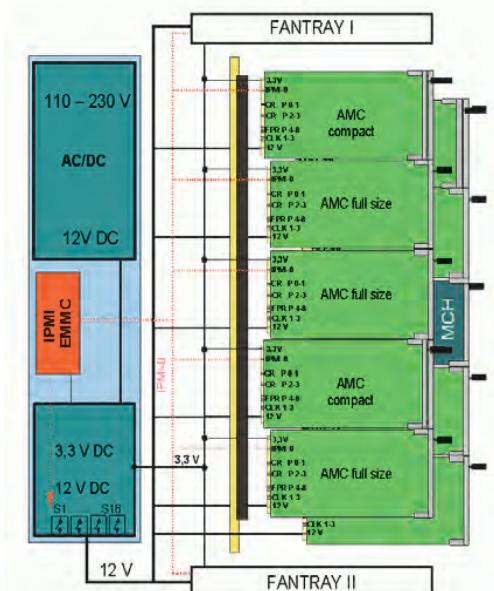
- 19", 2 U, 250 mm deep
- AC/DC power supply, max. 450 W:
 - Input voltage: min. 90 V AC – max. 264 V AC with PFC
 - Input frequency: min. 47 Hz – max. 63 Hz
 - Output: 3.3 V DC/max. 3 A, 12 V DC/max. 38 A

- Cooling via 2 independent fan trays
- Backplane and AMC connectors in con:card+ quality from HARTING
- Integrated JTAG connector for debug and test
- Supports 12 AMCs (full-size, compact) compliant with AMC.1 type 4 E2S and AMC.2 type 4 E2S, as well as 1 MCH
- Weight: 5.9 kg
- Operating temperature: 0°C to +45°C
- Storage temperature: -40°C to +85°C

Supply includes:

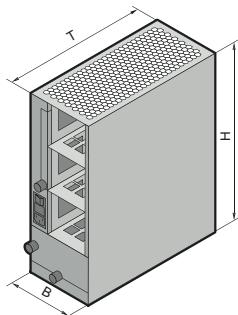
- 1 rack-mount system 482.6 mm (19"), 2 U, 250 mm deep,
- 2 fan tray modules with air filters,
- 1 power supply,
- 1 backplane,
- 1 power management board

| | Packs of | 2 U |
|----------------------|----------|-----------------|
| Width (W) | | 19" |
| Height (H) mm | | 87 |
| Depth (D) mm | | 250 |
| Order No. | 1 | 9911.803 |



+ Accessories MicroTCA Page 23

MicroTCA CubeTCA



B = Width
T = Depth
H = Height

CubeTCA

Due to the compact dimensions the cubeTCA platform offers a huge variety of applications in the industrial sector. Assembly on mounting plate or in the target system by using integrated key holes or adapters for assembly directly on support rails.

Benefits at a glance:

- Conforms to MicroTCA.0 R1.0
- Compact design
- Assembly on mounting plate or in the target system
- 7 slots for 6 x AMC, 1 x MCH
- Plug-in fan unit with 2 axial flow fans and filter
- Integrated AC/DC power supply
- Fully assembled, wired and tested

Technical specifications:

- 6 front slots
- Backplane 6 slots inclusive
- Removable cooling unit
- AC/DC power supply: 350 W

Material:

Stainless steel

Supply includes:

1 system

Note:

Available on request

+ Accessories:

Brackets for assembly on mounting plates
Top hat rails for installation on support rails

Technical details



Installation space
for 6 AMC, 1 x MCH



**Removable cooling unit
and filter**

Accessories on request



Top hat rails
for installation on
support rails.



Brackets
for rear or lateral assembly on
mounting plates.

MicroTCA ACCESSORIES

Power Module PM



The PM is a 355 W MicroTCA PowerModule in Advanced Mezzanine Card (AMC) form factor, single/full-size compliant to MTCA.0 specification. The Power Module comprises an Enhanced Module Management Controller (EMMC) that communicates with the Carrier Manager via Intelligent Platform Management Bus (IPMB).

- Power supply for MicroTCA Carrier Hub (MCH) AdvancedMCs and Cooling Units (CU)
- Operates via IPMI with a MicroTCA Carrier Hub (MCH)
- Power monitoring of each channel
- 16 x 12 volt channels for Payload Power

| Description | Order No. |
|----------------|-----------------|
| PM 355W/- 48 V | 3666.008 |

- 16 x 3.3 Volt channels for Management Power
- EMC- filter, transient protection, input current lock-out

Technical Details:

- 355 W
- - 48 VDC Input
- 12 VDC Output
- 3.3 VDC Output

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AdvancedMC FACE PLATES



AMC Face Plate Kits

These are used as face plates for AMC cards and ATCA carriers, or as filler panels in MicroTCA systems.

- Installation in µTCA systems or AMC carriers
- Conforms to AMC.0 R2.0
- Height: Single & Double
- Widths: Compact, Mid-Size, Full-Size
- Simple handling when locking and unlocking (no screws)
- Hot swap-compatible injector/extractor handles
- Customer-specific face plates available with a short lead time
- Upgradable with filler sheets and air baffle plates
- Double to Single conversion module (accessory)

Material:

Face plate made from aluminium, (stainless steel available on request)
Holder for light pipe and PCB, die-cast zinc
Light pipe, polycarbonate
Handle, die-cast zinc, spray-finished
EMC seal, foam with metal fabric
(UL 94 - V0)

Supply includes:

- 1 U-channel face plate,
- 1 holder to accommodate a light pipe and PCB,
- 1 handle for microswitch,
- 1 light pipe (for 2 LEDs),
- 1 EMC gasket, left side and bottom.

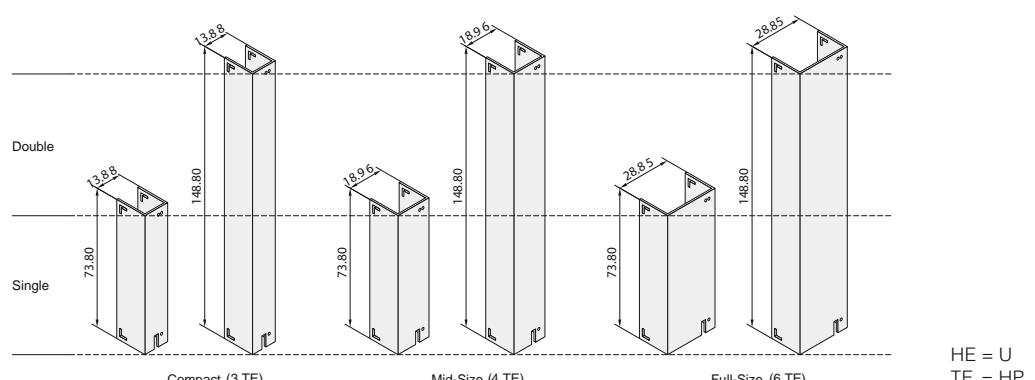
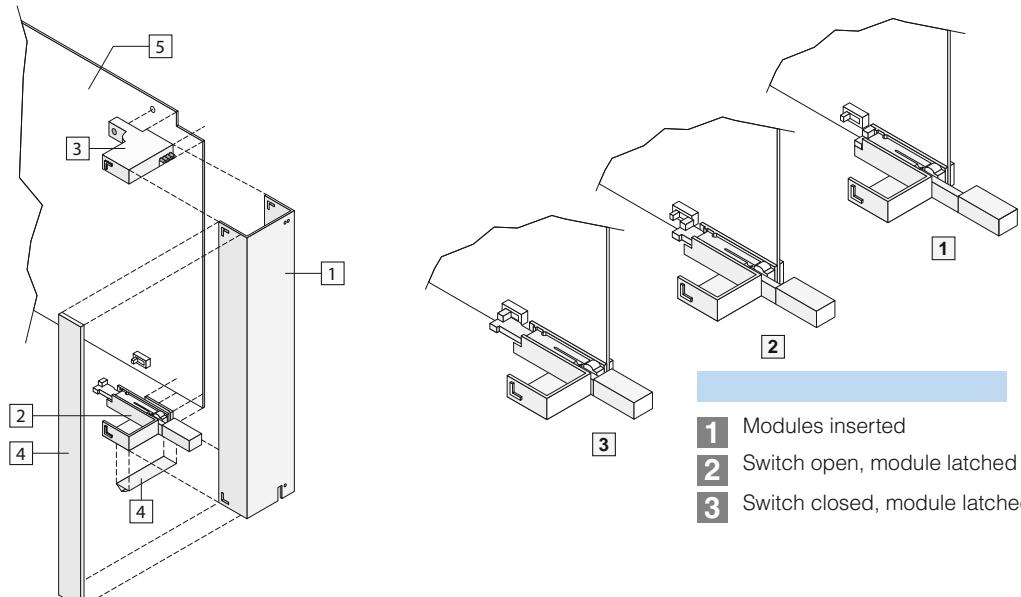
| Design (H x W) | Packs of | Order No. |
|--------------------|----------|-----------------|
| Single x Compact | 1 | 9911.885 |
| Single x Mid-Size | 1 | 9911.889 |
| Single x Full-Size | 1 | 9911.886 |
| Double x Compact | 1 | 9911.887 |
| Double x Mid-Size | 1 | 9911.890 |
| Double x Full-Size | 1 | 9911.888 |

Face plates with 4 LEDs in aluminium and stainless steel available on request (to AMC.0 Spec. R1.0).

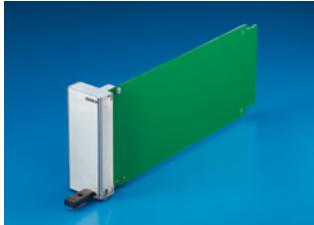
+ Accessories:

AMC filler sheets, air baffle plates, conversion module, see page 25

- 1** Face plate
- 2** Handle and locator for PCB
- 3** Holder with LED light pipe and locator for PCB
- 4** EMC gaskets
- 5** Filler sheet



AdvancedMC FILLER SHEETS

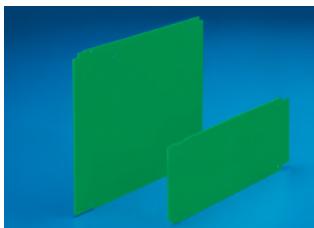


AMC filler sheets

Filler sheets are mounted on the AMC face plates and are used to route the airflow in ATCA carriers and MicroTCA systems. They may additionally be equipped with air baffle plates to create suitable air resistance in an empty slot.

Material:
Epoxy

| Design | Packs of | Order No. |
|--------|----------|-----------------|
| Single | 1 | 9911.570 |
| Double | 1 | 9911.571 |



Air baffle plates

AMC slots must be populated with an empty card in order to ensure adequate air resistance. The air resistance should be adapted to the requirements of the overall system by the user. In all cases, it should be sufficiently high to ensure that the air is forced to flow over active cards into adjacent slots and does not flow unhindered through empty slots. The air baffle plate is used to adjust the air resistance. Up to 2 air baffle plates may be mounted on one filler sheet. Adjustable air resistance from 80 – 50 % thanks to removable membranes.

Material:
Stainless steel

Supply includes:
1 baffle plate, assembly parts

| Design | Packs of | Order No. |
|-----------|----------|-----------------|
| Compact | 1 | 9911.891 |
| Mid-Size | 1 | 9911.892 |
| Full-Size | 1 | 9911.893 |



Conversion module

The conversion module allows 1 x Double to be converted into 1 x Single slot. Option of installing Compact or Full-Size modules.

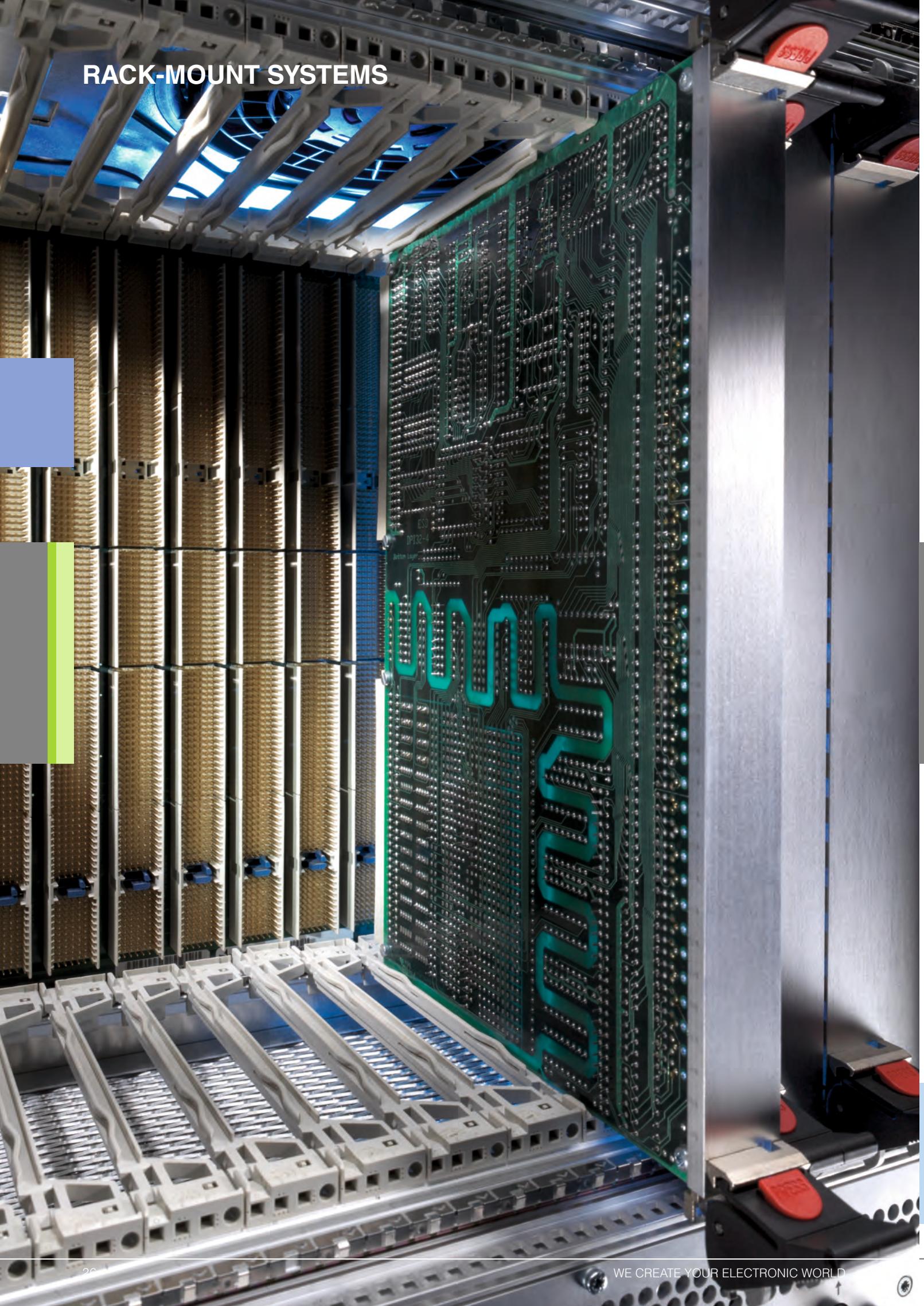
Material:
Stainless steel, partially spray-finished

Supply includes:
1 conversion module

| Design | Packs of | Order No. |
|-----------|----------|-----------------|
| Compact | 1 | 9907.699 |
| Full-Size | 1 | 9911.220 |



RACK-MOUNT SYSTEMS



Standardised components - individually combined

HEITEC supplies complete plug & play solutions for VME and CompactPCI applications at a high level – up to Level 5. The systems are based on standardised components which may be individually combined, depending on requirements. They are supplied completely with power supply, backplane, measures for EMC and ESD protection, as well as climate control; fully assembled, pre-wired and tested.

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EMC Features

All components have a conductive surface: stainless steel EMC gaskets connect to the individual components. EMC front panels with EMC gaskets ensure proper contacting.

ESD Protection

ESD pin and ESD Clip in the guide rail deflect electrostatic charging before contacting the plug in unit. ESD Clip in the PCB guide rail provides permanent and direct deflection via the PCB.

Ventilation

Small card guides and horizontal rails ensure maximum air flow. Individual ventilation concepts provide well-directed air ducting and ideal heat dissipation - optionally from bottom to top or from front to rear. Powerful HeiCool fan ensures optimum climate control. 1 U, hot swap compatible, 204 m³ /h including speed control and fault alarm signal.



CompactPCI®

BENEFITS AT A GLANCE



Systems for Compact PCI

Systems for VME/VME64x

- Systems for setup of industrial computer systems according to Compact PCI specification and VME bus
- Robust mechanics
- Individual configuration on request
- Completely assembled, pre-wired and tested including backplane and power supply
- Individual cooling concepts
- Conforms to IEC 60 297-3 and IEEE 1101.1/10/11 and Compact PCI spec. rev.1.0 (PICMG)

HEITEC RACK-MOUNT SYSTEMS for Compact PCI

OVERVIEW



1, 2, 3, 4 U/2, 4, 6, 8 slots
Order no. on request

Applications:

Configuration of 19" industrial computer systems according to CompactPCI specification for

- Telecommunication
- Industrial Automation

Technical specifications:

- 482.6 mm (19") rack-mount system for horizontal mounting of front boards or rear I/O boards
- 1 U, 2 U, 3 U, 4 U, 300 mm deep
- Standard cooling from left to right side
- Sheet steel, spray-finished (black)
- Preconfigured system including backplane and fan unit
- Completely assembled, pre-wired and tested
- Installation of CPCI-boards according to CompactPCI spec. 2.0 Rev. 3.0

Benefits at a glance:

- Horizontal installation of Eurocards/ Double Eurocards
- Maximum installation with minimum space requirement
- 2/4/6/8 front slots for 160 mm and back slots for 80 mm boards
- Hot-swap compatible power supplies , optionally AC or DC
- EMC and ESD protection
- Completely assembled, pre-wired and tested
- Integrated cooling from left to right
- Modular assembly for individual configuration
- Corresponds to CompactPCI spec. 2.0 rev. 3.0, IEC 60 297-3-101, - 102, - 103



3 U, 5 slots/4U, 7 slots horizontal
Order no. see page 30

Applications:

Configuration of 19" industrial computer systems according to CompactPCI specification for

- Telecommunication
- Industrial Automation

Technical specifications:

- 482.6 mm (19") rack-mount system for horizontal mounting of double Eurocards
- 3 U, 4 U, 405 mm deep
- Aluminium coated
- Including backplane, power supply and fan unit on the rear panel
- Completely assembled, pre-wired and tested
- Horizontal installation space for double Eurocards: 5 and 7 slots
- Installation of CPCI boards according to CompactPCI spec. 2.0 rev. 3.0

Benefits at a glance:

- Horizontal installation of double Eurocards
- EMC and ESD protection
- Completely assembled, pre-wired and tested
- Well-directed air ducting from front to rear by fans in the rear panel
- Keyable guide rails
- Corresponds to CompactPCI spec. 2.0 rev. 3.0, IEC 60 297-3-101, - 102, - 103



4 U/7 U, 8 slots
Order no. see page 31

Applications:

Configuration of 19" industrial computer systems according to CompactPCI specification for

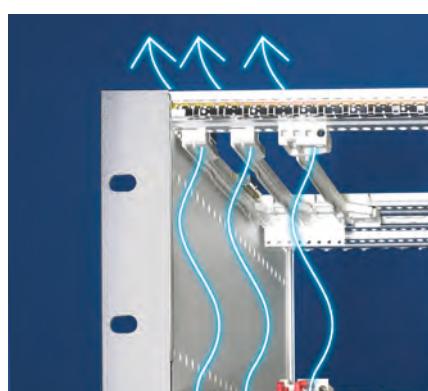
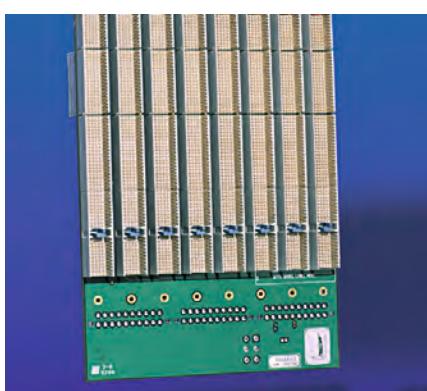
- Telecommunication
- Industrial Automation

Technical specifications:

- 482.6 mm (19") rack-mount system for vertical mounting of Eurocards/double Eurocards
- 4 U and 7 U, 405 mm deep
- Aluminium coated
- Including backplane and power supply
- Fan unit with 3 DC fans
- Completely assembled, pre-wired and tested
- Installation space for Eurocards/double Eurocards: 8 slots
- Installation of CPCI boards according to CompactPCI spec. 2.0 rev. 3.0

Benefits at a glance:

- Vertical installation of Eurocards/ double Eurocards
- EMC and ESD protection
- Completely assembled, pre-wired and tested
- Fan unit provides directed air flow from bottom to top
- Keyable guide rails
- Conforms to CompactPCI spec. 2.0 rev. 3.0, IEC 60 297-3-101, - 102, - 103



HEITEC RACK-MOUNT SYSTEMS for Compact PCI OVERVIEW

HeiPac CPCI-Systems



7 U, 8 slots

Order no. see page 32

Applications:

Configuration of 19" industrial computer systems according to CompactPCI specification for

- Telecommunication
- Industrial Automation

Technical specifications:

- 482.6 mm (19") rack-mount system for vertical mounting of double Eurocards
- 7 U, 405 mm deep
- Aluminium coated
- Including backplane, power supply and fan unit on the rear panel
- Completely assembled, pre-wired and tested
- Installation space for boards: 8 slots
- Installation of CPCI boards according to CompactPCI spec. 2.0 rev. 3.0

Benefits at a glance:

- Vertical installation of double Eurocards
- EMC and ESD protection
- Completely assembled, pre-wired and tested
- Well-directed air flow from front to rear by DC fans on the rear panel
- Keyable guide rails
- Conforms to CompactPCI spec. 2.0 rev. 3.0, IEC 60 297-3-101, - 102, - 103

HeiPac CPCI-Systems



9 U, 8 slots with HeiCool and Rear I/O

Order no. see page 33

Applications:

Configuration of 19" industrial computer systems according to CompactPCI specification for

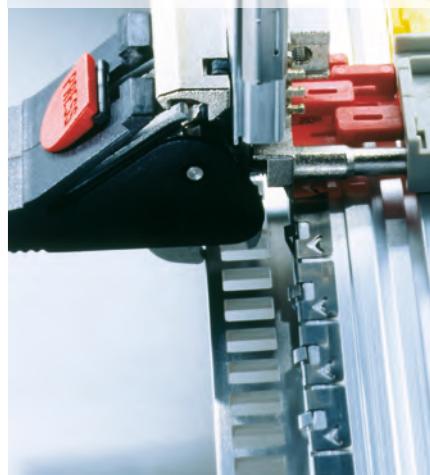
- Telecommunication
- Industrial Automation

Technical specifications:

- 482.6 mm (19") rack-mount system for vertical mounting of double Eurocards
- 9 U, 290.5 mm deep, on the rear side for I/O modules
- Aluminium coated
- Including backplane, power supply and 2 radial fans HeiCool (204 m³/h)
- Completely assembled, pre-wired and tested
- Installation space for boards: 8 slots
- Installation of CPCI boards according to CompactPCI spec. 2.0 rev. 3.0

Benefits at a glance:

- Vertical installation of double Eurocards
- EMC and ESD protection
- Completely assembled, pre-wired and tested
- Well-directed air flow from front to rear
- Rear I/O
- Keyable guide rails
- Effective ventilation by 2 radial fans HeiCool (204 m³/h)
- Conforms to CompactPCI spec. 2.0 rev. 3.0, IEC 60 297-3-101, - 102, - 103



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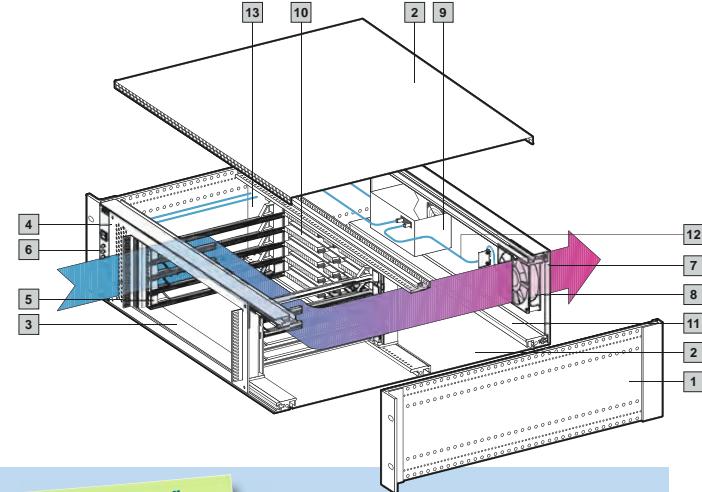
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CPCI RACK-MOUNT SYSTEMS

HeiPac 3 U, 5 slots/4 U, 7 slots horizontal



Technical specifications:

Subrack, 405 mm deep, for installation in 482.6 mm (19") enclosures or cases. Prepared to accommodate CPCI boards and drives. Includes MPS Monitoring (see pages 51-53).

Complies with IEC 60 297-3-101, -102, -103. Fully assembled, pre-wired and tested.

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Illustration:
MPS system 3 U for CPCI

| U | | 3 | 4 | Page |
|---|--|-----------------|-----------------|------|
| Side panel depth mm | | 405 | 405 | |
| Wiring space (depth in mm) | | 210 | 210 | |
| For PCB | | 6 U x 160 mm | 6 U x 160 mm | |
| MPS system Model No. RP for CPCI | | 9910.944 | 9910.945 | |

Mechanical supply includes

| Description | Material | Qty. | |
|---|--|------|----|
| [1] HeiPac basic subrack system (side panels, horizontal rails, flanges, EMC gaskets) | Aluminium, clear-chromated/stainless steel | 1 | 1 |
| [2] Top and bottom covers, solid | Aluminium | 2 | 2 |
| [13] Air partition | Aluminium | 1 | 1 |
| EMC shielding plate for fan | Aluminium, clear-chromated | 1 | 1 |
| [3] Horizontal mounting kit | Aluminium, clear-chromated | 1 | 1 |
| [4] Trim frame for horizontal mounting kit | 2,5 mm aluminium, clear-chromated | 1 | 1 |
| [5] Plastic guide rails, keyable | Polycarbonate UL 94-V0 | 8 | 12 |
| Plastic guide rails, keyable, red | Polycarbonate | 2 | 2 |
| [6] EMC front panel 3 U/5 HP for MPS monitoring | 2,5 mm aluminium, clear-chromated | 1 | — |
| EMC front panel 4 U/5 HP for MPS monitoring | 2,5 mm aluminium, clear-chromated | — | 1 |
| [7] EMC rear panel 3 U/84 HP with fan and connector cut-out | 2,5 mm aluminium, clear-chromated | 1 | — |
| EMC rear panel 4 U/84 HP with fan and connector cut-out | 2,5 mm aluminium, clear-chromated | — | 1 |

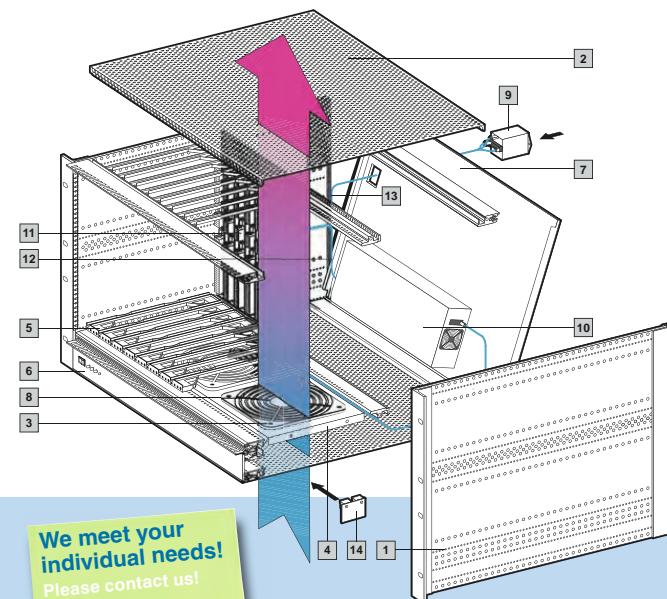
Electrical/electronic supply includes

| Description | Technical specifications | | | |
|---|--|---|---|-----|
| [8] DC fan | 12 V DC, 48 m³/h, per fan (UL, CSA, VDE) optionally speed-controlled | 1 | 1 | 133 |
| [9] Power supply unit ATX, PS/2 (RP 3687.793) | 300 W | 1 | 1 | — |
| [10] CPCI backplane | 6,5 U, 5 Slot | 1 | — | 36 |
| CPCI backplane | 6,5 U, 7 Slot | — | 1 | 36 |
| LED display module for MPS monitoring | for 3.3 V, +5 V, ±12 V, fan failure | 1 | 1 | — |
| [11] Fan module | — | 1 | 1 | — |
| [12] Fan module for DC fan | — | ■ | ■ | — |
| Controller module | with interface for RS-232 and CMC-TC | 1 | 1 | — |
| Fan module for AC fan | — | ■ | ■ | — |

■ Included with the supply.

CPCI RACK-MOUNT SYSTEMS

HeiPac 4 U/7 U, 8 slots


Technical specifications:

Subrack, 405 mm deep, for installation in 482.6 mm (19") enclosures or cases.
Prepared to accommodate CPCI boards and drives.
Includes MPS Monitoring (see pages 51-53).
Complies with IEC 60 297-3-101, -102, -103.

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Illustration:
MPS system 7 U for CPCI

| U | | 4 (3 + 1) | 7 (6 + 1) | Page |
|---|--|-----------------|-----------------|------|
| Side panel depth mm | | 405 | 405 | |
| Wiring space (depth in mm) | | 210 | 210 | |
| For PCB | | 3 U x 160 mm | 6 U x 160 mm | |
| MPS system Model No. RP for CPCI | | 9910.946 | 9910.948 | |

Mechanical supply includes

| Description | Material | Qty. | | |
|---|--|------|----|-----|
| [1] HeiPac basic subrack system (side panels, horizontal rails, flanges, EMC gaskets) | Aluminium, clear-chromated/stainless steel | 1 | 1 | - |
| [2] Top and bottom covers, vented | Aluminium | 2 | 2 | 126 |
| [3] Finger guard | Polyamide | 3 | 3 | 134 |
| [4] Fan mounting plate | 1 mm aluminium, anodised | 1 | 1 | 130 |
| [5] Plastic guide rails, keyable | Polycarbonate UL 94-V0 | 14 | 14 | 120 |
| Plastic guide rails, keyable, red | Polycarbonate | 2 | 2 | 120 |
| [6] EMC front panel 1 U/84 HP for MPS monitoring | 2.5 mm aluminium, clear-chromated | 1 | 1 | - |
| EMC rear panel 4 U/84 HP, horizontally hinged with connector cut-out | 2.5 mm aluminium, clear-chromated | 1 | - | - |
| [7] EMC rear panel 7 U/84 HP, horizontally hinged with connector cut-out | 2.5 mm aluminium, clear-chromated | - | 1 | - |

Electrical/electronic supply includes

| Description | Technical specifications | | | |
|---------------------------------------|---|---|---|-----|
| [8] DC fan | 24 V DC, 140 m³/h, per fan (VDE, UL, CSA) optionally speed-controlled | 3 | 3 | 133 |
| [9] IEC filtered mains inlet | 6 A (VDE, UL, CSA) | 1 | 1 | 53 |
| [10] Open frame power supply | 400 W | - | 1 | - |
| Power supply unit ATX PS/2 | 300 W | 1 | - | - |
| CPCI backplane | 3,5 U, 8 Slot | 1 | - | 36 |
| [11] CPCI backplane | 6,5 U, 8 Slot | - | 1 | 36 |
| LED display module for MPS monitoring | for 3.3 V, +5 V, ±12 V, fan failure | 1 | 1 | - |
| [12] DC cable harness | - | ■ | ■ | - |
| [13] AC cable harness | - | - | ■ | - |
| [14] Fan module for DC fan | - | 1 | 1 | - |
| Controller module | with interface for RS-232 and CMC-TC | 1 | 1 | - |

■ Included with the supply.

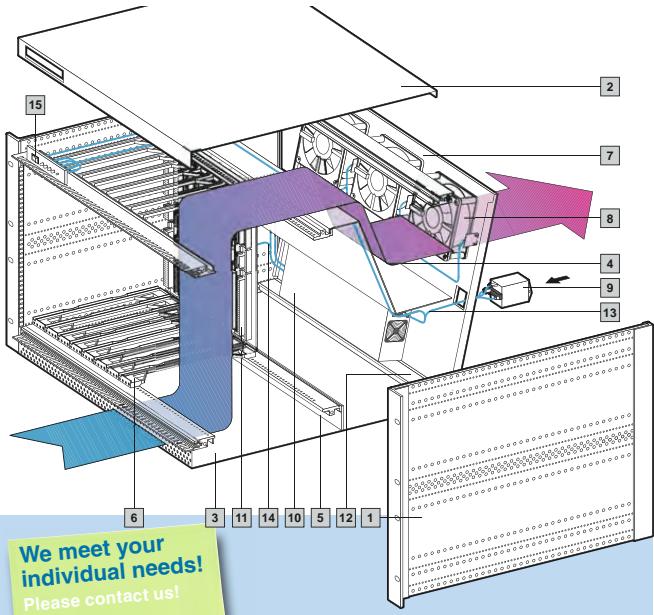
CPCI RACK-MOUNT SYSTEMS

HeiPac 7 U, 8 slots



Technical specifications:
Subrack, 405 mm deep, for installation in 482.6 mm (19") enclosures or cases.
Prepared to accommodate CPCI boards and drives.

Includes MPS Monitoring (see pages 51-53). Complies with IEC 60 297-3-101, -102, -103. Fully assembled, pre-wired and tested.



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Illustration:
MPS system 7 U for CPCI

| U | | 7 (6 + 2 x 1/2) | Page |
|---|--|-----------------|------|
| Side panel depth mm | | 405 | |
| Wiring space (depth in mm) | | 210 | |
| For PCB | | 6 U x 160 mm | |
| MPS system Model No. RP for CPCI | | 9910.947 | |

Mechanical supply includes

| Description | Material | Qty. | |
|---|---|------|-----|
| ① HeiPac basic subrack system (side panels, horizontal rails, flanges, EMC gaskets) | Aluminium, clear-chromated, stainless steel | 1 | - |
| ② Cover with ½ U edge fold and cut-outs for LED/switches | Aluminium | 1 | 129 |
| ③ Bottom cover with ½ U edge fold, ventilated at the front | Aluminium | 1 | 129 |
| EMC shielding plate for fan | Aluminium, clear-chromated | 3 | 134 |
| ④ Air baffle | Aluminium | 1 | 131 |
| ⑤ Air block panel ½ U | Epoxy | 1 | 131 |
| ⑥ Plastic guide rails, keyable | Polycarbonate UL 94-V0 | 14 | 120 |
| Plastic guide rails, keyable, red | Polycarbonate | 2 | 120 |
| ⑦ EMC rear panel, horizontally hinged, 7 U, with fan and connector cut-out | 2.5 mm aluminium, clear-chromated | 1 | |

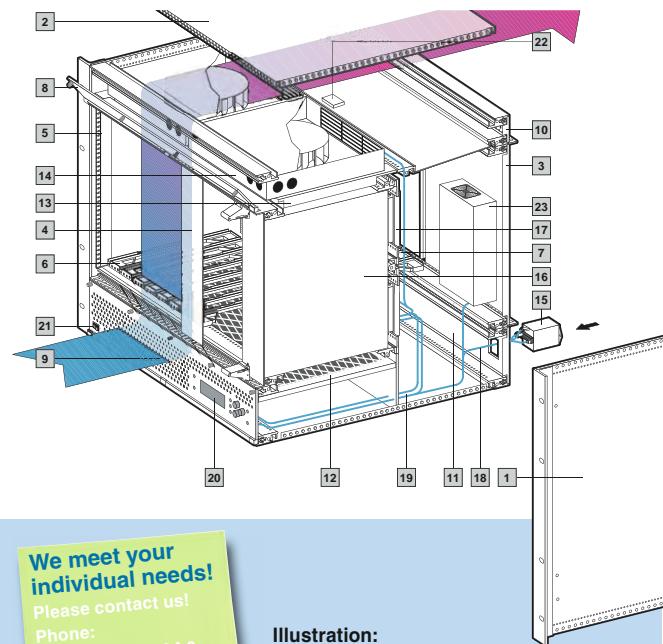
Electrical/electronic supply includes

| Description | Technical specifications | | |
|---|---|---|-----|
| ⑧ DC fan | 12 V DC, 140 m3/h, per fan (UL, CSA, VDE) optionally speed-controlled | 3 | 133 |
| ⑨ IEC filtered mains inlet | 6 A (VDE, UL, CSA) | 1 | 53 |
| ⑩ Open frame power supply | 400 W | 1 | - |
| ⑪ CPCI backplane | 6.5 U, 8 Slot | 1 | 36 |
| ⑫ Fan module for DC fan | - | 1 | - |
| ⑬ AC cable harness | - | ■ | - |
| ⑭ DC cable harness | - | ■ | - |
| ⑮ LED display module for MPS monitoring | for 3.3 V, +5 V, ±12 V, fan failure | 1 | - |
| Controller module | with interface for RS-232 and CMC-TC | 1 | - |

■ Included with the supply.

CPCI RACK-MOUNT SYSTEMS

HeiPac 9 U, 8 slots, with HeiCool radial fan



Technical specifications:
Subrack, 290.5 mm deep, for installation in 482.6 mm (19") enclosures or cases.
Prepared to accommodate CPCI boards and drives.

Includes MPS monitoring (see pages 51-53).
Complies with IEC 60 297-3-101, -102, -103.
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Illustration:
MPS system 9 U for CPCI

| U | | 9 (6 + 2 x 1½) | Page |
|---|--|-----------------------|------|
| Side panel depth mm | | 290,5 | |
| Wiring space (depth in mm) | | 85,5 | |
| For PCB | | 6 U x 160 mm | |
| MPS system Model No. RP for CPCI | | 9909.483 | |

Mechanical supply includes

| Description | Material | Qty. | |
|---|--|------|-----|
| 1 HeiPac basic subrack system (side panels, horizontal rails, flanges, EMC gaskets) | Aluminium, clear-chromated/stainless steel | 1 | - |
| 2 Top and bottom covers | Aluminium | 2 | 127 |
| 3 EMC rear panel 6 U/28 HP + 8 HP | 2.5 mm aluminium, clear-chromated | 1 | - |
| 4 EMC front panel | 2.5 mm aluminium, clear-chromated | 1 | 149 |
| 5 EMC contact strip | Aluminium, clear-chromated | 1 | 117 |
| 6 Plastic guide rails, keyable | Polycarbonate UL 94-V0 | 14 | 120 |
| Plastic guide rails, keyable, red | Polycarbonate | 2 | 120 |
| 7 Guide rails for I/O transition modules | Polycarbonate UL 94-V0 | 16 | 121 |
| Guide rails, keyable, green, for power supply | Polycarbonate | 2 | 120 |
| 8 Front panel 1½ U/84 HP, horizontally hinged | 2.5 mm aluminium, clear-chromated | 1 | - |
| 9 Front panel 1½ U/84 HP, vented, horizontally hinged, for MPS monitoring | 2.5 mm aluminium, clear-chromated | 1 | - |
| 10 EMC rear panel 1½ U/84 HP, vented | 2.5 mm aluminium, clear-chromated | 1 | - |
| 11 EMC rear panel 1½ U/84 HP with connector cut-out | 2.5 mm aluminium, clear-chromated | - | - |
| 12 Filter mat 84 HP, 160 mm, for slide-in attachment | - | 1 | - |
| 13 Mounting plate for HeiCool | 1 mm sheet steel, zinc-plated, passivated | 1 | - |

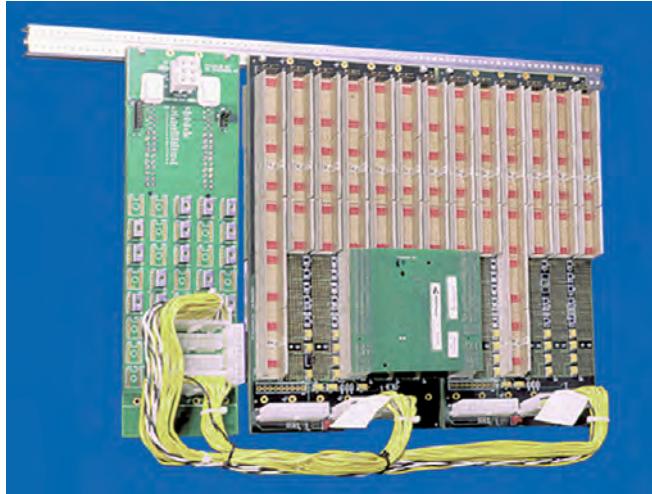
Electrical/electronic supply includes

| Description | Technical specifications | | |
|---|--------------------------------------|---|-----|
| 14 HeiCool DC fan, individually removable including fault alarm signal, speed control | 24 V DC, 204 m³/h, 48 W | 2 | - |
| 15 IEC filtered mains inlet | 6 A (VDE, UL, CSA) | 1 | 53 |
| 16 Power supply, plug-in, 6 U/8 HP | 350 W | 1 | 160 |
| CPCI backplane | 6,5 U, 8 Slot | 1 | 36 |
| 17 CPCI backplane for power supply | - | 1 | - |
| 18 AC cable harness | - | ■ | - |
| 19 DC cable harness | - | ■ | - |
| 20 Display module | for 3.3 V, +5 V, ±12 V, fan failure | 1 | - |
| 21 Mains switch | - | 1 | - |
| 22 Monitoring module for HeiCool | - | 1 | - |
| 23 Power supply for HeiCool | - | 1 | - |
| Controller module | with interface for RS-232 and CMC-TC | 1 | - |

Accessories CPCI/VME Page 53 **Backplanes CPCI** Page 34 **Slide-in systems VME** Page 45 **Backplanes VME** Page 46 **Power supplies** Page 155

CPCI BACKPLANES, TECHNICAL SPECIFICATIONS

Backplanes, technical specifications



HEITEC offers an extensive range of powerful backplanes for CompactPCI..

- Modular construction facilitates expansion up to a maximum of 21 slots
- Connection between segments via CPCI or H.110 bridge modules
- Power input via ATX-compatible connectors or screw terminal
- Additional 2 x 3 Mate-N-Lock connector for 48 V with H.110 backplane
- Optional development of customer-specific Monolithic backplanes
- 8 layer multi-layer
- System slot on right (left upon request), spray-finished

Modular assembly

The backplanes in 32 or 64-bit versions allow the configuration of CPCI systems from 2 to 21 slots. This is possible due to the modular design of the backplanes and connection of the individual segments via CPCI or H.110 bridge modules. Each backplane segment contains between 2 and 8 slots and operates in stand-alone mode in conjunction with a CPU board and a power supply unit.

For assembling larger systems, several segments may be joined together via PCI bridge modules fitted at the rear. In such cases, only one of the segments will run in the system slot with a CPU board. The remaining segments will have a subordinate status without CPU boards. However, the first slot on the right of the backplane is available for a standard 32 or 64 bit CompactPCI host CPU.

Technical specifications

CPU slot

A single 3 U or 6 U CPU board with 32 or 64 bits is required for each system. The system slot on the right-hand side ensures that 2-slot or wider system boards do not conceal other slots, thus rendering them unusable.

Available slots

Each backplane contains two to eight 3 U or 6 U slots (32 or 64 bit).

Data transfer rate

132/264 MBytes for 32/64 bit version

+5 V, 33 MHz PCI bus interface

264/512 MBytes for 32/64 bit version

+3.3 V, 66 MHz (max. 5 slots) PCI bus interface

PCI bridges

Single backplanes do not require bridges. For each additional backplane, however, a bridge fitted at the rear is required.

Power supply

Voltage supply via one or more ATX connectors.

Control connector

Each backplane has a control connector where +3.3, +5, ±12 V voltages may be picked off, e.g. for the connection of power LEDs.

I/O modules for J3 – J5

I/O modules can be connected at the rear of each slot.

Standards

- PCI 2.1 (PCI specification)
- PICMG 2.0 (CompactPCI spec.)
- PICMG 2.1 (hot swap spec.)
- IEEE 1101.1, mechanics
- IEEE 1101.10, mechanics
- IEEE 1101.11, mechanics

CPCI BACKPLANES, TECHNICAL SPECIFICATIONS

32-bit pin assignment

P2 connector⁹⁾

| PIN | Z ⁶⁾ | A | B | C | D | E | F |
|-----|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|-----|
| 22 | GND | GA4 ⁵⁾ | GA3 ⁵⁾ | GA2 ⁵⁾ | GA1 ⁵⁾ | GA0 ⁵⁾ | GND |
| 21 | GND | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | GND |
| 20 | GND | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | GND |
| 19 | GND | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | GND |
| 18 | GND | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | GND |
| 17 | GND | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | GND |
| 16 | GND | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | GND |
| 15 | GND | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | GND |
| 14 | GND | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | GND |
| 13 | GND | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | GND |
| 12 | GND | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | GND |
| 11 | GND | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | GND |
| 10 | GND | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | GND |
| 9 | GND | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | GND |
| 8 | GND | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | GND |
| 7 | GND | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | GND |
| 6 | GND | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | GND |
| 5 | GND | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | GND |
| 4 | GND | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | GND |
| 3 | GND | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | GND |
| 2 | GND | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | GND |
| 1 | GND | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | BP(I/O) | GND |

P1 connector⁹⁾

| PIN | Z ⁶⁾ | A | B | C | D | E | F |
|----------|-----------------|----------|----------|-----------------------|---------------------|----------|-----|
| 25 | GND | 5 V | REQ64# | ENUM# | 3.3 V | 5 V | GND |
| 24 | GND | AD(1) | 5 V | V(I/O) ³⁾ | AD(O) | ACK64# | GND |
| 23 | GND | 3.3 V | AD(4) | AD(3) | 5 V | AD(2) | GND |
| 22 | GND | AD(7) | GND | 3.3 V | AD(6) | AD(5) | GND |
| 21 | GND | 3.3 V | AD(9) | AD(8) | M66EN ³⁾ | C/BE(0)# | GND |
| 20 | GND | AD(12) | GND | V(I/O) ³⁾ | AD(11) | AD(10) | GND |
| 19 | GND | 3.3 V | AD(15) | AD(14) | GND | AD(13) | GND |
| 18 | GND | SERR# | GND | 3.3 V | PAR | C/BE(1)# | GND |
| 17 | GND | 3.3 V | SDONE | SBQ# | GND | PERR# | GND |
| 16 | GND | DEVSEL | GND | V(I/O) ¹³⁾ | STOP# | LOCK# | GND |
| 15 | GND | 3.3 V | FRAME# | IRDY | GND ²⁾ | TRDY# | GND |
| 12 – 14 | | | | | | | |
| KEY AREA | | | | | | | |
| 11 | GND | AD(18) | AD(17) | AD(16) | GND | C/BE(2)# | GND |
| 10 | GND | AD(21) | GND | 3.3 V | AD(20) | AD(19) | GND |
| 9 | GND | C/BE(3)# | IDSEL | AD(23) | GND | AD(22) | GND |
| 8 | GND | AD(26) | GND | V(I/O) ³⁾ | AD(25) | AD(24) | GND |
| 7 | GND | AD(30) | AD(29) | AD(28) | GND | AD(27) | GND |
| 6 | GND | REQ# | GND | 3.3 V | CLK | AD(31) | GND |
| 5 | GND | BRSPV1A5 | BRSPV1B5 | RST# | GND | GNT# | GND |
| 4 | GND | BRSPV1A4 | GND | V(I/O) ³⁾ | INTP | INTS | GND |
| 3 | GND | INTA# | INTB# | INTC# | 5 V | INTD# | GND |
| 2 | GND | TCK | 5 V | TMS | TDO | TDI | GND |
| 1 | GND | 5 V | -12 V | TRST# | +12 V | 5 V | GND |

32-bit and 64-bit backplane – Technical specifications:

The CPCI specifications define both 32-bit and 64-bit versions. Both versions may be implemented on a 3 U daughterboard. However, the 32-bit version allows the complete P2/J2 connector to be used for user-defined I/O signals (slots 2 – 8). Slot 1 (system slot) uses separate P2/J2 pins for functions such as clock, arbitration, (grant/requests) and other system functions. These pins are printed in bold in the table. In 32-bit systems the P2/J2 connection may optionally be populated at the rear with 16 mm long pins and a transfer frame. Signals can be picked off or I/O boards connected at the rear.

64-bit CompactPCI pin assignments – Technical specifications:

With the 64-bit CompactPCI, both P1 and P2 connectors are fully assigned with signals. User-defined I/O signal pins are not available. I/O signals are only available with 6 U boards on connectors P3, P4 and P5.

64-bit pin assignment

P2 connector⁹⁾

| PIN | Z ⁷⁾ | A | B | C | D | E | F |
|-----------------|-----------------|----------------------|-------------------|----------------------------|-------------------|-------------------|-----|
| 22 | GND | GA4 ⁶⁾ | GA3 ⁶⁾ | GA2 ⁶⁾ | GA1 ⁶⁾ | GA0 ⁶⁾ | GND |
| 21 | GND | CLK6 | GND | RSV | RSV | RSV | GND |
| 20 | GND | CLK5 | GND | RSV | GND ⁸⁾ | RSV | GND |
| 19 | GND | GND | GND ⁸⁾ | RSV | RSV | RSV | GND |
| 18 | GND | BRSPV2A18 | BRSPV2B18 | BRSPV2C18 | GND ⁸⁾ | BRSPV2E18 | GND |
| 17 | GND | BRSPV2A17 | GND ⁸⁾ | PRST# | REQ6# | GNT6# | GND |
| 16 | GND | BRSPV2A16 | BRSPV2B16 | DEG# | GND ⁸⁾ | BRSPV2E16 | GND |
| 15 | GND | BRSPV2A15 | GND | FAL# | REQ5# | GNT5# | GND |
| 14 | GND | AD(35) | AD(34) | AD(33) | GND | AD(32) | GND |
| 13 | GND | AD(38) | GND | V(I/O) ³⁾ | AD(37) | AD(36) | GND |
| 12 | GND | AD(42) | AD(41) | AD(40) | GND | AD(39) | GND |
| 11 | GND | AD(45) | GND | V(I/O) ³⁾ | AD(44) | AD(43) | GND |
| 10 | GND | AD(49) | AD(48) | AD(47) | GND | AD(46) | GND |
| 9 | GND | AD(52) | GND | V(I/O) ³⁾ | AD(51) | AD(50) | GND |
| 8 | GND | AD(56) | AD(55) | AD(54) | GND | AD(53) | GND |
| 7 | GND | AD(59) | GND | V(I/O) ³⁾ | AD(58) | AD(57) | GND |
| 6 | GND | AD(63) | AD(62) | AD(61) | GND | AD(60) | GND |
| 5 | GND | C/BE(5)# | GND | V(I/O) ³⁾ | C/BE(4)# | PAR64 | GND |
| 4 | GND | V(I/O) ³⁾ | BRSPV2B4 | C/BE(7)# | – | C/BE(6)# | GND |
| 3 ³⁾ | GND | CLK4 | GND | GNT3# | – | GNT4# | GND |
| 2 ³⁾ | GND | CLK2 | CLK3 | SYSEN#⁴⁾ | – | REQ3# | GND |
| 1 ³⁾ | GND | CLK1 | GND | REQ1# | – | REQ2# | GND |

P1 connector⁹⁾

| PIN | Z ⁷⁾ | A | B | C | D | E | F |
|----------|-----------------|----------|---------|-----------------------|---------------------|----------|-----|
| 25 | GND | 5 V | REQ64# | ENUM# | 3.3 V | 5 V | GND |
| 24 | GND | AD(1) | 5 V | V(I/O) ³⁾ | AD(O) | ACK64# | GND |
| 23 | GND | 3.3 V | AD(4) | AD(3) | 5 V | AD(2) | GND |
| 22 | GND | AD(7) | GND | 3.3 V | AD(6) | AD(5) | GND |
| 21 | GND | 3.3 V | AD(9) | AD(8) | M66EN ⁴⁾ | C/BE(0) | GND |
| 20 | GND | AD(12) | GND | V(I/O) ³⁾ | AD(11) | AD(10) | GND |
| 19 | GND | 3.3 V | AD(15) | AD(14) | GND | AD(13) | GND |
| 18 | GND | SERR# | GND | 3.3 V | PAR | C/BE(1)# | GND |
| 17 | GND | 3.3 V | SDONE | SBO# | GND | PERR# | GND |
| 16 | GND | DEVSEL# | GND | V(I/O) ¹³⁾ | STOP# | LOCK# | GND |
| 15 | GND | 3.3 V | FRAME# | IRDY# | GND ²⁾ | TRDY# | GND |
| 12 – 14 | | | | | | | |
| KEY AREA | | | | | | | |
| 11 | – | AD(18) | AD(17) | AD(16) | GND | C/BE(2)# | GND |
| 10 | GND | AD(21) | GND | 3.3 V | AD(20) | AD(19) | GND |
| 9 | GND | C/BE(3)# | IDSEL | AD(23) | GND | AD(22) | GND |
| 8 | GND | AD(26) | GND | V(I/O) | AD(25) | AD(24) | GND |
| 7 | GND | AD(30) | AD(29) | AD(28) | GND | AD(27) | GND |
| 6 | GND | REQ# | GND | 3.3 V | CLK | AD(31) | GND |
| 5 | GND | BRSAV5 | BRSBV 5 | RST# | GND | GNT# | GND |
| 4 | GND | BRSAV4 | GND | V(I/O) | INTP | INTS | GND |
| 3 | GND | INTA# | INTB# | INTC | 5 V | INTD# | GND |
| 2 | GND | TCK | 5 V | TMS | TDO | TDI | GND |
| 1 | GND | 5 V | -12 V | TRST# | +12 V | 5 V | GND |

The signals printed in bold are only assigned in the system slot

¹⁾ "Early mate" pin ²⁾ "Late mate" pin ³⁾ +3.3 V or 5 V ⁴⁾ Earthed with system slot ⁵⁾ GND for 33 MHz backplane, bussed in 66 MHz systems

⁶⁾ Each slot may have its own address code (see CPCI specifications) ⁷⁾ Not for daughtercards ⁸⁾ Not for CPCI cards after version 1.0

⁹⁾ All HEITEC standard CPCI backplanes are designed for 64-bit applications on the layout side. With 32-bit versions, the P2/J2 connectors are populated on request.

CPCI BACKPLANES



Front view, 3 U

Backplanes 3 U

| | |
|-----------------------------|--|
| Number of layers | 8, 10 (for 3 U) |
| Layer structure | 2 GND Layer |
| PCB thickness | 3,2 mm |
| Data transfer rate | 132/264 MBytes/32, 64 Bit |
| Power inlets | 3 U: Via screws and busbars |
| Control connector | +3,3 V, +5 V, +12 V, -12 V |
| VI/O (3 U) | Adjustable to +5 V or +3.3 V |
| CPU slot | on right (left upon request) |
| Standards | PCI 2.1 (PCI specification) PICMG 2.0 (CompactPCI) PICMG 2.1 (hot swap) IEEE 1101.1/10/11 |
| Installation height | 3 U |
| Distance between slots | 4 HP |
| Connectors | J1, J2 32 or 64 bit No rear I/O |
| Operating temperature range | 0° – 70°C |
| Relative humidity | 90 %, non-condensing |
| Geographic addressing | 64-bit versions |

Backplanes 3 U for low profile bridge

| Slot | Design | Model No. RP | |
|------|--------|-----------------|-----------------|
| | | 32-bit | 64-bit |
| 2 | S | 3689.300 | 3689.307 |
| 3 | SE | 3689.301 | 3689.308 |
| 4 | SBME | 3689.302 | 3689.309 |
| 5 | SBME | 3689.303 | 3689.310 |
| 6 | SBME | 3689.304 | 3689.311 |
| 7 | SBE | 3689.305 | 3689.312 |
| 8 | S | 3689.306 | 3689.313 |

S = Stand alone
B = Beginning segment

M = Middle segment
E = Ending segment

Material:

Fibreglass epoxy to IEC 60 249 (type FR4)

Supply includes:

Backplane, fully populated.

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Front view, 6 U

Backplanes 6 U

| | |
|-----------------------------|---|
| Number of layers | 8, 10 (for 6 U) |
| Layer structure | 2 GND Layer |
| PCB thickness | 3,2 mm |
| Data transfer rate | 132/264 MBytes/32, 64-bit |
| Power inlets | 6 U: Via screws and busbars |
| Control connector | +3,3 V, +5 V, +12 V, -12 V |
| VI/O (6 U) | Adjustable to +5 V or +3,3 V |
| CPU-slot | on right (left upon request) |
| Standards | PCI 2.1 (PCI Spec) PICMG 2.0 (CompactPCI) PICMG 2.1 (hot swap) IEEE 1101.1/10/11 |
| Installation height | 6 U |
| Distance between slots | 4 HP |
| Connectors | J1, J2 32 or 64 bit J3, J4, J5 for rear I/O (64 bit only) |
| Operating temperature range | 0° – 70°C |
| Relative humidity | 90 %, non-condensing |
| Geographic addressing | 64-bit versions |

Backplanes 6 U for low profile bridge

| Slot | Design | Model No. RP | |
|------|--------|-----------------|-----------------|
| | | 32-bit | 64-bit |
| 2 | S | 3689.314 | 3689.321 |
| 3 | SE | 3689.315 | 3689.322 |
| 4 | SBME | 3689.316 | 3689.323 |
| 5 | SBME | 3689.317 | 3689.324 |
| 6 | SBME | 3689.318 | 3689.325 |
| 7 | SBE | 3689.319 | 3689.326 |
| 8 | S | 3689.320 | 3689.327 |

S = Stand alone

B = Beginning segment

M = Middle segment

E = Ending segment

Material:

Fibreglass epoxy to IEC 60 249 (type FR4)

Supply includes:

Backplane, fully populated.

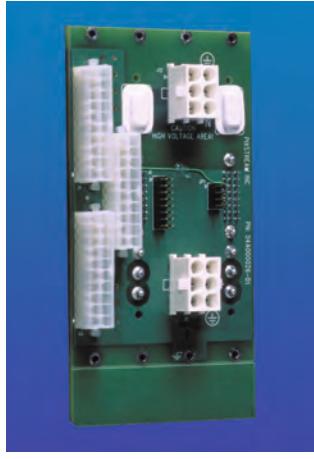
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CPCI BACKPLANES



Power supply board 3 U/3.5 U

- Board 3U/3.5 U, 8 HP, 16 HP, 24 HP
- For use in conjunction with HEITEC CPCI backplanes
- Accommodation of 1/2/3 power supplies up to 250 W each
- AC/DC connection is made via two 2 x 3-pole connectors
- Outgoing voltages to supply one or more CPCI backplanes are available at ATX-compatible connectors
- Complies with PICMG 2.0, PICMG 2.11

Technical specifications:

Accommodation of 1/2/3 CPCI power supplies of up to 250 W.

The second power supply unit may be used for redundancy (with power distribution) or, via parallel connection, to increase the current.

Input voltages:

- AC input via 2 x 3-pole AMP Mate-N-Lock (AMP # 350732-1), connector J12
- Connected via pin 45, 46, 47, type Positronic
- Maximum current load per pin is 25 A, matching counter-connector for cable harness AMP # 350715
- DC input via 2 x 3-pole AMP Mate-N-Lock (AMP # 350732-1), connector J5 connected via pin 46, 47, type Positronic
- Maximum current load per pin is 25 A, matching counter-connector for cable harness AMP # 350715

Output voltage:

- Three 20-pole ATX-compatible connectors for ATX cable harness (connection of power supply board to CPCI backplane)

Material:

Fibreglass epoxy to IEC 60 249 (FR4)

Supply includes:

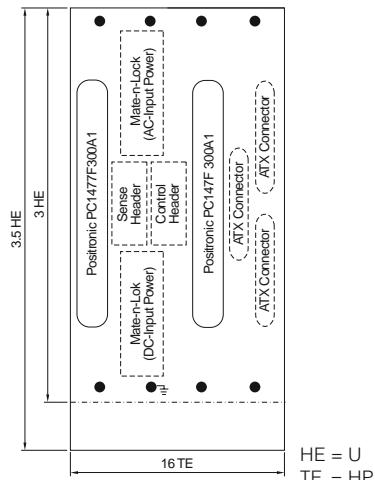
Board, fully populated.

| Description | HP | Model No. RP |
|--|----|-----------------|
| 3 U for 1 x plug-in power supply with Positronic connector, 47-pin | 8 | 9905.105 |
| 3 U Board for 3 x plug-in power supply with Positronic connector, 47-pin | 24 | 9904.131 |
| 3.5 U Board for 2 x plug-in power supply with Positronic connector, 47-pin | 16 | 3688.603 |
| ATX (12") cable harness | | 9810.337 |
| ATX (16") cable harness | | 3686.570 |
| ATX (20") cable harness | | 9810.338 |

Note:

Plug-type power supplies, see page 160

RP 3688.603



Power supply board 6 U/6.5 U, 8 HP

- Board 6 U/6.5 U, (0.5 U removable) 8 HP
- For use in conjunction with HEITEC CPCI backplanes 3.5 U, 6.5 U, H.110
- Accommodation of a power supply with up to 500 W
- AC/DC connection is made via 3-pole connectors
- Outgoing voltages to supply one or more CPCI backplanes are available at 3 ATX-compatible connectors or at special power terminals
- Complies with PICMG 2.0, PICMG 2.11

Technical specifications:

Accommodation of a 6 U CPCI power supply of up to 500 W.

Input voltages:

- AC input via 3-pole AMP Mate-N-Lock connector max. current capacity per pin 25 A
- DC input via 3-pole AMP Mate-N-Lock connector Max. current capacity per pin 25 A

Output voltage:

- Three 20-pole ATX-compatible connectors for ATX cable harness (connection of power supply board to CPCI backplane) and/or special power terminals

Material:

Fibreglass epoxy to IEC 60 249 (FR4)

Supply includes:

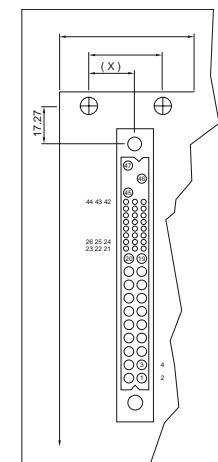
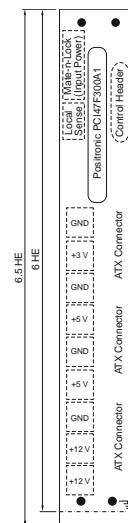
Board, fully populated.

Note:

Plug-type power supplies, see page 160

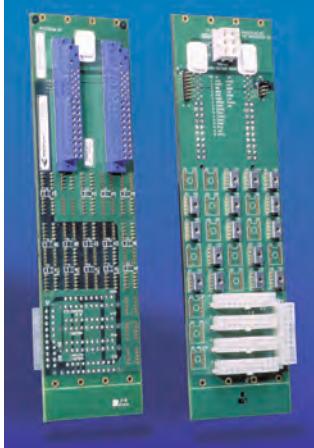
| Description | Model No. RP |
|--|-----------------|
| Board for 1 x plug-in power supply with Positronic connector, 47-pin | 3688.607 |
| ATX (12") cable harness | 9810.337 |
| ATX (16") cable harness | 3686.570 |
| ATX (20") cable harness | 9810.338 |

RP 3688.607



HE = U

CPCI BACKPLANES



Power supply board 6 U/6.5 U, 16 HP

- Board 6 U/6.5 U, (0.5 U removable) 16 HP
- For use in conjunction with HEITEC CPCI backplanes 3.5 U and 6.5 U
- Accommodation of two power supplies with up to 500 W
- AC/DC connection is made via two 2 x 3-pole connectors
- Outgoing voltages to supply one or more CPCI backplanes are available at 5 ATX-compatible connectors or at special power terminals
- Complies with PICMG 2.0, PICMG 2.11

Technical specifications:

Accommodation of 2 x 6 U CPCI power supplies of up to 500 W

Input voltages:

- AC input via 2 x 3-pole AMP Mate-N-Lock connector
Max. current capacity per pin 25 A
- DC input via 2 x 3-pole AMP Mate-N-Lock connector
Max. current capacity per pin 25 A

Output voltage:

- Five 20-pole ATX-compatible connectors for ATX cable harness (connection of power supply board to CPCI backplane) and/or special power terminals

Material:

Fibreglass epoxy to IEC 60 249 (FR4)

Supply includes:

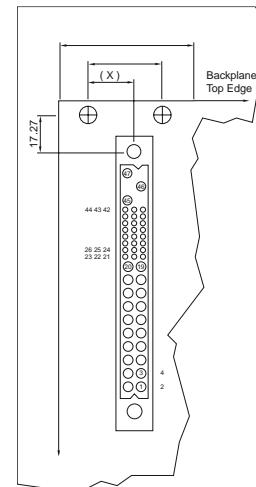
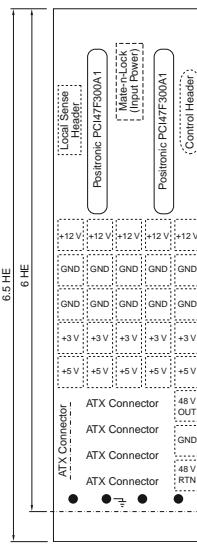
Board, fully populated.

Note:

Plug-in power supplies, see page 160

| Description | Model No. RP |
|--|-----------------|
| Board for 2 x plug-in power supplies with Positronic connector, 47-pin | 3688.608 |
| ATX (12") cable harness | 9810.337 |
| ATX (16") cable harness | 3686.570 |
| ATX (20") cable harness | 9810.338 |

RP 3688.608



HE = U

Power supply board 9U Monolithic with power supply connector



Material:

Fiberglass epoxy to IEC 60 249 (FR4)

Supply includes:

Board, fully populated

S = Stand alone
B = Beginning segment
M = Middle segment
E = Ending segment

| Slot | Positronic connector, 47 Pin | ATX | Model No. RP |
|-----------------|------------------------------|-----|-----------------|
| 2 ¹⁾ | 1 | 0 | 3689.329 |
| 4 | 2 | 1 | 3689.330 |
| 6 | 3 | 1 | 3689.331 |
| 8 | 4 | 1 | 3689.332 |

Systems slot on right 64 Bit with Rear I/O, V I/O: +5,0 V.
H. 110 not connected with systems slot.

¹⁾ without H.110

HEITEC RACK-MOUNT SYSTEMS FOR VMEbus

OVERVIEW



2 U, 4 U
Order no. on request

Applications:

Configuration of 19" industrial computer systems according to VME specification for

- Process Control
- Traffic Management System
- Image Processing
- Industrial Automation

Technical specifications:

- 482.6 mm (19") rack-mount system for horizontal mounting of front boards and rear I/O cards
- 1 U, 2 U, 3 U, 4 U, 300 mm deep
- Standard cooling from left to right side
- Sheet steel, spray-finished (black)
- Preconfigured systems including back plane and fan
- Completely assembled, pre-wired and tested
- Installation of VME64x boards according to VME specification

Benefits at a glance:

- Horizontal installation of Eurocards/ double Eurocards
- Maximum installation with minimum space requirement
- 2/4/6/8 slots for 160 mm front and 80 mm rear boards
- Hot swap compatible power supply, AC or DC optionally
- EMC and ESD protection
- Completely assembled, pre-wired and tested
- Integrated cooling from left to right side
- Modular assembly ensures individual configuration
- Conforms to IEC 60 297-3-101,-102,-103



3 U, 5 slots/ 4 U, 7 slots horizontal
Order no. see page 42

Applications:

Configuration of 19" industrial computer systems according to VME specification for

- Process Control
- Traffic Management System
- Image Processing
- Industrial Automation

Technical specifications:

- 482.6 mm (19") rack-mount system for horizontal mounting of double Eurocards
- 3 U, 4 U, 405 mm deep
- Aluminium, clear-chromated
- Including backplane, power supply and rear fan
- Completely assembled, pre-wired and tested
- Horizontal installation space for double Eurocards: 5 and 7 slots
- Installation of VME- or VME64x boards according to VME specification

Benefits at a glance:

- Horizontal installation of double Eurocards
- EMC and ESD protection
- Completely assembled, pre-wired and tested
- Well-directed air ducting from front to rear via fans in the rear panel
- Keyable guide rails
- Conforms to IEC 60 297-3-101,-102,-103



4 U/ 7 U, 12 slots
Order no. see page 43

Applications:

Configuration of 19" industrial computer systems according to VME specification for

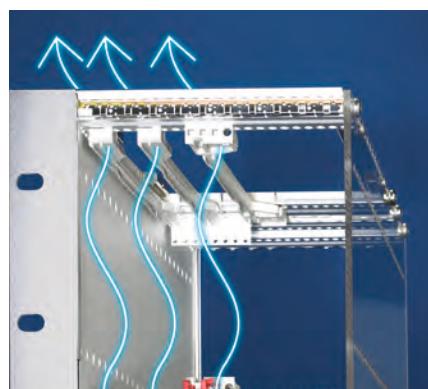
- Process Control
- Traffic Management System
- Image Processing
- Industrial Automation

Technical specifications:

- 482.6 mm (19") rack-mount system for vertical mounting of Eurocards/double Eurocards
- 4 U and 7 U, 405 mm deep
- Aluminium, clear-chromated
- Including backplane and power supply
- Fan unit with 3 DC fans
- Completely assembled, pre-wired and tested
- Installation space for double Eurocards: 12 slots
- Installation of VME- or VME64x boards according to VME specification

Benefits at a glance:

- Vertical installation of double Eurocards
- EMC and ESD protection
- Completely assembled, pre-wired and tested
- Fan module ensures well-directed air flow from bottom to top
- Keyable guide rails
- Conforms to IEC 60 297-3-101,-102,-103



HEITEC RACK-MOUNT SYSTEMS FOR VMEbus OVERVIEW

HeiPac VME/VME64x Systems



7 U, 12 slots

Order no. see page 44

Applications:

Configuration of 19" industrial computer systems according to VME specification for

- Process Control
- Traffic Management System
- Image Processing
- Industrial Automation

Technical specifications:

- 482.6 mm (19") rack-mount system for vertical mounting of double Eurocards
- 7 U, 405 mm deep
- Aluminium, clear-chromated
- Including backplane, power supply and rear fan
- Completely assembled, pre-wired and tested
- Installation space for Eurocards/double Eurocards: 12 slots
- Installation of VME- or VME64x boards according to VME specification

Benefits at a glance:

- Vertical installation of double Eurocards
- EMC and ESD protection
- Completely assembled, pre-wired and tested
- Well-directed air flow from front to rear
- Keyable guide rails
- Corresponds to IEC 60 297-3-101,-102, -103

HeiPac VME/VME64x Systems



9 U, 12 slots with RiCool and Rear I/O

Order no. see page 45

Applications:

Configuration of 19" industrial computer systems according to VME specification for

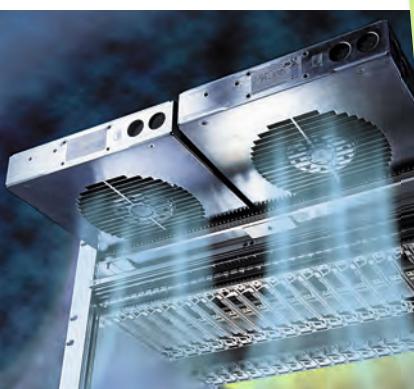
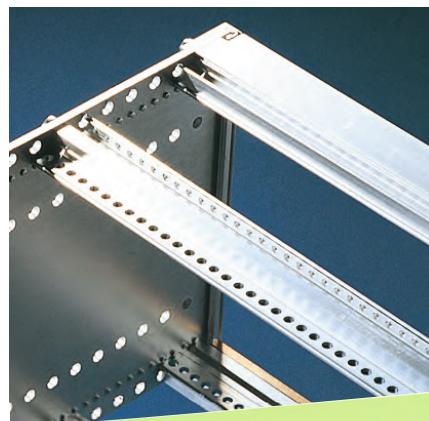
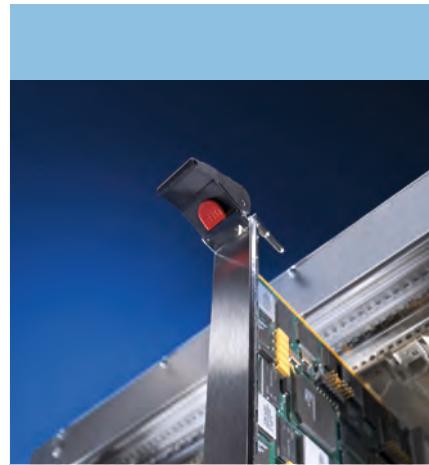
- Process Control
- Traffic Management System
- Image Processing
- Industrial Automation

Technical specifications:

- 482.6 mm (19") rack-mount system for vertical mounting of double Eurocards
- 9 U, 290.5 mm deep, on the rear side for I/O modules
- Aluminium, clear-chromated
- Including backplane, power supply and 2 radial fans HeiCool (204 m³/h)
- Completely assembled, pre-wired and tested
- Installation space for Eurocards/double Eurocards: 12 slots
- Installation of VME- or VME64x boards according to VME specification

Benefits at a glance:

- Vertical installation of double Eurocards
- EMC and ESD protection
- Completely assembled, pre-wired and tested
- Well-directed air flow from front to rear
- Rear I/O transition modules
- Keyable guide rails
- Effective ventilation by 2 radial fans HeiCool (204 m³/h)
- Conforms to IEC 60 297-3-101,-102,-103



WE MEET YOUR INDIVIDUAL NEEDS!

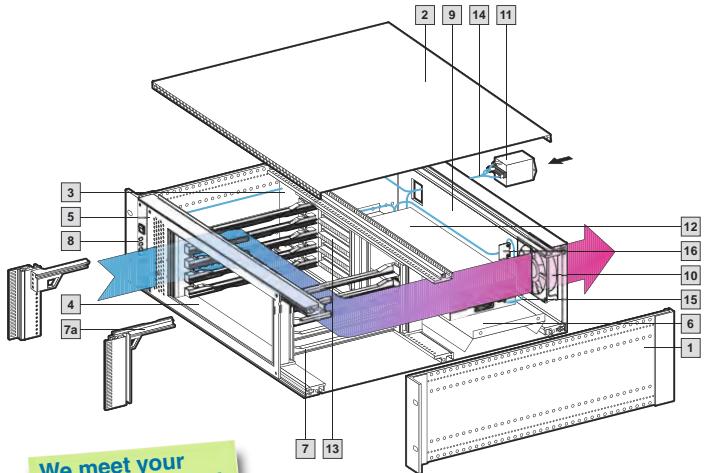
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VME/VME64x RACK-MOUNT SYSTEMS

HeiPac 3 U, 5 slots/4 U, 7 slots horizontal



Technical specifications:

Subrack, 405 mm deep, for installation in 482.6 mm (19") enclosures or cases. Prepared to accommodate VMEbus boards and drives. Includes MPS monitoring.

(see pages 51 – 53)
Complies with IEC 60 297-3-101, -102, -103.
Fully assembled, pre-wired and tested.

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see page 14

Illustration:
MPS system 3 U

| U | 3 | 3 | 4 | 4 | Page |
|---|-----------------|-----------------|-----------------|-----------------|------|
| Side panel depth mm | 405 | 405 | 405 | 405 | |
| Wiring space (depth in mm) | 210 | 210 | 210 | 210 | |
| For PCB | 6 U x 160 mm | |
| MPS system Model No. RP for VME | 9910.949 | – | 9910.954 | – | |
| MPS system Model No. RP for VME64x | – | 9910.950 | – | 9910.955 | |

Mechanical supply includes

| Description | Material | Qty. | | | | |
|---|--|------|----|----|----|-----|
| [1] HeiPac basic subrack system (side panels, horizontal rails, flanges, EMC gaskets) | Aluminium, clear-chromated/stainless steel | 1 | 1 | 1 | 1 | – |
| [2] Top and bottom covers, solid | Aluminium | 2 | 2 | 2 | 2 | 126 |
| [3] Air partition | Aluminium | 1 | 1 | 1 | 1 | 131 |
| [4] Horizontal mounting kit | Aluminium, clear-chromated | 1 | 1 | 1 | 1 | 118 |
| [5] Trim frame for horizontal mounting kit | 2,5 mm aluminium, clear-chromated | 1 | 1 | 1 | 1 | 119 |
| [6] Mounting base for power supply unit | 2 mm aluminium, anodised | 1 | 1 | 1 | 1 | 163 |
| EMC shielding plate for fan | Aluminium, clear-chromated | 1 | 1 | 1 | 1 | 134 |
| [7] Guide rails | Polycarbonat UL 94-V0 | 10 | – | 14 | – | 121 |
| [7a] Plastic guide rails, keyable | Polycarbonat UL 94-V0 | – | 10 | – | 14 | 120 |
| [8] EMC front panel 3 U or 4 U/5 HP, with MPS monitoring | 2,5 mm aluminium, clear-chromated | 1 | 1 | 1 | 1 | – |
| [9] EMC rear panel 3 U/84 HP with fan and connector cut-out | 2,5 mm aluminium, clear-chromated | 1 | 1 | – | – | – |
| EMC rear panel 4 U/84 HP with fan and connector cut-out | 2,5 mm aluminium, clear-chromated | – | – | 1 | 1 | – |

Electrical/electronic supply includes

| Description | Technical specifications | 1 | 1 | 1 | 1 | 133 |
|---------------------------------------|---|---|---|---|---|-----|
| [10] DC fan | 12 V DC, 48 m³/h per fan (UL, CSA, VDE) optionally speed-controlled | 1 | 1 | 1 | 1 | 133 |
| [11] IEC filtered mains inlet | 6 A (VDE, UL, CSA) | 1 | 1 | 1 | 1 | 53 |
| [12] Switch mode power supply unit | 250 W | 1 | 1 | 1 | 1 | – |
| [13] VME backplane | J1, 5 slots, IN-board, passive, ADC | 1 | – | – | – | 50 |
| VME64x backplane | J1/J2, 5 slots (without P0) | – | 1 | – | – | 48 |
| VME backplane | J1, 7 slots, IN-board, passive, ADC | – | – | 1 | – | 50 |
| VME64x backplane | J1/J2, 7 slots | – | – | – | 1 | 48 |
| LED display module for MPS monitoring | for +5 V, ±12 V, fan failure | 1 | 1 | 1 | 1 | – |
| [14] AC cable harness | – | ■ | ■ | ■ | ■ | – |
| [15] DC cable harness | – | ■ | ■ | ■ | ■ | – |
| [16] Fan module for DC fan | – | 1 | 1 | 1 | 1 | – |
| Controller module | with interface for RS-232 and CMC-TC | 1 | 1 | 1 | 1 | – |

VME/VME64x RACK-MOUNT SYSTEMS

HeiPac 4 U/7 U, 12 slots


Technical specifications:

Subrack, 405 mm deep, for installation in 482.6 mm (19") enclosures or cases. Prepared to accommodate VMEbus boards and drives. Includes MPS Monitoring

(see pages 51 – 53)
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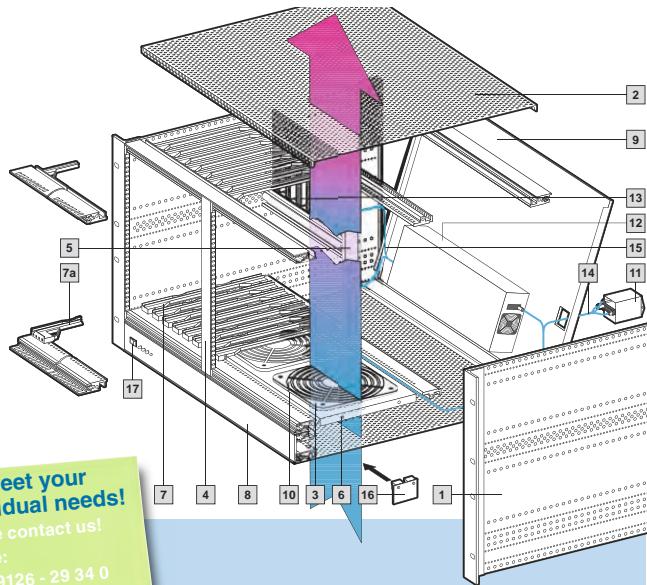


Illustration:
MPS system 7 U

| U | | 4 (3 + 1) | 7 (6 + 1) | 7 (6 + 1) | Page |
|---|-----------------|------------------|------------------|------------------|------|
| Side panel depth mm | | 405 | 405 | 405 | |
| Wiring space (depth in mm) | | 210 | 210 | 210 | |
| For PCB | 3 U x 160 mm | 3 U/6 U x 160 mm | | | |
| MPS system Model No. RP for VME | 9909.484 | 9910.956 | – | | |
| MPS system Model No. RP for VME64x | – | – | 9910.957 | | |

Mechanical supply includes

| Description | Material | Qty. | | | |
|--|--|------|----|----|-----|
| [1] HeiPac basic subrack system (side panels, horizontal rails, flanges, EMC gaskets) | Aluminium, clear-chromated/stainless steel | 1 | 1 | 1 | – |
| [2] Top and bottom covers, vented | Aluminium | 2 | 2 | 2 | 126 |
| [3] Finger guard | Polyamid | 3 | 3 | 3 | 134 |
| [4] EMC front panel, 6 U/4 HP (with 7 U) | Aluminium, clear-chromated | – | 1 | – | – |
| [5] Support, vertical (with 7 U) | Aluminium, clear-chromated | – | 1 | – | 118 |
| [6] Fan mounting plate | 1 mm aluminium, anodised | 1 | 1 | 1 | 130 |
| [7] Guide rails | Polycarbonate UL 94-V0 | 24 | 24 | – | 119 |
| [7a] Plastic guide rails, keyable | Polycarbonate UL 94-V0 | – | – | 24 | 120 |
| [8] EMC front panel 1 U/84 HP for switches/LED | 2,5 mm aluminium, clear-chromated | 1 | 1 | 1 | – |
| Rear panel 4 U/84 HP, horizontally hinged with connector cut-out | 2,5 mm aluminium, clear-chromated | 1 | – | – | – |
| [9] EMC rear panel 7 U/84 HP, horizontally hinged with connector cut-out | 2,5 mm aluminium, clear-chromated | – | 1 | 1 | – |

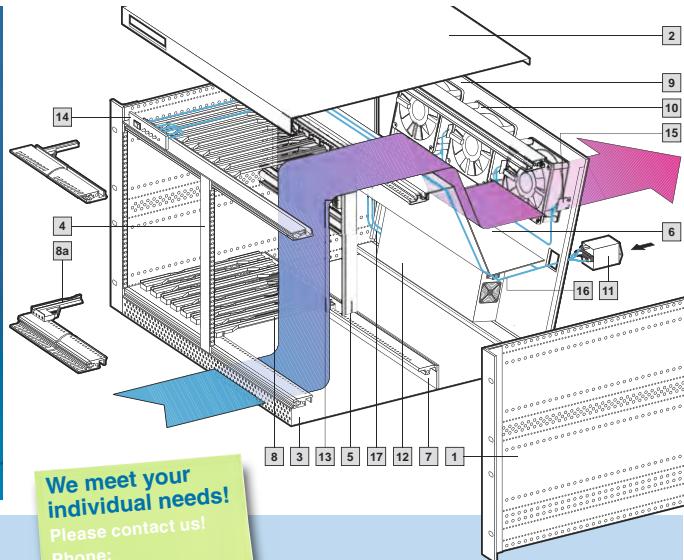
Electrical/electronic supply includes

| Description | Technical specifications | | | | |
|---|--|---|---|---|-----|
| [10] DC fan | 12 V DC, 140 m³/h per fan (VDE, UL, CSA) optionally speed-controlled | 3 | 3 | 3 | 133 |
| [11] IEC filtered mains inlet | 6 A (VDE, UL, CSA) | 1 | 1 | 1 | 53 |
| [12] Switch mode power supply unit | 400 W | 1 | 1 | 1 | 158 |
| [13] VME backplane | J1, 12 slots, IN-board, passive, ADC | 1 | 1 | – | 50 |
| VME64x backplane | J1/J2, 12 slots | – | – | 1 | 48 |
| [17] LED display module for MPS monitoring | for (3.3 V), +5 V, ±12 V, fan failure | 1 | 1 | 1 | – |
| [14] AC cable harness | – | ■ | ■ | ■ | – |
| [15] DC cable harness | – | ■ | ■ | ■ | – |
| [16] Fan module for DC fan | – | 1 | 1 | 1 | – |
| Controller module | with interface for RS-232 and CMC-TC | 1 | 1 | 1 | – |

Accessories CPC/VME Seite 53 **Backplanes VME** Seite 46 **Rack-mount systems CPC** Seite 31 **Backplanes CPC** Seite 34 **Power supplies** Seite 155

VME/VME64x RACK-MOUNT SYSTEMS

HeiPac 7 U, 12 slots



Technical specifications:
Subrack, 405 mm deep, for installation in 482.6 mm (19") enclosures or cases. Prepared to accommodate VMEbus boards and drives. Includes MPS Monitoring

(see pages 51 – 53)
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| U | | 7 (6 + 2 x 1/2) | 7 (6 + 2 x 1/2) | Page |
|---|--|-----------------|-----------------|------|
| Side panel depth mm | | 405 | 405 | |
| Wiring space (depth in mm) | | 210 | 210 | |
| For PCB | | 6 U x 160 mm | 6 U x 160 mm | |
| MPS system Model No. RP for VME | | 9910.958 | – | |
| MPS system Model No. RP for VME64x | | – | 9910.959 | |

Mechanical supply includes

| Description | Material | Qty. | | |
|--|--|------|----|-----|
| [1] HeiPac basic subrack system (side panels, horizontal rails, flanges, EMC gaskets) | Aluminium, clear-chromated/stainless steel | 1 | 1 | – |
| [2] Cover with ½ U edge fold and cut-outs for switches/LEDs | Aluminium | 1 | 1 | 129 |
| [3] Bottom cover with ½ U edge fold, ventilated at the front | Aluminium | 1 | 1 | 129 |
| [4] EMC front panel 6 U/4 HP | 2,5 mm aluminium, clear-chromated | 1 | – | – |
| EMC shielding plate for fan | Aluminium, clear-chromated | 3 | 3 | 134 |
| [5] Vertical support | Aluminium, clear-chromated | 1 | – | 118 |
| [6] Air baffle | 1 mm aluminium, anodised | 1 | 1 | 131 |
| [7] Air block panel, ½ U | Epoxyd | 1 | 1 | 131 |
| [8] Guide rails | Polycarbonate UL 94-V0 | 24 | – | 119 |
| [8a] Plastic guide rails, keyable | Polycarbonate UL 94-V0 | – | 24 | 120 |
| [9] EMC rear panel, horizontally hinged, 7 U, with fan and connector cut-out | 2,5 mm aluminium, clear-chromated | 1 | 1 | – |

Electrical/electronic supply includes

| Description | Technical specifications | | | |
|---|--|---|---|-----|
| [10] DC fan | 12 V DC, 140 m³/h per fan, (UL, CSA, VDE) optional speed control | 3 | 3 | 133 |
| [11] IEC filtered mains inlet | 6 A (VDE, UL, CSA) | 1 | 1 | 53 |
| [12] Switch mode power supply unit | 400 W | 1 | 1 | 158 |
| [13] VME backplane | J1, 12 slots, IN-board passive, ADC | 1 | – | 50 |
| VME64x backplane | J1/J2, 12 slots (without P0) | – | 1 | 48 |
| [14] LED display module for MPS monitoring | for (3.3 V), +5 V, ±12 V, fan failure | 1 | 1 | – |
| [15] Fan module for DC fan | – | 1 | 1 | – |
| [16] AC cable harness | – | ■ | ■ | – |
| [17] DC cable harness | – | ■ | ■ | – |
| Controller module | with interface for RS-232 and CMC-TC | 1 | 1 | – |

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VME/VME64x RACK-MOUNT SYSTEMS

HeiPac 9 U, 12 slots, with HeiCool radial fan



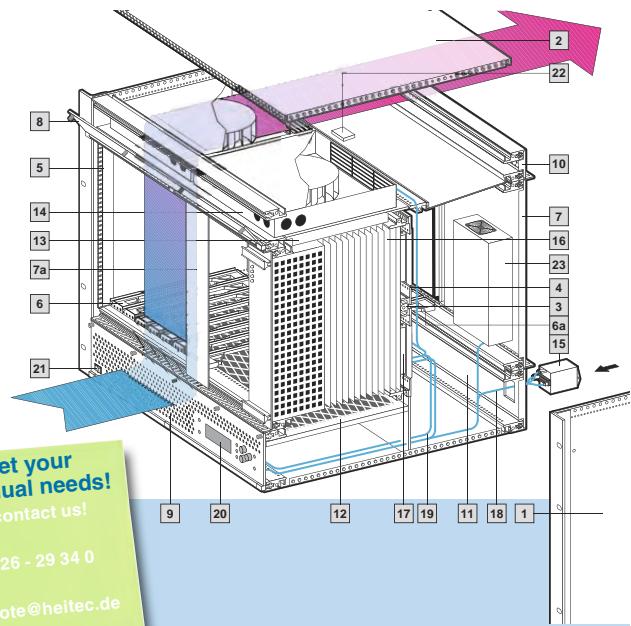
Technical specifications:

Subrack, 290.5 mm deep, for installation in 482.6 mm (19") enclosures or cases. Prepared to accommodate VMEbus boards and drives. Includes MPS Monitoring

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| U | 9 (6 + 2 x 1½) | Page |
|---|-----------------------|-------------|
| Side panel depth mm | 290,5 | |
| Wiring space (depth in mm) | 85,5 | |
| For PCB | 6 U x 160 mm | |
| MPS system Model No. RP for VME64x | 9910.960 | |

Mechanical supply includes

| Description | Material | Qty. | |
|--|--|------|-----|
| [1] HeiPac basic subrack system (side panels, horizontal rails, flanges, EMC gaskets) | Aluminium, clear-chromated/stainless steel | 1 | – |
| [2] Top and bottom covers, solid | 1 mm Aluminium | 2 | 126 |
| [3] Centre horizontal rail 12 HP | 1 mm aluminium, clear-chromated | 1 | – |
| [4] Z rail 12 HP | Aluminium, clear-chromated | 4 | – |
| [5] EMC contact strip | Aluminium, clear-chromated | 2 | 117 |
| [6] Plastic guide rails, keyable | Polycarbonate UL 94-V0 | 24 | 120 |
| Guide rails, keyable, green, for power supply | Polycarbonate UL 94-V0 | 2 | 120 |
| [6a] Guide rails for I/O transition modules | Polycarbonate UL 94-V0 | 24 | – |
| [7] EMC rear panel 6 U/36 HP | 2.5 mm aluminium, clear-chromated | 1 | – |
| [7a] EMC front panel | 2.5 mm aluminium, clear-chromated | 1 | – |
| [8] Front panel 1½ U/84 HP, horizontally hinged | 2.5 mm aluminium, clear-chromated | 1 | – |
| [9] Front panel 1½ U/84 HP, vented, horizontally hinged, for MPS monitoring | 2.5 mm aluminium, clear-chromated | 1 | – |
| [10] EMC rear panel 1½ U/84 HP, vented | 2.5 mm aluminium, clear-chromated | 1 | – |
| [11] EMC rear panel, 1½ U/84 HP, with connector cut-out | 2.5 mm aluminium, clear-chromated | 1 | – |
| [12] Filter mat 160 mm, 84 HP, for slide-in attachment | – | 1 | – |
| [13] Mounting plate for HeiCool | 1 mm sheet steel, zinc-plated, passivated | 1 | – |

Electrical/electronic supply includes

| Description | Technical specifications | | |
|---|------------------------------|---|-----|
| [14] HeiCool DC fan, individually removable. Including fault alarm signal, speed control | 24 V DC, 204 m³/h, 48 W | 2 | – |
| [15] IEC filtered mains inlet | 6 A (VDE, UL, CSA) | 1 | 53 |
| [16] Power supply, plug-in, 6 U/12 HP | 270 W | 1 | 159 |
| Backplane VME64x, without P0 | J1/J2, 12 slots | 1 | 48 |
| [17] Female connector for power supply unit | H15 | 2 | – |
| [18] AC cable harness | – | ■ | – |
| [19] DC cable harness | – | ■ | – |
| [20] Display module | for +5 V, ±12 V, fan failure | 1 | – |
| [21] Mains switch | – | 1 | – |
| [22] Monitoring module for HeiCool and backplane | – | 2 | – |
| [23] Power supply for HeiCool | – | 1 | – |
| Controller module | – | 1 | – |
| Temperature module | – | 1 | – |

Accessories CPCI/VME Page 53 **Backplanes VME** Page 46 **Rack-mount systems CPCI** Page 33 **Backplanes CPCI** Page 34 **Power supplies** Page 155

VMEbus BACKPLANES

Technical specifications

General technical specifications VMEbus

The VMEbus, based on standard IEEE 1014 and IEC 821, has become established worldwide as an industry standard. The VME64 is a new addition to the VME family to ANSI/VITA 1-1994 and supports 64-bit data traffic. The VME64x extends the VME family to ANSI/VITA 1.1-1997 and is available with the optional 133-pole 2 mm connector J0. 160-pole connectors are used with VME64x. This system remains backward compatible, so that assemblies with 96-pole connectors to IEC 60 603-2 may still be used. All HEITEC VMEbus boards are of a **HIGH SPEED DESIGN**. Minimal reflections are achieved, due to even surge impedance of the signal track. The consistent shielding of every signal track ensures minimum coupling and hence guarantees interference-free operation even when extended to 64 bit mode with the **2e protocol** (160 Mbit/s).

Daisy-chain circuit

With the daisy-chain circuit, a distinction is made between manual daisy-chaining and automatic daisy-chaining. Automatic daisy-chaining renders the connection of jumpers superfluous, and users are saved the time-consuming task of insertion and extraction. What is more, possible misconnections are avoided. Automatic daisy-chaining can be achieved in two ways. HEITEC VME backplanes are generally supplied with automatic daisy-chaining.

Termination

In order to avoid malfunctions on signal tracks that may arise as a result of reflections on the exposed track end, these must be terminated with the VMEbus. Termination may be either ON-/IN-board (on the backplane) or OFF-board (external). With regard to the type of termination, a distinction is made between passive and active termination. The benefit of active termination lies in the lower closed-circuit current consumption. Passive termination is distinguished by superior frequency response and a broader temperature range.

Pin assignment J1 and J2

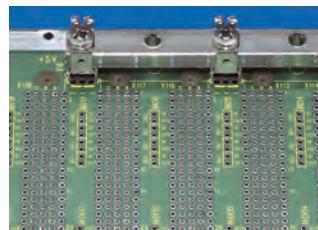
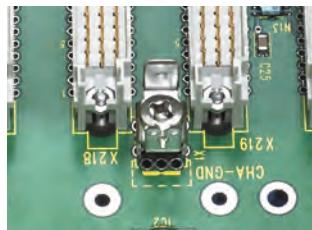
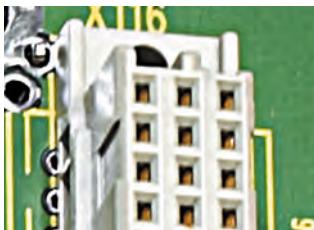
Pin assignment J1

| Pin assignment for J1 connector VME64x | | | | | |
|--|--------|-------------------------------------|------------|----------|--------|
| | Row z | Pin assignment for J1 connector VME | | | |
| Pin no. | Row z | Row a | Row b | Row c | Row d |
| 1 | MPR | D00 | BBSY | D08 | VPC |
| 2 | GND | D01 | BCLR | D09 | GND |
| 3 | MCLK | D02 | ACFAIL | D10 | + V1 |
| 4 | GND | D03 | BG0IN | D11 | + V2 |
| 5 | MSD | D04 | BG0OUT | D12 | RsvU |
| 6 | GND | D05 | BG1IN | D13 | - V1 |
| 7 | MMD | D06 | BG1OUT | D14 | - V2 |
| 8 | GND | D07 | BG2IN | D15 | RsvU |
| 9 | MCTL | GND | BG2OUT | GND | GAP |
| 10 | GND | SYSCLK | BG3IN | SYSFAIL | GAO |
| 11 | RTRY1 | GND | BG3OUT | BERR | GA1 |
| 12 | GND | DS1 | BR0 | SYSRESET | +3,3 V |
| 13 | RsvBus | DS0 | BR1 | LWORD | GA2 |
| 14 | GND | WRITE | BR2 | AM5 | +3,3 V |
| 15 | RsvBus | GND | BR3 | A23 | GA3 |
| 16 | GND | DTACK | AM0 | A22 | +3,3 V |
| 17 | RsvBus | GND | AM1 | A21 | GA4 |
| 18 | GND | AS | AM2 | A20 | +3,3 V |
| 19 | RsvBus | GND | AM3 | A19 | RsvBus |
| 20 | GND | IACK | GND | A18 | +3,3 V |
| 21 | RsvBus | IACKIN | SERCLK (1) | A17 | RsvBus |
| 22 | GND | IACKOUT | SERDAT (1) | A16 | +3,3 V |
| 23 | RsvBus | AM4 | GND | A15 | RsvBus |
| 24 | GND | A07 | IRQ7 | A14 | +3,3 V |
| 25 | RsvBus | A06 | IRQ6 | A13 | RsvBus |
| 26 | GND | A05 | IRQ5 | A12 | +3,3 V |
| 27 | RsvBus | A04 | IRQ4 | A11 | LI/I |
| 28 | GND | A03 | IRQ3 | A10 | +3,3 V |
| 29 | SBB | A02 | IRQ2 | A09 | LI/O |
| 30 | GND | A01 | IRQ1 | A08 | +3,3 V |
| 31 | SBA | -12 V | +5 V STDBT | +12 V | GND |
| 32 | GND | +5 V | +5 V | +5 V | VPC |

Pin assignment J2

| Pin assignment for J2 connector VME64x | | | | | |
|--|-------|-------------------------------------|-------|-----------|-------|
| | Row z | Pin assignment for J2 connector VME | | | |
| Pin no. | Row z | Row a | Row b | Row c | Row d |
| 1 | UD | User def. | +5 V | User def. | UD |
| 2 | GND | User def. | GND | User def. | UD |
| 3 | UD | User def. | Retry | User def. | UD |
| 4 | GND | User def. | A24 | User def. | UD |
| 5 | UD | User def. | A25 | User def. | UD |
| 6 | GND | User def. | A26 | User def. | UD |
| 7 | UD | User def. | A27 | User def. | UD |
| 8 | GND | User def. | A28 | User def. | UD |
| 9 | UD | User def. | A29 | User def. | UD |
| 10 | GND | User def. | A30 | User def. | UD |
| 11 | UD | User def. | A31 | User def. | UD |
| 12 | GND | User def. | GND | User def. | UD |
| 13 | UD | User def. | +5 V | User def. | UD |
| 14 | GND | User def. | D16 | User def. | UD |
| 15 | UD | User def. | D17 | User def. | UD |
| 16 | GND | User def. | D18 | User def. | UD |
| 17 | UD | User def. | D19 | User def. | UD |
| 18 | GND | User def. | D20 | User def. | UD |
| 19 | UD | User def. | D21 | User def. | UD |
| 20 | GND | User def. | D22 | User def. | UD |
| 21 | UD | User def. | D23 | User def. | UD |
| 22 | GND | User def. | GND | User def. | UD |
| 23 | UD | User def. | D24 | User def. | UD |
| 24 | GND | User def. | D25 | User def. | UD |
| 25 | UD | User def. | D26 | User def. | UD |
| 26 | GND | User def. | D27 | User def. | UD |
| 27 | UD | User def. | D28 | User def. | UD |
| 28 | GND | User def. | D29 | User def. | UD |
| 29 | UD | User def. | D30 | User def. | UD |
| 30 | GND | User def. | D31 | User def. | UD |
| 31 | UD | User def. | GND | User def. | UD |
| 32 | GND | User def. | +5 V | User def. | UD |

Technical specifications



Automatic daisy-chaining J1 and J1/J2

Via the use of connectors with integral mechanical switches, the contact is automatically opened when the daughterboard is inserted, and closed again when it is extracted.

Automatic daisy-chaining VME64x

The second option for automatic daisy-chaining is achieved here by an "or" logic integrated onto the backplane. If the daughterboard is extracted, the logic closes the daisy-chain.

Chassis GND connection

An electrically conductive chassis GND surface is attached to the subracks in the mounting section of the backplane. This facilitates EMC-sealed mounting of the backplane on the subracks. With VME64x, RF linking of the subracks and system earth is achieved via capacitors (10nF, 200 V at each slot). Static charges are discharged via a resistor ($\geq 1 \text{ M}\Omega$). A combined connection component (screw M4 and Faston 2.8 or 6.3 x 0.8 mm) is provided for connection of the enclosure earth.

Power connections

Infeed of the main operating voltage +5 V/+3.3 V and GND is provided via busbars with M6 screw terminal. The auxiliary operating voltages are supplied via double Fastons with additional M4 screw thread. Optimum supply of the daughterboards and hence problem-free operation is ensured, thanks to the arrangement of the infeed modules on the backplane.

Utility connector

The special signals to the power pack and to external LEDs are routed on a separate connector on the backplanes. A 7-pole, a 10-pole or a 14-pole connector with 2.54 mm spacing is provided, depending on the backplane type.

Pin assignment, 10/14 Pins

| | | | |
|-----------|----|----|-------------------|
| GND | 1 | 2 | GND Sense (5 V) |
| +5 V | 3 | 4 | +5 V Sense |
| ACFAIL- | 5 | 6 | ACFAIL- |
| SYSFAIL- | 7 | 8 | SYSFAIL- |
| SYSRESET- | 9 | 10 | SYSRESET- |
| +3,3 V | 11 | 12 | +3,3 V Sense |
| GND | 13 | 14 | GND Sense (3,3 V) |

J1, J1/J2: 10 pins, VME64x: 14 pins

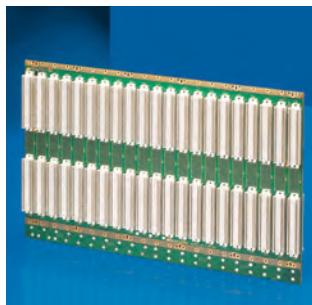
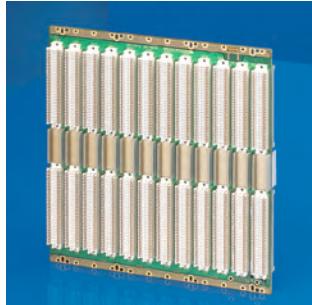
Geographical address pin assignments (VME64x)

| Slot no. | GAP Pin J1-D9 | GA4 Pin J1-D17 | GA3 Pin J1-D15 | GA2 Pin J1-D13 | GA1 Pin J1-D11 | GA0 Pin J1-D10 |
|----------|---------------|----------------|----------------|----------------|----------------|----------------|
| 1 | Open | Open | Open | Open | Open | GND |
| 2 | Open | Open | Open | Open | GND | Open |
| 3 | GND | Open | Open | Open | GND | GND |
| 4 | Open | Open | Open | GND | Open | Open |
| 5 | GND | Open | Open | GND | Open | GND |
| 6 | GND | Open | Open | GND | GND | Open |
| 7 | Open | Open | Open | GND | GND | GND |
| 8 | Open | Open | GND | Open | Open | Open |
| 9 | GND | Open | GND | Open | Open | GND |
| 10 | GND | Open | GND | Open | GND | Open |
| 11 | Open | Open | GND | Open | GND | GND |
| 12 | GND | Open | GND | GND | Open | Open |
| 13 | Open | Open | GND | GND | Open | GND |
| 14 | Open | Open | GND | GND | GND | Open |
| 15 | GND | Open | GND | GND | GND | GND |
| 16 | Open | GND | Open | Open | Open | Open |
| 17 | GND | GND | Open | Open | Open | GND |
| 18 | GND | GND | Open | Open | GND | Open |
| 19 | Open | GND | Open | Open | GND | GND |
| 20 | GND | GND | Open | GND | Open | Open |
| 21 | Open | GND | Open | GND | Open | GND |

Pin assignments J0

| Pin no. | ROW Z | ROW A | ROW B | ROW C | ROW D | ROW E | ROW F |
|---------|-------|--------------|--------------|--------------|--------------|--------------|-------|
| 1 – 19 | GND | User Defined | GND |

VME64x BACKPLANES



Backplanes VME64x

Technical specifications:

| | |
|--|---|
| Number of layers | 10 |
| Layer structure | Optimised for optimum RF performance. Outer layers designed as shielding surface. |
| PCB thickness | 4,5 mm ±10 % |
| Ohmic resistance of the signal tracks | < 1 Ohm |
| Surge impedance Z of the signal tracks | 55 Ohm |
| Basic power consumption, terminated at both ends | Active: < 200 mA Passive: < 2 A |
| Power supply: – Busbar with M6 screw terminal – M4 screw terminal and FASTON 6.3 x 0.8 mm – < 5 slots | +5 V, +3.3 V and 0 V ±12 V, +5 V STBY, ±V1, ±V2 and case FASTON 6.3 x 0.8 mm |
| Current carrying capacity of busbar | max. 200 A |
| Current carrying capacity of a combined double flat-pin connector/screw terminal | 25 A |
| Current carrying capacity of a FASTON flat connector | 10 A |
| | +3,3 V 12,5 A +5 V 9,0 A +12 V 1,5 A -12 V 1,5 A +5 V STDBY 1,5 A +48 V (38 – 75 V) 3,0 A |
| Current carrying capacity of the assembly, per slot | |
| Termination ON-/IN-board | 6 U: active, 6.5 U: active (passive/changeover) |
| Installation height | 6 U/6,5 U |
| Distance between slots | 4 HP |
| Connectors | Press-fit technique quality class 2, 400 connection cycles 160 pins compatible with C96 P0 spacing 2 mm, 95/133 pins |
| Operating temperature range | Active termination 0° . . . +70°C Passive termination -40° . . . +85°C |
| Relative humidity | 90 %, non-condensing |

VME64x 6 HE

| Slot | Dimensions | | Model No. RP | |
|------|------------|----------|----------------------|-------------------|
| | Height mm | Width mm | without P0 connector | with P0 connector |
| 2 | 261,7 | 39,5 | 9912.423 | 9912.410 |
| 3 | 261,7 | 59,5 | 9912.424 | 9912.411 |
| 4 | 261,7 | 80 | 9912.425 | 9912.362 |
| 5 | 261,7 | 100 | 3687.608 | 3687.609 |
| 6 | 261,7 | 120,5 | 9912.426 | 9912.412 |
| 7 | 261,7 | 141 | 3687.610 | 3687.611 |
| 8 | 261,7 | 161,5 | 9912.427 | 9912.413 |
| 9 | 261,7 | 181,5 | 9904.930 | 9904.932 |
| 10 | 261,7 | 202 | 9904.931 | 9904.933 |
| 11 | 261,7 | 222,5 | 9912.428 | 9912.414 |

| Slot | Dimensions | | Model No. RP | |
|------|------------|----------|----------------------|-------------------|
| | Height mm | Width mm | without P0 connector | with P0 connector |
| 12 | 261,7 | 242,5 | 3686.634 | 3686.473 |
| 13 | 261,7 | 263 | 9912.429 | 9912.415 |
| 14 | 261,7 | 283 | 9912.430 | 9912.416 |
| 15 | 261,7 | 303,5 | 9912.431 | 9912.417 |
| 16 | 261,7 | 324 | 9912.432 | 9912.418 |
| 17 | 261,7 | 344 | 9912.433 | 9912.419 |
| 18 | 261,7 | 364,5 | 9912.434 | 9912.420 |
| 19 | 261,7 | 385 | 9912.435 | 9912.421 |
| 20 | 261,7 | 405 | 9912.436 | 9912.422 |
| 21 | 261,7 | 425,5 | 3686.635 | 3686.474 |

VME64x 6,5 HE

| Slot | Dimensions | | Model No. RP | |
|------|------------|----------|----------------------|-------------------|
| | Height mm | Width mm | without P0 connector | with P0 connector |
| 5 | 283,7 | 100 | 9910.012 | 9910.007 |
| 7 | 283,7 | 141 | 9910.013 | 9910.008 |
| 9 | 283,7 | 181,5 | 9910.014 | 9910.009 |
| 10 | 283,7 | 202 | 9904.928 | 9904.929 |
| 12 | 283,7 | 242,5 | 9910.015 | 9910.010 |
| 21 | 283,7 | 425,5 | 9910.016 | 9910.011 |

Material:

Fibreglass epoxy to IEC 60 249 (type FR4)

Supply includes:

Backplane, fully populated.

+ Accessories:

For backplane mounting:

Conductive strips, see page 115

Insulating strips, see page 115



Backplanes VME J1/J2 Monolithic

Technical specifications:

| | |
|--|--|
| Number of layers | 6 |
| Layer structure | Optimised for optimum RF performance. Outer layers designed as shielding surface. |
| PCB thickness | 3,2 mm ±10 % |
| Ohmic resistance of the signal tracks | < 1 Ohm |
| Surge impedance Z of the signal tracks | 60 Ohm |
| Basic power consumption, terminated at both ends | Active: < 200 mA Passive: < 1,5 A |
| Power supply: – Busbar with screw terminal M6 – Screw terminal M4 and FASTON 6.3 x 0.8 mm – < 5 slots | +5 V and 0 V ±12 V, +5 V STBY and case FASTON 6.3 x 0.8 mm |
| Current carrying capacity of busbar | max. 200 A |
| Current carrying capacity of a combined double flat-pin connector/screw terminal | 25 A |
| Current carrying capacity of a FASTON flat connector | 10 A |
| Current carrying capacity of the assembly, per slot | +5 V 9,0 A +12 V 1,5 A -12 V 1,5 A +5 V STDBY 1,5 A |
| Termination ON-/IN-board | active (may be switched to passive) |
| Installation height | 6 U |
| Distance between slots | 4 U |
| Connectors | Press-fit technique quality class 2, 400 connection cycles C96 |
| Operating temperature range | Active termination 0° . . . +70°C Passive termination -40° . . . +85°C |
| Relative humidity | 90 %, non-condensing |

| Slot | Dimensions | | Model No. RP |
|------|------------|----------|-----------------|
| | Height mm | Width mm | |
| 2 | 261,7 | 39,5 | 3686.495 |
| 3 | 261,7 | 59,5 | 3686.496 |
| 4 | 261,7 | 80 | 3686.497 |
| 5 | 261,7 | 100 | 3686.498 |
| 6 | 261,7 | 120,5 | 3686.499 |
| 7 | 261,7 | 141 | 3686.500 |
| 8 | 261,7 | 161,5 | 3686.501 |
| 9 | 261,7 | 181,5 | 3686.502 |
| 10 | 261,7 | 202 | 3686.503 |
| 11 | 261,7 | 222,5 | 3686.504 |
| 12 | 261,7 | 242,5 | 3686.505 |
| 13 | 261,7 | 263 | 3686.506 |
| 14 | 261,7 | 283 | 3686.507 |
| 15 | 261,7 | 303,5 | 3686.508 |
| 16 | 261,7 | 324 | 3686.509 |
| 17 | 261,7 | 344 | 3686.510 |
| 18 | 261,7 | 364,5 | 3686.511 |
| 19 | 261,7 | 385 | 3686.512 |
| 20 | 261,7 | 405 | 3686.513 |
| 21 | 261,7 | 425,5 | 3686.514 |

Material:

Fibreglass epoxy to IEC 60 249 (type FR4)

Supply includes:

Backplane, fully populated.

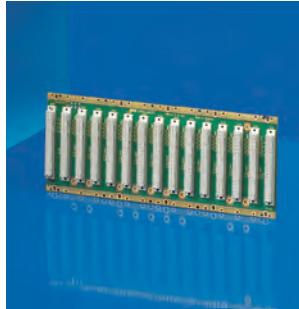
+ Accessories:

For backplane mounting:

Conductive strips, see page 115

Insulating strips, see page 115

VME BACKPLANES



VME J1 system bus

Technical specifications:

| | VME J1 | VME J2 |
|--|---|--|
| Number of layers | 6 | 2 |
| Layer structure | Optimised for opt. RF performance, outer layers designed as shielding surface | |
| PCB thickness | 3,2 mm ±10 % | 3,2 mm ±10 % |
| Ohmic resistance of the signal tracks | < 1 Ohm | < 1 Ohm |
| Surge impedance Z of the signal tracks | 60 Ohm | 60 Ohm |
| Basic power consumption, terminated at both ends | Active: < 150 mA Passive: < 1,2 A | Passive: < 0,6 A |
| Power supply: – M4 screw terminal and FASTON 6.3 x 0.8 mm – < 5 slots | +5 V, 0 V, ±12 V, ±5 V STBY and case FASTON 6.3 x 0.8 mm | x FASTON 6.3 x 0.8 mm |
| Current carrying capacity of a combined double flat-pin connector/screw terminal | 25 A | 25 A |
| Current carrying capacity of a FASTON flat connector | 10 A | 10 A |
| Current carrying capacity of the assembly, per slot | +5 V 4,5 A +12 V 1,5 A -12 V 1,5 A +5 V STDBY 1,5 A | +5 V 4,5 A |
| Termination ON-/IN-board | active/passive (changeover) | active/passive (changeover) |
| Installation height | 3 U | 3 U |
| Distance between slots | 4 HP | 4 HP |
| Connectors | Press-fit technique quality class 2, 400 connection cycles C96 | Press-fit technique quality class 2, 400 connection cycles C96 |
| Operating temperature range | Active termination 0° ... +70°C Passive termination -40° ... +85°C | Passive termination -40° ... +85°C |
| Relative humidity | 90 %, non-condensing | 90 %, non-condensing |

| Slot | Dimensions | | Model No. RP |
|------|------------|----------|-----------------|
| | Height m | Width mm | |
| 3 | 128,4 | 59,5 | 3686.555 |
| 4 | 128,4 | 80 | 3686.556 |
| 5 | 128,4 | 100 | 3686.557 |
| 6 | 128,4 | 120,5 | 3686.558 |
| 7 | 128,4 | 141 | 3686.559 |
| 8 | 128,4 | 161,5 | 3686.560 |
| 9 | 128,4 | 181,5 | 3686.561 |
| 10 | 128,4 | 202 | 3686.562 |

+ Accessories:

For backplane mounting:
Conductive strips, see page 115
Insulating strips, see page 115

Material:

Fibreglass epoxy to IEC 60 249 (type FR4)

Supply includes:

Backplane, fully populated.



VME J2 expansion bus

| Slot | Dimensions | | Model No. RP |
|------|------------|----------|-----------------|
| | Height mm | Width mm | |
| 3 | 128,4 | 59,5 | 3686.585 |
| 4 | 128,4 | 80 | 3686.586 |
| 5 | 128,4 | 100 | 3686.587 |
| 6 | 128,4 | 120,5 | 3686.588 |
| 7 | 128,4 | 141 | 3686.589 |
| 8 | 128,4 | 161,5 | 3686.590 |
| 9 | 128,4 | 181,5 | 3686.591 |
| 10 | 128,4 | 202 | 3686.592 |

+ Accessories:

For backplane mounting:
Conductive strips, see page 115
Insulating strips, see page 115

Material:

Fibreglass epoxy to IEC 60 249 (type FR4)

Supply includes:

Backplane, fully populated.

CPCI/VMEbus MPS MONITORING

MPS Monitoring electronics



In order to ensure maximum system availability and performance in industrial computers, all hardware components must offer functional reliability. The monitoring electronics for microcomputer packaging systems (MPS) offers a highly flexible, scalable security concept for key parameters such as temperature, voltage and fan speed. At the heart of this concept are intelligent function modules such as controller, temperature, fan and LCD display or LED display modules. The system may be polled, or parameters set via the Internet using remote control functions, thanks to compatibility with the HEITEC CMC-TC monitoring system. Alternatively, this may be executed directly on the MPS system, via a PC, or with the aid of CMC-TC, directly from a control point.

Benefits at a glance

- Monitoring of temperature, voltage, fan speed and fan alarm
- Flexible, scalable system concept
- Intelligent function modules
- Adjustable temperature limits
- Remote control via the Internet in conjunction with the HEITEC CMC-TC enclosure monitoring system
- Choice of parameter levels
- Internal communications via I²C bus

We meet your individual needs!
Please contact us!
Phone:
+49 - 9126 - 29 34 0
Email:
eps-quote@heitec.de
see page 14

Controller-Module (CMC & RS232)



Monitoring of system voltage, PSU-status, HeiCool alarm and data transfer of the temperature- and/or fan module via the RS 232 (to PC) or RS422-interface (to CMC-TC).

| Packs of | Order No. |
|----------|-----------------|
| 1 | 9909.193 |

Supply includes:

Unit consisting of:
controller-module, front plate 3 U, 4 HP

Controller-Module (CMC & LAN)



Monitoring of system voltage, PSU-status, HeiCool alarm and data transfer of the temperature- and/or fan module via LAN- (to PC) or RS422- interface (to CMC-TC).

| Packs of | Order No. |
|----------|-----------------|
| 1 | 9913.260 |

Supply includes:

Unit consisting of:
controller-module, front plate 3 U, 4 HP

CPCI/VMbus MPS MONITORING



Display- and Controller-Module (CMC & RS232)

Controller-Module:
Monitoring of system voltage, PSU-status, HeiCool alarm and data transfer of the temperature- and/or fan module via RS232- (to PC) or RS422- interface (to CMC-TC).

Display- Module:

- Handling via 3 keys: forward, escape, return
- 3 LEDs: Fan, Temperature, Volt for optical display as sum alarm
- For displaying temperature, power supply, fan speed
- Brightness and lightning optionally adjustable with turn on/off function
- Temperature display in °F/°C
- LCD (2 x 20 digits) for displaying data details

| Packs of | Order No. |
|----------|-----------------|
| 1 | 9912.483 |

Supply includes:

Unit consisting of:
controller-module, display-module,
front panel 6 U, 8 HP



LED Display- and Controller Module (CMC & RS232)

Controller-Module:
Monitoring of system voltage, PSU-status, HeiCool alarm and data transfer of the temperature- and/or fan module via RS232- (to PC) or RS422- interface (to CMC-TC).

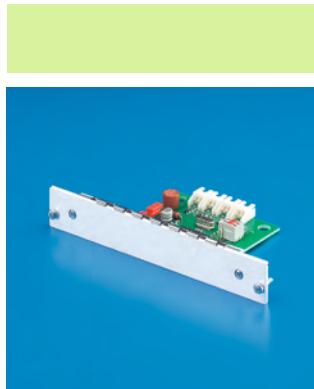
LED Display-Module:

- + 3.3 V
- + 5.0 V
- + 12 V
- - 12 V
- 2 x alarm (fan, temperature)
- Display of system voltage as to critical values
 - Red: voltage deficiency
 - Yellow (1 flash): below limit
 - Yellow (2 flashes): over limit
 - Green: voltage ok

| Packs of | Order No. |
|----------|-----------------|
| 1 | 9913.748 |

Supply includes:

Unit consisting of:
controller-module, LED-module,
front panel 6 U, 4 HP



Temperature-Module

- Up to 2 modules cascadable
- Data transfer of each temperature sensor to the controller-module
- Up to 4 temperature sensors
- Internal communication via I²C

Note:

Only applicable in connection with Controller-/LCD- or LED-modules

| Packs of | Order No. |
|----------|-----------------|
| 1 | 9909.230 |

Supply includes:

Unit consisting of:
temperature-module, front panel 3 U, 4 HP

CPCI/VMEbus MPS MONITORING



LED Display-Module

LED Display-module:

- + 3.3 V
- + 5.0 V
- + 12 V
- – 12 V
- 2 x alarm (fan, temperature)
- Display of system voltage as to critical values
 - Red: voltage deficiency
 - Yellow (1 flash): below limit
 - Yellow (2 flashes): over limit
 - Green: voltage ok

| Packs of | Order No. |
|----------|-----------------|
| 1 | 9912.294 |

Note:

Only applicable in connection with Controller-/Display- or LED-modules

Supply includes:

Unit consisting of:
LED-module, front panel 3 U, 4 HP



Fan-Module

Monitoring fan functions

(attention: requires fan with alarm signal)

Note:

Only applicable in connection with Controller-/Display- or LED-modules

| Packs of | Order No. |
|----------|-----------------|
| 1 | 9912.293 |

Supply includes:

Unit consisting of:
fan-module, front panel 3 U, 4 HP



Mains switch

LED Display-module:

- Rocker switch 6 A/250 V, 2-pole, FASTON connections, (4.7 x 0.8 mm)
- VDE, UL, CSA, TÜV, SEMKO, DEMCO, SEV, NEMKO, SETI, BEAB approvals
- Insulation resistance: > 10 MΩ
- Test voltage: 1 kV
- Front panel: 21 x 15 mm
- Cut-out: 19.2 x 12.9 mm
- Installation depth: 17 mm

ACCESSORIES

| Max. current | Packs of | Order No. |
|--------------|----------|-----------------|
| 6 A | 1 | 3687.711 |



Filtered IEC mains inlet

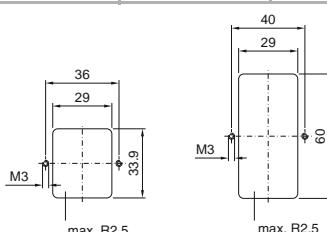
For mains input

Combination module consisting of an IEC socket to IEC 60 320 and IEC 60 950 with line filter and 5 x 20 mm G fuse holder.

Technical specifications:

Metal enclosure for screw mounting
Mains input: via IEC socket
Mains output: via 3 FASTON contacts (L, N, PE, 6.3 x 0.8)
Variants available with or without switch
Temperature range: -25°C to +85°C

| | Model No. RP | |
|--------------------|--------------------------------|-----------------|
| | with switch | without switch |
| | 3687.709 | 3687.710 |
| Mains voltage max. | 250 V AC | 250 V AC |
| Leakage current | 2 x 0,32 mA | Ø 500 µA |
| Max. current | 6 A | 6 A |
| Mounting holes | 40 mm | 36 mm |
| Installation depth | 90 mm | 56 mm |
| Cut-out | 60 x 29 mm | 33,9 x 29 mm |
| Approvals | VDE, SEMKO, SEV, UL, CSA | VDE |



INDUSTRIAL PCs



ATX HeiPac, aluminium

- Aluminium case, clear-chromated
- EMC prepared
- Integrated fan, air filter and PSU
- Electronics for automatic restart following a mains failure
- Removable inner housing

Standard solutions and individual assembly - from plain enclosure to fully integrated industrial PC

We offer a multitude of Industrial PCs – be it a 19" rack-mount system or solutions for direct installation on mounting plates. The cases for Industrial PCs shown in this chapter only represent a small sample of HEITEC's wide range of services in this sector. HEITEC offers the solution for Industrial PCs, tailored to your needs, whether it is a non-standard enclosure format or fully integrated Industrial PC system including motherboard, hard disk and input-/output boards.

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ATX HeiPac, aluminium

The top-of-the-range model with outstanding maintenance-friendliness: The inner housing can be pulled out like a drawer.



ATX 4 U, stainless steel

Lockable front plate to prevent unauthorised access.

AT/ATX (Vario) Economy with front door

Easy de-mounting of disk drive module for external assembly.

BENEFITS AT A GLANCE:

ATX 4 U, stainless steel

- Sheet steel, spray-finished
- Preassembled for mounting on telescopic slides
- EMC prepared
- Fully assembled, including fan, air filter and PSU
- Slide rail mounting

AT/ATX (Vario) Economy with front door

- Sheet steel, spray-finished, zinc-plated, in RAL 7035
- Suitable for mounting on telescopic slides
- EMC prepared
- ATX Economy fully assembled, including fan and PSU
- AT/ATX Vario Economy individually upgradable

ATX with front adaptors

- Sheet steel, spray-finished, zinc-plated, in RAL 7035
- Suitable for installation in 19" cabinets or on mounting plates
- Adapted for mounting on telescopic slides or slide rails
- EMC prepared
- Fully assembled, including PSU

HEITEC INDUSTRIAL PCS OVERVIEW

ATX HeiPac



4 U, aluminium

Order no. see page 58

Applications:

- 19" cabinets and enclosures
- Industrial PCs for ATX-, Mini-ATX or Micro ATX boards
- Office- and industrial sector

Technical Specifications:

- Enclosure of aluminium, clear-chromated
- Removable inner housing
- Fully assembled and pre-wired
- Including fan and PSU
- EMC prepared
- Electronics for automatic restart following a mains failure

Benefits at a glance:

Top-of-the-range aluminium model for installation of an Industrial PC in ATX format. Advantage: outstanding maintenance friendliness. The inner housing can be pulled out like a drawer and thus enables optimum access to all components.

ATX



4 U, stainless steel

Order no. see page 59

Applications:

- 19" cabinets and enclosures
- Server enclosures
- Industrial PCs for ATX-, Mini-ATX or Micro ATX boards
- Office- and industrial sector

Technical Specifications:

- Enclosure of stainless steel, zinc-plated
- Suitable for mounting on slide rails
- Fully assembled and pre-wired
- Including fan and PSU
- EMC prepared
- Lockable front plate

Benefits at a glance:

The neutral design of this system offers a multitude of application areas in the office- or industrial sector. The lockable front plate prevents unauthorised access.

**ATX Economy
with front door**



4 U, stainless steel

Order no. see page 60

Applications:

- 19" cabinets and enclosures
- Industrial PCs for ATX-, Mini-ATX or Micro ATX boards
- Industrial sector

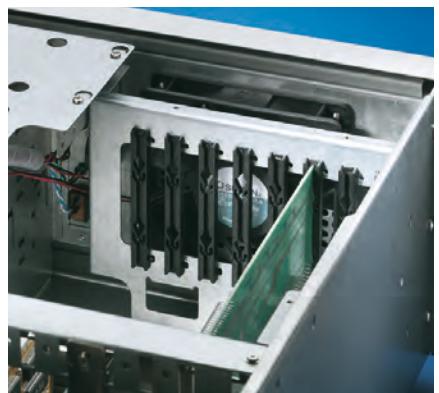
Technical Specifications:

- Enclosure of stainless steel, zinc-plated
- Hinged, lockable front door
- Suitable for mounting on telescopic slides
- EMC prepared
- Fully assembled and pre-wired
- Including fan and PSU

Benefits at a glance:

This solid construction of stainless steel is suitable for extreme industrial environments with high requirements concerning ruggedness and safety.

Two versions: ATX Economy, fully assembled and pre-wired or AT/ATX Vario Economy as basic case for individual assembly – for example AT- or ATX applications.



HEITEC INDUSTRIAL PCs

OVERVIEW

Modular System AT/ATX (Vario) Economy



4 U, stainless steel
Order no. see page 61

Applications:

- 19" cabinets and enclosures
- Industrial PCs for ATX-, Mini-ATX or Micro ATX boards or AT-/Baby-AT boards
- Industrial sector

Technical Specifications:

- Enclosure of stainless steel, zinc-plated
- Hinged, lockable front door
- Suitable for mounting on telescopic slides
- EMC prepared
- Fully assembled and pre-wired including fan and PSU
- Individually upgradeable

Benefits at a glance:

The modular principle of AT/ATX Vario Economy allows various installations for individual requirements. The basic case may be fitted for both AT- and ATX applications with the appropriate selection of rear panels, power supply units and front panels. For self-assembly or on request fully assembled and pre-wired.

ATX with front adaptors



4 U
Order no. see page 62

Applications:

- 19" cabinets and enclosures
- Industrial PCs for ATX-, Mini-ATX or Micro ATX boards
- Industrial sector

Technical Specifications:

- Enclosure of stainless steel, zinc-plated
- For installation in 19" cabinets
- Suitable for mounting on telescopic slides or on slide rails
- EMC prepared
- Fully assembled and pre-wired
- Including fan and PSU

Benefits at a glance:

Flexibility in all application sectors: for example little space, a required connection to other systems or for front access of I/O connections. The 19" version is suitable for installation in cabinets.

ATX with front adaptors for wall-mounting



Width x Height: 380 x 330 mm
Order no. see page 63

Applications:

- 19" cabinets and enclosures
- Installation on mounting plates
- Industrial PCs for ATX-, Mini-ATX or Micro ATX boards
- Industrial sector

Technical Specifications:

- Enclosure of stainless steel, zinc-plated
- For installation on mounting plates
- Suitable for mounting on telescopic slides or on slide rails
- Fully assembled and pre-wired
- Including fan and PSU

Benefits at a glance:

Flexibility in all application sectors: for example little space, a required connection to other systems or for front access of I/O connections. Flanges on the rear panel for installation on mounting plates.

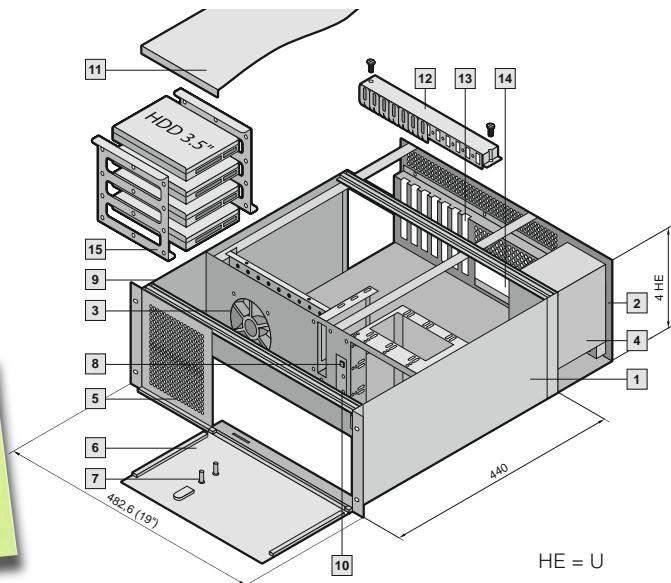


INDUSTRIAL PCs

ATX HeiPac 4 U, Aluminium



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Technical specifications:
482.6 mm (19") rack-mount system for the installation of ATX/ Mini-ATX or Micro-ATX boards and 3 x 5 1/4" and 1 x 3 1/2" drives.
Width: 482.6 mm (19")
Height: 4 U (177.0 mm)
Total depth: 440 mm
EMC prepared.

Material/surface finish:
Side panels, front panels: Aluminium, clear-chromated
Covers: 1.0 mm aluminium, clear-chromated
PC internal cassette: Sheet steel, zinc-plated, passivated
Standards:
Complies with IEC 60 297-3 and ATX specification 2.01

Special designs available on request.

Supply includes:

- [1] Rack-mount system 4 U, including drive holder
- [2] PC cassette
- [3] 1 fan 120 mm with filter
- [4] ATX power pack 300 W
- [5] Front door, horizontally hinged

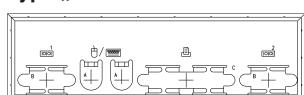
- [6] Front door, horizontally hinged, lockable
- [7] LED displays
- [8] Reset button
- [9] EMC gaskets, all round
- [10] ON/OFF switch with electronics for automatic restart following a mains failure (activation/deactivation of the electronics via jumper)
- [11] Cover

| | Packs of | | Page |
|--|----------|-----------------|------|
| U | | 4 | |
| Width mm | | 482,6 (19") | |
| Height mm | | 177,0 | |
| Depth mm | | 440,0 | |
| Model No. RP basic system fully assembled | 1 | 3659.000 | |
| Accessories | | | |
| [12] Card retainer | 7 | 3659.010 | 65 |
| Mounting bar for card retainer | 1 | 3659.090 | 65 |
| [13] Unused slot cover | 5 | 3659.030 | 64 |
| Cover for 5 1/4" drive space | 1 | 3659.050 | 64 |
| [15] Drive support | 1 set | 3659.060 | 64 |
| Spare filter mat | 1 | 3659.070 | — |
| Uninterruptible power supply Output: 300 VA/180 W | 1 | 3659.080 | 161 |
| [14] ATX I/O covers, sheet steel¹⁾ | | | |
| Type „Aurora Marl“ | 1 | 3659.040 | — |
| Type „Tucson“/„Venus“ | 1 | 3659.130 | — |
| Type „Providence“ | 1 | 3659.140 | — |

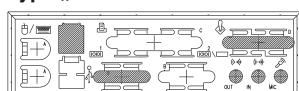
¹⁾ Other versions available on request; please specify the type of mainboard.

ATX I/O covers:

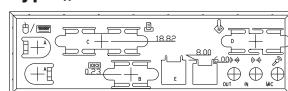
Type „Aurora Marl“



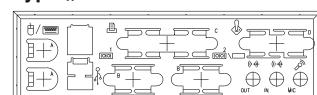
Type „Venus“



Type „Providence“



Type „Tucson“

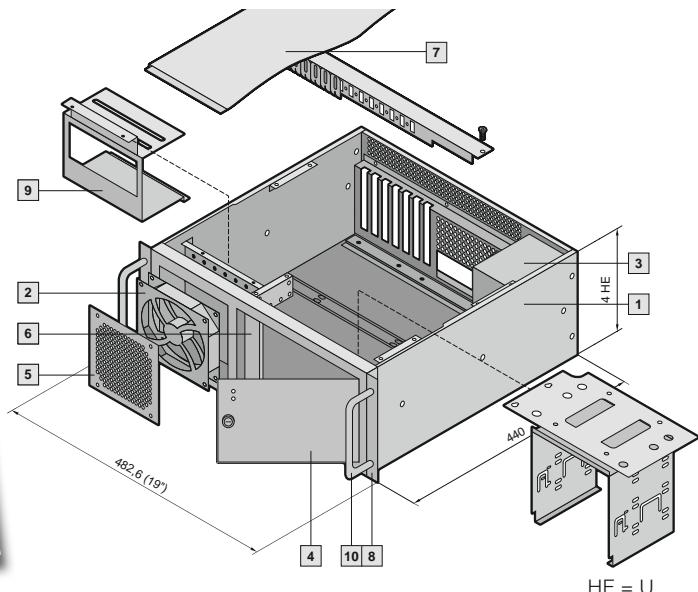


Accessories Page 64

ATX 4 U, sheet steel



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HE = U

Technical specifications:
482.6 mm (19") rack-mount system for the installation of ATX/ Mini-ATX or Micro-ATX boards and 3 x 5 1/4" and 1 x 3 1/2" drives.
Width: 482.6 mm (19")
Height: 4 U (177.0 mm)
Side panels: 174.0 mm
Total depth: 442.5 mm
Suitable for mounting on slide rails.

Material/surface finish:
Case, covers, front panels: 1.2 mm sheet steel, spray-finished in RAL 7035, unpainted contact points

Standards:
Complies with IEC 60 297-3 and ATX specification 2.01

Special designs available on request.

Supply includes:

- [1] Rack-mount system 4 U, including drive holder
- [2] 1 x 120 mm fan and filter mat, exchangeable from the front
- [3] ATX power pack 300 W
- [4] Front door, vertically hinged, lockable

[5] Front panel with ventilation holes and filter mat

[6] LED displays, speakers, Reset switch, on/off switch

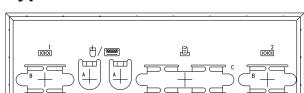
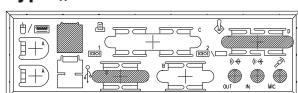
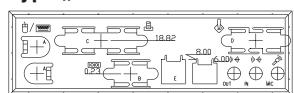
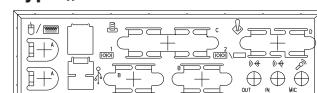
[7] Cover

[8] Two 482.6 mm (19") flanges

[9] Drive holder for 4 x 3 1/2" hard drives

| | Packs of | | Page |
|--|----------|-----------------|------|
| U | | 4 | |
| Width mm | | 482,6 (19") | |
| Height of flanges/side panels, mm | | 177,0/174,0 | |
| Depth mm | | 442,5/440,0 | |
| Model No. RP basic system fully assembled | 1 | 3659.900 | |
| Accessories | | | |
| Card retainer | 7 | 3659.010 | 65 |
| Mounting bar for card retainer | 1 | 3659.090 | 65 |
| Unused slot cover | 5 | 3659.030 | 64 |
| Cover for 5 1/4" drive space | 1 | 3659.110 | 64 |
| Cover for 3 1/2" drive space | 1 | 3659.410 | 64 |
| Uninterruptible power supply | 1 | 3659.080 | 161 |
| Telescopic slides for 600 mm enclosure depth | 1 set | 3659.180 | 64 |
| Telescopic slides for 800 mm enclosure depth | 1 set | 3659.190 | 64 |
| [10] Front handles for ATX 4 U | 2 | 3659.240 | 64 |
| ATX I/O covers, sheet steel¹⁾ | | | |
| Type „Aurora Marl“ | 1 | 3659.040 | — |
| Type „Tucson“/„Venus“ | 1 | 3659.130 | — |
| Type „Providence“ | 1 | 3659.140 | — |

¹⁾ Other versions available on request; please specify the type of mainboard.

ATX I/O covers:**Type „Aurora Marl“****Type „Venus“****Type „Providence“****Type „Tucson“**

Accessories Page 64

INDUSTRIAL PCs

ATX Economy with front door, 4 U, sheet steel



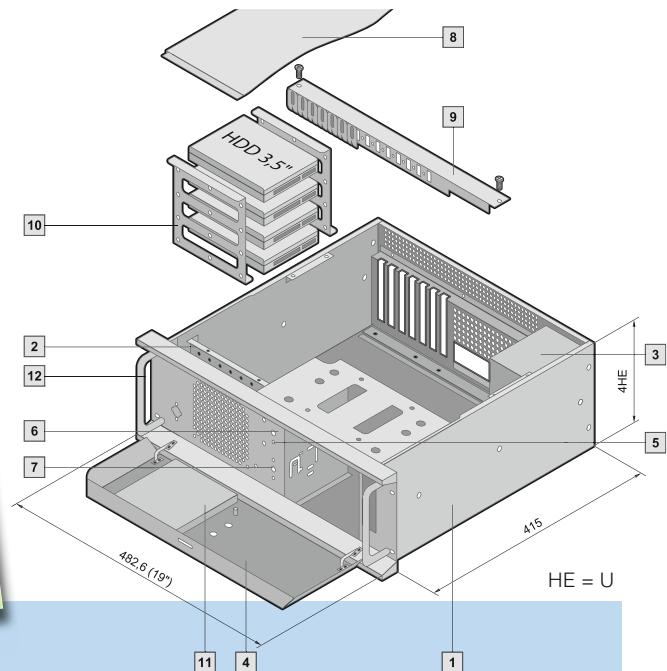
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Technical specifications:
482,6 mm (19") rack-mount system for the installation of ATX/ Mini-ATX or Micro-ATX boards and 3 x 5 1/4" and 1 x 3 1/2" drives.
Width: 482,6 mm (19")
Height 4 U (177,0 mm)
Total s. depth: 430 mm
EMC prepared

Material/surface:
Case, cover:
1,2 mm sheet steel, zinc plated, passivated front door 1,2 mm, sheet steel spray finished in, RAL 9035 unpainted contact points

Standards:
Complies with IEC 60 297-3 and ATX-specification 2.01

Special designs available on request



Supply includes:

- 1 Rack-mount system 4 U, including drive holder
- 2 1 x 120 mm fans and filter mat
- 3 ATX power pack 300 W

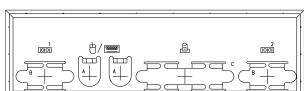
- 4 Front door, horizontally hinged, lockable
- 5 LED displays, speakers
- 6 Reset button
- 7 On/off switch
- 8 Cover

| | Packs of | | Page |
|--|-------------|-----------------|------|
| U | | 4 | |
| Width mm | 482,6 (19") | | |
| Height of flanges/side panels, mm | 177,0/174,0 | | |
| Depth mm | 430,0/415,0 | | |
| Model No. RP basic system fully assembled | 1 | 3659.100 | |
| Accessories | | | |
| [9] Card retainer | 7 | 3659.010 | 65 |
| Mounting bar for card retainer | 1 | 3659.090 | 65 |
| Unused slot cover | 5 | 3659.030 | 64 |
| Cover for 5 1/4" drive space | 1 | 3659.110 | 64 |
| Cover for 3 1/2" drive space | 1 | 3659.410 | 64 |
| [10] Drive holder | 1 | 3659.230 | 64 |
| [11] Spare filter mat | 1 | 3659.120 | — |
| Uninterruptible power supply | 1 | 3659.080 | 145 |
| Telescopic slides for 600 mm enclosure depth | 1 set | 3659.180 | 64 |
| Telescopic slides for 800 mm enclosure depth | 1 set | 3659.190 | 64 |
| [12] Front handles for ATX 4 U | 2 | 3659.240 | 64 |
| ATX I/O covers, sheet steel¹⁾ | | | |
| Type „Aurora Marl“ | 1 | 3659.040 | — |
| Type „Tucson“, „Venus“ | 1 | 3659.130 | — |
| Type „Providence“ | 1 | 3659.140 | — |

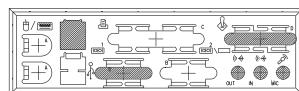
¹⁾ Other Versions available on request; please specify the type of mainboard.

ATX I/O covers:

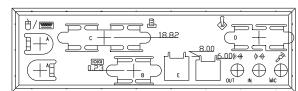
Type „Aurora Marl“



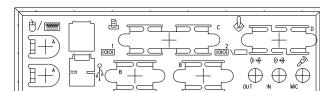
Type „Venus“



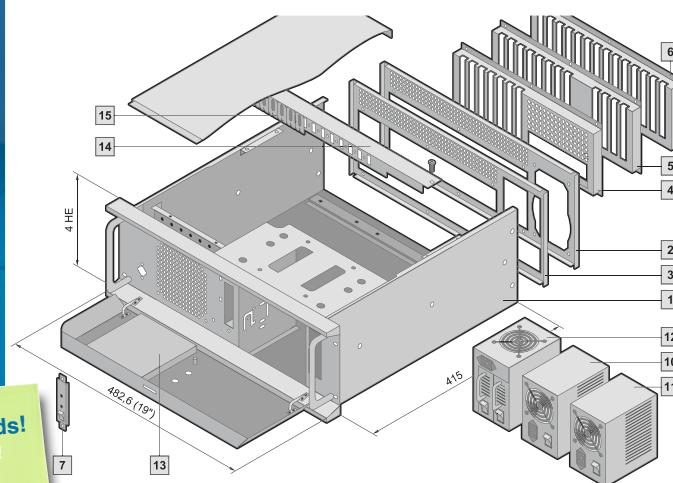
Type „Providence“



Type „Tucson“



Modular system AT/ATX Vario Economy with front door, 4 U, sheet steel



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The modular principle of AT/ATX Vario Economy allows installation to accommodate individual requirements. The basic case may be fitted for both AT and ATX applications with the appropriate selection of rear panels, power packs and front trim panels. For self-assembly, or on request fully assembled and wired.

Technical specifications:
482.6 mm (19") rack-mount system for the installation of ATX/ Mini-ATX. Micro-ATX or Baby AT boards and 3 x 5 $\frac{1}{4}$ " and 1 x 3 $\frac{1}{2}$ " drives.
Width: 482.6 mm (19")
Height: 4 U (177.0/174.0 mm)
Total depth: 430 mm

Material/surface finish:
Case, cover:
1.2 mm sheet steel, zinc-plated, passivated
Front door: 1.2 mm sheet steel, spray-finished in RAL 7035, unpainted contact points

Standards:
Complies with IEC 60 297-3 and ATX specification 2.01

Special designs available on request.

Basic enclosure supply includes:

- [1] Case 4 U, 430 mm deep including assembly parts, covers, drive holder, fan, horizontally hinged front door, and air filter.

Note:
Rear panel, front trim panel and power pack should be ordered separately (for self-assembly).

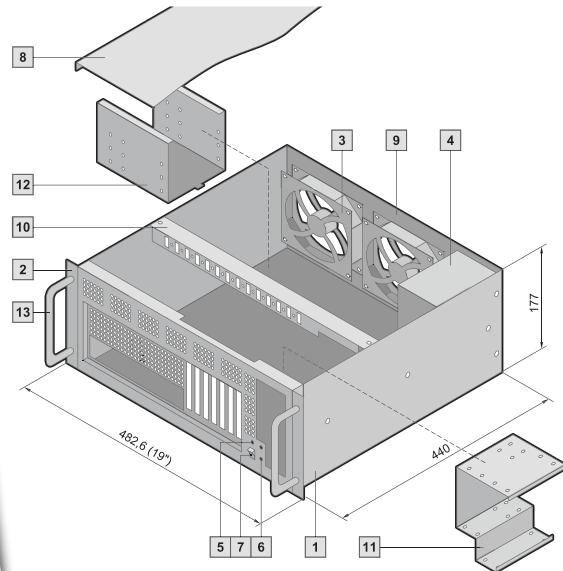
| | Packs of | | | | | | | Page |
|---|----------|---|---------------|------------|--|---------------|------------|------|
| U | | 4 | | | | | | |
| | | Installation for AT/ATX power pack (PS/2) | | | Installation for redundant power pack (PS/2) | | | |
| | | ATX | AT 8 + 4 slot | AT 14 slot | ATX | AT 8 + 4 slot | AT 14 slot | |
| Model No. RP basic enclosure fitted | 1 | | | | 3659.400 | | | |
| Installation, rear | | | | | | | | |
| [2] Rear panel for AT/ATX power pack | 1 | 3659.290 | 3659.290 | 3659.290 | — | — | — | 65 |
| [3] Rear panel for redundant power pack | 1 | — | — | — | 3659.310 | 3659.310 | 3659.310 | 65 |
| [4] Slotted rear panel for ATX 7 slots | 1 | 3659.320 | — | — | 3659.320 | — | — | 65 |
| [5] Slotted rear panel 8 + 4 slots for AT | 1 | — | 3659.330 | — | — | 3659.330 | — | 65 |
| [6] Slotted rear panel 14 slots for AT | 1 | — | — | 3659.340 | — | — | 3659.340 | 65 |
| Installation, front | | | | | | | | |
| [7] Front trim panel ATX with 2 x LED, reset switch | 1 | 3659.350 | — | — | 3659.350 | — | — | 65 |
| Power packs | | | | | | | | |
| [10] ATX power pack 300 W, PFC passive | 1 | 3688.121 | — | — | — | — | — | |
| ATX power pack 400 W, PFC active | 1 | 9916.222 | — | — | — | — | — | 162 |
| [11] AT power pack 300 W, PFC passive | 1 | — | 3688.118 | 3688.118 | — | — | — | 162 |
| [12] Redundant power pack (PS/2), 2 x 300 W | 1 | — | — | — | 3688.123 | — | — | |
| Fan 12 V DC, 60 mm, for the rear panel | 2 | 3659.250 | 3659.250 | 3659.250 | 3659.250 | 3659.250 | 3659.250 | 65 |
| [13] Spare filter mat | 1 | 3659.120 | 3659.120 | 3659.120 | 3659.120 | 3659.120 | 3659.120 | — |
| Accessories | | | | | | | | |
| [14] Mounting bar for card retainer | 1 | 3659.090 | 3659.090 | 3659.090 | 3659.090 | 3659.090 | 3659.090 | 65 |
| [15] Card retainer | 7 | 3659.010 | 3659.010 | 3659.010 | 3659.010 | 3659.010 | 3659.010 | 65 |

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ATX with front connections for 482.6 mm (19") installation, 4 U



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Technical specifications:
482.6 mm (19") rack-mount system for the installation of ATX/ Mini-ATX or Micro-ATX boards and 1 x 5 1/4" and 1 x 3 1/2" drives.
Width: 482.6 mm (19")
Height: 4 U
Flanges: 177.0 mm
Side panels: 174.0 mm
Total depth: 442.5 mm
Connections for I/Os, front EMC prepared. Suitable for mounting on slide rails.

Material/surface finish:
Case, covers:
1.2 mm sheet steel,
spray-finished in RAL 7035,
unpainted contact points
Standards:
Complies with IEC 60 297-3 and ATX specification 2.01
Special designs available on request.

Supply includes:

- [1] Rack-mount system 4 U, including drive holder
- [2] 19" flanges
- [3] 2 x 120 mm fans
- [4] ATX power pack 300 W
- [5] LED displays
- [6] Reset button
- [7] On/off switch

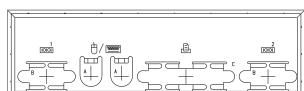
- [8] Cover
- [9] Rear panel with cutout and connection for power pack
- [10] Mounting bar for card retainer
- [11] Drive holder for 1 x 5 1/4" and 1 x 3 1/2"
- [12] Drive holder for 3 x 3 1/2" and hard drives

| | Packs of | | Page |
|--|----------|-----------------|------|
| U | | 4 | |
| Width mm | | 482,6 mm (19") | |
| Height of flanges/side panels, mm | | 177,0/174,0 | |
| Depth mm | | 442,5/440,0 | |
| Model No. RP basic system fully assembled | 1 | 3659.700 | |
| Accessories | | | |
| Card retainer | 7 | 3659.010 | 65 |
| Unused slot cover | 5 | 3659.030 | 64 |
| Cover for 5 1/4" drive space | 1 | 3659.110 | 64 |
| Cover for 3 1/2" drive space | 1 | 3659.410 | 64 |
| Telescopic slides for 600 mm enclosure depth | 1 set | 3659.180 | 64 |
| Telescopic slides for 800 mm enclosure depth | 1 set | 3659.190 | 64 |
| [13] Front handles for ATX 4 U | 2 | 3659.240 | 64 |
| ATX I/O covers, sheet steel¹⁾ | | | |
| Type „Aurora Marl“ | 1 | 3659.040 | — |
| Type „Tucson“/„Venus“ | 1 | 3659.130 | — |
| Type „Providence“ | 1 | 3659.140 | — |

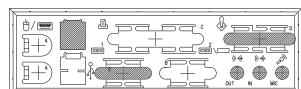
¹⁾ Other versions available on request; please specify the type of mainboard.

ATX I/O covers:

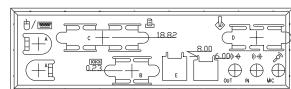
Type „Aurora Marl“



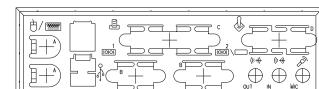
Type „Venus“



Type „Providence“



Type „Tucson“

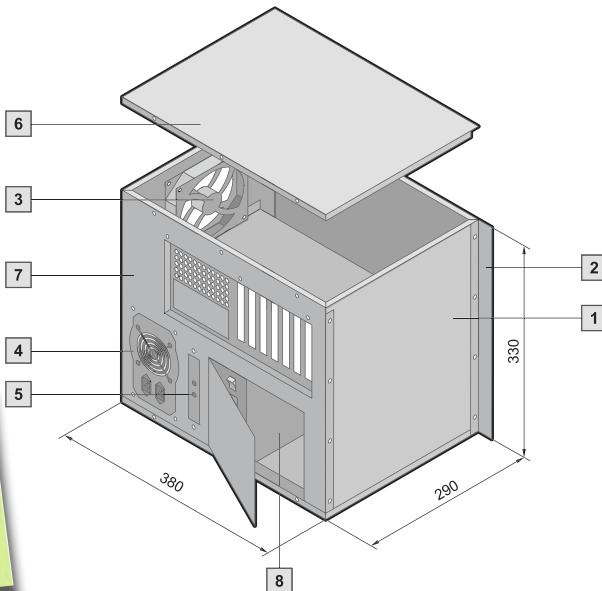


Accessories Page 64

ATX with front connections for wall mounting



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Technical specifications:
System for the installation of ATX/Mini-ATX or Micro-ATX boards and 3 x 5 1/4" and 1 x 3 1/2" drives, vertical.
Width: 380 mm
Height: 330 mm
Total depth: 292.5 mm
Connections for I/Os, front
EMC prepared.
Suitable for mounting on mounting plates.

Material/surface finish:
Case, covers:
1.2 mm sheet steel, zinc-plated, passivated, unpainted, unpainted contact points

Standards:
Complies with IEC 60 297-3 and ATX specification 2.01

Special designs available on request.

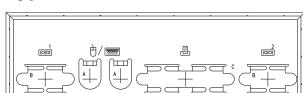
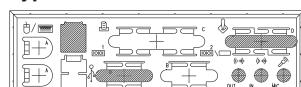
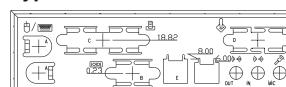
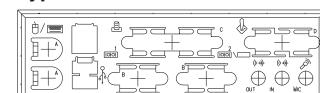
Supply includes:

- 1 Rack-mount system, including drive holder
- 2 Flanges for wall mounting
- 3 1 x 120 mm fan
- 4 ATX power pack 300 W
- 5 LED displays

- 6 Cover
- 7 Front panel
- 8 Drive holder for 3 x 5 1/4" and 1 x 3 1/2"

| | Packs of | | Page |
|--|----------|-----------------|------|
| Width mm | | 380,0 | |
| Height mm | | 330,0 | |
| Depth mm | | 292,5/290,0 | |
| Model No. RP basic system fully assembled | 1 | 3659.710 | |
| Accessories | | | |
| Unused slot cover | 5 | 3659.030 | 64 |
| Cover for 5 1/4" drive space | 1 | 3659.110 | 64 |
| Cover for 3 1/2" drive space | 1 | 3659.410 | 64 |
| Uninterruptible power supply | 1 | 3659.080 | 161 |
| ATX I/O covers, sheet steel¹⁾ | | | |
| Type „Aurora Marl“ | 1 | 3659.040 | — |
| Type „Tucson“, „Venus“ | 1 | 3659.130 | — |
| Type „Providence“ | 1 | 3659.140 | — |

¹⁾ Other versions available on request; please specify the type of mainboard.

ATX I/O-Covers:**Type „Aurora Marl“****Type „Venus“****Type „Providence“****Type „Tucson“**

INDUSTRIAL PCs

ACCESSORIES



Unused slot cover

Screw-on cover to conceal slot cut-outs which are not required.

Material:

Sheet steel, clear-chromated

Supply includes:

Assembly parts.

Packs of
5

Order No.
3659.030



Cover for drives

To conceal the 3½" or 5¼" drive slots.

Material:

sheet steel, zinc-plated, spray-finished in RAL 7035

Supply includes:

Assembly parts.

| Design | Packs of | Order No. |
|--------|----------|------------------|
| 3½" | 1 | 3659.410 |
| 5¼" | 1 | 3659.110 |

For ATX HeiPac

| Design | Packs of | Order No. |
|--------|----------|------------------|
| 5¼" | 1 | 3659.050 |



Telescopic slides

Facilitate optimum accessibility to the units, even when built-in.
For up to a maximum enclosure width of 426 mm.

Load capacity:

30 kg

Material:

Sheet steel

Supply includes:
1 set = 2 telescopic slides,
installation kit,
assembly parts.

| For enclosure depth mm | Maximum extension mm | Order No. |
|------------------------|----------------------|------------------|
| 600 | 511.2 | 3659.180 |
| 800 | 596.4 | 3659.190 |

Note:

Only applicable in connection with L-shaped 19" profiles



Front handles

The handles are fitted onto the 482.6 mm (19") flanges. They allow easy withdrawal of the cases from the enclosure.

Material:

Sheet steel, plated

Supply includes:
Assembly parts.

| For enclosure height (U) | Packs of | Order No. |
|--------------------------|----------|------------------|
| 1 | 2 | 3659.540 |
| 2 | 2 | 3659.020 |
| 4 | 2 | 3659.240 |



Drive holder

The drive holder will accommodate a maximum of 4 additional 3½" hard disks. They are mounted inside the enclosure behind the fan.

Material:

Sheet steel, zinc-plated

Supply includes:
Assembly parts.

| For system | Packs of | Order No. |
|-------------|----------|------------------|
| ATX Economy | 1 set | 3659.230 |
| ATX HeiPac | 1 set | 3659.060 |

INDUSTRIAL PCs ACCESSORIES



Card retainer

For secure attachment and stabilisation of slot cards up to 327 mm depth. The card retainers are height-adjustable so that even cards of different heights may be securely attached.

A mounting bar is needed to fit the card retainer (already included with ATX HeiPac).

Material:

Card retainer: Plastic

Mounting bar: Sheet steel, zinc-plated

Card retainer

| Packs of | Order No. |
|----------|-----------------|
| 7 | 3659.010 |

Mounting bar

| Packs of | Order No. |
|----------|-----------------|
| 1 | 3659.090 |

Adaptor



For the installation of 3½" hard disks or floppies in 5¼" installation slots.

Material:

Sheet steel, zinc-plated

Front panel: Spray-finished in RAL 7035

Supply includes:

Assembly parts.

Design

| Design | Packs of | Order No. |
|-------------------|----------|-----------------|
| for 3½" hard disk | 1 | 3659.270 |
| for 3½" floppy | 1 | 3659.280 |

DC fan for rear panel



Fan 12 V DC, 60 mm, for mounting on the rear panel. Including two 4-pole connectors with terminal.

Supply includes:

2 fans with connection cable, including assembly parts.

Packs of

| Packs of | Order No. |
|----------|-----------------|
| 2 | 3659.250 |

Rear panels



For the installation of AT/ATX Economy. Optionally with cut-out for AT/ATX power pack or redundant power pack.

Material:

Sheet steel, zinc-plated

Supply includes:

Assembly parts.

Design

| Design | Packs of | Order No. |
|--|----------|-----------------|
| for AT/ATX PS/2 and redundant power supply | 1 | 3659.290 |

Slotted rear panels



For the installation of AT/ATX Economy. Mounted on the rear panels. Optionally for AT (8 + 4 or 14 slots) or ATX (7 slots).

Material:

Sheet steel, zinc-plated

Supply includes:

Assembly parts.

Design

| Design | Packs of | Order No. |
|-----------------|----------|-----------------|
| 1 AT 4 + 8 slot | 1 | 3659.330 |
| 2 AT 14 slot | 1 | 3659.340 |
| 3 ATX 7 slot | 1 | 3659.320 |

Front trim panels



For the installation of AT/ATX Economy. Mounted in the front of the enclosure.

Optionally for:

- AT (2 x LED, reset button)
- ATX (2 x LED, reset button)
- ATX (2 x LED, reset button), electronics for automatic restart following mains failure

Design

| Design | Packs of | Order No. |
|--------|----------|-----------------|
| ATX | 1 | 3659.350 |

INSTRUMENT CASES/SYSTEM ENCLOSURES



INSTRUMENT CASES/SYSTEM ENCLOSURES

High functionality and modern design

The HeiCase instrument case impresses with its modern design and high functionality. Particular features include the numerous colour variants and the all-metal enclosure construction. The HeiPac Vario-Module system enclosure (desktop or rack-mount enclosure) is fully compatible with the latest HeiPac subrack range, making it ideal for individual configuration and assembly as a micro-computer system. At just 1 U, the HeiBox system enclosure offers a high packaging density in the smallest space.

WE MEET YOUR INDIVIDUAL NEEDS!

You are looking for a product in the field of electronic packaging that is not in our catalogue?

Please contact us! We will gladly submit a tailored quotation.

Phone: + 49 – 9126 – 29 34 0

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HeiBox

System enclosure for horizontal installation of individual boards, hubs, routers and modems.

Mounting plate of sheet steel for individual population.

Mounting kit for horizontal installation of boards.

HeiPac Vario-Module

System enclosure for direct installation of PCBs or boardtype plug-in units.

Basic enclosure optionally for EMC or non-EMC applications and suitable for individual configuration, e. g. with cover plates.

Optionally with corner trims for configuration as an instrument case or with 482.6 mm (19") flanges for configuration as a rack-mount enclosure.

HeiCase

All-metal instrument case for 482.6 mm (19") slide-in equipment

The perfect "safe" for valuable electronics. Extruded aluminium sections and die-cast elements form an extremely robust yet lightweight enclosure.

Stability and non-slip properties are guaranteed by 10 mm high corner caps. The distance from the desktop or from the lower enclosure offers excellent ventilation conditions.

Slide-in strips simply slide into the required profile channel, for the support of any required attachment.

BENEFITS AT A GLANCE

HeiBox

- Horizontal installation of single system elements
- Standard mounting plate
- Small construction with only 1 U

HeiPac Vario-Module

- Optionally for use as an instrument case or rack-mount enclosure

- Portable

- Optionally as EMC version

HeiCase

- Instrument case for the installation of 19" - slide-in assemblies and- elements
- All-metal construction ensures outstanding mechanical protection
- Ergonomic handles, bottom- and door types

- For mobile and stationary applications

- Standard in 3 colour shades

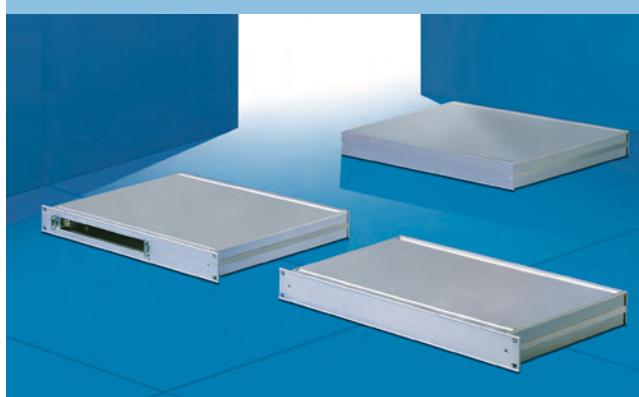
- Optionally as tower version

- Front doors of aluminium or acrylic glass

- Stackable

HEITEC INSTRUMENT CASES/SYSTEM ENCLOSURES OVERVIEW

HeiBox



System enclosure

Order No. see page 70

Applications:

Optionally for use as an instrument case or rack-mount enclosure. Accommodates Eurocards/Double Eurocards (horizontal), bridges, hubs, routers or modems.

Technical specifications:

- 19" system enclosure, complies with IEC 60 297-1
- Optionally for use as an instrument case or rack-mount enclosure
- Height: 1 U
- Installation width: 84 HP
- Optionally with mounting kit for 1 Double Eurocard
- Mounting plate (accessory) for individual population
- Extruded aluminium section
- Protection category IP 40

Benefits at a glance:

- Minimum space requirement of just 1 U
- Easy and fast mounting
- Easy modification from instrument case to rack-mount system
- EMC upgradeable
- Individual assembly according to customer needs

HeiPac Vario-Module / EMC



System enclosure

Order No. see page 71-76

Applications:

Optionally for use as an instrument case or rack-mount enclosure. Accommodates PCBs or plug-in units. For mobile and stationary applications.

Technical specifications:

- 19" system enclosure, complies with IEC 60 297-1/3
- Optionally for use as an instrument case or rack-mount enclosure
- Basic case optionally with bottom or top cover
- Height: 2 -7 U
- Installation width: 42, 63, 84 HP
- Depth: 250 – 370 mm
- Protection category IP 40
- Extruded aluminium section
- Variable depth interior installation

Benefits at a glance:

- Easy modification from instrument case to rack-mount system
- Variable depth interior installation
- Broad range of accessories
- Neutral design
- Basic case with variable expansions
- Optional EMC version



HEITEC INSTRUMENT CASES/SYSTEM ENCLOSURES OVERVIEW

HeiCase



Instrument case

Order No. see page 80-81

Applications:

Instrument case for installation of 19" slide-in assemblies and elements. For mobile and stationary applications.

Technical specifications:

- Instrument case, complies with IEC 60 297-3
- Height: 1 -12 U
- Installation with: ½ 19" and 19"
- Depth: 300 – 540 mm
- Protection category IP 40
- Extruded aluminum section
- Symmetrical construction
- Variable depth/height interior installation

Benefits at a glance:

- Outstanding stability
- Upgradeable to a tower version
- Standard in 3 colors
- Ergonomic handles, bottom- and door types
- For mobile and stationary applications



**WE MEET YOUR
INDIVIDUAL NEEDS!**

You are looking for a product in
the field of electronic packaging
that is not in our catalogue?

Please contact us! We will gladly
submit a tailored quotation.

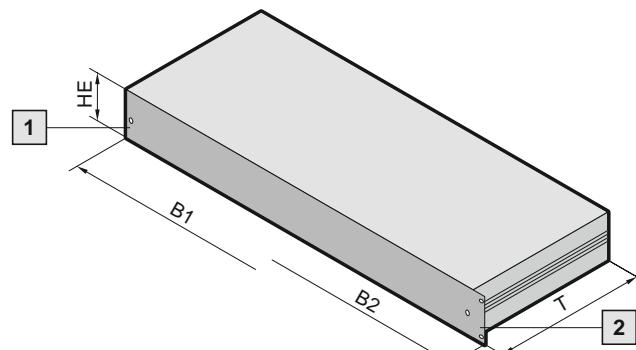
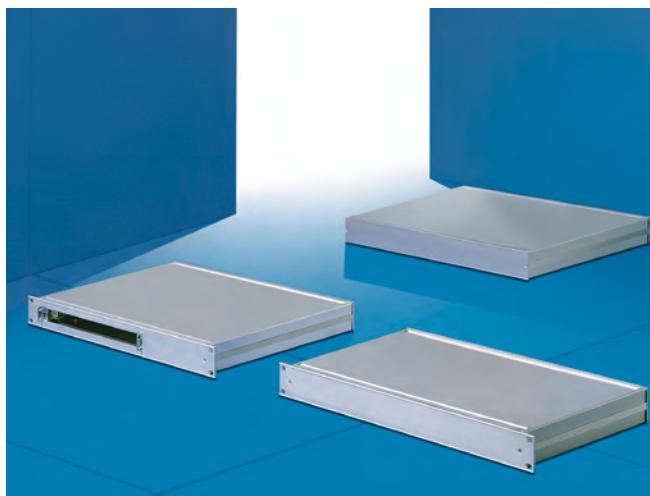
Phone: + 49 – 9126 – 29 34 0
Email: eps-quote@heitec.de



INSTRUMENT CASES/SYSTEM ENCLOSURES

HeiBox

HeiBox system enclosure 1 U



B = Width
T = Depth
HE = U

Technical specifications:

System enclosures 1 U, 150, 200, 250, 300, 350 mm deep
Easy to assemble with just 4 screws. Optionally for use as an instrument case or 19" rack-mount enclosure.
Front panel to hold an overlay to conceal the screws.
Maximum interior space.
Optional EMC upgrades with additional EMC gaskets.

Option of installing 1 VME or CPC board horizontally.

Design:

System enclosure 1 U, to IEC 60 297-1. Optionally available for 19" rackmounting in the enclosure or as an instrument case version.

1 Equipped as an instrument case

2 Equipped as a rack-mount unit

Material/surface finish:

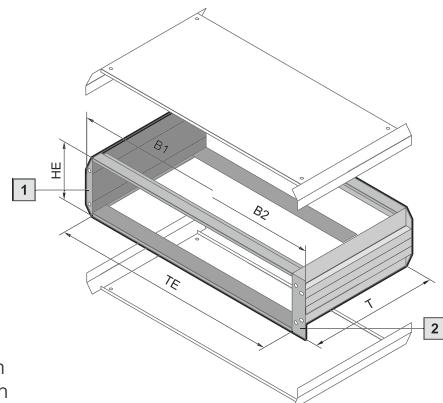
Side panels:
Extruded aluminium section, untreated
Base/cover trays:
Aluminium, clear-chromated
Front/rear panel:
Extruded aluminium section, clear-chromated
Mounting plate:
Sheet steel

| U | 1 | 1 | 1 | 1 | 1 | - | - |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Width (B1) mm | 447 | 447 | 447 | 447 | 447 | - | - |
| Width (B2) mm | 19"(482,6) | 19"(482,6) | 19"(482,6) | 19"(482,6) | 19"(482,6) | 19"(482,6) | 19"(482,6) |
| Depth (T) mm | 150 | 200 | 250 | 300 | 350 | 250 | 350 |
| Model No. RP instrument case | 3687.819 | 3687.820 | 3687.821 | 3687.822 | 3687.823 | - | - |
| Model No. RP rack case | 3687.814 | 3687.815 | 3687.816 | 3687.817 | 3687.818 | - | - |
| Model No. RP rack-mount including mounting kit for double Euroboards | - | - | - | - | - | 3684.072 | 3684.073 |
| Supply includes | | | | | | | |
| Side panel | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Front panel | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Rear panel | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Base/cover tray | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mounting kit | - | - | - | - | - | 1 | 1 |
| Accessories | | | | | | | |
| EMC set | 3684.080 |
| Mounting plate | 3684.074 | 3684.075 | 3684.076 | 3684.077 | 3684.078 | - | - |

INSTRUMENT CASES/SYSTEM ENCLOSURES

HeiPac VARIO-MODULE

HeiPac Vario-Module 2 U


Technical specifications:

Optionally for use as an instrument case or rack-mount enclosure. External dimensions to IEC 60 297-1 for installation in enclosures, 482,6 mm (19"). Installation dimensions for plug-in units according to IEC 60 297-3-101.

Protection category:
IP 40 for non-vented version

Supply includes:

2 side panels
4 horizontal rails
4 threaded inserts
2 corner trims
Assembly parts

- [1] Equipped as an instrument case
- [2] Equipped as a rack-mount enclosure

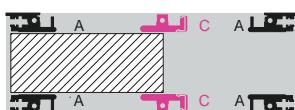
Material/surface finish:

Side panels:
Extruded aluminium section, spray-finished in RAL 7035
Cross profiles:
Extruded aluminium section, clear-chromated
Corner trims:
zinc-plated, spray-finished in RAL 7035
Side trim panels:
Extruded aluminium section, spray-finished in RAL 7035

Note:

Corner trims, mounting flanges and top/bottom covers have to be ordered separately.

Horizontal rails for additional installations have to be ordered separately, see pages 100 – 101.

Horizontal rail configuration


2 U

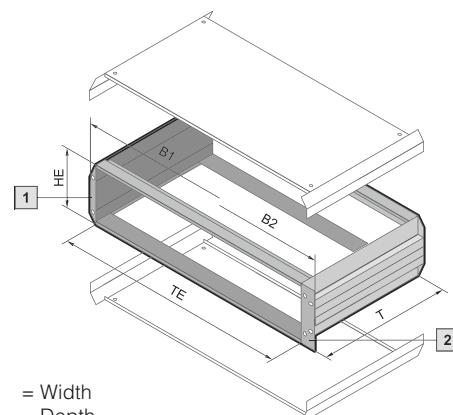
| HeiPac Vario-Module | PU | 2 U | | | | | | page |
|---|----------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|----------|
| Installation width (TE) | | 42 | 42 | 63 | 63 | 84 | 84 | |
| Width (B1) mm | | 235,6 | 235,6 | 342,3 | 342,3 | 449,0 | 449,0 | |
| Width (B2) mm | | 251,6 | 251,6 | 358,3 | 358,3 | 465,1 | 465,1 | |
| Depth (T) mm | | 250,4 | 310,4 | 250,4 | 310,4 | 250,4 | 310,4 | |
| Mod.No. VM Basic enclosure | 1 pc. | 3982.000 | 3982.020 | 3982.290 | 3982.300 | 3982.010 | 3982.030 | |
| Also required | | | | | | | | |
| Top covers – with vent holes – without vent holes | 1 pc. 1 pc. | 3982.941 3982.901 | 3982.951 3982.911 | 3982.942 3982.902 | 3982.952 3982.912 | 3982.940 3982.900 | 3982.950 3982.910 | 77 77 |
| Bottom covers – with vent holes – without vent holes | 1 pc. 1 pc. | 3982.741 3982.701 | 3982.751 3982.711 | 3982.742 3982.702 | 3982.752 3982.712 | 3982.740 3982.700 | 3982.750 3982.710 | 77 77 |
| Front corner trims for assembly as instrument case | 2 pc. | 3981.300 | 3981.300 | 3981.300 | 3981.300 | 3981.300 | 3981.30 | 78 |
| Flanges for configuration as rack-mount – without handle holes | 2 pc. | 3981.200 | 3981.200 | 3981.200 | 3981.200 | 3981.200 | 3981.20 | 78 |
| Accessories | | | | | | | | |
| Front/rear panels | | see page 135 – 150 | | | | | | |
| Rear adjustable feet | 4 pc. | 3901.000 | 3901.000 | 3901.000 | 3901.000 | 3901.000 | 3901.00 | 79 |

Accessories HeiPac Vario-Module Page 71 HeiBox Page 70 HeiCase Page 80

INSTRUMENT CASES/SYSTEM ENCLOSURES

HeiPac VARIO-MODULE

HeiPac Vario-Module 2 U, EMC



EMC

B = Width
T = Depth
HE = U
TE = HP

Technical specifications:

Optionally for use as an instrument case or rack-mount enclosure. External dimensions according to IEC 60 297-1 for installation in enclosures, 482,6 mm (19"). Installation dimensions for plug-in units according to IEC 60 297-3-101.

Material/surface finish:

Side panels:

Extruded aluminium section, spray-finished in RAL 7035
Cross profiles:
Extruded aluminium section, clear-chromated
Corner trims:
zinc-plated, spray-finished in RAL 7035
Side trim panels:
Extruded aluminium section, spray-finished in RAL 7035

Contact points: conductive

Protection category:
IP 40 for non-vented version

Supply includes:

2 side panels
4 horizontal rails
4 threaded inserts
2 rear corner trims
Assembly parts

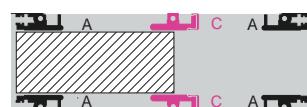
- 1** Equipped as an instrument case
- 2** Equipped as a rack-mount enclosure

Note:

Corner trims, mounting flanges and top/bottom covers have to be ordered separately.

Horizontal rails for additional installations have to be ordered separately, see pages 100 – 101.

Horizontal rail configuration



2 U

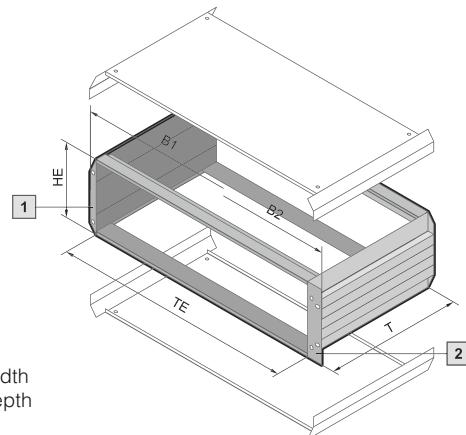
| HeiPac Vario-Module | Packs of | 2 U | | | | | | page |
|---|----------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------|
| Installation width (HP) | | 42 | 42 | 63 | 63 | 84 | 84 | |
| Width (B1) mm | | 235,6 | 235,6 | 342,3 | 342,3 | 449,0 | 449,0 | |
| Width (B2) mm | | 251,6 | 251,6 | 358,3 | 358,3 | 465,1 | 465,1 | |
| Depth (T) mm | | 250,4 | 310,4 | 250,4 | 310,4 | 250,4 | 310,4 | |
| Order No. VM basic case EMC | 1 | 3983.000 | 3983.020 | 3983.290 | 3983.300 | 3983.010 | 3983.030 | |
| Also required | | | | | | | | |
| EMC top cover – with vent holes – without vent holes | 1 1 | 3981.941 3981.901 | 3981.951 3981.911 | 3981.942 3981.902 | 3981.952 3981.912 | 3981.940 3981.900 | 3981.950 3981.910 | 77 77 |
| EMC bottom cover – with vent holes – without vent holes | 1 1 | 3981.741 3981.701 | 3981.751 3981.711 | 3981.742 3981.702 | 3981.752 3981.712 | 3981.740 3981.700 | 3981.750 3981.710 | 77 77 |
| Corner trims for assembly as instrument case | 2 | 3981.300 | 3981.300 | 3981.300 | 3981.300 | 3981.300 | 3981.300 | 78 |
| Flanges for configuration as rack-mount enclosure – without handle holes | 2 | 3981.200 | 3981.200 | 3981.200 | 3981.200 | 3981.200 | 3981.200 | 78 |
| EMC installation | | | | | | | | |
| EMC gaskets, horizontal – for upper/lower horizontal rail – between covers and horizontal rails | 1 1 | 3684.808 3684.245 | 3684.808 3684.245 | 3684.808 3684.245 | 3684.808 3684.245 | 3684.808 3684.245 | 3684.808 3684.245 | 117 117 |
| EMC gaskets, vertical | 1 | 3686.974 | 3686.974 | 3686.974 | 3686.974 | 3686.974 | 3686.974 | 116 |
| Front/rear panels EMC | | see page 135 – 150 | | | | | | |
| Accessories | | | | | | | | |
| Front/rear panels | | see page 135 – 150 | | | | | | |
| Rear adjustable feet | 4 | 3901.000 | 3901.000 | 3901.000 | 3901.000 | 3901.000 | 3901.000 | 79 |

Accessories HeiPac Vario-Module page 78 **HeiBox** page 70 **HeiCase** page 80

INSTRUMENT CASES/SYSTEM ENCLOSURES

HeiPac VARIO-MODULE

HeiPac Vario-Module 3 U



B = Width
T = Depth
HE = U
TE = HP

Technical specifications:
May be used as a rack-mount enclosure or instrument case.
External dimensions to IEC 60 297-1 for installation in 482.6 mm (19") racks.
Installation dimensions for board type plug-in assemblies to IEC 60 297-3-101.

Material/Surface finish:
Side panels:
Extruded aluminium section, spray finished in RAL 7035
Horizontal rails:
Extruded aluminium section, clear-chromated
Corner trims:
Die-cast zinc, spray-finished in RAL 7035
Side trims:

Extruded aluminium section, spray-finished in RAL 7035

Protection category:
IP 40 for non-vented version.

Supply includes:

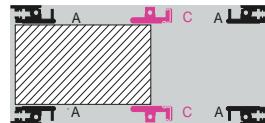
2 side panels,
4 horizontal rails,
4 threaded inserts,
2 corner trims,
assembly parts.

- 1** Equipped as an instrument case
- 2** Equipped as a rack-mount unit

Note:
Corner trims, mounting flanges and top and bottom covers must be ordered separately.

Horizontal rail configuration

Horizontal rails for further configuration must be ordered separately, see page 100 – 101.



3 U

| HeiPac Vario-Module | Packs of | 3 U | | | | | | | Page |
|-------------------------------------|----------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------|
| Installation width (HP) | | 42 | 42 | 63 | 63 | 84 | 84 | 84 | |
| Width (B1) mm | | 235,6 | 235,6 | 342,3 | 342,3 | 449,0 | 449,0 | 449,0 | |
| Width (B2) mm | | 251,6 | 251,6 | 358,3 | 358,3 | 465,1 | 465,1 | 465,1 | |
| Depth (T) mm | | 250,4 | 310,4 | 250,4 | 310,4 | 250,4 | 310,4 | 370,4 | |
| Model No. VM Basic enclosure | 1 | 3982.040 | 3982.070 | 3982.050 | 3982.080 | 3982.060 | 3982.090 | 3982.100 | |

Also required

| | | | | | | | | | |
|--|---|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|----|
| Top covers | | | | | | | | | |
| - with vent holes | 1 | 3982.941 | 3982.951 | 3982.942 | 3982.952 | 3982.940 | 3982.950 | 3982.960 | 77 |
| - without vent holes | 1 | 3982.901 | 3982.911 | 3982.902 | 3982.912 | 3982.900 | 3982.910 | 3982.920 | 77 |
| Bottom covers | | | | | | | | | |
| - with vent holes | 1 | 3982.741 | 3982.751 | 3982.742 | 3982.752 | 3982.740 | 3982.750 | 3982.760 | 77 |
| - without vent holes | 1 | 3982.701 | 3982.711 | 3982.702 | 3982.712 | 3982.700 | 3982.710 | 3982.720 | 77 |
| Front corner trims for assembly as instrument case | 2 | 3981.310 | 78 |
| Flanges for configuration as rack-mount | | | | | | | | | |
| - without handle holes | 2 | 3981.210 | 78 |
| - with handle holes | 2 | 3981.260 | 78 |

Accessories

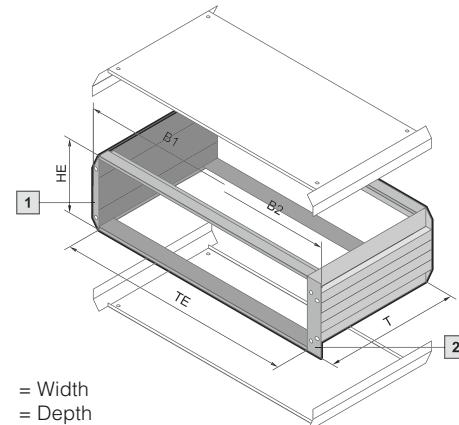
| | | | | | | | | | |
|-----------------------------|--------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----|
| Front/rear panels | see page 135 – 150 | | | | | | | | |
| Carrying handles | 2 | 3981.350 | 3981.360 | 3981.350 | 3981.360 | 3981.350 | 3981.360 | 3981.370 | 78 |
| Front handles ¹⁾ | 2 | 3636.010 | 104 |
| Rear adjustable feet | 4 | 3901.000 | 79 |

¹⁾ Only in conjunction with mounting flanges with handle holes.

INSTRUMENT CASES/SYSTEM ENCLOSURES

HeiPac VARIO-MODULE

HeiPac Vario-Module 3 U, EMC



Technical specifications:

May be used as a rack-mount enclosure or instrument case. External dimensions to IEC 60 297-1 for installation in 482.6 mm (19") racks. Installation dimensions for board type plug-in assemblies to IEC 60 297-3-101.

Material/Surface finish:

Side panels:
Extruded aluminium section, spray-finished in RAL 7035
Horizontal rails:
Extruded aluminium section, clear-chromated
Corner trims:
Die-cast zinc, spray-finished in RAL 7035

Side trims:
Extruded aluminium section, spray-finished in RAL 7035
Contact points: Conductive

2 rear corner trims, assembly parts.

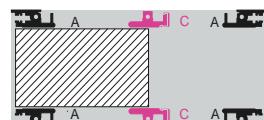
1 Equipped as an instrument case

2 Equipped as a rack-mount unit

Note:

Corner trims, mounting flanges and top and bottom covers must be ordered separately.

Horizontal rail configuration



3 U

| HeiPac Vario-Modul | Packs of | 3 U | | | | | | | Page |
|---|----------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------|
| Installation width (TE) | | 42 | 42 | 63 | 63 | 84 | 84 | 84 | |
| Width (B1) mm | | 235,6 | 235,6 | 342,3 | 342,3 | 449,0 | 449,0 | 449,0 | |
| Width (B2) mm | | 251,6 | 251,6 | 358,3 | 358,3 | 465,1 | 465,1 | 465,1 | |
| Depth (T) mm | | 250,4 | 310,4 | 250,4 | 310,4 | 250,4 | 310,4 | 370,4 | |
| Model No. VM Basic enclosure EMC | 1 | 3983.040 | 3983.070 | 3983.050 | 3983.080 | 3983.060 | 3983.090 | 3983.100 | |

Also required

| | | | | | | | | | |
|--|--------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|----------|
| EMC top covers – with vent holes – without vent holes | 1 1 | 3981.941 3981.901 | 3981.951 3981.911 | 3981.942 3981.902 | 3981.952 3981.912 | 3981.940 3981.900 | 3981.950 3981.910 | 3981.960 3981.920 | 77 77 |
| EMC bottom covers – with vent holes – without vent holes | 1 1 | 3981.741 3981.701 | 3981.751 3981.711 | 3981.742 3981.702 | 3981.752 3981.712 | 3981.740 3981.700 | 3981.750 3981.710 | 3981.760 3981.720 | 77 77 |
| Front corner trims for assembly as instrument case | 2 | 3981.310 | 78 |
| Flanges for configuration as rack-mount – without handle holes – with handle holes | 2 2 | 3981.210 3981.260 | 78 78 |

EMC installation

| | | | | | | | | | |
|---|---------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------|
| EMC gaskets, horizontal – for upper/lower horizontal rail – between covers and horizontal rails | 1 10 | 3684.808 3684.245 | 117 117 |
| EMC gaskets, vertical | 1 | 3686.975 | 116 |
| Front/rear panels EMC | | see page 135 – 150 | | | | | | | |

Accessories

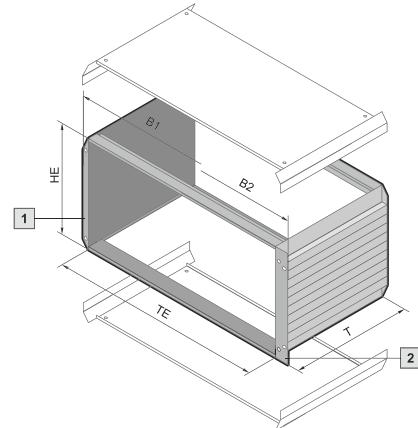
| | | | | | | | | | |
|-----------------------------|--------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----|
| Front/rear panels | see page 135 – 150 | | | | | | | | |
| Carrying handles | 2 | 3981.350 | 3981.360 | 3981.350 | 3981.360 | 3981.350 | 3981.360 | 3981.370 | 78 |
| Front handles ¹⁾ | 2 | 3636.010 | 104 |
| Rear adjustable feet | 4 | 3901.000 | 79 |

¹⁾ Only in conjunction with mounting flanges with handle holes.

INSTRUMENT CASES/SYSTEM ENCLOSURES

HeiPac VARIO-MODULE

HeiPac Vario-Module 4 U, 6 U, 7 U



B = Width
T = Depth
HE = U
TE = HP

Technical specifications:

May be used as a rack-mount enclosure or instrument case. External dimensions to IEC 60 297-1 for installation in 482.6 mm (19") racks. Installation dimensions for board type plug-in assemblies to IEC 60 297-3-101.

Material/surface finish:

Side panels:
Extruded aluminium section, spray-finished in RAL 7035

Horizontal rails:
Extruded aluminium section, clear-chromated
Corner trims:
Die-cast zinc, spray-finished in RAL 7035

Protection category:
IP 40 for non-vented version.

Supply includes:

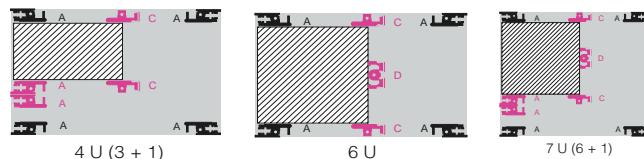
2 side panels,
4 horizontal rails,
4 threaded inserts,
2 rear corner trims,
2 side trims centre,
assembly parts.

Note:

Corner trims, mounting flanges and top and bottom covers must be ordered separately.

- [1] Equipped as an instrument case
- [2] Equipped as a rack-mount unit

Horizontal rail configuration



Horizontal rails for further configuration must be ordered separately, see page 100 – 101.

| HeiPac Vario-Module | Packs of | 4 U (3 + 1) | | | 6 U | | | 7 U (6 + 1) | | Page |
|-------------------------------------|----------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------|
| Installation width (TE) | | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | |
| Width (B1) mm | | 449,0 | 449,0 | 449,0 | 449,0 | 449,0 | 449,0 | 449,0 | 449,0 | |
| Width (B2) mm | | 465,1 | 465,1 | 465,1 | 465,1 | 465,1 | 465,1 | 465,1 | 465,1 | |
| Depth (T) mm | | 250,4 | 310,4 | 370,4 | 310,4 | 370,4 | 430,4 | 310,4 | 430,4 | |
| Model No. VM Basic enclosure | 1 | 3982.110 | 3982.120 | 3982.130 | 3982.140 | 3982.150 | 3982.160 | 3982.170 | 3982.190 | |

Also required

| | | | | | | | | | | |
|--|---|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|----|
| Top covers | | | | | | | | | | |
| – with vent holes | 1 | 3982.940 | 3982.950 | 3982.960 | 3982.950 | 3982.960 | 3982.970 | 3982.950 | 3982.970 | 77 |
| – without vent holes | 1 | 3982.900 | 3982.910 | 3982.920 | 3982.910 | 3982.920 | 3982.930 | 3982.910 | 3982.930 | 77 |
| Bottom covers | | | | | | | | | | |
| – with vent holes | 1 | 3982.740 | 3982.750 | 3982.760 | 3982.750 | 3982.760 | 3982.770 | 3982.750 | 3982.770 | 77 |
| – without vent holes | 1 | 3982.700 | 3982.710 | 3982.720 | 3982.710 | 3982.720 | 3982.730 | 3982.710 | 3982.730 | 77 |
| Front corner trims for assembly as instrument case | 2 | 3981.320 | 3981.320 | 3981.320 | 3981.330 | 3981.330 | 3981.330 | 3981.340 | 3981.340 | 78 |
| Flanges for configuration as rack-mount | | | | | | | | | | |
| – without handle holes | 2 | 3981.220 | 3981.220 | 3981.220 | 3981.230 | 3981.230 | 3981.230 | 3981.240 | 3981.240 | 78 |
| – with handle holes | 2 | 3981.270 | 3981.270 | 3981.270 | 3981.280 | 3981.280 | 3981.280 | 3981.290 | 3981.290 | 78 |

Accessories

| | | | | | | | | | | |
|-----------------------------|---|--------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----|
| Front/rear panel | | see page 135 – 150 | | | | | | | | |
| Carrying handles | 2 | 3981.350 | 3981.360 | 3981.370 | 3981.360 | 3981.370 | 3981.380 | 3981.360 | 3981.380 | 78 |
| Front handles ¹⁾ | 2 | 3636.010 | 3636.010 | 3636.010 | 3666.010 | 3666.010 | 3666.010 | 3666.010 | 3666.010 | 104 |
| Rear adjustable feet | 4 | 3901.000 | 3901.000 | 3901.000 | 3901.000 | 3901.000 | 3901.000 | 3901.000 | 3901.000 | 79 |

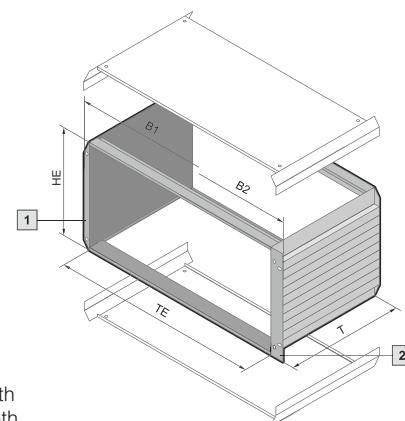
¹⁾ Only in conjunction with mounting flanges with handle holes.

Accessories HeiPac Vario-Module Page 78 HeiBox Page 70 HeiCase Page 80

INSTRUMENT CASES/SYSTEM ENCLOSURES

HeiPac VARIO-MODULE

HeiPac Vario-Module 4 U, 6 U, 7 U, EMC



EMC

B = Width
T = Depth
HE = U
TE = HP

Technical specifications:

May be used as a rack-mount enclosure or instrument case. External dimensions to IEC 60 297-1 for installation in 482.6 mm (19") racks. Installation dimensions for board type plug-in assemblies to IEC 60 297-3-101.

Material/surface finish:

Side panels:
Extruded aluminium section,

spray-finished in RAL 7035
Horizontal rails:
Extruded aluminium section, clear-chromated
Corner trims:
Die-cast zinc,
spray-finished in RAL 7035
Contact points: Conductive

Protection category:
IP 40 for non-vented version.

Supply includes:

2 side panels,
4 horizontal rails,
4 threaded inserts,
2 rear corner trims,
2 side trims centre,
assembly parts.

Note:

Corner trims, mounting flanges and top and bottom covers must be ordered separately.

1 Equipped as an instrument case

2 Equipped as a rack-mount unit

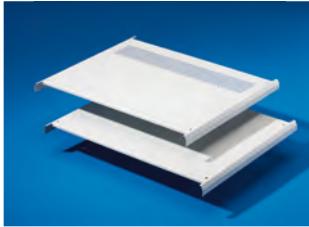
Horizontal rails for further configuration must be ordered separately, see page 100 – 101.

Horizontal rail configuration
see page 75

| HeiPac Vario-Module | Packs of | 4 U (3 + 1) | | | 6 U | | | 7 U (6 + 1) | | | Page |
|---|----------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|------------|
| Installation width (TE) | | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | |
| Width (B1) mm | | 449,0 | 449,0 | 449,0 | 449,0 | 449,0 | 449,0 | 449,0 | 449,0 | 449,0 | |
| Width (B2) mm | | 465,1 | 465,1 | 465,1 | 465,1 | 465,1 | 465,1 | 465,1 | 465,1 | 465,1 | |
| Depth (T) mm | | 250,4 | 310,4 | 370,4 | 310,4 | 370,4 | 430,4 | 310,4 | 430,4 | 310,4 | |
| Model No. VM Basic enclosure EMC | 1 | 3983.110 | 3983.120 | 3983.130 | 3983.140 | 3983.150 | 3983.160 | 3983.170 | 3983.190 | | |
| Also required | | | | | | | | | | | |
| EMC top covers – with vent holes – without vent holes | 1 1 | 3981.940 3981.900 | 3981.950 3981.910 | 3981.960 3981.920 | 3981.950 3981.910 | 3981.960 3981.920 | 3981.970 3981.930 | 3981.950 3981.910 | 3981.970 3981.930 | 3981.950 3981.910 | 77 77 |
| EMC bottom covers – with vent holes – without vent holes | 1 1 | 3981.740 3981.700 | 3981.750 3981.710 | 3981.760 3981.720 | 3981.750 3981.710 | 3981.760 3981.720 | 3981.770 3981.730 | 3981.750 3981.710 | 3981.770 3981.730 | 3981.750 3981.730 | 77 77 |
| Front corner trims for assembly as instrument case | 2 | 3981.320 | 3981.320 | 3981.320 | 3981.330 | 3981.330 | 3981.330 | 3981.340 | 3981.340 | | 78 |
| Flanges for configuration as rack-mount – without handle holes – with handle holes | 2 2 | 3981.220 3981.270 | 3981.220 3981.270 | 3981.220 3981.270 | 3981.230 3981.280 | 3981.230 3981.280 | 3981.230 3981.280 | 3981.240 3981.290 | 3981.240 3981.290 | | 78 78 |
| EMC installation | | | | | | | | | | | |
| EMC gaskets, horizontal – for upper/lower horizontal rail – between covers and horizontal rails | 1 10 | 3684.808 3684.245 | 117 117 |
| EMC gaskets, vertical | 1 | 3686.976 | 3686.976 | 3686.976 | 3686.977 | 3686.977 | 3686.977 | 3686.978 | 3686.978 | 3686.978 | 116 |
| Front/rear panels EMC | | | | | | | see page 135 – 150 | | | | |
| Accessories | | | | | | | | | | | |
| Front/rear panel | | | | | | | see page 135 – 150 | | | | |
| Carrying handles | 2 | 3981.350 | 3981.360 | 3981.370 | 3981.360 | 3981.370 | 3981.380 | 3981.360 | 3981.370 | | 78 |
| Front handles ¹⁾ | 2 | 3636.010 | 3636.010 | 3636.010 | 3666.010 | 3666.010 | 3666.010 | 3666.010 | 3666.010 | | 104 |
| Rear adjustable feet | 4 | 3901.000 | 3901.000 | 3901.000 | 3901.000 | 3901.000 | 3901.000 | 3901.000 | 3901.000 | | 79 |

¹⁾ Only in conjunction with mounting flanges with handle holes

We meet your
individual needs!
Please contact us!
Phone:
+49 - 9126 - 29 34 0
Email:
eps-quote@heitec.de
see page 14



INSTRUMENT CASES/SYSTEM ENCLOSURES

HeiPac VARIO-MODULE ACCESSORIES

Top covers

For HeiPac Vario-Module

Standard version

Material:

Sheet steel, spray-finished

Colour:

RAL 7035

EMC version

Material:

Sheet steel, spray-finished

Contact points: Conductive

| HP | Depth mm | Model No. VM standard | | Model No. VM EMC | |
|----|-------------|------------------------------|-----------------------|-------------------------|-----------------------|
| | | with vent holes | without vent holes | with vent holes | without vent holes |
| 42 | 250,4 | 3982.941 | 3982.901 | 3981.941 | 3981.901 |
| | 310,4 | 3982.951 | 3982.911 | 3981.951 | 3981.911 |
| 63 | 250,4 | 3982.942 | 3982.902 | 3981.942 | 3981.902 |
| | 310,4 | 3982.952 | 3982.912 | 3981.952 | 3981.912 |
| 84 | 250,4 | 3982.940 | 3982.900 | 3981.940 | 3981.900 |
| | 310,4 | 3982.950 | 3982.910 | 3981.950 | 3981.910 |
| | 370,4 | 3982.960 | 3982.920 | 3981.960 | 3981.920 |
| | 430,4 | 3982.970 | 3982.930 | 3981.970 | 3981.930 |

Bottom covers

For HeiPac Vario-Module

Standard version

Material:

Sheet steel, spray-finished

Colour:

RAL 7035

EMC version

Material:

Sheet steel, spray-finished

Contact points: Conductive

| HP | Depth mm | Model No. VM standard | | Model No. VM EMC | |
|----|-------------|------------------------------|-----------------------|-------------------------|-----------------------|
| | | with vent holes | without vent holes | with vent holes | without vent holes |
| 42 | 250,4 | 3982.741 | 3982.701 | 3981.741 | 3981.701 |
| | 310,4 | 3982.751 | 3982.711 | 3981.751 | 3981.711 |
| 63 | 250,4 | 3982.742 | 3982.702 | 3981.742 | 3981.702 |
| | 310,4 | 3982.752 | 3982.712 | 3981.752 | 3981.712 |
| 84 | 250,4 | 3982.740 | 3982.700 | 3981.740 | 3981.700 |
| | 310,4 | 3982.750 | 3982.710 | 3981.750 | 3981.710 |
| | 370,4 | 3982.760 | 3982.720 | 3981.760 | 3981.720 |
| | 430,4 | 3982.770 | 3982.730 | 3981.770 | 3981.730 |

Feet



With fold-out support stand.
Load capacity up to 20 kg.

Material:

Plastic

Colour:
RAL 7035

| Packs of | Model No. VM |
|----------|---------------------|
| 2 | 3919.000 |

Mounting plate



For mounting heavy components.

Material:

Aluminium

Supply includes:
Assembly parts.

| HP | Depth mm | Packs of | Model No. VM |
|----|-------------|----------|---------------------|
| 42 | 250 | 1 | 3982.370 |
| 63 | 250 | 1 | 3982.380 |
| 84 | 250 | 1 | 3982.390 |

INSTRUMENT CASES/SYSTEM ENCLOSURES

HeiPac VARIO-MODULE ACCESSORIES



Front flanges

Required when the HeiPac Vario-Module is to be used as a rack-mount enclosure. The flanges have a channel to accommodate vertical EMC gaskets.

Material:
Aluminium, clear-chromated

| U | Packs of | Model No. VM | |
|---|----------|---------------------|------------------|
| | | without handle hole | with handle hole |
| 2 | 2 | 3981.200 | — |
| 3 | 2 | 3981.210 | 3981.260 |
| 4 | 2 | 3981.220 | 3981.270 |
| 6 | 2 | 3981.230 | 3981.280 |
| 7 | 2 | 3981.240 | 3981.290 |

+ Accessories:

Vertical EMC gasket,
see page 116.

Front handles for mounting on front flanges,
see page 104.



Front corner trims

Required when the HeiPac Vario-Module is to be used as a desk-top instrument case. The corner trims have a channel to accommodate vertical EMC gaskets.

Material:
Aluminium, spray-finished

Colour:
RAL 7035

| U | Packs of | Model No. VM |
|---|----------|-----------------|
| 2 | 2 | 3981.300 |
| 2 | 2 | 3981.310 |
| 2 | 2 | 3981.320 |
| 2 | 2 | 3981.330 |
| 2 | 2 | 3981.340 |

1, 2 and 8 U available on request.

+ Accessories:

Vertical EMC gasket,
see page 116



Carrying handles

For ergonomic transportation, even with stacked enclosures.
May also be used as a support stand.
Max. load capacity: 350 N.

Material:
Die-cast zinc and extruded aluminium section
Colour:
RAL 7035

Note:
Cannot be used with flanges

| For enclosure depth mm | Packs of | Model No. VM |
|------------------------|----------|-----------------|
| 250,4 | 2 | 3981.350 |
| 310,4 | 2 | 3981.360 |
| 370,4 | 2 | 3981.370 |
| 430,4 | 2 | 3981.380 |

INSTRUMENT CASES/SYSTEM ENCLOSURES

HeiPac VARIO-MODULE ACCESSORIES



Rear feet

For mounting on the rear of the enclosure.
Dual function:

- Mechanical protection of the connection components
- Also act as a cable tidy during transportation.

Material:

PA, self-extinguishing to UL 94-V0

Colour:

RAL 7035

Packs of
4

Model No. VM
3901.000



Earthing set

For connecting the top and bottom covers to the side panels with PE conductors.

Supply includes:

Conductor cable green/yellow, 1.5 mm², with washer, flat-pin connector and assembly parts.

Packs of
5

Model No. VM
3900.000



Support stand/carrying handle

To fit HeiPac Vario Module 3 U, 4 U and 6 U, adjustable on a 30° pitch pattern.

Material:

Extruded aluminium section/die-cast

Colour:

RAL 7035

Supply includes:

Assembly parts

Note:

Corner trim for support stands/carrying handles should be ordered separately.

| For HeiPac Vario-Module | Packs of | Model No. VM |
|-------------------------|----------|---------------------|
| 42 HP | 1 | 3981.390 |
| 63 HP | 1 | 3981.400 |
| 84 HP | 1 | 3981.410 |

| Corner trim for support stand | Packs of | Model No. VM |
|-------------------------------|----------|---------------------|
| 3 U | 2 | 3981.310 |
| 4 U | 2 | 3981.500 |
| 6 U | 2 | 3981.510 |



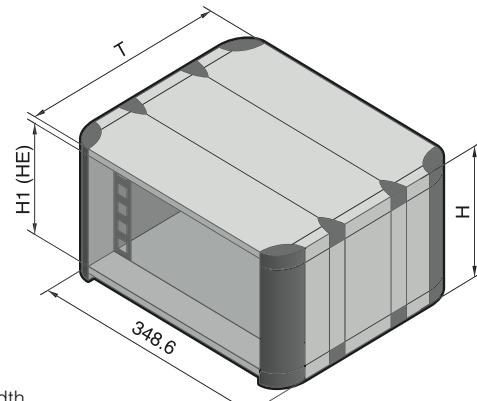
Front panels/rear panels

To cover the enclosures front and rear.
Also available as a hinged or EMC version.
Order No. see page 149.

INSTRUMENT CASES/SYSTEM ENCLOSURES

HeiCase

HeiCase 269.2 mm (½ 19")



B = Width
T = Depth
HE = U

Technical specifications:

Depth:
300 mm, 420mm, 540 mm
Installation width:
269.2 mm (½ 19")
Installation options:
269.2 mm (½ 19")-slide-in equipment to IEC 60 297-3

Material/surface finish:

Covers:
Extruded aluminium section/die-cast, spray-finished
Side panels:
Extruded aluminium section, spray-finished
Corner caps: Plastic
482.6 mm (19") mounting

bracket:
Extruded aluminium section, clear-chromated

Colour:
RAL 7035 (pale grey)

Decorative colours and corner caps:
RAL 5018 (turquoise)
RAL 5012 (pale blue)
RAL 7030 (stone grey)

Protection category:
IP 42 for unvented version.

Supply includes:

2 side panels,
2 covers,
8 corner caps,
8/12/16 cover caps (300/420/540 mm depth),
4 482.6 mm (19") mounting brackets,
4 threaded inserts,
2 plain inserts,
1 rear panel,
Cases are supplied pre-assembled

Special sizes and colours available on request.

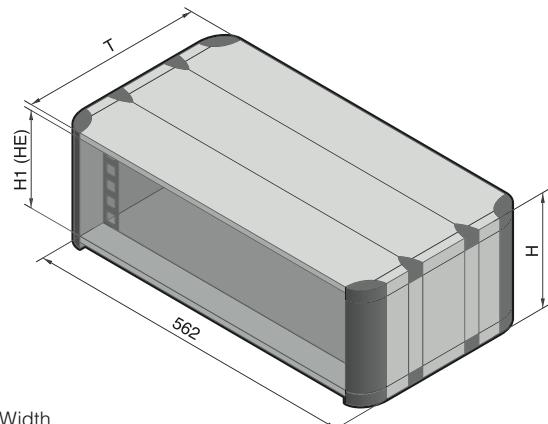
Property rights:
German registered design no. 96 09 457
UK reg. design no. 2064682
US design patents Des. 402,640 and Des. 423,464
Japan. reg. designs no. 1045507 and 1045508

| Enclosures for subrack width 269,2 mm (½ 19") | Packs of | 1 U | | 2 U | | 3 U | | | 4 U | | Page |
|---|-----------------|----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Height (H) mm | | 77,5 | 77,5 | 121,9 | 121,9 | 166,4 | 166,4 | 166,4 | 210,8 | 210,8 | |
| H1 (HE) mm | | 45,0 | 45,0 | 89,4 | 89,4 | 133,8 | 133,8 | 133,8 | 178,3 | 178,3 | |
| Depth (T) mm | | 300,0 | 420,0 | 300,0 | 540,0 | 300,0 | 420,0 | 540,0 | 420,0 | 540,0 | |
| Unvented | | | | | | | | | | | |
| Model No. RC, RAL 5018 | 1 | 3750.100 | — | 3750.200 | — | 3750.210 | 3750.300 | — | 3750.400 | — | |
| Model No. RC, RAL 5012 | 1 | 3750.102 | — | 3750.202 | — | 3750.212 | 3750.302 | — | 3750.402 | — | |
| Model No. RC, RAL 7030 | 1 | 3750.104 | — | 3750.204 | — | 3750.214 | 3750.304 | — | 3750.404 | — | |
| Vented | | | | | | | | | | | |
| Model No. RC, RAL 5018 | 1 | — | 3750.110 | — | 3750.220 | — | 3750.350 | 3750.360 | — | 3750.450 | |
| Model No. RC, RAL 5012 | 1 | — | 3750.112 | — | 3750.222 | — | 3750.352 | 3750.362 | — | 3750.452 | |
| Model No. RC, RAL 7030 | 1 | — | 3750.114 | — | 3750.224 | — | 3750.354 | 3750.364 | — | 3750.454 | |
| Weight (kg) | Vented/unvented | | 3,3 3,4 | 4,2 4,4 | 3,7 3,8 | 5,4 6,1 | 4,1 4,2 | 5,2 5,4 | 6,1 6,8 | 5,8 6,0 | 6,8 7,5 |
| Accessories | | | | | | | | | | | |
| Carrying handles, horizontal | 2 | 3751.250 | 3751.260 | 3751.250 | 3751.270 | 3751.250 | 3751.260 | 3751.270 | 3751.260 | 3751.270 | 83 |
| Front door, vertically hinged | 1 | — | — | — | — | 3751.300 | 3751.300 | 3751.300 | 3751.310 | 3751.310 | 84 |
| Slide rails | 2 | 3751.500 | 3751.510 | 3751.500 | 3751.520 | 3751.500 | 3751.510 | 3751.520 | 3751.510 | 3751.520 | 83 |
| Mounting angles 482.6 mm (19") | 2 | 3751.650 | 3751.650 | 3751.660 | 3751.660 | 3751.670 | 3751.670 | 3751.670 | 3751.680 | 3751.680 | 82 |
| Threaded inserts with M4 thread | 8 | 3751.700 | 3751.700 | 3751.710 | 3751.710 | 3751.720 | 3751.720 | 3751.720 | 3751.730 | 3751.730 | 82 |
| End section | 2 | — | — | — | — | 3751.900 | 3751.900 | 3751.900 | 3751.910 | 3751.910 | 83 |

INSTRUMENT CASES/SYSTEM ENCLOSURES

HeiCase

HeiCase 482.6 mm (19")



B = Width
T = Depth
HE = U

Technical specifications:

Depth:
300 mm, 420 mm, 540 mm
Installation width:
482.6 mm (19")
Installation options:
482.6 mm (19") slide-in equipment to IEC 60 297-3

Material/surface finish:

Covers:
Extruded aluminium section/die-cast, spray-finished
Side panels:
Extruded aluminium section,

spray-finished
Corner caps: Plastic
482.6 mm (19") mounting bracket: extruded aluminium section, clear-chromated

Colour:
RAL 7035 (pale grey)

Decorative colours and corner caps:

RAL 5018 (turquoise)
RAL 5012 (pale blue)
RAL 7030 (stone grey)

Protection category:
IP 42 for unvented version.

Supply includes:
2 side panels,
2 covers,
8 corner caps,
8/12/16 cover caps (300/420/540 mm depth),
4 482.6 mm (19") mounting brackets,
4 threaded inserts,
2 plain inserts
Cases are supplied pre-assembled

Special sizes and colours available on request.

Note:
For rear installation, order back panel/door separately.

| Enclosure for subrack width 482,6 mm (19") | Packs of | 3 U | | 4 U | | 6 U | | | 7 U | | 9 U | | 12 U | Page |
|--|-----------------|------------|------------|------------|------------|------------|------------|--------------|------------|--------------|--------------|--------------|--------------|------|
| Height (H) mm | | 166,4 | 166,4 | 210,8 | 210,8 | 299,7 | 299,7 | 299,7 | 344,2 | 344,2 | 433,1 | 433,1 | 566,5 | |
| H1 (HE) mm | | 133,8 | 133,8 | 178,3 | 178,3 | 267,2 | 267,2 | 267,2 | 311,7 | 311,7 | 400,6 | 400,6 | 534,0 | |
| Depth (T) mm | | 300,0 | 420,0 | 300,0 | 420,0 | 300,0 | 420,0 | 540,0 | 420,0 | 540,0 | 420,0 | 540,0 | 540,0 | |
| Not vented | | | | | | | | | | | | | | |
| Model No. RC, RAL 5018 | 1 | 3750.310 | 3750.320 | 3750.410 | 3750.420 | 3750.600 | 3750.610 | 3750.620 | 3750.700 | 3750.710 | 3750.900 | 3750.910 | 3750.000 | |
| Model No. RC, RAL 5012 | 1 | 3750.312 | 3750.322 | 3750.412 | 3750.422 | 3750.602 | 3750.612 | 3750.622 | 3750.702 | 3750.712 | 3750.902 | 3750.912 | 3750.002 | |
| Model No. RC, RAL 7030 | 1 | 3750.314 | 3750.324 | 3750.414 | 3750.424 | 3750.604 | 3750.614 | 3750.624 | 3750.704 | 3750.714 | 3750.904 | 3750.914 | 3750.004 | |
| Vented | | | | | | | | | | | | | | |
| Model No. RC, RAL 5018 | 1 | 3750.330 | 3750.340 | 3750.430 | 3750.440 | 3750.630 | 3750.640 | 3750.650 | 3750.720 | 3750.730 | 3750.920 | 3750.930 | 3750.030 | |
| Model No. RC, RAL 5012 | 1 | 3750.332 | 3750.342 | 3750.432 | 3750.442 | 3750.632 | 3750.642 | 3750.652 | 3750.722 | 3750.732 | 3750.922 | 3750.932 | 3750.032 | |
| Model No. RC, RAL 7030 | 1 | 3750.334 | 3750.344 | 3750.434 | 3750.444 | 3750.634 | 3750.644 | 3750.654 | 3750.724 | 3750.734 | 3750.924 | 3750.934 | 3750.034 | |
| Weight (kg) | Vented/unvented | 5,3 5,4 | 6,9 7,1 | 5,7 7,2 | 7,5 7,7 | 6,5 6,6 | 8,5 8,7 | 10,8 12,2 | 9,1 9,3 | 11,5 12,9 | 10,1 10,3 | 12,9 14,3 | 15,0 16,4 | |
| Accessories | | | | | | | | | | | | | | |
| Carrying handles, horizontal | 2 | 3751.250 | 3751.260 | 3751.250 | 3751.260 | 3751.250 | 3751.260 | 3751.270 | 3751.260 | 3751.270 | 3751.260 | 3751.270 | 3751.270 | 83 |
| Back panel, screw-fastened | 1 | 3751.600 | 3751.600 | 3751.610 | 3751.610 | 3751.620 | 3751.620 | 3751.620 | 3751.630 | 3751.630 | 3751.530 | 3751.530 | 3751.540 | 85 |
| Rear door, vertically hinged | 1 | 3751.100 | 3751.100 | 3751.110 | 3751.110 | 3751.120 | 3751.120 | 3751.120 | 3751.130 | 3751.130 | — | — | — | 85 |
| Rear door for fan installation | 1 | 3751.150 | 3751.150 | 3751.160 | 3751.160 | 3751.170 | 3751.170 | 3751.170 | 3751.180 | 3751.180 | — | — | — | 85 |
| Front door, vertically hinged | 1 | 3751.320 | 3751.320 | 3751.330 | 3751.330 | 3751.340 | 3751.340 | 3751.340 | 3751.350 | 3751.350 | — | — | — | 84 |
| Slide rails | 2 | 3751.500 | 3751.510 | 3751.500 | 3751.510 | 3751.500 | 3751.510 | 3751.520 | 3751.510 | 3751.520 | 3751.510 | 3751.510 | 3751.520 | 83 |
| Mounting angles 482,6 mm (19") | 2 | 3751.670 | 3751.670 | 3751.680 | 3751.680 | 3751.690 | 3751.690 | 3751.690 | 3751.640 | 3751.640 | 3751.780 | 3751.780 | 3751.790 | 82 |
| Threaded inserts with M4 thread | 8 | 3751.720 | 3751.720 | 3751.730 | 3751.730 | 3751.740 | 3751.740 | 3751.740 | 3751.750 | 3751.750 | 3751.760 | 3751.760 | 3751.770 | 82 |
| End section | 2 | 3751.900 | 3751.900 | 3751.910 | 3751.910 | 3751.920 | 3751.920 | 3751.920 | 3751.930 | 3751.930 | 3751.820 | 3751.820 | 3751.830 | 83 |

INSTRUMENT CASES/SYSTEM ENCLOSURES

HeiCase ACCESSORIES



Mounting angles for 482.6 mm (19")

For front installation of subracks and blanking plates.

Material:

Extruded aluminium section, clear-chromated

Supply includes:

Assembly parts.

Note:

1 pack of threaded inserts and 2 packs of mounting rails and spacers are required for depth-adjustable installation.

| For enclosure height | Packs of | Model No. RC |
|----------------------|----------|--------------|
| 1 U | 2 | 3751.650 |
| 2 U | 2 | 3751.660 |
| 3 U | 2 | 3751.670 |
| 4 U | 2 | 3751.680 |
| 6 U | 2 | 3751.690 |
| 7 U | 2 | 3751.640 |
| 9 U | 2 | 3751.780 |
| 12 U | 2 | 3751.790 |

! Also required:

Threaded inserts, see page 82.

Mounting rails, see page 82.

Spacers, see page 82.



Threaded inserts

With M4 thread for HeiCase

For the installation of mounting angles, slide rails, mounting kits, cable ducts etc. Simply slide into the channels in the side panels.

Material:

Extruded aluminium section, clear-chromated

| For enclosure height | Packs of | Model No. RC |
|----------------------|----------|--------------|
| 1 U | 8 | 3751.700 |
| 2 U | 8 | 3751.710 |
| 3 U | 8 | 3751.720 |
| 4 U | 8 | 3751.730 |
| 6 U | 8 | 3751.740 |
| 7 U | 8 | 3751.750 |
| 9 U | 8 | 3751.760 |
| 12 U | 8 | 3751.770 |

! Also required:

Threaded inserts, see page 82

Spacers, see page 82



Mounting rails

- For depth-variable installation of mounting angles
- For the installation of component shelves, static or pull-out

Material:

Aluminium, clear-chromated

Supply includes:
Assembly parts.

A Version for depth-variable mounting angles

B Component shelf installation for 482.6 mm (19") (width 409 mm, also with telescopic slides)

C Direct component shelf installation (width 471 mm)

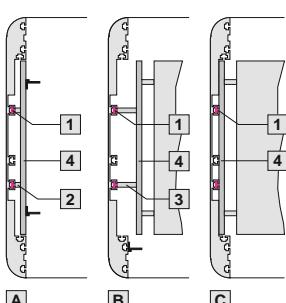
1 Threaded inserts

2 Short spacers

3 Long spacers

4 Mounting rails

| For enclosure depth mm | Packs of | Model No. RC |
|------------------------|----------|--------------|
| 300 | 2 | 3751.400 |
| 420 | 2 | 3751.410 |
| 540 | 2 | 3751.420 |



Spacers



For the attachment of mounting rails.

| Design | Packs of | Model No. RC |
|--|----------|--------------|
| Short for depth-variable mounting bracket | 4 | 3751.450 |
| Long for component shelf installation (width 409 mm) | 4 | 3751.460 |

INSTRUMENT CASES/SYSTEM ENCLOSURES

HeiCase ACCESSORIES



Slide rails

To support heavy installed equipment.

Material:

1.5 mm sheet steel, clear-chromated

Supply includes:

Assembly parts.

| For enclosure depth mm | Packs of | Model No. RC |
|---------------------------|----------|--------------|
| 30 | 2 | 3751.500 |
| 420 | 2 | 3751.510 |
| 540 | 2 | 3751.520 |

! Also required:

Threaded inserts, see page 82.



Earthing set

For HeiCase

To meet electrical protective measures;
fits all HeiCase enclosures.

Supply includes:

Threaded insert, screw, green/yellow connection
cable, serrated washer, nut.

| Packs of | Model No. VC |
|----------|--------------|
| 4 | 3798.000 |



Rear trim

To cover the sides to the left and right of the
subrack when no rear door or rear panel is used.

Material:

Extruded aluminium section, spray-finished

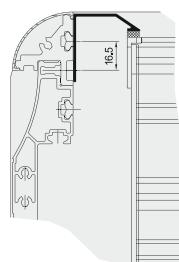
Colour:

RAL 7035

Supply includes:

Assembly parts.

| For enclosure height | Packs of | Model No. RC |
|----------------------|----------|--------------|
| 3 U | 2 | 3751.900 |
| 4 U | 2 | 3751.910 |
| 6 U | 2 | 3751.920 |
| 7 U | 2 | 3751.930 |
| 9 U | 2 | 3751.820 |
| 12 U | 2 | 3751.830 |



Carrying handles

Horizontal

For easy, secure transportation.

- May be retrofitted
- Load capacity 30 kg/pair

Material:

Side parts: Die-cast, spray-finished
Centre part: Extruded aluminium section,
spray-finished

Colour:

RAL 7035

Supply includes:

Assembly parts.

| For enclosure depth mm | Packs of | Model No. RC |
|---------------------------|----------|--------------|
| 300 | 2 | 3751.250 |
| 420 | 2 | 3751.260 |
| 540 | 2 | 3751.270 |

INSTRUMENT CASES/SYSTEM ENCLOSURES

HeiCase ACCESSORIES



Keyboard lid

Suitable for the installation of 482.6 mm (19") keyboards.

- Horizontally hinged with security lock
- Removable cover plate

Material:

Frame section: Extruded aluminium section/die-cast, spray-finished
Base and cover plate: Aluminium, spray-finished

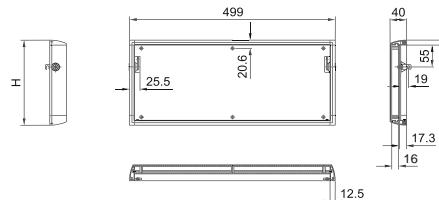
Colour:

RAL 7035

Supply includes:

Assembly parts.

| For enclosure width mm | H (U) | Packs of | Model No. RC |
|------------------------|-------|----------|-----------------|
| 482,6 (19") | 4 | 1 | 3751.800 |
| 482,6 (19") | 6 | 1 | 3751.810 |



Front door

Vertically hinged

For mechanical protection of built-in control components.

- Optionally hinged on the right or left
- With security lock

Material:

Frame section: Extruded aluminium section, spray-finished
Corner pieces: Die-cast aluminium, spray-finished
Glazed pane: Smoked acrylic

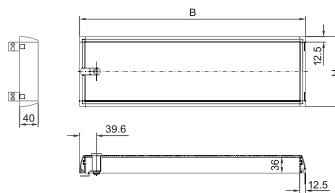
Colour:

RAL 7035

Supply includes:

Assembly parts.

| For enclosure width mm | W (B) mm | H (U) | Model No. RC |
|------------------------|----------|-------|-----------------|
| 269,2 (1/2 19") | 289 | 3 | 3751.300 |
| 269,2 (1/2 19") | 289 | 4 | 3751.310 |
| 482,6 (19") | 503 | 3 | 3751.320 |
| 482,6 (19") | 503 | 4 | 3751.330 |
| 482,6 (19") | 503 | 6 | 3751.340 |
| 482,6 (19") | 503 | 7 | 3751.350 |



Aluminium front door

Vertically hinged

For mechanical protection of built-in control components.

- Optionally hinged on the right or left
- With security lock

Material:

Frame section: Extruded aluminium section, spray-finished
Corner pieces: Die-cast aluminium, spray-finished
Aluminum plate

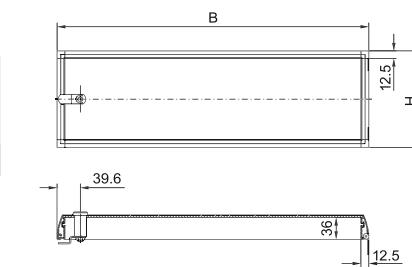
Colour:

RAL 7035

Supply includes:

Assembly parts.

| For enclosure width mm | W (B) mm | H (U) | Model No. RC |
|------------------------|----------|-------|-----------------|
| 482,6 (19") | 503 | 3 | 3751.360 |
| 482,6 (19") | 503 | 4 | 3751.370 |
| 482,6 (19") | 503 | 6 | 3751.380 |



INSTRUMENT CASES/SYSTEM ENCLOSURES

HeiCase ACCESSORIES



Tower feet

For vertical siting of enclosures.
May be retrofitted.

Material:

Plastic to UL 94-V0,
self-extinguishing

Decorative colorus:

1 RAL 7030 (stone grey)

2 RAL 5018 (turquoise)

3 RAL 5012 (pale blue)

Supply includes:

4 tower feet, assembly parts.

| Decorative colour RAL | Packs of | Model No. RC |
|-----------------------|----------|-----------------|
| 5018 | 1 set | 3751.850 |
| 5012 | 1 set | 3751.852 |
| 7030 | 1 set | 3751.854 |



Back panel

Screw-fastened

To close off the rear.

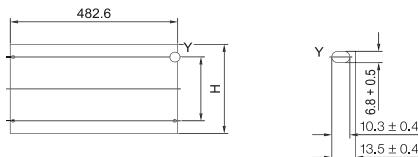
Material:

2/3 mm aluminium, natural-anodized

Supply includes:

Two 482.6 mm (19") mounting brackets,
assembly parts.

| For enclosure width mm | H (U) | Packs of | Model No. RC |
|------------------------------|----------|----------|-----------------|
| 482,6 (19") | 3 | 1 | 3751.600 |
| 482,6 (19") | 4 | 1 | 3751.610 |
| 482,6 (19") | 6 | 1 | 3751.620 |
| 482,6 (19") | 7 | 1 | 3751.630 |
| 482,6 (19") | 9 | 1 | 3751.530 |
| 482,6 (19") | 12 | 1 | 3751.540 |



Rear door

Vertically hinged

To close off the rear.

- Hinged, with security lock
- Optionally hinged on the left or right

Material:

Aluminium, spray-finished

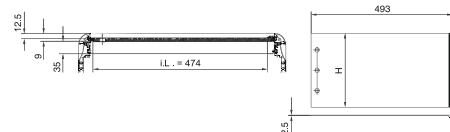
Colour:

RAL 7035

Supply includes:

Assembly parts.

| For enclosure width mm | H (U) | Packs of | Model No. RC |
|------------------------------|----------|----------|-----------------|
| 482,6 (19") | 3 | 1 | 3751.100 |
| 482,6 (19") | 4 | 1 | 3751.110 |
| 482,6 (19") | 6 | 1 | 3751.120 |
| 482,6 (19") | 7 | 1 | 3751.130 |



Rear door

For fan installation

To close off the rear.

- With security lock
- Optionally hinged on the left or right
- For the installation of 120 mm fans

Material:

Aluminium, spray-finished

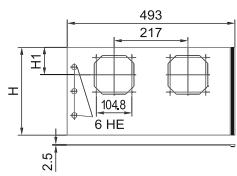
Colour:

RAL 7035

Supply includes:

Assembly parts.

| For enclosure width mm | H (U) | H1 mm | Model No. RC |
|------------------------------|----------|----------|-----------------|
| 482,6 (19") | 3 | 66,65 | 3751.150 |
| 482,6 (19") | 4 | 88,90 | 3751.160 |
| 482,6 (19") | 6 | 83,50 | 3751.170 |
| 482,6 (19") | 7 | 83,50 | 3751.180 |



HE = U

SUBRACKS



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A minimum of components – a multitude of applications

The modular concept of HeiPac subracks facilitates a wide range of application options with a minimum of components. All HeiPac subracks are based on the same horizontal rails and system components.

The difference lies in the design of the side panels and installation options.

The subracks are shock and vibration-tested and comply with IEC 60 297-3-101, -102, -103.



HeiPac EASY

Easy handling due to pre-assembled screws. All rails are double screw fastened and ensure ruggedness even under high mechanical stress.



HeiPac Vario/Vario EMC

A wide range of sizes and accessories facilitate complex applications.

Variable depth system installation due to 10 mm- pitch pattern of holes.

EMC-shielding by horizontal and vertical EMC gaskets. Also upgradable (for HeiPac Vario).



HeiPac Vario Mobile

- The subracks are certified for operation in German Railways. The test had been carried out according to Standard EN 50 155, 1996 (electronic devices in rail vehicles).The setup of the certified subracks corresponds to IEC 48D.
- Shock- and vibration tests according to IEC 600-68-2-6, test Fc
IEC 600-68-2-27, test Ea
- The subracks are fully assembled



HeiPac Compact

Subracks for mounting on mounting plates or top hat rails.



HeiPac ECO

- Fast and easy assembly
- Low-cost-version
- Upgradable for backplane or connector installation

BENEFITS AT A GLANCE

Subracks

- Modular subrack system for individual assembly
- 5 basic versions for different applications
- Horizontal rails and accessories for all models
- EMC prepared or EMC upgradeable

- Fully assembled and wired on request
- Shock- and vibration tested

HEITEC SUBRACKS OVERVIEW

HeiPac EASY



For standard applications or high mechanical requirements

Order No. see page 90

Applications:

Subrack system for standard applications or high mechanical loads. In cases that require easy handling and fast assembly. Suitable for installation of standardised PCBs or plug-in units up to 400 mm depth.

Technical specifications:

- 482.6 mm (19") subrack according to IEC 60 297-3
- 3 and 6 U
- For board depths: 160 mm, 220 mm, 280 mm, 340 mm, 400 mm
- Fast and easy assembly due to pre-assembled screws and longitudinal holes in the side panels
- Top covers easily retractable
- Horizontal rails with double screwed joint
- Material: aluminium, noncorrosive
- 60 mm mounting grids for horizontal rails
- Rear horizontal rails with integrated contact surface
- Rear equipment for installation of backplanes or connectors
- Separate 19" flanges

Benefits at a glance

- Fast and easy handling by pre-assembled screws
- Top covers retractable
- Horizontal rails with integrated contact surface (no need for insulating strips)
- Double screw joints of horizontal rails ensure stability even for high loads

HeiPac ECO



For standard applications
Order No. see page 91

Applications:

Subrack system for standard applications. Suitable for installation of standardised PCBs or plug-in units of 160 and 220 mm depth.

Technical specifications:

- 482.6 mm (19") subrack according to DIN 41 494, part 5/ IEC 60 297-3
- 3 and 6 U
- For board depths: 160 mm and 220 mm
- Side panels of sheet steel, zinc-plated
- Pre-configured assembly points for horizontal rails
- Rear installation for backplanes, optionally for connectors
- Separate 19" flanges

Benefits at a glance

- Fast and easy handling
- Low-cost version
- Upgradable for assembly of backplanes or connectors

HeiPac Vario



For standard applications or complex installations.
Order No. see pages 92 - 93

Applications:

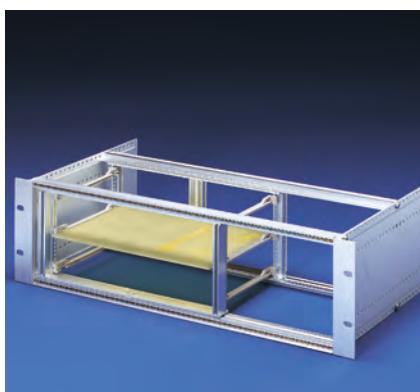
Subrack system for standard applications or complex installations. Suitable for installation of standardised PCBs or plug-in units up to 400 mm depth.

Technical specifications:

- 482.6 mm (19") subrack according to IEC 60 297-3
- 3, 4, 6, 7 and 9 U
- For board depths up to 400 mm
- Side panels of aluminium, clear-chromated
- 10 mm mounting grids for horizontal rails
- Rear equipment for installation of backplanes or connectors
- Separate 19" flanges

Benefits at a glance

- Side panels with 10 mm mounting grid
- Upgradeable to EMC
- 19" flanges optionally for front/rear mounting
- Wide range of standard sizes
- For installation of backplanes or connectors
- Broad range of accessories



HEITEC SUBRACKS OVERVIEW

HeiPac Vario EMC



For EMC applications and complex installations

Order No. see pages 94 - 95

Applications:

Subrack system for EMC applications or complex installations. Suitable for installation of standardised PCBs or plug-in units up to 400 mm depth.

Technical specifications:

- 482.6 mm (19") EMC subrack according to IEC 60 297-3
- 3, 4, 6, 7 and 9 U
- For board depths up to 400 mm
- Side panels of aluminium, clear-chromated
- 10 mm mounting grids for horizontal rails
- Rear equipment for installation of backplanes or connectors
- Separate 19" flanges
- Including EMC gaskets

Benefits at a glance:

- EMC version
- Side panels with 10 mm mounting grids for variable system assembly
- 19" flanges optionally for front/rear mounting
- Many standard sizes
- For mounting backplanes or connectors
- Broad range of accessories

HeiPac Compact



For mounting plates or top hat rails

Order No. see page 96

Applications:

Subrack system for direct mounting in a cabinet. Mounting either on top hat rails or on mounting plate. Suitable for installation of standardised PCBs or plug-in units.

Technical specifications:

- Subrack according to IEC 60 297-3
- Pre-installed for mounting on top hat rails or directly on the mounting plate
- 3 and 6 U
- For board depths up to 160 mm
- Installation width: 21 and 42 HP
- Side panels of aluminium, clear-chromated
- Rear equipment for installation of backplanes

Benefits at a glance:

- Direct mounting on a mounting plate or a top hat rail
- Variable cable entry from bottom/top
- Side panels with 10 mm mounting grids for variable system assembly
- Suitable for mounting backplanes
- Optionally in EMC version

HeiPac Vario Mobile



For mobile applications

Order No. see page 97

Applications:

Subrack system for applications in rail vehicles. Suitable for installation of standardised PCBs or plug-in units.

Technical specifications:

- 482.6 mm (19") subrack according to IEC 60 297-3
- Testing conducted in accordance with standard EN 50 155, 1996 (electronic equipment in rail vehicles)
- 3 and 6 U
- For board depths up to 220 mm
- Side panels of aluminium, clear-chromated
- Rear equipment for installation of backplanes or connectors
- Fully assembled

Benefits at a glance:

- Suitable for installation in rail vehicles
- Optionally as EMC version
- Side panels with 10 mm mounting grids for variable system assembly
- Fully assembled
- For mounting backplanes or connectors



SUBRACKS

HeiPac EASY

HeiPac EASY 3 U, 6 U, Aluminium


Material/surface finish:

Side panels:
2 mm aluminium, unplated

Horizontal rails:
extruded aluminium section,
noncorrosive

Flanges:
pre-anodised

Supply includes:

Side panels, flanges,
horizontal rails, threaded inserts,
assembly screws

Tests:

Shock- and vibration tested to:

IEC 600-68-2-6 test Fc

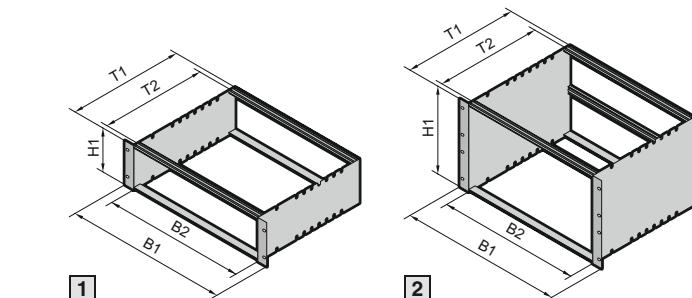
IEC 600-68-2-7 test Ea

Standards:

HeiPac subracks are based on the system dimensions
of IEC 60 297-3

Note:

Backplanes can be mounted directly on the rear
horizontal rails. Isolating strips are not necessary.



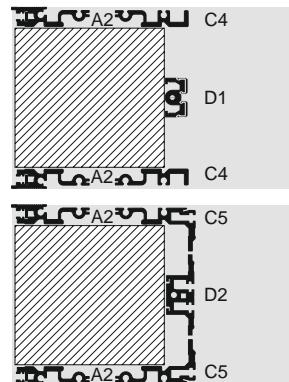
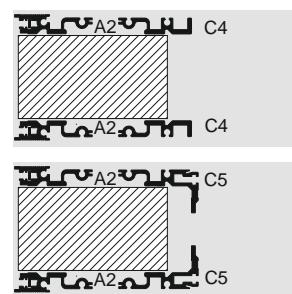
B = Width
T = Depth

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see page 14



1 Top: for backplane
Bottom: for connector

2 Top: for backplane
Bottom: for connector

| | | | | | Order No. | | | |
|--------------------|----------|-----------------------|----------|-------------------------|------------------|----------------------------------|------------------|--|
| | | | | | 1 | 2 | Page | |
| U (H1) | | | | | 3 | 6 | | |
| B1 mm | B2 HP | Side panel (T1) mm | T2 mm | Max. PCB depth mm | For backplane | For connector IEC 60 603-2 | For backplane | |
| 482.6 (19") | 84 | 175 | 160 | 160 | 3634.100 | 3634.150 | 3634.180 | |
| | | 235 | 220 | 220 | 3634.110 | 3634.160 | 3634.190 | |
| | | 295 | 280 | 280 | 3634.120 | 3634.170 | 3634.200 | |
| | | 355 | 340 | 340 | 3634.130 | — | 3634.210 | |
| | | 415 | 400 | 400 | 3634.140 | — | 3634.220 | |
| Accessories | | | | | | | | |
| Covers | | | | | | | | |
| Horizontal rails | | | | | | | | |
| Guide rails | | | | | | | | |

SUBRACKS HeiPac ECO

HeiPac ECO 3 U, 6 U, sheet steel



Material/surface finish:

Side panels:
1.5 mm sheet steel, zinc-plated

Flanges/horizontal rails:
Extruded aluminium section,
clear-chromated

Supply includes:

Side panels, flanges, horizontal
rails, threaded inserts, assembly screws.

Tests:

Shock and vibration tested to:
IEC 600-68-2-6 test Fc
IEC 600-68-2-27 test Ea

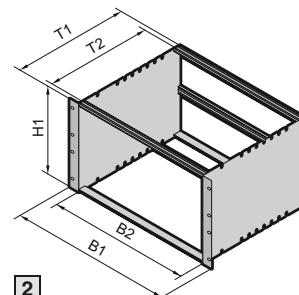
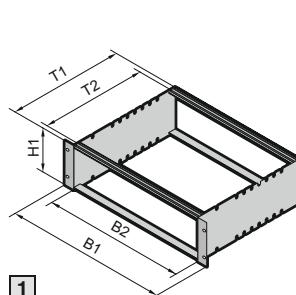
Standards:

HeiPac subracks are based on
the system dimensions of
DIN 41 494 part 5 and
IEC 60 297-3.

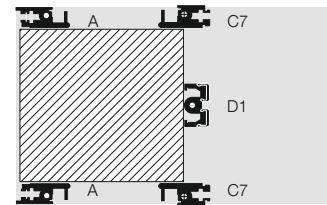
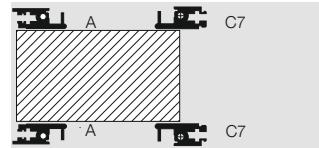
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see page 14



B = Width
T = Depth



1 For backplane

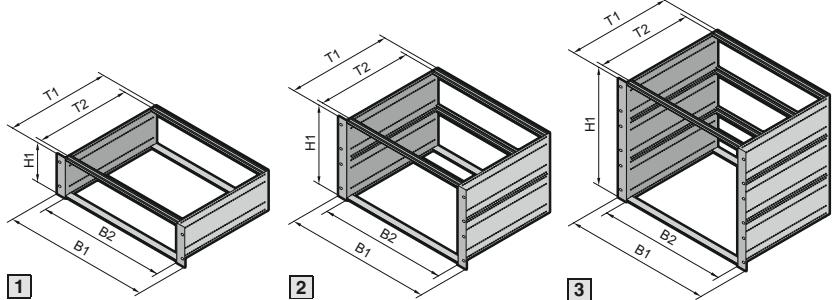
2 For backplane

| | | | | | Order No. | | |
|--------------------|----------|-----------------------|----------|-------------------------|------------------|-----------------|------|
| | | | | | 1 | 2 | Page |
| U (H1) | | | | | 3 | 6 | |
| B1 mm | B2 HP | Side panel (T1) mm | T2 mm | Max. PCB depth mm | For backplane | For backplane | |
| 482.6 (19") | 84 | 175 | 150 | 160 | 3688.114 | 3688.116 | |
| | | 235 | 210 | 220 | 3688.115 | 3688.117 | |
| Accessories | | | | | | | |
| Covers | | | | | | | |
| Horizontal rails | | | | | | | |
| Guide rails | | | | | | | |

SUBRACKS

HeiPac VARIO

HeiPac Vario 3 U, 6 U, 9 U


Material/surface finish:

Side panels:
2.5 mm aluminium, clear-chromated
flanges and horizontal rails:
Extruded aluminium section,
clear-chromated

Supply includes:

Flanges, side panels,
horizontal rails, threaded
inserts, insulating strips
or Z rails.

Tests:

Shock and vibration tested to:
IEC 600-68-2-6 test Fc
IEC 600-68-2-27 test Ea

Standards:

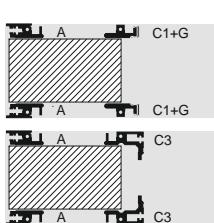
HeiPac subracks are based on
the system dimensions of
IEC 60 297-3.

We meet your individual needs!

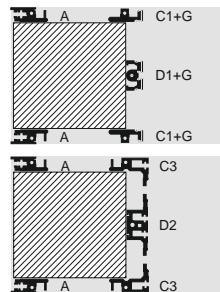
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see page 14

EMC upgradeable

B = Width
T = Depth



[1] Top: for backplane
Bottom: for connector



[2] Top: for backplane
Bottom: for connector



[3] Top: for backplane
Bottom: for connector

| | | | | | Order No. | | | | | |
|----------------|-------|--------------------|-------|-------------------|-----------------|----------------------------|-----------------|----------------------------|-----------------|----------------------------|
| | | | | | [1] | 3 | [2] | 6 | [3] | 9 |
| Height (H1) mm | | | | | | 132 | | 265.35 | | 398.70 |
| B1 mm | B2 HP | Side panel (T1) mm | T2 mm | Max. PCB depth mm | For backplane | For connector IEC 60 603-2 | For backplane | For connector IEC 60 603-2 | For backplane | For connector IEC 60 603-2 |
| 482.6 (19') | 84 | 185 | 160 | 160 | 3684.020 | 3684.034 | 3684.043 | 3684.056 | — | — |
| | | 225 | 200 | 160 | 3684.021 | 3684.035 | 3684.044 | 3684.057 | — | — |
| | | 245 | 220 | 220 | 3684.022 | 3684.036 | 3684.045 | 3684.058 | — | — |
| | | 285 | 260 | 220 | 3684.023 | 3685.281 | 3684.046 | — | — | — |
| | | 305 | 280 | 280 | 3685.231 | 3685.233 | 3685.238 | 3685.240 | — | — |
| | | 345 | 320 | 280 | 3684.024 | — | 3684.047 | — | 3684.051 | 3684.059 |
| | | 365 | 340 | 340 | 3685.232 | 3685.234 | 3685.239 | — | — | — |
| | | 405 | 380 | 340 | 3684.025 | — | 3684.048 | — | 3684.052 | 3684.060 |
| | | 465 | 440 | 400 | 3684.026 | — | 3684.049 | — | 3684.053 | 3684.061 |
| | | 525 | 500 | 400 | 3684.027 | — | 3684.050 | — | 3684.054 | — |
| | | 585 | 560 | 400 | — | — | — | — | 3684.055 | — |

Covers Page 126 Guide rails Page 119 Mounting kits Page 118 Horizontal rails Page 100 EMC accessories Page 116 Front panels Page 135

SUBRACKS HeiPac VARIO

HeiPac Vario 4 U, 7 U



Material/surface finish:

Side panels:
2.5 mm aluminium, clear-chromated
Flanges and horizontal rails:
Extruded aluminium section, clear-chromated

Supply includes:

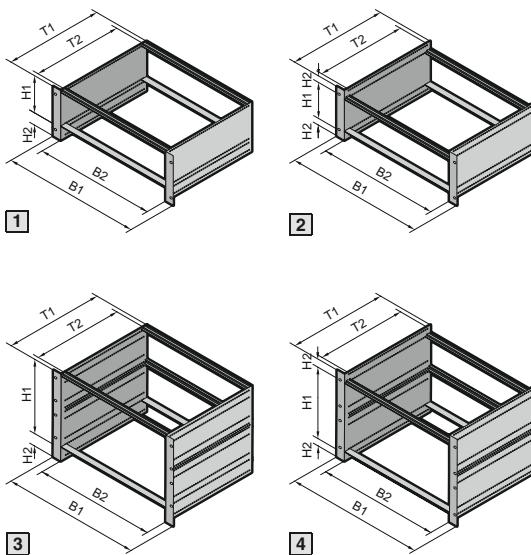
Flanges, side panels,
horizontal rails, threaded
inserts, insulating strips
or Z rails.

Tests:

Shock and vibration tested to:
IEC 600-68-2-6 test Fc
IEC 600-68-2-27 test Ea

Standards:

HeiPac subracks are based on
the system dimensions of
IEC 60 297-3.

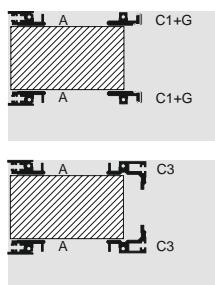


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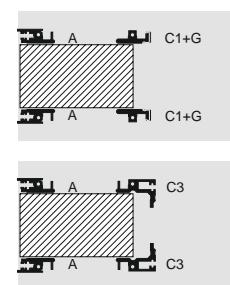
B = Width
T = Depth

EMC

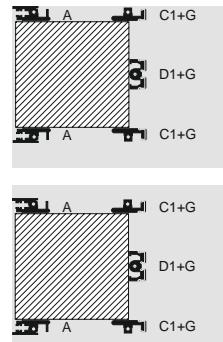
upgradeable



1 Top: for backplane
Bottom: for connector



2 Top: for backplane
Bottom: for connector



3 Top: for backplane
(6 U + 1 U)

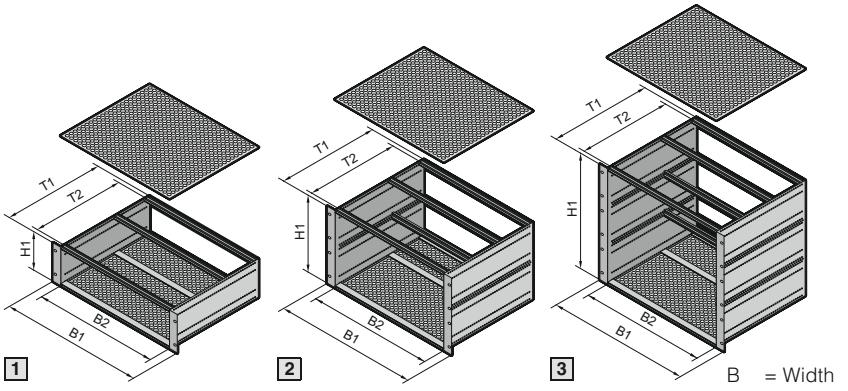
4 Bottom: for backplane
(6 U + 2 x 1/2 U)

| | | | | | Order No. | | | | | |
|----------------|----------|-----------------------|----------|-------------------------|-----------------|-------------------------------|--------------------|-------------------------------|-----------------|--------------------|
| | | | | | 1 | | 2 | | 3 | |
| U (H1 + H2) | | | | | 4 (3 + 1) | 4 (3 + 1) | 4 (3 + 2 x 1/2) | 4 (3 + 2 x 1/2) | 7 (6 + 1) | 7 (6 + 2 x 1/2) |
| B1 mm | B2 HP | Side panel (T1) mm | T2 mm | Max. PCB depth mm | For backplane | For connector IEC 60 603-2 | For backplane | For connector IEC 60 603-2 | For backplane | For backplane |
| 482.6 (19") | 84 | 245 | 220 | 220 | 3685.235 | — | — | — | — | — |
| | | 285 | 260 | 220 | 3684.028 | 3684.037 | 3684.031 | 3684.040 | — | — |
| | | 305 | 280 | 280 | 3685.236 | — | — | — | — | — |
| | | 345 | 320 | 280 | 3684.029 | 3684.038 | 3684.032 | 3684.041 | — | — |
| | | 365 | 340 | 340 | 3685.237 | — | — | — | — | — |
| | | 405 | 380 | 340 | 3684.030 | 3684.039 | 3684.033 | 3684.042 | 3684.064 | 3684.062 |
| | | 465 | 440 | 400 | — | — | — | — | 3684.065 | 3684.063 |

SUBRACKS

HeiPac VARIO EMC

HeiPac Vario EMC 3 U, 6 U, 9 U


Material/surface finish:

Side panels:
2.5 mm aluminium, clear-chromated

Flanges and horizontal rails:

Extruded aluminium section,
clear-chromated

Covers: Aluminium, unplated

Supply includes:

Flanges, rear trim, side panels, EMC gaskets, covers,
mounting blocks, horizontal rails, insulating strips.

Tests:

Shock and vibration tested to:
IEC 600-68-2-6 test Fc
IEC 600-68-2-27 test Ea

Standards:

HeiPac subracks are based on
the system dimensions of
IEC 60 297-3.

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Phone:

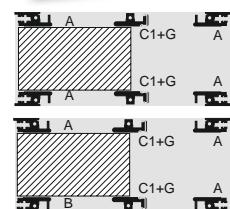
+49 - 9126 - 29 34 0

Email:

eps-quote@heitec.de

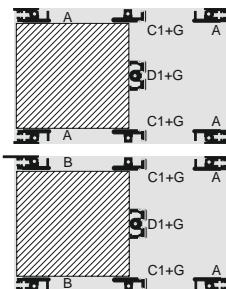
see page 14

EMC



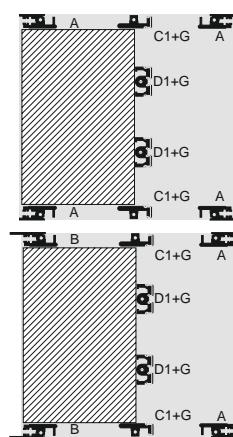
1

Top: for backplane
Bottom: for backplane/
front horizontal rail with
10 mm extension



2

Top: for backplane
Bottom: for backplane/
front horizontal rail with
10 mm extension



3

Top: for backplane
Bottom: for backplane/
front horizontal rail with
10 mm extension

| | | | | | Order No. | | | |
|----------------|-------|--------------------|-------|-------------------|---------------|-----------------------------|---------------|---------------|
| | | | | | 1 | 3 | 6 | 9 |
| Height (H1) mm | | | | | 132 | 265.35 | 398.70 | |
| B1 mm | B2 HP | Side panel (T1) mm | T2 mm | Max. PCB depth mm | For backplane | For backplane ¹⁾ | For backplane | For backplane |
| 482.6 (19") | 84 | 245 | 220 | 160 | 3684.128 | 3684.142 | 3684.156 | 3684.169 |
| | | 285 | 260 | 220 | 3684.129 | 3684.143 | 3684.157 | 3684.170 |
| | | 305 | 280 | 220 | 3685.241 | 3685.243 | 3685.242 | 3685.244 |
| | | 345 | 320 | 280 | 3684.130 | 3684.144 | 3684.158 | 3684.171 |
| | | 405 | 380 | 340 | 3684.131 | 3684.145 | 3684.159 | 3684.172 |
| | | 465 | 440 | 400 | 3684.132 | 3684.146 | 3684.160 | 3684.173 |
| | | 525 | 500 | 400 | 3684.133 | 3684.147 | 3684.161 | 3684.174 |
| | | 585 | 560 | 400 | - | - | - | 3684.166 |

¹⁾Front horizontal rails with 10 mm extension for injector/extractor handles (B).

SUBRACKS

HeiPac VARIO EMC

HeiPac Vario EMC 4 U, 7 U



Material/surface finish:

Side panels: 2.5 mm aluminium, clear-chromated

Flanges and horizontal rails: Extruded aluminium section, clear-chromated
Covers: Aluminium, unplated

Supply includes:

Flanges, rear trims, side panels, EMC gaskets, covers, mounting blocks, horizontal rails, threaded inserts, insulating strips.

Tests:

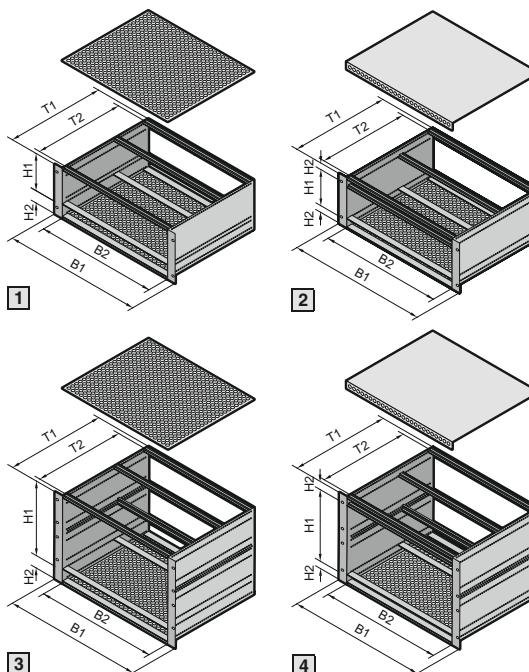
Shock and vibration tested to:

IEC 600-68-2-6 test Fc

IEC 600-68-2-27 test Ea

Standards:

HeiPac subracks are based on the system dimensions of IEC 60 297-3.



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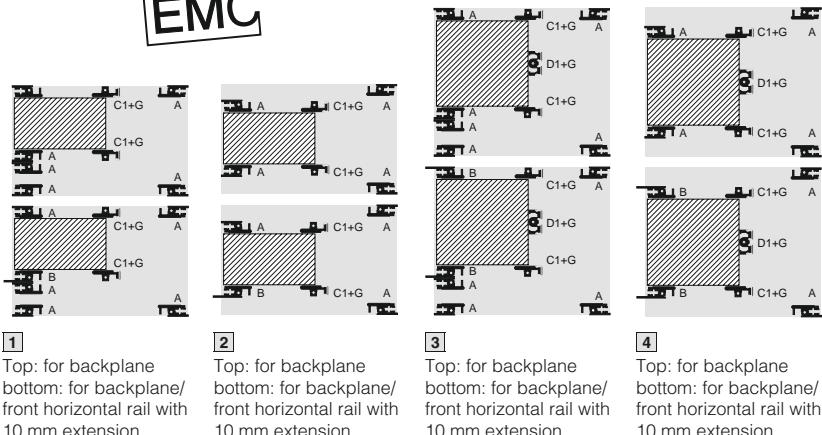
Phone:
+49 - 9126 - 29 34 0

Email:
eps-quote@heitec.de

see page 14

B = Width
T = Depth

EMC



| | | | | | Order No. | | | | | | | |
|----------------|----------|--------------------------|----------|-------------------------|------------------|--------------------------------|--------------------|--------------------------------|------------------|--------------------------------|--------------------|--------------------------------|
| | | | | | 1 | | 2 | | 3 | | 4 | |
| U (H1 + H2) | | | | | 4 (3 + 1) | 4 (3 + 1) | 4 (3 + 2 x 1/2) | 4 (3 + 2 x 1/2) | 7 (6 + 1) | 7 (6 + 1) | 7 (6 + 2 x 1/2) | 7 (6 + 2 x 1/2) |
| B1 mm | B2 HP | Side panel (T1) mm | T2 mm | Max. PCB depth mm | For backplane | For backplane ¹⁾ | For backplane | For backplane ¹⁾ | For backplane | For backplane ¹⁾ | For backplane | For backplane ¹⁾ |
| 482.6 (19') | 84 | 285 | 260 | 220 | 3684.134 | 3684.148 | 3684.137 | 3684.151 | 3684.187 | 3684.192 | — | — |
| | | 345 | 320 | 280 | 3684.135 | 3684.149 | 3684.138 | 3684.152 | 3684.188 | 3684.193 | 3684.189 | 3684.196 |
| | | 405 | 380 | 340 | 3684.136 | 3684.150 | 3684.139 | 3684.153 | 3684.180 | 3684.194 | 3684.190 | 3684.197 |
| | | 465 | 440 | 400 | — | — | — | — | 3684.181 | 3684.195 | 3684.191 | 3684.198 |

¹⁾ Front horizontal rails with 10 mm extension for injector/extractor handles (B).

SUBRACKS

HeiPac COMPACT

HeiPac Compact 3 U, 6 U


Material/surface finish:

Side panels:
2.5 mm aluminium, clear-chromated

Flanges and horizontal rails:
Extruded aluminium section,
clear-chromated

Supply includes:

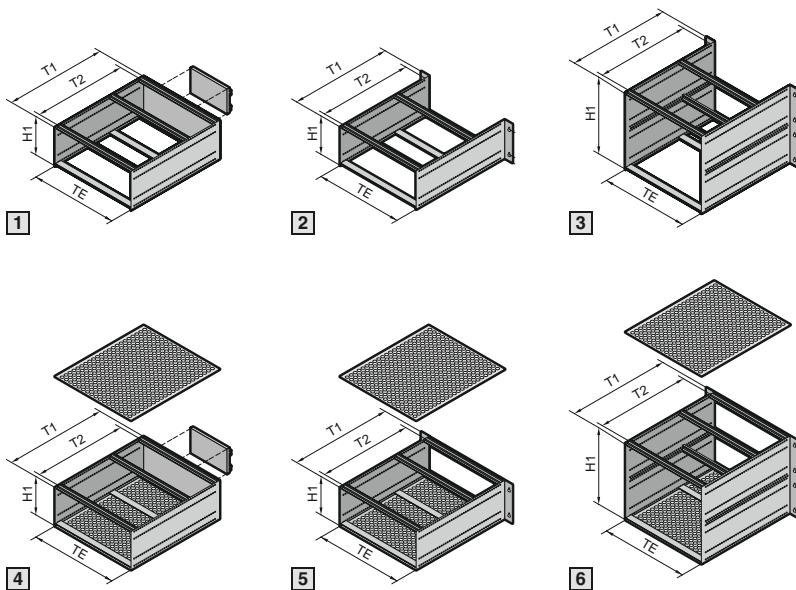
Side panels, rear trims, flanges for mounting plates or top-hat rail adaptors, EMC front/rear panels, EMC gaskets, covers, horizontal rails, threaded inserts, insulating strips.

Tests:

Shock and vibration tested to:
IEC 600-68-2-6 test Fc
IEC 600-68-2-27 test Ea

Standards:

HeiPac subracks are based on the system dimensions of IEC 60 297-3.


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[1] [4]

HeiPac Compact 3 U for top-hat rail

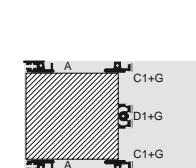
[2] [3] [5] [6]

HeiPac Compact 3 U for mounting plate

B = Width HE = U
T = Depth TE = HP



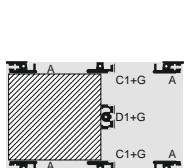
[1] Top:
for top-hat rail



[3] For mounting plate



[4] Top:
EMC for top-hat rail



[5] Bottom:
EMC for mounting plate

| | | | Order No. | | | | | | Order No. EMC | | | | | | |
|-----------------------|-------|-------------------|---------------|----------------|--------------|----------------|----------------|--------------|----------------|--------------|----------------|----------------|--|--------|--|
| | | | [1] | [2] | [1] | [2] | [3] | [4] | [5] | [4] | [5] | [6] | | | |
| U | | | 3 | 3 | 3 | 3 | 6 | 3 | 3 | 3 | 3 | 6 | | | |
| Height (H1) mm | | | 132 | | | | | | 265.35 | 132 | | | | | |
| HP | | | 21 | 21 | 42 | 42 | 42 | 21 | 21 | 42 | 42 | 42 | | 265.35 | |
| Attachment | | | Top-hat rail | Mounting plate | Top-hat rail | Mounting plate | Mounting plate | Top-hat rail | Mounting plate | Top-hat rail | Mounting plate | Mounting plate | | | |
| Side panel (T1) mm | T2 mm | Max. PCB depth mm | For backplane | | | | | | | | | | | | |
| 225 | 200 | 160 | 3687.667 | 3687.669 | 3687.671 | 3687.673 | 3687.680 | 3687.682 | 3687.684 | 3687.686 | 3687.688 | 3687.690 | | | |
| 285 | 260 | 220 | 3687.668 | 3687.670 | 3687.672 | 3687.674 | 3687.681 | 3687.683 | 3687.685 | 3687.687 | 3687.689 | 3687.691 | | | |

SUBRACKS

HeiPac VARIO MOBILE

HeiPac Vario Mobile 3 U, 6 U, for mobile use



Material/surface finish:

Side panels: 2.5 mm aluminium, clear-chromated

Flanges and horizontal rails: Extruded aluminium section, clear-chromated

Covers: Aluminium, unplated

Supply includes:

Flanges, rear trims, side panels, EMC gaskets, covers, mounting blocks, horizontal rails, threaded inserts, insulating strips, fully assembled

Tests:

Shock and vibration tested to:

IEC 600-68-2-6 test Fc

IEC 600-68-2-27 test Ea

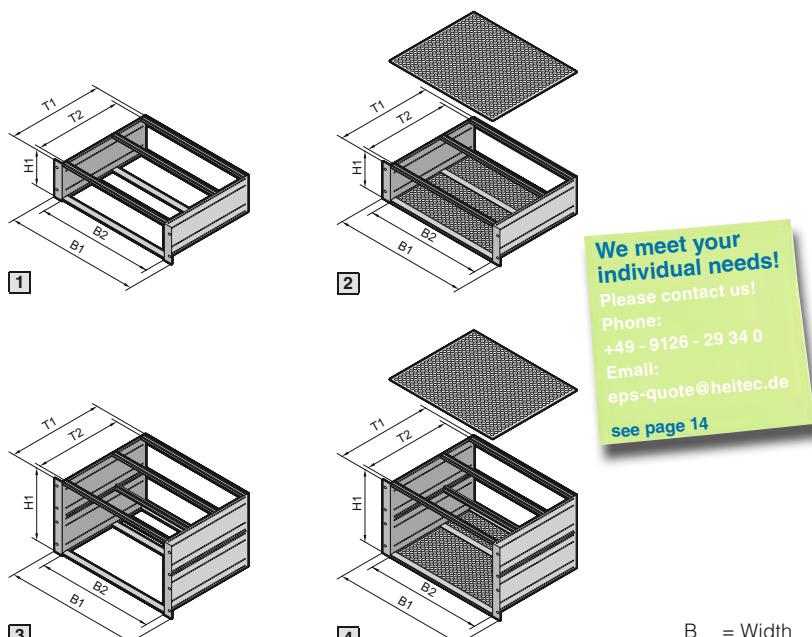
The subracks have been tested for use in the German national railway. Testing was conducted in accordance with standard EN 50 155, 1996 (Electronic Equipment in Rail Vehicles). The configuration of the tested subracks conforms to IEC 48 D.

Standards:

HeiPac subracks are based on the system dimensions of IEC 60 297-3.

Note:

The subracks are supplied fully assembled.



B = Width
T = Depth

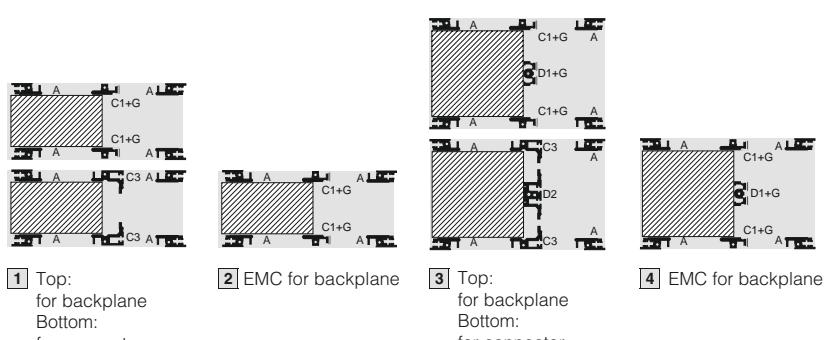
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see page 14



| U | Order No. | | | | | Order No. EMC | Order No. | | | | | Order No. EMC |
|----------------|-----------|--------------------|-------|-------------------|---------------|-----------------------------|---------------|---------------|-----------------------------|---------------|----|------------------|
| | 1 | 2 | 3 | 4 | 5 | | 6 | 7 | 8 | 9 | 10 | |
| Height (H1) mm | 132 | | | | | | 265.35 | | | | | |
| B1 mm | B2 HP | Side panel (T1) mm | T2 mm | Max. PCB depth mm | For backplane | For connectors IEC 60 603-2 | For backplane | For backplane | For connectors IEC 60 603-2 | For backplane | | |
| 482.6 (19) | 84 | 245 | 220 | 220 | 3687.782 | 3687.780 | 3687.784 | 3687.783 | 3687.781 | 3687.785 | | |

COMPONENTS/ACCESSORIES OVERVIEW



**High performance
in every detail**

Besides complete subrack- and system solutions HEITEC offers a wide range of individual components and accessories for setup, mounting and upgrade.



**Side panels and
flanges**

See page 102 onwards



Guide rails

See page 119 onwards



Cassettes

See page 151 onwards

COMPONENTS / ACCESSORIES OVERVIEW



Our inside and outside sales staff will gladly help you to find the right selection of components and support you in compiling the optimum package to fulfill your individual preferences and requirements.



Horizontal rails
See page 105 onwards



Components for EMC installation
See page 116 onwards



Extension kits
See page 118 onwards



Covers
See page 125 onwards



Ventilation
See page 130 onwards



**Front panels,
handles**
See page 135 onwards



Power supplies
See page 155 onwards

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COMPONENTS / ACCESSORIES

TABLE OF HORIZONTAL RAILS

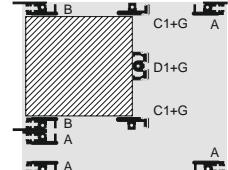
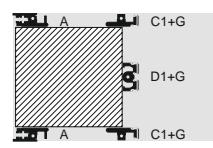
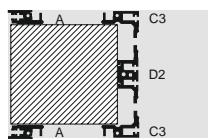
HeiPac extrusion system: Complete, simple and easy to manage

To fit all subrack systems as well as the HeiPac Vario-Module instrument case/system enclosure range

| Main sections | A | A1 | A2 | B | B1 | B2 | C1 | C3 | C4 |
|--|-----------------------|--|--|--|--|--|----------------------|--|--|
| | Front horizontal rail | Front horizontal rail, with double screw fastening | Front horizontal rail, with double screw fastening (HeiPac EASY) | Front horizontal rail, with 10 mm extension, for extractor handle type IV or VII | Double front horizontal rail, with 10 mm extension | Front horizontal rail, with 10 mm extension, with double screw fastening | Rear horizontal rail | Rear horizontal rail, with integral Z rail | Rear horizontal rail, double screw fastening, for backplane mounting (HeiPac EASY) |
| | Page 108 | Page 108 | Page 105 | Page 109 | Page 109 | Page 110 | Page 110 | Page 111 | Page 105 |
| Additional sections | | | | | | | | | |
| E Rear adaptor rail, centre, to accommodate guide rails | - | - | - | - | - | - | - | - | - |
| Page 113 | | | | | | | | | |
| F Z rail for connector | - | - | - | - | - | - | | - | - |
| Page 114 | | | | | | | | | |
| G Insulating strips ¹⁾ | - | - | - | - | - | - | | - | - |
| Page 115 | | | | | | | | | |
| H Conductive strips ¹⁾ | - | - | - | - | - | - | | - | - |
| Page 114 | | | | | | | | | |
| I Threaded insert | | | | | | | - | | - |
| Page 114 | | | | | | | | | |
| J Identification strips | - | | | - | | | | | |
| Page 114 | | | | | | | | | |
| K EMC gaskets, horizontal | | | - | | | | - | - | - |
| Page 117 | | | - | | | | - | - | - |

¹⁾For conductive or insulated attachment of backplanes.

All system requirements may be covered with just a few basic types of horizontal rail. A cost-effective, easy-to-manage range.

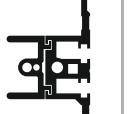
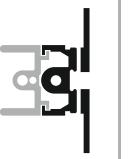
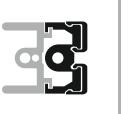
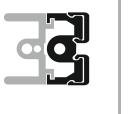
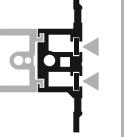
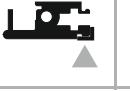


COMPONENTS / ACCESSORIES

TABLE OF HORIZONTAL RAILS

HeiPac extrusion system: Complete, simple and easy to manage

To fit all subrack systems as well as the HeiPac Vario-Module instrument case/system enclosure range

| Main sections | C5 Rear horizontal rail, with integral Z rail, double screw fastening (HeiPac EASY) | C6 Rear horizontal rail, with double screw fastening | C7 Rear horizontal rail, (HeiPac ECO) | C8 Rear horizontal rail, with integral Z rail (HeiPac ECO) | D1 Rear horizontal rail, centre | D2 Rear horizontal rail, centre with integral Z rail | D3 Rear horizontal rail, centre with integrated contact area (HeiPac EASY) | D4 Rear horizontal rail, for assembling rear panels, double screw fastening (HeiPac EASY) |
|--|--|---|---|---|--|---|---|--|
| | Page 106 | Page 111 | Page 113 | Page 113 | Page 112 | Page 112 | Page 107 | Page 107 |
| Additional sections |  |  |  |  |  |  |  |  |
| E Rear adaptor rail, centre, to accommodate guide rails |  | — | — | — |  |  |  | — |
| Page 113 | | | | | | | | |
| F Z rail for connector | — |  |  | — |  | — | — | — |
| Page 114 | | | | | | | | |
| G Insulating strips ¹⁾ | — |  |  | — |  | — | — | — |
| Page 115 | | | | | | | | |
| H Conductive strips ¹⁾ | — |  |  | — |  | — | — | — |
| Page 114 | | | | | | | | |
| I Threaded insert |  |  |  |  | — |  | — |  |
| Page 114 | | | | | | | | |
| J Identification strips | — |  |  | — | — | — | — | — |
| Page 114 | | | | | | | | |
| K EMC gaskets, horizontal | — | — |  | — | — | — | — | — |
| Page 117 | | | | | | | | |

¹⁾For conductive or insulated attachment of backplanes.

COMPONENTS / ACCESSORIES

SIDE PANELS AND FLANGES



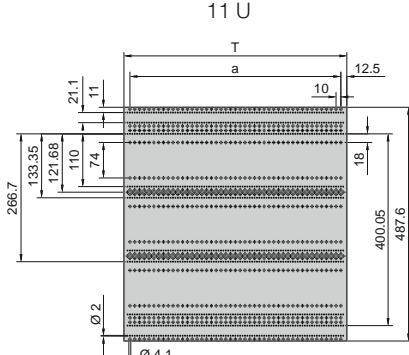
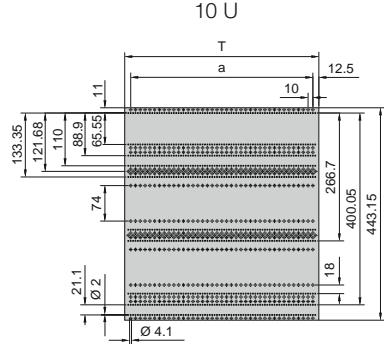
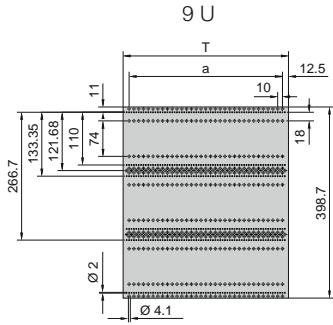
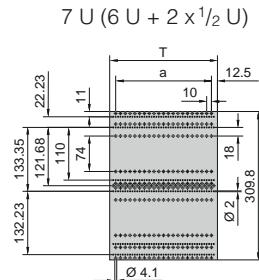
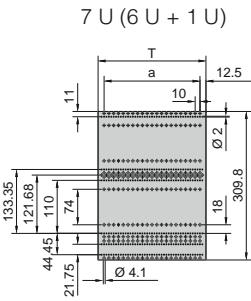
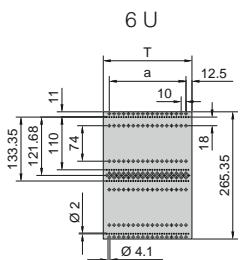
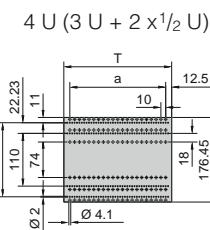
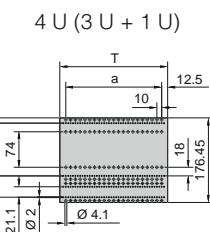
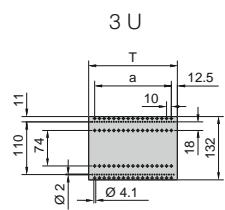
Side panels

**For HeiPac Vario, HeiPac Vario EMC,
HeiPac Compact, HeiPac Vario Mobile**
Mounting holes and anti-twist half-shears on a
10 mm pitch pattern.

Material:
2.5 mm aluminium, clear-chromated

| | | | Model No. RP | | | | | | | | |
|-------------|-----------------------|----------|--------------|-----------|-----------------|----------|-----------|-----------------|----------|----------|----------|
| U | | | 3 | 4 (3 + 1) | 4 (3 + 2 x 1/2) | 6 | 7 (6 + 1) | 7 (6 + 2 x 1/2) | 9 | 10 | 11 |
| D (T) mm | a ¹⁾ mm | Packs of | | | | | | | | | |
| 185 | 160 | 1 | 3684.511 | — | — | 3684.529 | — | — | — | — | — |
| 225 | 200 | 1 | 3684.512 | 3685.793 | 3685.890 | 3684.530 | 3685.896 | 3685.893 | 3685.797 | — | — |
| 245 | 220 | 1 | 3684.513 | 3685.850 | 3685.891 | 3684.531 | 3685.897 | 3685.894 | — | — | — |
| 285 | 260 | 1 | 3684.514 | 3684.523 | 3684.526 | 3684.532 | 3685.743 | 3685.895 | — | — | — |
| 305 | 280 | 1 | 3684.515 | 3685.794 | — | 3684.533 | — | — | 3685.798 | — | — |
| 345 | 320 | 1 | 3684.516 | 3684.524 | 3684.527 | 3684.534 | 3685.744 | 3685.745 | 3684.547 | — | — |
| 365 | 340 | 1 | 3684.517 | 3685.795 | — | 3684.535 | — | — | 3685.799 | — | — |
| 405 | 380 | 1 | 3684.518 | 3684.525 | 3684.528 | 3684.536 | 3684.541 | 3684.543 | 3684.548 | 3684.545 | — |
| 425 | 400 | 1 | 3684.519 | — | — | 3684.537 | — | — | — | — | — |
| 465 | 440 | 1 | 3684.520 | 3685.796 | 3685.892 | 3684.538 | 3684.542 | 3684.544 | 3684.549 | 3684.546 | 3684.552 |
| 525 | 500 | 1 | 3684.521 | — | — | 3684.539 | 3685.898 | 3685.959 | 3684.550 | 3685.899 | 3684.553 |
| 585 | 560 | 1 | 3684.522 | — | — | 3684.540 | — | — | 3684.551 | — | 3684.554 |

¹⁾ a = Distance between the first and last mounting hole.



T = Depth

COMPONENTS / ACCESSORIES

SIDE PANELS AND FLANGES



Flange, 482.6 mm (19°)

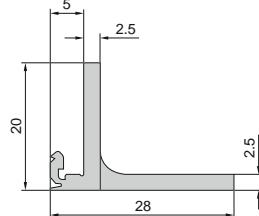
To fit all HeiPac Vario, HeiPac Vario EMC, HeiPac Compact and HeiPac Vario Mobile subracks. With integral channel to accommodate EMC gaskets.

Material:

Extruded aluminium section

Surface finish:

Clear-chromated



| U | Packs of | Model No. RP | |
|----|----------|-------------------|----------------------|
| | | with handle holes | without handle holes |
| 2 | 1 | — | 3684.614 |
| 3 | 1 | 3684.622 | 3684.615 |
| 4 | 1 | 3684.623 | 3684.616 |
| 6 | 1 | 3684.624 | 3684.617 |
| 7 | 1 | 3684.625 | 3684.618 |
| 9 | 1 | — | 3684.619 |
| 10 | 1 | — | 3684.620 |
| 11 | 1 | — | 3684.621 |

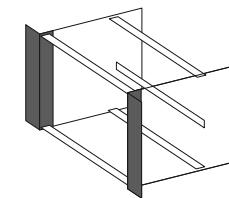
+ Accessories:

Handles for subrack,

see page 104

EMC gaskets, vertical,

see page 116



Flange, 482.6 mm (19°)


Set-back

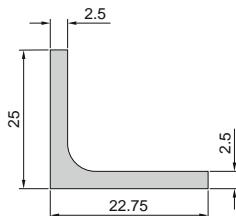
To fit all HeiPac Vario, HeiPac Vario EMC and HeiPac Vario Mobile subracks.

Material:

Extruded aluminium section

Surface finish:

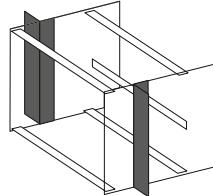
Clear-chromated



| U | Packs of | Model No. RP | |
|----|----------|-----------------|-----------------|
| | | 3 | 4 |
| 3 | 1 | 3684.626 | 3684.627 |
| 4 | 1 | 3684.628 | 3684.629 |
| 6 | 1 | 3684.630 | 3684.631 |
| 7 | 1 | 3684.632 | |
| 9 | 1 | | |
| 10 | 1 | | |
| 11 | 1 | | |

! Also required:

Assembly screws, nuts and washers,
packs of 4 sets, order no. 3687.015,
see page 165



Side panels

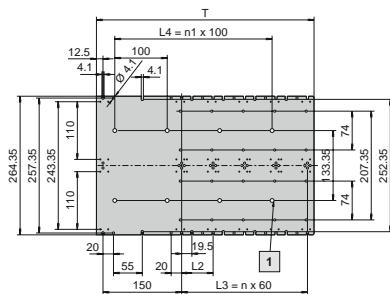
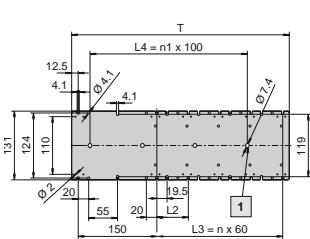

For HeiPac EASY

- Mounting holes on a 60 mm pitch pattern as long holes
- Drill holes for mounting telescopic slides

Material:

1.5 mm aluminium, noncorrosive

| D mm | L2 | n | n1 | Packs of | Max. board depth mm | Order No. | |
|---------|----|---|----|----------|------------------------|-----------------|-----------------|
| | | | | | | 3 U | 6 U |
| 175 | — | — | — | 2 | 160 | 3634.695 | 3634.720 |
| 235 | 60 | — | — | 2 | 220 | 3634.700 | 3634.725 |
| 295 | 60 | 2 | 2 | 2 | 280 | 3634.705 | 3634.730 |
| 355 | 60 | 3 | 3 | 2 | 340 | 3634.710 | 3634.735 |
| 415 | 60 | 4 | 3 | 2 | 400 | 3634.715 | 3634.740 |



T = Depth

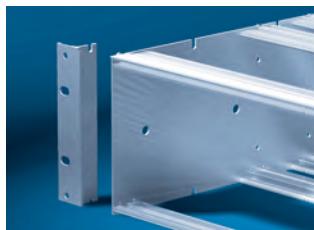
+ Accessories:

Flanges for HeiPac EASY
see page 104

- 1 Mounting holes suitable for threaded insert PEM-FM4-1

COMPONENTS / ACCESSORIES

SIDE PANELS AND FLANGES



Flange, 482.6 mm (19")

For HeiPac EASY

Integrated mounting holes for installation of handles

Material:

Extruded aluminium profiles

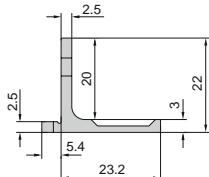
Surface finish:

Anodised

| U | Packs of | Model No. RP |
|---|----------|-----------------|
| 3 | 2 | 3634.745 |
| 6 | 2 | 3634.750 |

+ Accessories:

Handles for subracks,
see page 104



Handles

For subracks and component shelves

For fitting on the subrack flange with handle holes and on all component shelves.

Material:

Die-cast zinc

Surface finish:

Spray-finished, silver-grey

Supply includes:

Assembly parts.

| For | Packs of | Model No. RP |
|----------------------|----------|-----------------|
| Subracks 3 U and 4 U | 2 | 3636.010 |
| Component shelves | | |
| Subracks 6 U and 7 U | 2 | 3666.010 |



Trim section, rear

To fit all HeiPac Vario, HeiPac Vario EMC, HeiPac Compact and HeiPac Vario Mobile. Ensures 84 HP fit at the rear of the subrack. With integral channel to accommodate EMC gaskets.

Material:

Extruded aluminium section

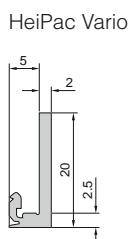
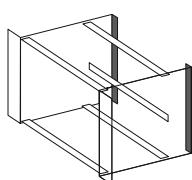
Surface finish:

Clear-chromated

| U | Model No. RP | |
|----|-----------------|-----------------|
| | Packs of 1 | Packs of 2 |
| 2 | 3684.633 | - |
| 3 | 3684.634 | 3685.276 |
| 4 | 3684.635 | - |
| 6 | 3684.636 | 3685.277 |
| 7 | 3684.637 | - |
| 9 | 3684.638 | - |
| 10 | 3684.639 | - |
| 11 | 3684.640 | - |

+ Accessories:

EMC gaskets, vertical,
see page 116



COMPONENTS / ACCESSORIES

HORIZONTAL RAILS



Front horizontal rail, double screw fastening (A2)

- To accommodate guide rails and for the attachment of front panels
- Pre-assembled screws M 4x12 for fast mounting on the subrack side panel
 - Front excess length 2.5 mm corresponding to IEC 60 297-3
 - On request with double screw fastening to ensure a high stability
 - HP pitch pattern of holes for the precise installation of guide rails
 - M4 thread on end face
 - Straight-through core hole for optional double screw fastening

| Usable width (HP) | Packs of | Model No. RP |
|-------------------|----------|-----------------|
| 84 | 2 | 3634.600 |

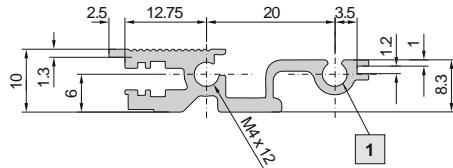
Material:
Extruded aluminium section

Surface finish:
noncorrosive

Supply includes:
2 horizontal rails with pre-assembled threaded inserts and screws M4 x 12

! Also required:

Assembly screws M4 x 12 for double screw fastening, order no. 3634.430 (packs of 100)



1 Core hole M4



Rear horizontal rail, double screw fastening (C4) for mounting backplanes

- To accommodate guide rails and for the attachment of backplanes
- Pre-assembled screws M 4x12 for fast mounting on the subrack side panel
 - Due to integrated contact area, no need for insulating strips
 - Tapped holes M2.5 in 1 HP pitch pattern for mounting backplanes
 - HP pitch pattern of holes for the precise installation of guide rails
 - On request with double screw fastening to ensure a high stability
 - M4 thread on end face
 - Straight-through core hole for optional double screw fastening
 - Height of the profile allows cover extension

| Usable width (HP) | Packs of | Model No. RP |
|-------------------|----------|-----------------|
| 84 | 2 | 3634.615 |

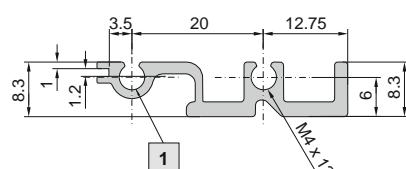
Material:
Extruded aluminium section

Surface finish:
noncorrosive

Supply includes:
1 horizontal rail with pre-assembled screws M4 x 12

! Also required:

Assembly screws M4 x 12 for double screw fastening, order no. 3634.430 (packs of 100)



1 Core hole M4

COMPONENTS / ACCESSORIES

HORIZONTAL RAILS



Rear horizontal rail with integral Z rail Double screw fastening (C5)

To accommodate guide rails, integral Z rail for the attachment of connectors

- Pre-assembled screws M 4x12 for fast mounting on the subrack side panel
- HP pitch pattern of holes for precise mounting of guide rails
- On request with double screw fastening to ensure a high stability
- M4 thread on end face
- Straight-through core hole for optional double screw fastening
- Height of the profile allows cover extension

| Usable width (HP) | Packs of | Model No. RP |
|-------------------|----------|-----------------|
| 84 | 2 | 3634.620 |

Material:
Extruded aluminium section

Surface finish:
noncorrosive

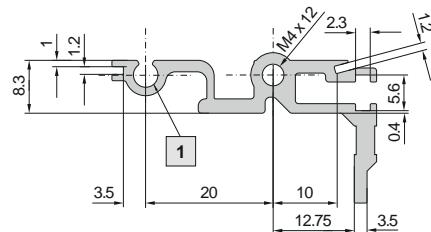
Supply includes:
2 horizontal rails with pre-assembled screws M4 x 12

+ Accessories:

Threaded inserts, order no. 9901.816 (pack of 1), see page 114

! Also required:

Assembly screws M4 x 12 for double screw fastening, order no. 3634.430 (packs of 100)



1 Core hole M4



Rear horizontal rail, centre with integral Z rail (D2)

When using 6 U PCBs or box-type plug-in units. Integral Z rail for mounting connectors to IEC 60 603-2.

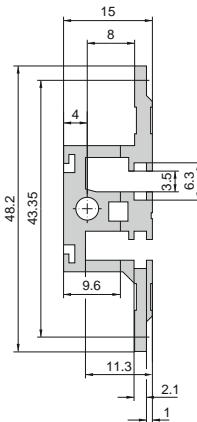
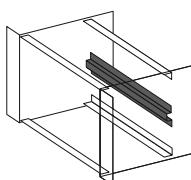
- 84 tapped holes M2.5
- M4 thread on end face
- Straight-through core hole

| Usable width (HP) | Packs of | Model No. RP |
|-------------------|----------|-----------------|
| 84 | 1 | 3634.085 |

Material:
Extruded aluminium section

Surface finish:
Clear-chromated

Supply includes:
1 Horizontal rail,
2 Assembly screws



COMPONENTS / ACCESSORIES

HORIZONTAL RAILS



Rear horizontal rail, centre (D3) for mounting backplanes

When using 6 U PCBs or cassettes.
For mounting backplanes.

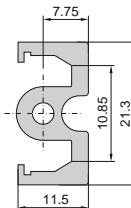
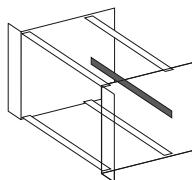
- 84 tapped holes M2,5
- M4 thread on end face
- Straight-through core hole
- Due to integrated contact area no need for insulating strips

| Usable width (HP) | Packs of | Model No. RP |
|-------------------|----------|-----------------|
| 84 | 1 | 3634.045 |

Material:
Extruded aluminium section

Surface finish:
noncorrosive

Supply includes:
1 horizontal rail, 2 screws



Rear horizontal rail for mounting rear panels, double screw fastening (D4)



To accommodate rear front panels.
 • On request with double screw fastening to ensure a high stability
 • With channel for mounting top covers
 • M4 thread on end face
 • Straight-through core hole for optional double screw fastening
 • Pre-assembled screws M 4x12 for fast mounting on the subrack side panel

| Usable width (HP) | Packs of | Model No. RP |
|-------------------|----------|-----------------|
| 84 | 1 | 3634.510 |

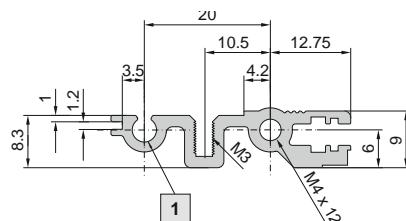
Material:
Extruded aluminium section

Surface finish:
noncorrosive

Supply includes:
2 horizontal rails with threaded inserts and screws

! Also required:

Assembly screws M4 x 12 for double screw fastening, order no. 3634.430 (packs of 100)



1 Core hole M4

Threaded insert for HeiPac EASY



With M2.5 threaded holes on an HP pitch pattern.
 • To slide in front (A2) or rear (D4, C5) horizontal rails
 • Dimensions: 5 x 2 mm

Material:
Sheet steel, zinc-plated

| Usable width (HP) | Packs of | Model No. RP |
|-------------------|----------|-----------------|
| 84 | 1 | 9901.816 |

COMPONENTS / ACCESSORIES

HORIZONTAL RAILS



Front horizontal rail (A)

To accommodate guide rails and for the attachment of front panels.

- Front projection 2.5 mm corresponding to IEC 60 297-3
- HP pitch pattern of holes for the precise installation of guide rails
- M4 thread on end face
- Straight-through core hole
- Horizontal rail 192 HP without machining on the end faces. Suitable for cutting to length

Material:

Extruded aluminium section

Surface finish:

Clear-chromated or anodised

| Usable width (HP) | Packs of | Model No. RP |
|-------------------|----------|------------------------|
| 4 (left) | 1 | 3684.592 |
| 4 (right) | 1 | 3684.955 |
| 8 (left) | 1 | 3684.593 |
| 8 (right) | 1 | 3684.956 |
| 12 | 1 | 3684.594 |
| 16 | 1 | 3684.595 |
| 20 | 1 | 3684.596 |
| 21 | 1 | 3685.985 |
| 40 | 1 | 3684.960 |
| 42 | 1 | 3684.560 |
| 63 | 1 | 3684.561 |
| 84 | 1 | 3684.562 |
| 84 | 2 | 3685.267 ¹⁾ |
| 192 | 1 | 3688.000 ²⁾ |

¹⁾ Including 4 assembly screws

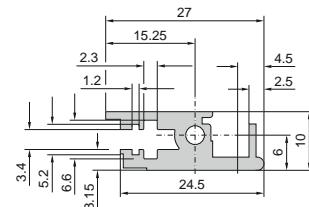
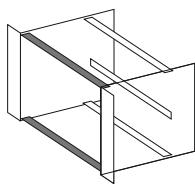
²⁾ Anodised

! Also required:

Assembly screws M4 x 12,
packs of 100, order no. 3654.300,
see page 164

+ Accessories:

Threaded inserts (packs of 1),
see page 114



Front horizontal rail, with double screw fastening (A1)

To accommodate guide rails and for the attachment of front panels. The double screw fastening ensures a high level of stability even under extreme loads.

- Load test to DIN EN/IEC 61 587-1, requirement level SL1
- Shock and vibration tests undertaken as per IEC 61 373 (DIN EN 50 155), Category 1, Class B
- Front projection 2.5 mm corresponding to IEC 60 297-3-101
- HP pitch pattern of holes for the precise installation of guide rails
- M4 thread on end face
- Straight-through core hole

| Usable width (HP) | Packs of | Model No. RP |
|-------------------|----------|--------------|
| 84 | 1 | 9908.721 |

Material:
Extruded aluminium section

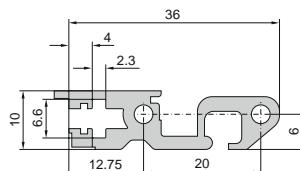
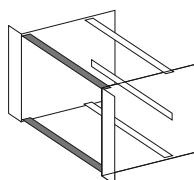
Surface finish:
Clear-chromated

! Also required:

Assembly screws M4 x 12,
packs of 100, order no. 3654.300,
see page 164

+ Accessories:

Threaded inserts, order no. 3684.610
(packs of 1), see page 114



COMPONENTS / ACCESSORIES

HORIZONTAL RAILS



Front horizontal rail, with 10 mm extension (B)

For type IV, IVs and VII injector/extractor handle

To accommodate guide rails and for the attachment of front panels.

- Front projection and pitch pattern of holes based on IEEE 1101.10 and IEC 60 297-3-101
- HP pitch pattern of holes for the precise installation of guide rails
- M4 thread on end face
- Straight-through core hole
- Horizontal rail 192 HP without machining on the end faces. Suitable for cutting to length

Material:

Extruded aluminium section

Surface finish:

Clear-chromated or anodised

| Usable width (HP) | Packs of | Model No. RP |
|-------------------|----------|------------------------|
| 40 | 1 | 3684.961 |
| 42 | 1 | 3684.565 |
| 63 | 1 | 3684.566 |
| 84 | 1 | 3684.567 |
| 84 | 2 | 3685.269 ¹⁾ |
| 192 | 1 | 3688.001 ²⁾ |

¹⁾ Including 4 assembly screws

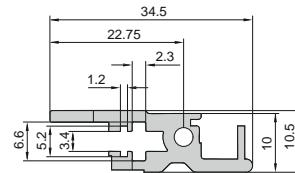
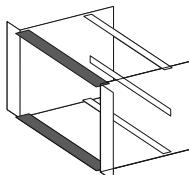
²⁾ Anodised

! Also required:

Assembly screws M4 x 12, packs of 100, order no. 3654.300, see page 164

+ Accessories:

Threaded inserts (packs of 1), see page 114



Double front horizontal rail, with 10 mm extension (B1)

For type IV, IVs and VII injector/extractor handle

To accommodate guide rails and for the attachment of front panels.

- Front projection and pitch pattern of holes based on IEEE 1101.10 and IEC 60 297-3-101
- HP pitch pattern of holes for the precise installation of guide rails
- M4 thread on end face
- Straight-through core hole

Material:

Extruded aluminium section

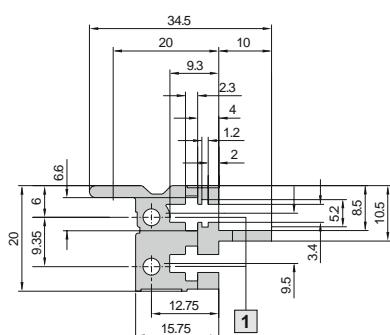
Surface finish:

Clear-chromated

| Usable width (HP) | Packs of | Model No. RP |
|-------------------|----------|--------------|
| 84 | 1 | 3687.724 |

! Also required:

Assembly screws M4 x 12, packs of 100, order no. 3654.300, see page 164



[1] On both end faces counterboring 2 x 1.5 x 90° with thread M4 x 18

COMPONENTS / ACCESSORIES

HORIZONTAL RAILS



Front horizontal rail, with 10 mm extension (B2), with double screw fastening

For type IV, IVs and VII injector/extractor handle

To accommodate guide rails and for the attachment of front panels. The double screw fastening ensures a high level of stability even under extreme loads.

- Load test to DIN EN/IEC 61 587-1, requirement level SL1
- Shock and vibration tests undertaken as per IEC 61 373 (DIN EN 50 155), Category 1, Class B
- Front projection and pitch pattern of holes based on IEC 60 297-3-101
- HP pitch pattern of holes for the precise installation of guide rails
- M4 thread on end face
- Straight-through core hole

Material:

Extruded aluminium section

Surface finish:

Clear-chromated

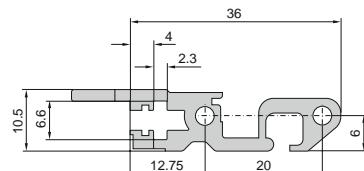
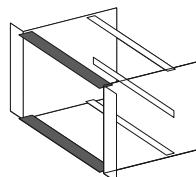
| Usable width (HP) | Packs of | Model No. RP |
|-------------------|----------|-----------------|
| 84 | 1 | 9908.722 |

! Also required:

Assembly screws M4 x 12, packs of 100, order no. 3654.300, see page 164

+ Accessories:

Threaded inserts, order no. 3684.610 (packs of 1), see page 114



Rear horizontal rail (C1)



To accommodate guide rails and for the attachment of Z rails, insulating strips or conductive strips.

- Tapped holes M2.5 on a 1 HP pitch pattern
- HP pitch pattern of holes for the precise installation of guide rails
- M2.5 thread for the installation of Z rails or insulating / conductive strips
- M4 thread on end face
- Straight-through core hole
- Horizontal rail 192 HP without machining on the end faces. Suitable for cutting to length

Material:

Extruded aluminium section

Surface finish:

Clear-chromated or anodised

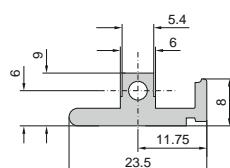
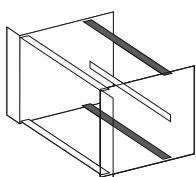
| Usable width (HP) | Packs of | Model No. RP |
|-------------------|----------|------------------------------|
| 21 | 1 | 3685.991 |
| 40 | 1 | 3684.962 |
| 42 | 1 | 3684.570 |
| 63 | 1 | 3684.571 |
| 84 | 1 | 3684.572 |
| 84 | 2 | 3685.268¹⁾ |
| 192 | 1 | 3688.002²⁾ |

¹⁾ Including 4 assembly screws

²⁾ Anodised

! Also required:

Assembly screws M4 x 12, packs of 100, order no. 3654.300, see page 164



COMPONENTS / ACCESSORIES

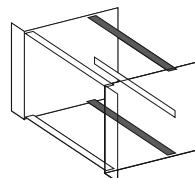
HORIZONTAL RAILS



Rear horizontal rail, with double screw fastening (C6)

To accommodate guide rails and for the attachment of Z rails, insulating strips or conductive strips. The double screw fastening ensures a high level of stability even under extreme loads.

- Load test to DIN EN/IEC 61 587-1, requirement level SL1
- Shock and vibration tests undertaken as per IEC 61 373 (DIN EN 60 155), Category 1, Class B
- Tapped holes M2.5 on an HP pitch pattern
- HP pitch pattern of holes for the precise installation of guide rails
- M2.5 thread for the installation of Z rails, insulating / conductive strips
- M4 thread on end face
- Straight-through core hole



| Usable width (HP) | Packs of | Model No. RP |
|-------------------|----------|-----------------|
| 84 | 1 | 9908.723 |

Material:
Extruded aluminium section

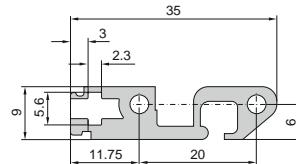
Surface finish:
Clear-chromated or anodised

! Also required:

Assembly screws M4 x 12, packs of 100, order no. 3654.300, see page 164

+ Accessories:

Threaded inserts, order no. 9901.816 (packs of 1), see page 114



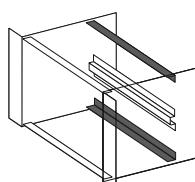
Rear horizontal rail, with integral Z rail (C3)

To accommodate guide rails. Integral Z rail for mounting connectors to IEC 60 603-2.

- HP pitch pattern of holes for the precise installation of guide rails
- 84 tapped holes M2.5 for connector mounting
- M4 thread on end face
- Straight-through core hole

Material:
Extruded aluminium section

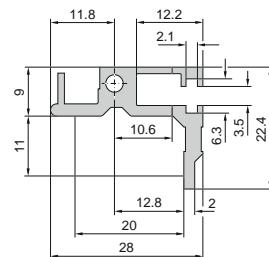
Surface finish:
Clear-chromated



| Usable width (HP) | Packs of | Model No. RP |
|-------------------|----------|-----------------|
| 42 | 1 | 3686.191 |
| 63 | 1 | 3686.919 |
| 84 | 1 | 3686.159 |

! Also required:

Assembly screws M4 x 12, packs of 100, order no. 3654.300, see page 164



COMPONENTS / ACCESSORIES

HORIZONTAL RAILS



Rear horizontal rail, centre (D1)

When using 6 U PCBs or box-type plug-in units. Facility for the attachment of Z rails, insulating strips or conductive strips.

- 84 tapped holes M2.5
- M4 thread on end face
- Straight-through core hole
- Horizontal rail 192 HP for cutting to the required length

Material:

Extruded aluminium section

Surface finish:

Clear-chromated or anodised

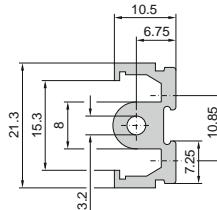
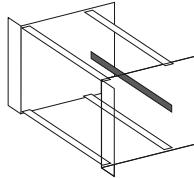
| Usable width (HP) | Packs of | Model No. RP |
|-------------------|----------|------------------------|
| 40 | 1 | 3684.963 |
| 42 | 1 | 3684.580 |
| 63 | 1 | 3684.581 |
| 84 | 1 | 3684.582 |
| 84 | 1 | 3685.270 ¹⁾ |
| 858,5 mm | 1 | 3684.579 |
| 192 | 1 | 3688.003 ²⁾ |

¹⁾ Including 2 assembly screws

²⁾ Anodised

! Also required:

Assembly screws M4 x 12,
packs of 100, order no. 3654.300,
see page 164



Rear horizontal rail, centre, with integral Z rail (D2)

When using 6 U PCBs or box-type plug-in units.
Integral Z rail for mounting connectors to
IEC 60 603-2.

- 84 tapped holes M2.5
- M4 thread on end face
- Straight-through core hole

Material:

Extruded aluminium section

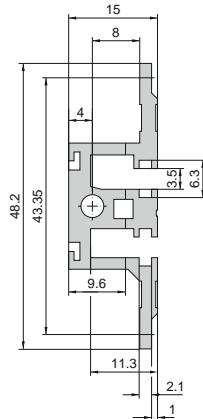
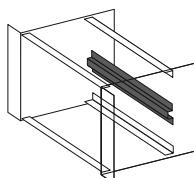
Surface finish:

Clear-chromated

| Usable width (HP) | Packs of | Model No. RP |
|-------------------|----------|--------------|
| 42 | 1 | 3687.600 |
| 63 | 1 | 3687.601 |
| 84 | 1 | 3687.602 |
| 858,5 mm | 1 | 3687.603 |

! Also required:

Assembly screws M4 x 12,
packs of 100, order no. 3654.300,
see page 164



COMPONENTS / ACCESSORIES

HORIZONTAL RAILS



Rear horizontal rail, centre (E)

When subdividing 6 U into 2 x 3 U, the adaptor rail accommodates the guide rails when fastened to the centre horizontal rail.

- HP pitch pattern of holes for the precise installation of guide rails
- M4 and M2.5 thread on the end face
- Straight-through core hole
- Horizontal rail 192 HP without machining on the end faces. Suitable for cutting to length

Material:

Extruded aluminium section

Surface finish:

Clear-chromated or anodised

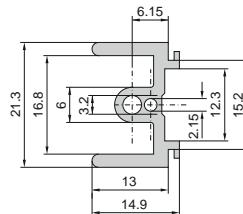
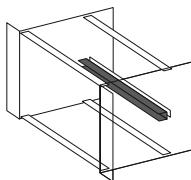
| Usable width (HP) | Packs of | Model No. RP |
|-------------------|----------|------------------------|
| 12 | 1 | 3684.587 |
| 16 | 1 | 3684.588 |
| 20 | 1 | 3684.589 |
| 40 | 1 | 3684.964 |
| 42 | 1 | 3684.590 |
| 63 | 1 | 3686.005 |
| 84 | 1 | 3684.591 |
| 84 | 1 | 3685.272 ¹⁾ |
| 858,5 mm | 1 | 3684.584 |
| 192 | 1 | 3688.004 ²⁾ |

¹⁾ Including 2 assembly screws

²⁾ Anodised

! Also required:

Assembly screws M4 x 12,
packs of 100, order no. 3654.300,
see page 164



Rear horizontal rail, with channel for HeiPac ECO (C7)



To accommodate guide rails and for the attachment of Z rails, insulating strips or conductive strips.

- HP pitch pattern of holes for the precise installation of guide rails
- Channel for slide-in covers
- For mounting backplanes/Z rails, threaded inserts (3684.610) are additionally required
- M4 thread on end face
- Straight-through core hole
- Not suitable for mounting under covers

Material:

Extruded aluminium section

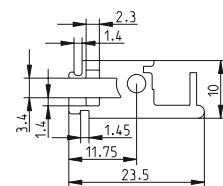
Surface finish:

Clear-chromated

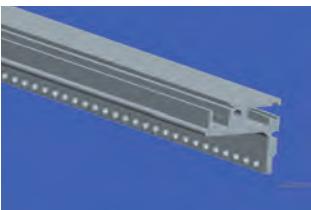
| Usable width (HP) | Packs of | Model No. RP |
|-------------------|----------|--------------|
| 84 | 1 | 3688.104 |

! Also required:

Assembly screw M4 x 12



Rear horizontal rail, with integral Z rail for HeiPac ECO (C8)



To accommodate guide rails. Integral Z rail for mounting connectors to DIN 41612.

- HP pitch pattern of holes for the precise installation of guide rails
- 84 tapped holes M2.5 for connector mounting
- M4 thread on end face
- Straight-through core hole

Material:

Extruded aluminium section

Surface finish:

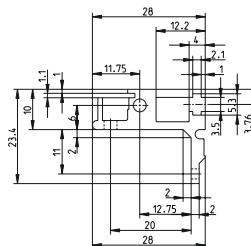
Clear-chromated

| Usable width (HP) | Packs of | Model No. RP |
|-------------------|----------|--------------|
| 84 | 1 | 9901.991 |

! Also required:

Assembly screws

| | Packs of | Model No. RP |
|---------|----------|--------------|
| M4 x 12 | 100 | 3654.300 |



COMPONENTS / ACCESSORIES

HORIZONTAL RAILS



Z rail for connector IEC 60 603-2 (F)

With 84 x M2.5 threaded holes.

Material:

Extruded aluminium section

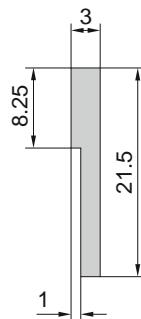
Surface finish:

Clear-chromated

| Usable width (HP) | Packs of | Model No. RP |
|-------------------|----------|--------------|
| 4 | 1 | 3684.597 |
| 8 | 1 | 3684.598 |
| 20 | 1 | 3684.599 |
| 40 | 1 | 3684.965 |
| 42 | 1 | 3684.600 |
| 63 | 1 | 3684.601 |
| 84 | 1 | 3684.602 |
| 84 | 2 | 3685.271 |

! Also required:

Assembly screws M2.5 x 6,
packs of 100, order no. 3654.340,
see page 164



Threaded insert (I)

With M2.5 threaded holes on an HP pitch pattern.
For sliding into the horizontal rail. There are two
threaded insert versions, which are distinguished
by their height.

Material:

Sheet steel, zinc-plated

| Usable width (HP) | Packs of | Model No. RP | |
|-------------------|----------|----------------------|----------|
| | | 6 x 2 mm | 5 x 2 mm |
| | | for horizontal rails | |
| 4 | 1 | 3684.603 | - |
| 8 | 1 | 3684.604 | - |
| 12 | 1 | 3684.605 | - |
| 16 | 1 | 3684.606 | - |
| 20 | 1 | 3684.607 | - |
| 21 | 1 | 3686.149 | - |
| 40 | 1 | 3684.966 | - |
| 42 | 1 | 3684.608 | - |
| 63 | 1 | 3684.609 | - |
| 84 | 1 | 3684.610 | 9901.816 |



Identification strip (J)

To identify the slots on the subrack, self-adhesive.
The following versions are available:

4 mm wide:

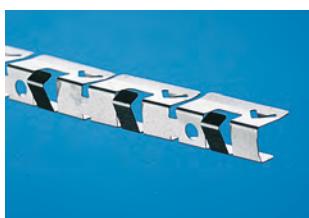
- for front horizontal rails
- for rear horizontal rails
- 2 mm wide:

- for front horizontal rails (channel on front face)

| For horizontal rail | Width mm | Label | Packs of | Model No. RP |
|---------------------|----------|-----------|----------|--------------|
| Front | 4 | 1 ... 84 | 1 | 3687.575 |
| Rear | 4 | 1 ... 168 | 1 | 3687.577 |
| Front | 4 | 84 ... 1 | 1 | 3687.574 |
| Front | 2 | 1 ... 84 | 1 | 3687.576 |

COMPONENTS / ACCESSORIES

HORIZONTAL RAILS



EMC gaskets, horizontal (K)

see page 117



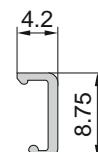
Conductive strip (H)

For conductive mounting of backplanes.

- 84 HP
- Slides onto the rear horizontal rail

Material:
Aluminium

| Usable width (HP) | Packs of | Model No. RP |
|-------------------|----------|--------------|
| 84 | 1 | 3684.612 |
| 84 | 2 | 3685.273 |



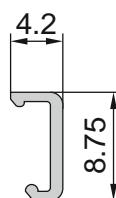
Insulating strip (G)

For insulated mounting of backplanes.

- 21 HP
- Slides onto the rear horizontal rail

Material:
Plastic, self-extinguishing to UL 94-V0

| Usable width (HP) | Packs of | Model No. RP |
|-------------------|----------|--------------|
| 21 | 1 | 3684.611 |
| 21 | 8 | 3685.274 |



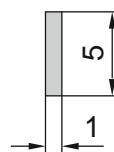
Rear horizontal rail, centre fitted with insulating strips (top) and conductive strips (bottom).



Punched strip

Material:
Aluminium

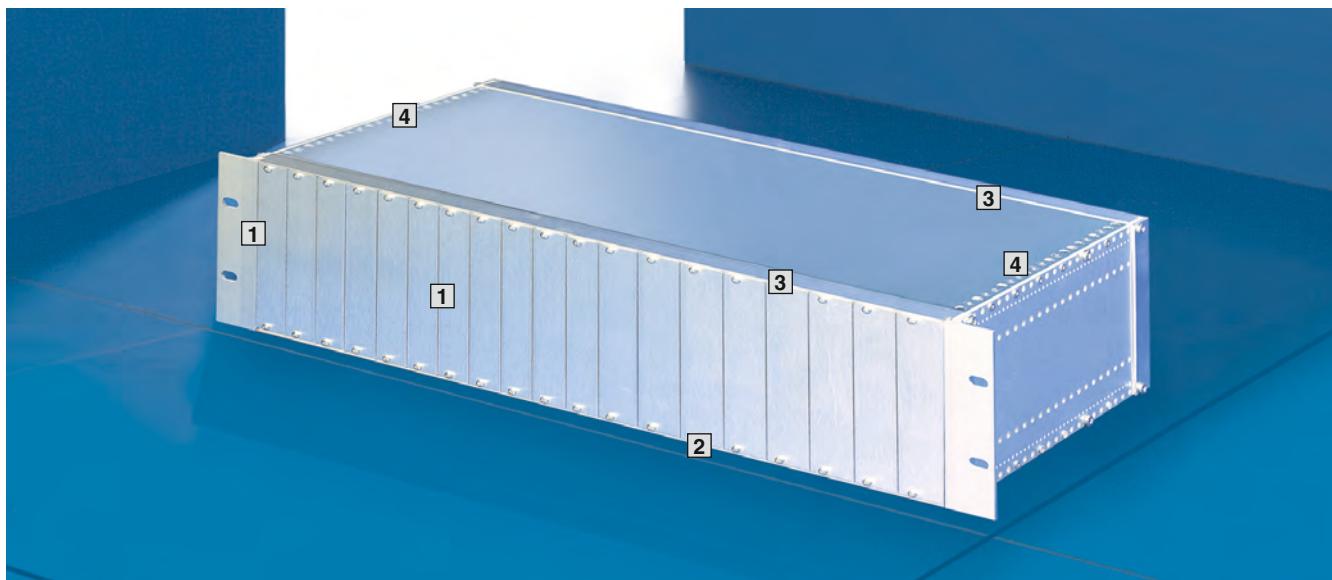
| Usable width (HP) | Packs of | Model No. RP |
|-------------------|----------|--------------|
| 84 | 2 | 3685.275 |



COMPONENTS / ACCESSORIES

COMPONENTS FOR EMC INSTALLATION

Components for EMC installation



EMC (electromagnetic compatibility) refers to the ability of an electrical device to function satisfactorily in its electromagnetic environment without influencing or being influenced by this environment more than is admissible.

These requirements were taken into account when developing the HEITEC subracks. They are made entirely from metal and coated with a conductive surface finish.

Stainless steel EMC gaskets ensure conductive connection of the separate parts.

- 1** EMC gaskets, vertical
- 2** EMC gaskets, horizontal
- 3** EMC gaskets for covers
- 4** Mounting blocks



EMC gaskets, vertical

To ensure EMC protection between the subrack side panel and the front/rear panels. There are two versions available.

Suitable for mounting on:

- 482.6 mm (19") flanges for subracks
- Corner trims, rear
- EMC contact strip
- U-channel front panels
- Trim panels for HeiPac Vario-Module
- Flanges for HeiPac Vario-Module

Material:
Stainless steel

**German patent no. 101 15 525 and no. 198 46 627
US patent no. 6,500,012
US patent no. 7,044,753**

EMC

A Version 1: Segmented

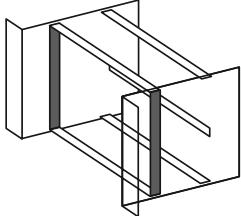
| U | Model No. RP Packs of 1 | Model No. RP Packs of 10 |
|----|----------------------------|-----------------------------|
| 1 | 3686.973 | 3684.236 |
| 2 | 3686.974 | 3684.237 |
| 3 | 3686.975 | 3684.238 |
| 4 | 3686.976 | 3684.239 |
| 6 | 3686.977 | 3684.240 |
| 7 | 3686.978 | 3684.241 |
| 9 | 3686.979 | 3684.242 |
| 10 | 3686.980 | 3684.243 |
| 11 | 3686.981 | 3684.244 |

B Version 2: One-piece

| U | Model No. RP Packs of 1 |
|----|----------------------------|
| 2 | 3688.610 |
| 3 | 3688.611 |
| 4 | 3688.612 |
| 5 | 3688.613 |
| 6 | 3688.614 |
| 7 | 3688.615 |
| 8 | 3688.634 |
| 9 | 3688.616 |
| 10 | 3688.609 |
| 11 | 3688.633 |
| 12 | 3688.606 |

COMPONENTS / ACCESSORIES

COMPONENTS FOR EMC INSTALLATION



EMC contact strip

To ensure EMC protection when horizontal rails are set-back.
Integral channel to accommodate EMC gaskets.

Material:

Extruded aluminium section, clear-chromated

Note:

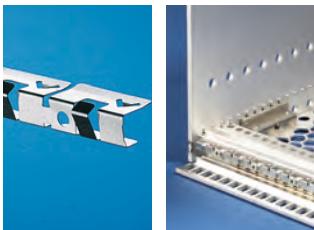
2 sections are required for each subrack.



| U | Packs of | Model No. RP |
|---|----------|--------------|
| 3 | 1 | 3684.643 |
| 6 | 1 | 3684.644 |
| 9 | 1 | 3684.645 |

! Also required:

EMC gaskets, vertical, see page 116.
Assembly screws M3 x 6, packs of 100,
order no. 3684.233,
see page 164



EMC gaskets, horizontal (K)

For horizontal EMC protection. For snapfastening onto the front horizontal rails.

Material:

Stainless steel

**European patent no. 0 937 375
with validity for DE**

US patent no. 6,137,052

**Chinese patent
no. ZL 97 1 98582.0**



| Usable width (HP) | Packs of | Model No. RP |
|--|----------|--------------|
| For top/bottom horizontal rail | | |
| 40 | 1 | 3684.974 |
| 84 | 1 | 3684.808 |
| 84 | 10 | 3684.246 |
| For sub-division of 6 U into 2 x 3 U, between 2 horizontal rails | | |
| 84 | 1 | 3685.789 |
| 84 | 10 | 3685.229 |



EMC gaskets

For covers

For EMC shielding between the horizontal rails and covers.

Material:

Stainless steel



| HP | Packs of | Model No. RP |
|----|----------|--------------|
| 84 | 10 | 3684.245 |



Mounting blocks

For mounting covers, versions 1 – 4, on the subrack side panel.

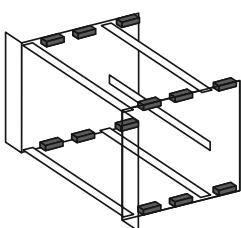
Material:

Die-cast zinc, nickel-plated



Note:

For EMC applications, mounting blocks must be fitted across the entire subrack depth.
The table here shows the number of mounting blocks required to install 1 cover plate with EMC shielding.



| | Packs of | Model No. RP |
|------------------------------|----------|--------------|
| Mounting blocks 28.5 mm long | 10 | 3684.234 |

! Also required:

Assembly screws M3 x 6, packs of 100,
order no. 3684.233,
see page 164

| Number of mounting blocks for max. EMC protection | Cover plate depth mm |
|---|----------------------|
| 4 | 142 |
| 8 | 192 |
| 10 | 212 |
| 12 | 252 |
| 14 | 272 |
| 16 | 312 |
| 18 | 332 |
| 20 | 372 |
| 24 | 432 |
| 28 | 492 |
| 32 | 552 |

COMPONENTS / ACCESSORIES MOUNTING KITS



Vertical divider kit

For the combined installation of single and double Eurocards in 6 U and 9 U subracks.

Material:

Aluminium, clear-chromated

Supply includes:

2 front horizontal rails,
1 adaptor rail,
2 threaded inserts,
1 vertical support (from 12 HP),
assembly parts.

6 U (2 x 3 U)

| HP | HP | Model No. RP |
|---------------|-----------|--------------|
| [1] (2 x 3 U) | [2] (6 U) | |
| 14 | 68 | 3684.220 |
| 21 | 61 | 3684.221 |
| 28 | 54 | 3684.222 |
| 40 | 42 | 3684.223 |
| 42 | 40 | 3684.224 |

9 U (1 x 6 U + 1 x 3 U)

| HP | HP | Model No. RP |
|-------|-------------------|--------------|
| (9 U) | (1 x 6 + 1 x 3 U) | |
| 80 | 4 | 3684.225 |
| 76 | 8 | 3684.226 |
| 70 | 12 | 3684.227 |
| 66 | 16 | 3684.228 |
| 62 | 20 | 3684.229 |

+ Accessories:

Front panel, see page 118.
EMC gaskets, horizontal, see page 117



Vertical support

Required for the combined installation of single, double and triple Eurocards in one subrack.

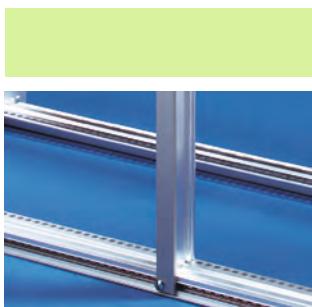
Material:

Aluminium, extruded

Surface finish:

clear-chromated .

| U | Packs of | Model No. RP |
|---|----------|--------------|
| 6 | 1 | 3684.678 |
| 9 | 1 | 3684.679 |



Front panel

To conceal the vertical support of the vertical divider kit.

Material:

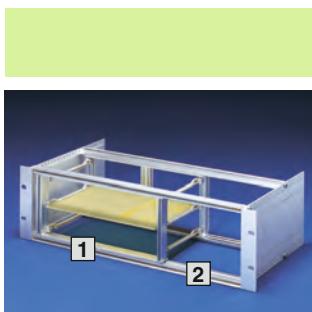
Aluminium, anodised

Supply includes:

Assembly parts.

| U | HP | Packs of | Order No. |
|---|----|----------|-----------|
| 6 | 2 | 1 | 3685.176 |
| 9 | 2 | 1 | 3685.286 |

EMC version,
see page 148



Horizontal mounting kit

For the horizontal installation of 6 U/9 U PCBs in 3 U/4 U subracks.

[1] Horizontal installation space:
3 U subrack: 20 HP (5 slots)
4 U subrack: 28 HP (7 slots)

[2] Vertical installation space:
(when installing double Eurocards)
31 HP (without trim frame)
28 HP (with trim frame)

Material:
Aluminium, clear-chromated

Supply includes:
2 horizontal rails, front,
2 horizontal rails, rear,
1 or 2 horizontal rails, rear, centre,
2 threaded inserts,
4 or 6 insulating strips,
4 connecting parts,
assembly parts.

For backplane assembly
with standard horizontal rail, front

| U horizontal | Model No. RP | |
|--------------|-----------------|-----------------|
| | For 3 U subrack | For 4 U subrack |
| 6 | 3684.206 | 3684.208 |
| 9 | 3684.207 | 3684.209 |

For backplane assembly,
front horizontal rail with 10 mm extension

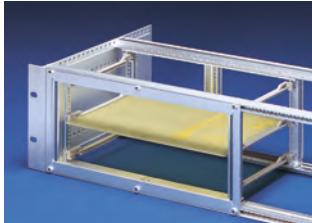
| U horizontal | Model No. RP | |
|--------------|-----------------|-----------------|
| | For 3 U subrack | For 4 U subrack |
| 6 | 3684.210 | 3684.212 |
| 9 | 3684.211 | 3684.213 |

+ Accessories:

Trim frame,
see page 119

COMPONENTS / ACCESSORIES

MOUNTING KITS/GUIDE RAILS



Trim frame

For horizontal mounting kit

To conceal the front sections of the horizontal mounting kit.

Material:

Aluminium, anodised

| U horizontal | HP | Model No. RP | |
|-----------------|----|-----------------|-----------------|
| | | For 3 U subrack | For 4 U subrack |
| 6 | 56 | 3685.783 | 3685.785 |
| 9 | 84 | 3685.784 | 3685.786 |

! Also required:

Collar screws and plastic collars,
packs of 100 sets, order no. 3658.160,
see page 164



Trim frame, vented

For horizontal mounting kit

To conceal the front sections of the horizontal mounting kit.

Material:

Aluminium

Surface finish:

Anodised,
clear-chromated (EMC version)

Supply includes:

EMC accessories
(with EMC version).



| U horizontal | HP | Model No. RP | |
|-----------------|----|-----------------|-----------------|
| | | For 3 U subrack | For 4 U subrack |
| 6 | 63 | 3685.787 | 3685.788 |

! Also required:

Collar screws and plastic collars,
packs of 100 sets, order no. 3658.160,
see page 164

EMC version

| U horizontal | HP | Model No. RP | |
|-----------------|----|-----------------|-----------------|
| | | For 3 U subrack | For 4 U subrack |
| 6 | 63 | 3685.291 | 3685.292 |

! Also required:

Centering screws,
packs of 100, order no. 3687.050,
see page 165



Plastic guide rails

For 160, 220 and 280 mm PCBs up to 2 mm nominal thickness.

2 versions are available:

- Snap-in fastening and screw-fastening
- Snap-in fastening

Material:

Polycarbonate, base material to UL 94-V0

| PCB depth mm | Packs of | Model No. RP | |
|-----------------|----------|---|----------------------|
| | | Snap-in fastening/ screw-fastening1) | Snap-in fastening |
| 100 | 1 | — | 3688.005 |
| 160 | 1 | 3684.657 | 3684.654 |
| 220 | 1 | 3684.658 | 3684.655 |
| 280 | 1 | 3684.659 | 3684.656 |

! Also required:

1) Assembly screws, packs of 100,
order no. 3654.360, see page 164



Plastic guide rails

For contact spring fitting

For 160, 220 and 280 mm PCBs up to 2 mm nominal thickness. By installing contact springs, an electrical connection can be made between the PCB and the assembly.

Material:

Polycarbonate, base material to UL 94-V0

| PCB depth mm | Packs of | Model No. RP |
|-----------------|----------|-----------------|
| 160 | 1 | 3684.660 |
| 220 | 1 | 3684.661 |
| 280 | 1 | 3684.662 |

+ Accessories:

Contact springs,
see page 120

COMPONENTS / ACCESSORIES

GUIDE RAILS

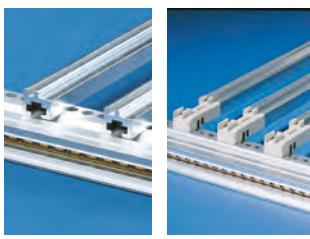


Contact springs

For electrical connection between the PCB and the subrack, or to discharge static charges from the PCB.

Suitable for installation in "guide rails for contact spring fitting" and "end pieces for guide rails".

| Packs of | Model No. RP |
|----------|-----------------|
| 10 | 3687.726 |



Guide rails, aluminium

For high loads. Suitable for nominal PCB thicknesses of 1.6 mm. A distinction is made between guide rails for and without end pieces. The guide rails without end pieces are screw-fastened directly into the horizontal rail.

Material:
Aluminium

| PCB depth mm | Packs of | Model No. RP | |
|-----------------|----------|--|-----------------------|
| | | [1] Without end piece ¹⁾ | [2] For end pieces |
| 160 | 1 | 3687.526 | 3684.663 |
| 220 | 1 | 3687.527 | 3684.664 |
| 280 | 1 | 3687.528 | 3684.665 |
| 1000 | 1 | 3684.666 | — |

! Also required:

- 1) Screw M2.5 x 6, packs of 100, order no. 3654.340, see page 164
- 1) Nut M2.5, packs of 100,

order no. 3654.370, see page 164
1) Retaining cage M2.5, packs of 100, order no. 9901.417, see page 164



End pieces

For guide rails, aluminium
To discharge static charges, contact springs 3687.726 may be used.

Material:
Polycarbonate, base material UL 94-V1

| | Packs of | Model No. RP |
|------------------|----------|-----------------|
| End piece, front | 1 | 3684.668 |
| End piece, rear | 1 | 3685.759 |

+ Accessories:

Contact springs,
see page 120



Keyable guide rails, plastic

- Guide rails 4 HP, keyable, to IEEE 1101.10.
- For 1.6 – 2.0 mm nominal thickness
 - Chambers for the installation of keys
 - Option of installing ESD contacts to discharge static charges
 - Narrow design for maximum air flow
 - Various colour variants to identify the slots:
 - Red for system slot
 - Green for power supply
 - Yellow and grey for board-type plug-in units

- 1** ESD contact for guide rails
2 ESD contact for front panel
3 Keys

Material:

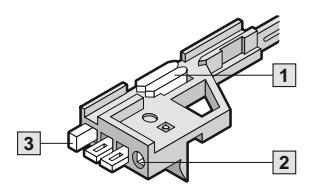
Polycarbonate, base material to UL 94-V0

Note:

Only for use in conjunction with type IV, IVs, VII injector/extractor handles.

+ Accessories:

Keys,
see page 124
ESD contact,
see page 123
Extractor handles type IV, IVs, VII,
see page 138 – 140



| For PCB depth mm | Packs of | Order No. | | | |
|------------------------|----------|-----------------|-----------------|-----------------|-----------------|
| | | Grey | Red | Green | Yellow |
| 160 | 10 | 3685.257 | — | — | — |
| 220 | 10 | 3685.258 | — | — | — |
| 280 | 10 | 3685.259 | — | — | — |
| 160 | 1 | 3684.669 | 3686.063 | 3688.055 | 3689.089 |
| 220 | 1 | 3684.953 | 9902.240 | — | 3689.091 |
| 280 | 1 | 3684.954 | — | — | 3689.093 |

COMPONENTS / ACCESSORIES

GUIDE RAILS



Keyable guide rails

With 1/2 HP offset

Guide rails with 1/2 HP offset for use in telecom applications. This allows PCBs to be populated on both sides. Green guide rails with offset are prescribed in the CompactPCI specification (PICMG 2.11) for the installation of power supply units.

- For 1.6 – 2.0 mm PCB thickness
- 4 HP x 160/220 mm
- Narrow design for maximum air flow
- Chambers for the installation of keys
- Option of installing ESD contacts to discharge static charges

Material:

Polycarbonate, base material to UL 94-V0

Note:

Only suitable for use in conjunction with extractor handles type IV, IVs, VII with 1/2 HP offset.

| For PCB depth mm | Packs of | Colour | Model No. RP |
|------------------------|----------|--------|--------------|
| 160 | 1 | Grey | 3686.137 |
| | | Yellow | 3689.090 |
| | | Green | 3687.832 |
| 220 | 1 | Grey | 3686.136 |
| | | Yellow | 3689.092 |

+ Accessories:

Keys, see page 124

ESD contact, see page 123

Extractor handles Type IVs, VII with 1/2 HP offset,
see page 138 – 140



Keyable guide rails

For rear I/O assemblies

Guide rails 4 HP, keyable to IEEE 1101.10. Prepared to accommodate a ground contact for assembly of a plug-type connection.

- For 1.6 – 2.0 mm nominal thickness
- For 80 mm deep PCBs
- Chambers for the installation of keys
- Option of installing ESD contacts to discharge static charges
- Narrow design for maximum air flow
- For CPCI or VME applications

Material:

Polycarbonate, base material to UL 94-V0

Note:

Only for use in conjunction with type IV, IVs, VII injector/extractor handles.

| Colour | For PCB depth mm | Packs of | Model No. RP | |
|--------|------------------------|----------|--------------|----------|
| | | | Guide rails | |
| | | | Top | Bottom |
| Grey | 80 | 1 | 3687.936 | 3687.937 |
| Yellow | 80 | 1 | 3689.097 | 3689.098 |

+ Accessories:

Keys, see page 124

ESD contact, see page 123

Ground contact, see page 121
Extractor handles type IV, IVs, VII,
see pages 138 – 140



Ground contact

Ensures a plug-in ground connection.
UL-approved.

Material:

Die-cast zinc

Supply includes:

grounding bush and contact spring.

Note:

Only suitable for use in conjunction with keyable guide rails for I/O assemblies.



| | Model No. RP | |
|-----------------------------------|--------------|----------|
| | 1 set | 50 sets |
| Grounding bush and contact spring | 3689.036 | 3687.951 |

! Also required:

Assembly screws 3.5 x 12 mm,
packs of 50, order no. 3684.109,
see page 165

COMPONENTS / ACCESSORIES

GUIDE RAILS



Keyable guide rails, aluminium, three-part

Keyable guide rails with aluminium centre part, for high mechanical loads.
Suitable for 1.6 – 2.0 mm PCB thickness.

The guide rails are compiled from the following individual components:

- 1** 2 end pieces,
- 2** 1 aluminium centre part,
- 3** Insulating centre part(s)



1 End pieces

For three-part guide rails
For 1.6 – 2.0 mm PCB thickness.

Material:
Polycarbonate, base material to UL 94-V0

| | Packs of | Model No. RP |
|-----------------|----------|-----------------|
| | 10 pairs | 3685.265 |
| Front end piece | 1 | 3685.790 |
| Rear end piece | 1 | 3684.670 |

Note:

A front and a rear end piece is required for each guide rail.



2 Aluminium centre part

For three-part guide rails
For 1.6 – 2.0 mm PCB thickness.

Material:
Aluminium, unplated

| For PCB depth mm | Model No. RP | |
|------------------------|-----------------|-----------------|
| | Packs of 1 | Packs of 10 |
| 220 | 3684.673 | 3685.260 |
| 280 | 3684.674 | 3685.261 |
| 340 | 3684.675 | 3685.262 |
| 400 | 3684.676 | 3685.263 |
| 1000 | 3684.672 | – |



3 Insulated centre part

For three-part guide rails
The insulating centre part is pushed onto the aluminium centre piece.
Length: 60 mm.

Material:
Plastic, self-extinguishing to UL 94-V0

| Packs of | Model No. RP |
|------------------------|---|
| 1 | 3684.677 |
| 10 | 3685.264 |
| For PCB depth mm | Number of insulating strips required |
| 160 | 1 |
| 220 | 2 |
| 280 | 3 |
| 340 | 4 |
| 400 | 5 |



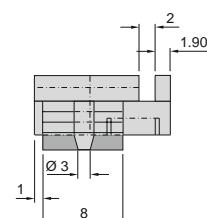
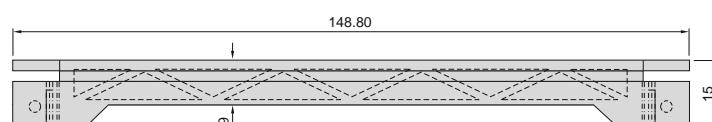
Guide rails for 4.4"

Snap-fastening guide rails to accommodate PCBs and assemblies with a height of 4.4"

Material:
Macrolon

Colour:
Dark grey

| For PCB depth mm | Packs of | Model No. RP |
|------------------------|----------|-----------------|
| 160 | 1 | 3686.990 |



COMPONENTS / ACCESSORIES

GUIDE RAILS



Guide rails

For box type plug-in units

For PCB thickness 1.6 mm.
For insertion into covers with vent slots
(from 11 HP), see page 152.

Material:
Noryl

| For PCB depth mm | Packs of | Model No. RP |
|---------------------|----------|--------------|
| 160 | 10 | 3606.140 |
| 220 | 10 | 3606.200 |



Air block panel

For unused slots

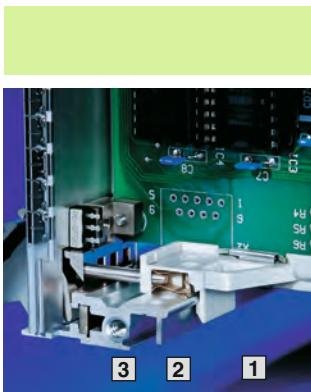
To conceal unused slots and prevent unwanted airflow. The air block panel simply snaps into position on the guide rails.

Material:
Polycarbonate, self-extinguishing to UL 94-V0

Colour:
Blue

Note:
Not suitable for use in conjunction with guide rails with ½ HP offset.

| For guide rail | Packs of | Model No. RP |
|----------------|----------|--------------|
| 160 mm | 1 | 3687.924 |



ESD contacts

For installation in keyable guide rails

To discharge static charges.

1 ESD contact in the guide rail
For permanent direct discharge from the PCB.

2 ESD contact for front panel
To discharge static charges in conjunction with the ESD pin. For insertion into the end piece of the guide rail.

3 ESD pin

4 Keys

Material:

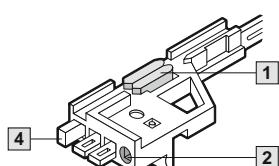
1 Stainless steel

2 Tin bronze, tin-plated

| ESD contact for | Packs of | Model No. RP |
|--------------------|----------|--------------|
| Guide rail | 50 | 3684.204 |
| Front panel | 50 | 3684.205 |

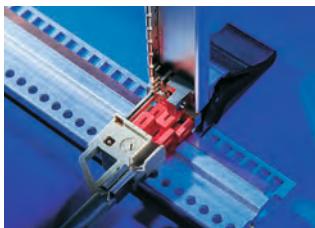
Note:

Only for use in conjunction with extractor handle with ESD pin (type IV, IVs, VII), see page 138 – 140



COMPONENTS / ACCESSORIES

KEYING/PCB EJECTORS



Keys

Keys are used for coding of board-type plug-in units and prevent the use of assemblies in incorrect slots. The keys are inserted into the chambers of the keyable guide rails and the injector/extractor handles, types IV, IVs and VII (4 positions are possible). This produces 64 keying combinations per guide rail. When keying the top and bottom guide rail, 4096 potential combinations are possible.

Standards:

IEEE 1101.10, IEC 60 297-5-104

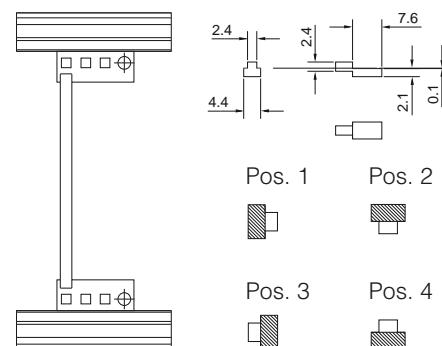
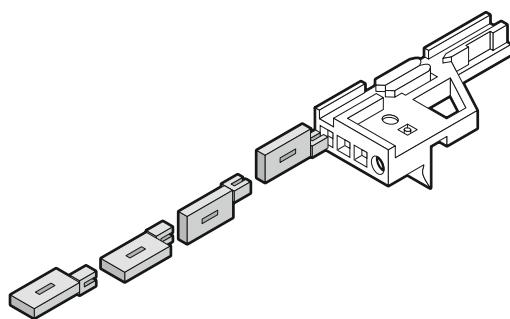
Material:

Plastic, PBTP, base material to UL 94-V0

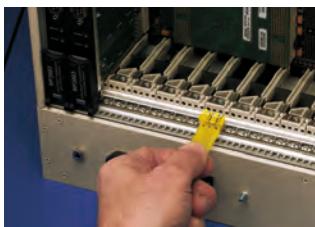
| Colour | Packs of | Model No. RP |
|--------|----------|-----------------|
| Grey | 100 | 3684.325 |
| Red | 100 | 3684.326 |

+ Accessories:

Keying tool,
see below.



Keying tool



For simple assembly of keys. Up to 3 coding keys may be fitted simultaneously. An integral alignment pin makes positioning easier.

Material:

Polycarbonate, base material to UL 94-V0

| Packs of | Model No. RP |
|----------|-----------------|
| 1 | 3687.956 |



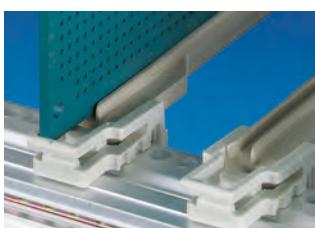
PCB ejector/retainer

The two-piece PCB ejector is used for securing and extracting PCBs without front panels. The base section may also be used separately for board retention only.

Material:

Polycarbonate, base material to UL 94-V0

| | Packs of | Model No. RP |
|---------------------------------|----------|-----------------|
| [1] PCB ejector/retainer | 10 | 3687.014 |
| [2] PCB retainer | 10 | 3687.052 |



COMPONENTS / ACCESSORIES

COVERS



Covers HeiPac EASY

For subracks HeiPac EASY

- Perforated or solid
- Optionally with screwed fastening clips on the side panels for additional support

Covers version 1, slide- in:

The covers are simply slid into the front and rear horizontal rails for mounting backplanes/connectors.

Covers version 2, slide-in/screw-in:

For mounting additional rear horizontal rails on the rear panels. The horizontal rails for backplane/connector assembly are top-mounted.

The covers are slid in the front horizontal rails and screwed in the rear horizontal rails for rear panel mounting.

Material:

Aluminium

Supply includes:

2 covers

version 1

| HP | for side panel depth mm | Order No. | |
|----|-------------------------------|-----------------|-----------------|
| | | perforated | solid |
| 84 | 175 | 3634.685 | 3634.675 |
| 84 | 235 | 3634.690 | 3634.680 |

version 2

| HP | for side panel depth mm | Order No. | |
|----|-------------------------------|--------------------------|---------------------|
| | | perforated ¹⁾ | solid ¹⁾ |
| 84 | 175 | 3634.650 | 3634.625 |
| 84 | 235 | 3634.655 | 3634.630 |
| 84 | 295 | 3634.660 | 3634.635 |
| 84 | 355 | 3634.665 | 3634.640 |
| 84 | 415 | 3634.670 | 3634.645 |

! Also required:

¹⁾ assembly screws, packs of 100, order no. 3684.233, see page 164

+ Accessories:

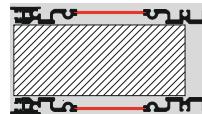
fastening clips

| Packs of | Order No. |
|----------|-----------------|
| 50 | 3634.450 |

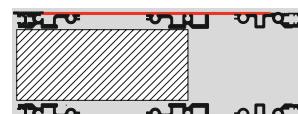
assembly screws for fastening clips

| Packs of | Order No. |
|----------|-----------------|
| 100 | 3634.420 |

version 1



version 2



Cover HeiPac ECO

For subracks HeiPac ECO

To cover the overall subrack depth.

- Perforated or solid
- The covers are slid into the horizontal rails
- Optionally with screwed fastening clips for additional support

Material:

sheet steel

Surface finish:

zinc-plated

Supply includes:

1 cover

| HP | for side panel depth mm | Order No. | |
|----|-------------------------------|--------------------------|---------------------|
| | | perforated ¹⁾ | solid ¹⁾ |
| 84 | 175 | 3688.105 | 3688.107 |
| 84 | 235 | 3688.106 | 3688.108 |

+ Accessories:

fastening clips

| Packs of | Order No. |
|----------|-----------------|
| 1 | 3688.109 |

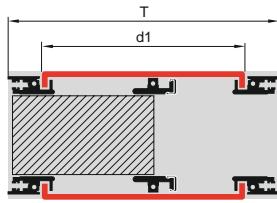
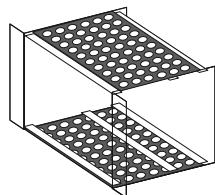
assembly screws

| Packs of | Order No. |
|----------|-----------------|
| 1 | 9902.188 |



COMPONENTS / ACCESSORIES

COVERS



Covers version 1

For all HeiPac Vario, HeiPac Vario EMC, HeiPac Compact and HeiPac Vario Mobile subracks.

To cover the overall subrack depth
(EMC application) or as connector protection.

- Flat design for top and bottom
- Optionally solid or perforated
- For mounting on the subrack side panel with the aid of mounting blocks.

Material:

1.0 mm aluminium, unplated, hole diameter 4 mm in perforated version.

Each set includes:

2 cover plates,
8 mounting blocks 28.5 mm,
24 assembly screws.

Each individual unit includes:

1 cover.

Note:

For EMC applications, additional mounting blocks must be fitted across the entire subrack depth.

| HP | For side panel depth (T) mm | Cover depth (d1) mm | Model No. RP | | | |
|----|-----------------------------------|---------------------------|----------------------------|-----------------|-----------------|-----------------|
| | | | Single piece ¹⁾ | | Set | |
| | | | Perforated | Solid | Perforated | Solid |
| 21 | 225 | 192 | 3687.618 | 3687.620 | — | — |
| 21 | 285 | 252 | 3687.619 | 3687.621 | — | — |
| 42 | 175 | 142 | 3684.957 | 3687.626 | — | — |
| 42 | 225 | 192 | 3687.623 | 3687.627 | — | — |
| 42 | 245 | 212 | 3684.958 | 3687.628 | — | — |
| 42 | 285 | 252 | 3685.642 | 3687.629 | — | — |
| 84 | 175 | 142 | 3684.681 | 3684.680 | 3685.245 | 3685.250 |
| 84 | 225 | 192 | 3684.694 | 3684.683 | — | — |
| 84 | 235 | 202 | 3685.851 | 3685.813 | — | — |
| 84 | 245 | 212 | 3684.695 | 3684.684 | 3685.246 | 3685.251 |
| 84 | 285 | 252 | 3684.696 | 3684.685 | — | — |
| 84 | 295 | 262 | 3685.855 | 3685.814 | — | — |
| 84 | 305 | 272 | 3685.852 | 3684.686 | 3685.247 | 3685.252 |
| 84 | 345 | 312 | 3684.698 | 3684.687 | — | — |
| 84 | 365 | 332 | 3685.853 | 3684.688 | 3685.248 | 3685.253 |
| 84 | 405 | 372 | 3684.700 | 3684.689 | 3685.249 | 3685.254 |
| 84 | 465 | 432 | 3684.701 | 3684.691 | — | — |
| 84 | 525 | 492 | 3684.702 | 3684.692 | — | — |
| 84 | 585 | 552 | 3684.703 | 3684.693 | — | — |

! Also required:

¹⁾Mounting blocks,
see page 117

¹⁾EMC gaskets for cover plates,
see page 117

¹⁾Assembly screws,
packs of 100, order no. 3684.233,
see page 164

COMPONENTS / ACCESSORIES

COVERS



Covers version 2

For all HeiPac Vario, HeiPac Vario EMC, HeiPac Compact and HeiPac Vario Mobile subracks

To cover the PCB depth.

- Flat design for top and bottom
- Optionally solid or perforated
- For mounting on the subrack side panel with the aid of mounting blocks.

Material:

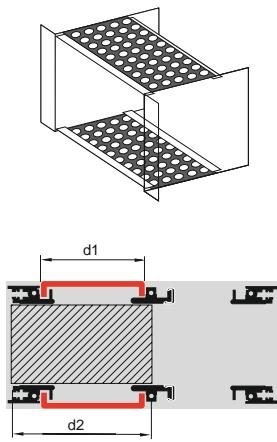
1.0 mm aluminium, unplated, hole diameter
4 mm in perforated version.

Each set includes:

2 cover plates,
8 mounting blocks 28.5 mm,
24 assembly screws.

Each individual unit includes:

1 cover.



| HP | For PCB depth (d2) mm | Cover depth (d1) mm | Model No. RP | | | |
|----|-----------------------------|---------------------------|----------------------------|-----------------|-----------------|-----------------|
| | | | Single piece ¹⁾ | | Set | |
| | | | Perforated | Solid | Perforated | Solid |
| 21 | 160 | 142 | 3687.630 | 3687.634 | — | — |
| 21 | 220 | 202 | 3687.631 | 3687.635 | — | — |
| 42 | 160 | 142 | 3684.957 | 3687.626 | — | — |
| 42 | 220 | 202 | 3687.633 | 3687.637 | — | — |
| 42 | 280 | 262 | 3687.638 | 3687.639 | — | — |
| 84 | 160 | 142 | 3684.681 | 3684.680 | 3685.245 | 3685.250 |
| 84 | 220 | 202 | 3685.851 | 3685.813 | — | — |
| 84 | 280 | 262 | 3685.855 | 3685.814 | — | — |
| 84 | 340 | 322 | 3685.856 | — | — | — |
| 84 | 400 | 382 | 3685.857 | — | — | — |

! Also required:

¹⁾Mounting blocks,
see page 117

¹⁾Assembly screws,
packs of 100, order no. 3684.233,
see page 164

**WE MEET YOUR
INDIVIDUAL NEEDS!**

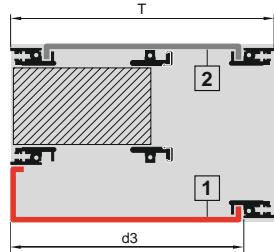
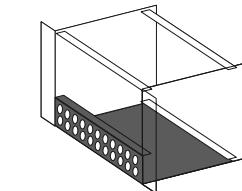
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COMPONENTS / ACCESSORIES

COVERS



T = Depth

Covers version 3

For all HeiPac Vario, HeiPac Vario EMC and HeiPac Vario Mobile subracks.

To cover the overall subrack depth
(EMC application).

- Cover with 1 U edge fold (item 1), to conceal the 1 U area in the subrack
- A version 1 flat cover (item 2) is additionally required
- Optionally perforated or solid on the front
- Suitable for subracks 4 U (3 + 1), 7 U (6 + 1)
- For mounting on the subrack side panel with the aid of mounting blocks.

Material:

1.0 mm aluminium, unplated, hole diameter 4 mm in perforated version.

Note:

For EMC applications, mounting blocks must be fitted across the entire subrack depth.

| HP | For side panel depth (T) mm | Cover depth (d3) mm | Model No. RP | |
|----|-----------------------------------|------------------------|-----------------|-----------------|
| | | | Perforated | Solid |
| 84 | 285 | 270 | 3684.720 | 3684.714 |
| 84 | 345 | 330 | 3684.721 | 3684.715 |
| 84 | 405 | 390 | 3684.722 | 3684.716 |
| 84 | 465 | 450 | 3684.723 | 3684.717 |
| 84 | 525 | 510 | 3684.724 | 3684.718 |
| 84 | 585 | 570 | 3684.725 | 3684.719 |

! Also required:

Mounting blocks, see page 117
EMC gaskets for covers, see page 117
Assembly screws,
packs of 100, order no. 3684.233,
see page 164
Cover, version 1, see page 125

WE MEET YOUR INDIVIDUAL NEEDS!

You are looking for a product in the field of electronic packaging that is not in our catalogue?

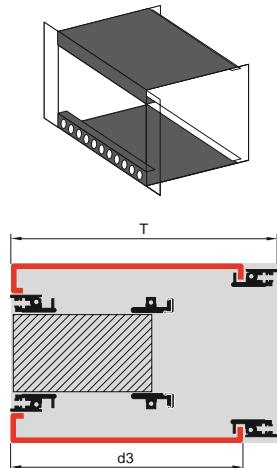
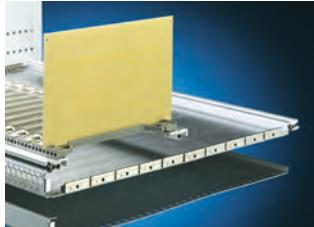
Please contact us! We will gladly submit a tailored quotation.

Phone: + 49 – 9126 – 29 34 0

Email: eps-quote@heitec.de

COMPONENTS / ACCESSORIES

COVERS



T = Depth

Covers version 4

For all HeiPac Vario, HeiPac Vario EMC and HeiPac Vario Mobile subracks.

To cover the overall subrack depth (EMC application).

- Cover top/bottom with $\frac{1}{2}$ U edge fold to cover the $\frac{1}{2}$ U section in the subrack
- Optionally perforated or solid on the front
- Suitable for subracks 4 U ($3 + 2 \times \frac{1}{2}$), 7 U ($6 + 2 \times \frac{1}{2}$)
- For mounting on the subrack side panel with the aid of mounting blocks.

Material:

1.0 mm aluminium, unplated, hole diameter 4 mm in perforated version.

Note:

For EMC applications, mounting blocks must be fitted across the entire subrack depth.

| HP | For side panel depth (T) mm | Cover depth (d3) mm | Model No. RP | |
|----|-----------------------------------|------------------------|-----------------|-----------------|
| | | | Perforated | Solid |
| 84 | 285 | 270 | 3684.732 | 3684.726 |
| 84 | 345 | 330 | 3684.733 | 3684.727 |
| 84 | 405 | 390 | 3684.734 | 3684.728 |
| 84 | 465 | 450 | 3684.735 | 3684.729 |
| 84 | 525 | 510 | 3684.736 | 3684.730 |
| 84 | 585 | 570 | 3684.737 | 3684.731 |

! Also required:

Mounting blocks,
see page 117

EMC gaskets for covers,
see page 117

Assembly screws,
packs of 100, order no. 3684.233,
see page 164

Covers version 5

(snap-fastening)

For all HeiPac Vario, HeiPac Vario EMC and HeiPac Vario Mobile subracks.

To cover the overall subrack depth or PCB depth.

Simple assembly:

- Side edge fold with half shears facilitates fast assembly (without mounting blocks) by simply snap-fastening.
- Side notches for fitting horizontal rails in 160, 220 or 280 mm depth.
- Optionally solid or perforated.

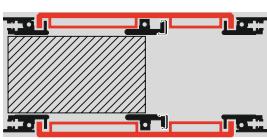
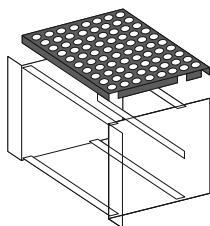
Material:

1.0 mm aluminium, unplated, hole diameter 4 mm in perforated version.

Supply includes:

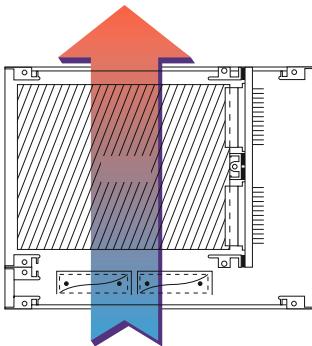
2 gaskets

| HP | Position of side notches for horizontal rails mm | For side panel depth mm | Model No. RP | |
|----|---|-------------------------------|-----------------|-----------------|
| | | | Perforated | Solid |
| 21 | 160 | 175/185 | 3687.624 | - |
| 21 | 160/220 | 235 | 3687.692 | - |
| 42 | 160 | 175/185 | 3687.625 | - |
| 42 | 160/220 | 235 | 3687.677 | - |
| 42 | 160 | 245 | 3687.640 | - |
| 84 | 160 | 175/185 | 3687.641 | 3687.647 |
| 84 | 160 | 245 | 3687.642 | 3687.648 |
| 84 | 160/220 | 235 | 3687.643 | 3687.649 |
| 84 | 160/220 | 285 | 3687.644 | 3687.650 |
| 84 | 160/220 | 305 | 3687.645 | 3687.651 |
| 84 | 160/220/280 | 345 | 3687.646 | 3687.652 |



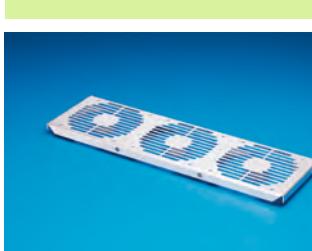
COMPONENTS / ACCESSORIES

CLIMATE CONTROL



Vertical cooling from bottom to top

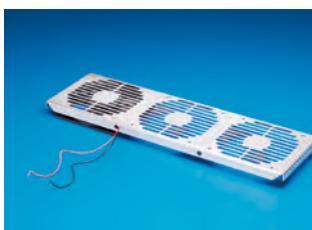
- Air flow via normal convection or forced cooling devices in the enclosure or housing outside of the subrack.
- Vertical forced air flow, supported by fans installed at the bottom of the subrack (1 U).



Fan mounting plate

For the installation of 120 mm fans and filter modules in 4 U and 7 U subracks.
For mounting on the subrack side panels.

Material:
1.5 mm aluminium, anodised

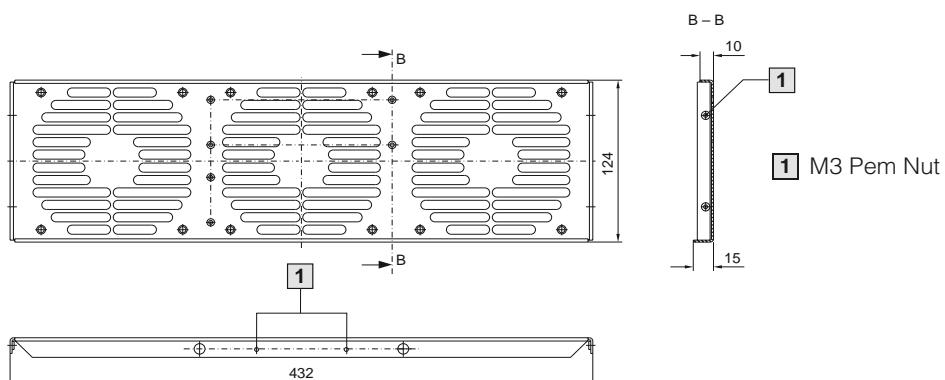


| U | For PCB depth mm | No. of fan mounting plates required | HP | Model No. RP |
|---|------------------|-------------------------------------|----|-----------------|
| 1 | 160 | 1 | 84 | 3684.317 |
| | 220 | 1 | | |
| | 280 | 2 | | |
| | 340 | 2 | | |
| | 400 | 3 | | |

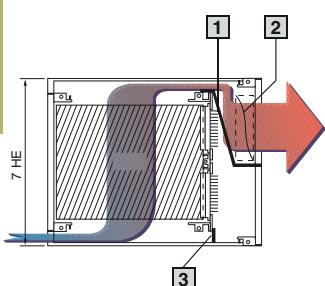
! Also required:

1 terminal block is required for each subrack.

| Packs of | Model No. RP |
|----------|-----------------|
| 1 | 3686.805 |



Diagonal cooling from front to back



Diagonal air flow from front to back allows individual cooling of PCBs in vertical installation position. An air baffle and air partition ensure controlled air flow.

- 1 Air baffle,
see page 131
- 2 Fan (mounted on the rear panel),
see page 133
- 3 Air partition,
see page 131

COMPONENTS / ACCESSORIES

CLIMATE CONTROL



Air baffle

For controlled air flow in 7 U subracks.
For mounting on subrack side panels with the aid of mounting blocks.

Material:

1 mm aluminium

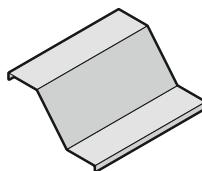
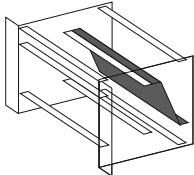
Supply includes:

Assembly parts.

| Subrack depth mm | Model No. RP |
|------------------|--------------|
| 285 | 3685.302 |
| 345 | 3685.303 |
| 405 | 3684.320 |
| 465 | 3684.321 |
| 525 | 3684.322 |

! Also required:

Mounting blocks,
see page 117



Air partition

For controlled air flow in the subrack. The partitions are mounted on the horizontal rails together with the backplanes.

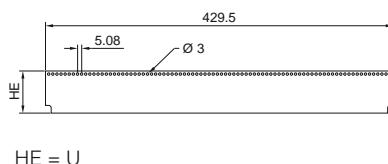
Material:

Epoxy

| U | Model No. RP |
|-----|--------------|
| 1/2 | 3684.870 |
| 1 | 3684.871 |
| 3 | 3684.872 |

! Also required:

Fastening screws and washers, packs of 100, order no. 3684.019, see page 164



HE = U



Front/rear panels for ventilation

Material:

2.5 mm aluminium

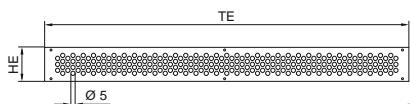
Surface finish:

Anodised, clear-chromated (EMC version)

| U | HP | Packs of | Model No. RP |
|---|----|----------|--------------|
| 1 | 84 | 1 | 3684.812 |
| 2 | 84 | 1 | 3684.813 |
| 3 | 84 | 1 | 3684.814 |

! Also required:

Screws and collars, packs of 100 sets, order no. 3658.160, see page 164



Scope of supply of the EMC version:

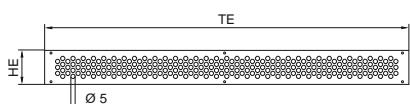
1 front panel,
1 contact strip,
1 gasket strip,
1 vertical EMC gasket,
assembly parts.

EMC version:

| U | HP | Packs of | Model No. RP |
|---|----|----------|--------------|
| 1 | 84 | 1 | 3684.281 |
| 2 | 84 | 1 | 3684.282 |
| 3 | 84 | 1 | 3684.283 |

! Also required:

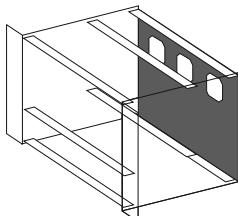
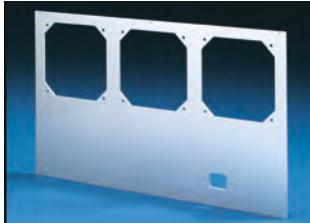
For EMC centering screws, see page 165



HE = U
TE = HP

COMPONENTS / ACCESSORIES

CLIMATE CONTROL



Rear panels for fan installation

Material:
2.5 mm aluminium

Surface finish:
Anodised,
clear-chromated (EMC version)

EMC version supply includes:
1 rear panel,
1 contact strip,
1 gasket strip,
1 vertical EMC gasket,
assembly parts.

EMC

| U | HP | For fans mm | Packs of | Model No. RP |
|---|----|-------------|----------|--------------|
| 3 | 85 | 80 | 1 | 3684.839 |
| 4 | 85 | 80 | 1 | 3684.840 |
| 6 | 85 | 120 | 1 | 3684.841 |
| 7 | 85 | 120 | 1 | 3684.842 |

! Also required:

Screws and collars,
packs of 100 sets, order no. 3658.160,
see page 164

EMC version:

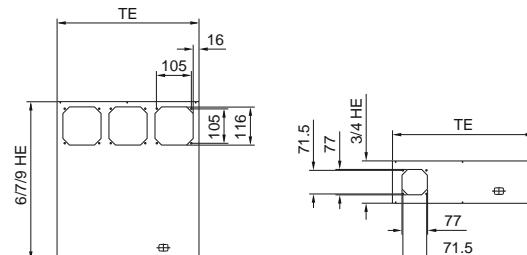
| U | HP | For fans mm | Packs of | Model No. RP |
|---|----|-------------|----------|--------------|
| 3 | 84 | 80 | 1 | 3684.284 |
| 4 | 84 | 80 | 1 | 3684.285 |
| 6 | 84 | 120 | 1 | 3684.286 |
| 7 | 84 | 120 | 1 | 3684.287 |

! Also required:

For EMC centering screws,
see page 165

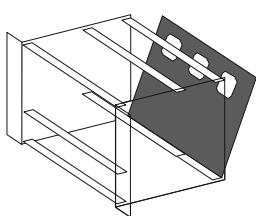
+ Accessories:

Fans,
see page 133



HE = U
TE = HP

Rear panels, horizontally hinged for fan installation



Material:
2.5 mm aluminium

Surface finish:
Anodised,
clear-chromated (EMC version)

Supply includes:
1 rear panel,
1 set of hinges,
assembly parts.

EMC version supply includes:
1 rear panel,
1 contact strip,
1 gasket strip,
1 vertical EMC gasket,
1 set of hinges,
assembly parts.

EMC

| U | HP | For fans mm | Packs of | Model No. RP |
|---|----|-------------|----------|--------------|
| 3 | 85 | 80 | 1 | 3684.304 |
| 4 | 85 | 80 | 1 | 3684.305 |
| 6 | 85 | 120 | 1 | 3684.306 |
| 7 | 85 | 120 | 1 | 3684.307 |

! Also required:

Screws and collars,
packs of 100 sets, order no. 3658.160,
see page 164

EMC version:

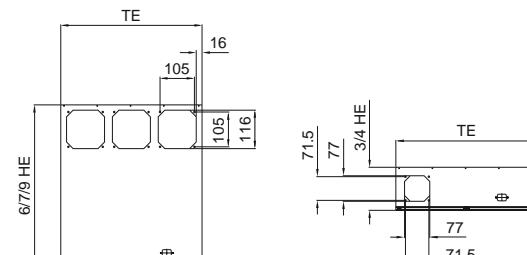
| U | HP | For fans mm | Packs of | Model No. RP |
|---|----|-------------|----------|--------------|
| 3 | 84 | 80 | 1 | 3684.311 |
| 4 | 84 | 80 | 1 | 3684.312 |
| 6 | 84 | 120 | 1 | 3684.313 |
| 7 | 84 | 120 | 1 | 3684.314 |

! Also required:

For EMC centering screws,
see page 165

+ Accessories:

Fans,
see page 133



HE = U
TE = HP

COMPONENTS / ACCESSORIES

CLIMATE CONTROL

AC fans



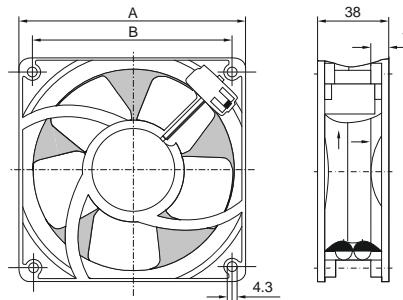
For subracks and microcomputer systems.

Supply includes:

1 fan without connection cable.

! Also required:

Assembly screws,
packs of 1 set, order no. 3685.197,
see page 165



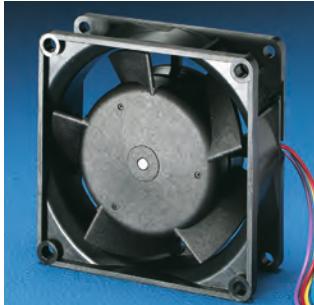
AC fans

| Dimensions | | | Bearing | Rated voltage V/Hz | Power watts | Noise level dB (A) | Temperature range °C | Volume flow m³/h | Model No. RP |
|------------|-------|-------|--------------|--------------------|-------------|--------------------|----------------------|------------------|---------------------|
| Fan mm | A mm | B mm | | | | | | | |
| 80 | 79,5 | 71,5 | Ball bearing | 115/60 | 11,0 | 42 | -40 to +95 | 57 | 3686.645 |
| 80 | 79,5 | 71,5 | Ball bearing | 230/50 | 12,0 | 37 | -40 to +90 | 48 | 3686.646 |
| 120 | 119,0 | 104,8 | Ball bearing | 115/60 | 18,0 | 51 | -40 to +90 | 180 | 3686.643 |
| 120 | 119,0 | 104,8 | Ball bearing | 230/50 | 19,0 | 47 | -40 to +85 | 160 | 3686.644 |

Connection cable

| Cable length mm | Packs of | Model No. RP |
|-----------------|----------|---------------------|
| 610 | 1 | 3686.658 |
| 1000 | 1 | 3686.659 |

DC fans



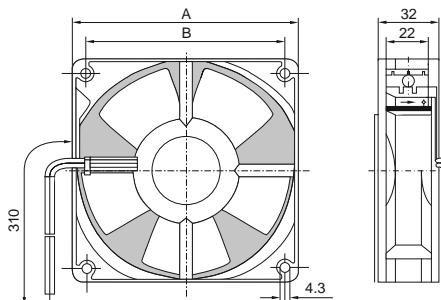
Optionally available with temperature-dependent speed control via additional temperature sensor.

Supply includes:

1 fan with connection cable (310 mm)

! Also required:

Assembly screws,
packs of 1 set, order no. 3685.197,
see page 165
Temperature sensor for DC fans with speed
control, see page 134



DC fan with speed control and alarm signal

| Dimensions | | | Bearing | Rated voltage V (DC) | Voltage range Volt | Power watts | Noise level dB (A) | Temperature range °C | Temperature max. °C | Volume flow m³/h | Model No. RP |
|------------|-------|-------|--------------|----------------------|--------------------|-------------|--------------------|----------------------|---------------------|------------------|---------------------|
| Fan mm | A mm | B mm | | | | | | | | | |
| 80 | 79,5 | 71,5 | Ball bearing | 12 | 8,0 – 14,0 | 2,2 | 34 | -20 to +65 | 65 | 48 | 3686.649 |
| 80 | 79,5 | 71,5 | Ball bearing | 24 | 21,6 – 26,4 | 2,4 | 36 | -20 to +65 | 65 | 54 | 3686.650 |
| 120 | 119,0 | 104,8 | Ball bearing | 12 | 8,0 – 13,2 | 5,5 | 45 | -20 to +65 | 65 | 170 | 3686.647 |
| 120 | 119,0 | 104,8 | Ball bearing | 24 | 21,0 – 27,0 | 5,4 | 45 | -20 to +65 | 65 | 170 | 3686.648 |

DC fan without speed control and without alarm signal

| Dimensions | | | Bearing | Rated voltage V (DC) | Voltage range Volt | Power watts | Noise level dB (A) | Temperature range °C | Temperature max. °C | Volume flow m³/h | Model No. RP |
|------------|-------|-------|--------------|----------------------|--------------------|-------------|--------------------|----------------------|---------------------|------------------|---------------------|
| Fan mm | A mm | B mm | | | | | | | | | |
| 80 | 80,0 | 71,5 | Ball bearing | 12 | 6,0 – 15,0 | 1,8 | 34 | -20 to +75 | 75 | 48 | 3687.612 |
| 80 | 80,0 | 71,5 | Ball bearing | 24 | 12,0 – 28,0 | 2,1 | 34 | -20 to +75 | 75 | 48 | 3687.613 |
| 120 | 119,0 | 104,8 | Ball bearing | 12 | 6,0 – 15,0 | 2,6 | 39 | -20 to +75 | 75 | 140 | 3687.614 |
| 120 | 119,0 | 104,8 | Ball bearing | 24 | 12,0 – 28,0 | 2,6 | 39 | -20 to +75 | 75 | 140 | 3687.615 |

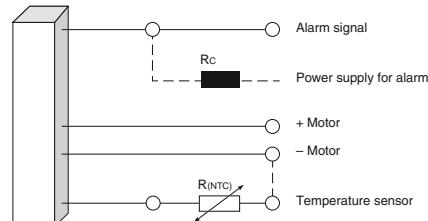
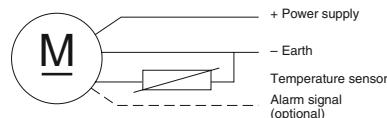
COMPONENTS / ACCESSORIES

CLIMATE CONTROL

Temperature sensor

For DC fans 12/24 V with speed control.

| Voltage | Packs of | Model No. RP |
|----------------|----------|-----------------|
| 12 V/24 V (DC) | 1 | 3686.657 |



Finger guard



For AC fans and DC fans.

Material:

Polyamide, self-extinguishing to UL 94-V0

Colour:

Black

| For fans mm | Packs of | Model No. RP |
|-------------|----------|-----------------|
| 80 | 1 | 3686.656 |
| 120 | 1 | 3686.655 |

EMC shielding plate

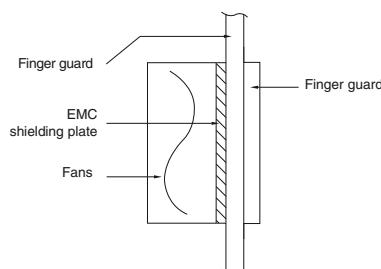


For AC fans and DC fans.

Material:

1 mm aluminium, clear-chromated

| For fans mm | Packs of | Model No. RP |
|-------------|----------|-----------------|
| 80 | 1 | 3686.359 |
| 120 | 1 | 3686.329 |



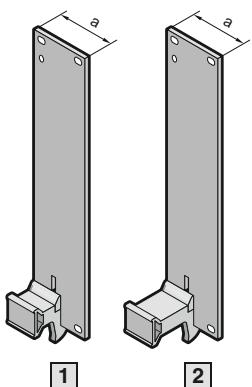
Air block panel



For unused slots
see page 123

COMPONENTS / ACCESSORIES

FRONT PANELS, HANDLES



Flat front panels

With type I or II extractor handle
Complete modular systems

Material:

Front panel: 2.5 mm aluminium, anodised
Handle: Plastic, black

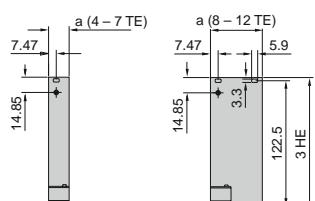
Supply includes:

1 front panel,
2 handles (1 with 3 U),
1 set of assembly parts,
1 PCB holder (for 3 U).

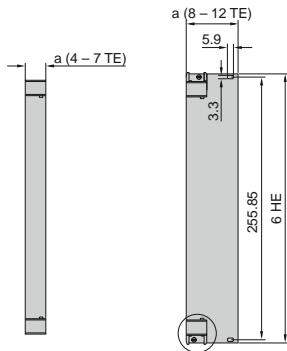
| U | HP | a mm | Model No. RP | |
|---|----|---------|-----------------|-----------------|
| | | | [1] Type I | [2] Type II |
| 3 | 4 | 20,0 | 3684.330 | 3684.358 |
| 3 | 5 | 25,1 | 3684.331 | 3684.359 |
| 3 | 6 | 30,2 | 3684.332 | 3684.360 |
| 3 | 7 | 35,3 | 3684.333 | 3684.361 |
| 3 | 8 | 40,3 | 3684.334 | 3684.362 |
| 3 | 10 | 50,5 | 3684.335 | 3684.363 |
| 3 | 12 | 60,7 | 3684.336 | 3684.364 |
| 6 | 4 | 20,0 | 3684.337 | 3684.365 |
| 6 | 5 | 25,1 | 3684.338 | 3684.366 |
| 6 | 6 | 30,2 | 3684.339 | 3684.367 |
| 6 | 7 | 35,3 | 3684.340 | 3684.368 |
| 6 | 8 | 40,3 | 3684.341 | 3684.369 |
| 6 | 10 | 50,5 | 3684.342 | 3684.370 |
| 6 | 12 | 60,7 | 3684.343 | 3684.371 |
| 9 | 4 | 20,0 | — | 3684.372 |
| 9 | 8 | 40,3 | — | 3684.373 |

Front panels with type I, II or IV, IVs, VII extractor handles

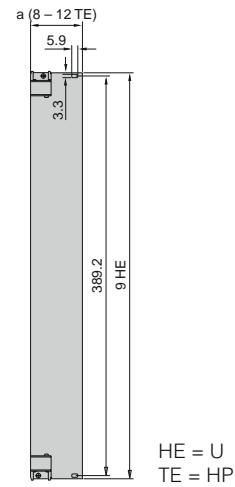
3 U



6 U



9 U

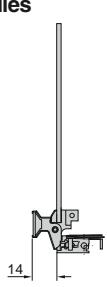


HE = U
TE = HP

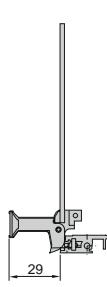


Extractor handles

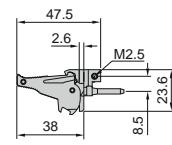
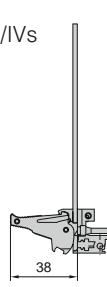
Type I



Type II

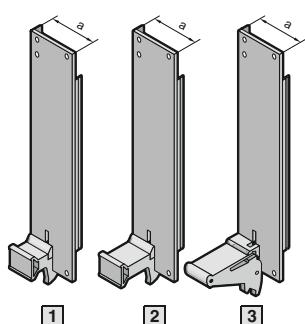


Type IV/IVs



COMPONENTS / ACCESSORIES

FRONT PANELS, HANDLES



Detailed drawing,
see page 135

U-channel front panels

With type I, II extractor handle or type IV injector/extractor handle

Complete modular systems

Material:

front panel: extruded aluminium section,
clear-chromated

Handle: Plastic, black

Supply includes:

1 front panel,
2 handles (1 with 3 U),
1 EMC gasket, vertical, version 1
1 set of assembly parts,
1 PCB holder (for 3 U).



| U | HP | a mm | Model No. RP | | |
|---|----|---------|-----------------|-----------------|----------------------------|
| | | | 1 Type I | 2 Type II | 3 Type IV ¹⁾ |
| 3 | 4 | 20,0 | 3684.344 | 3684.374 | 3684.413 |
| 3 | 5 | 25,1 | 3684.345 | 3684.375 | 3684.414 |
| 3 | 6 | 30,2 | 3684.346 | 3684.376 | 3684.415 |
| 3 | 7 | 35,3 | 3684.347 | 3684.377 | 3684.416 |
| 3 | 8 | 40,3 | 3684.348 | 3684.378 | 3684.417 |
| 3 | 10 | 50,5 | 3684.349 | 3684.379 | 3684.418 |
| 3 | 12 | 60,7 | 3684.350 | 3684.380 | 3684.419 |
| 6 | 4 | 20,0 | 3684.351 | 3684.381 | 3684.420 |
| 6 | 5 | 25,1 | 3684.352 | 3684.382 | 3684.421 |
| 6 | 6 | 30,2 | 3684.353 | 3684.383 | 3684.422 |
| 6 | 7 | 35,3 | 3684.354 | 3684.384 | 3684.423 |
| 6 | 8 | 40,3 | 3684.355 | 3684.385 | 3684.424 |
| 6 | 10 | 50,5 | 3684.356 | 3684.386 | 3684.425 |
| 6 | 12 | 60,7 | 3684.357 | 3684.387 | 3684.426 |
| 9 | 4 | 20,0 | — | 3684.388 | 3684.427 |
| 9 | 5 | 25,1 | — | — | 3684.428 |
| 9 | 6 | 30,2 | — | — | 3684.429 |
| 9 | 7 | 35,3 | — | — | 3684.430 |
| 9 | 8 | 40,3 | — | 3684.389 | 3684.431 |
| 9 | 10 | 50,5 | — | — | 3684.432 |
| 9 | 12 | 60,7 | — | — | 3684.433 |

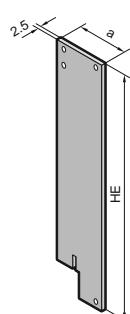
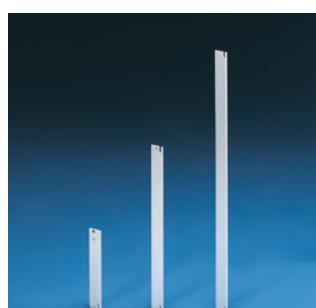
¹⁾ Can only be inserted in conjunction with front horizontal rails, with 10 mm roof (B), see page 109.

Flat front panels

For type I, II, IV, IVs or VII handles

Material:

2.5 mm aluminium, anodised



HE = U

Detailed drawing,
see page 135

! Also required:

From front panel widths of 4 HP (at 3 U) and 7 HP (at 6 U):

Collar screws and plastic collars,
packs of 100 sets, order no. 3658.160,
see page 164

For 3 U front panels:
PCB holder set, see page 146

COMPONENTS / ACCESSORIES

FRONT PANELS, HANDLES



U-channel front panels

For type I, II, IV, IVs or VII handles

Material:

front panel: extruded aluminium section, clear-chromated.



! Also required:

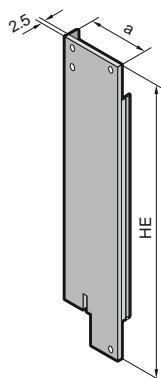
From front panel width 4 HP (for 3 U) and 8 HP (for 6 U):

Slotted centering screws,
packs of 100, order no. 3687.050,
see page 165

Posidrive centering screws,
packs of 100, order no. 3687.051,
see page 165

EMC gaskets,
see page 116.

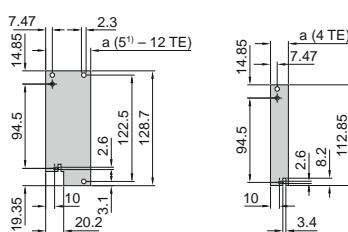
For 3 U front panels:
PCB holder set,
see page 146



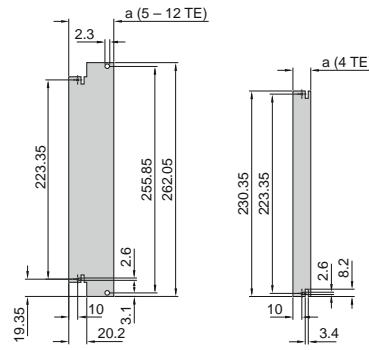
| HP | a mm | Model No. RP | | |
|----|---------|-----------------|-----------------|-----------------|
| | | 3 U | 6 U | 9 U |
| 4 | 20,0 | 3685.524 | 3685.532 | 3685.540 |
| 5 | 25,1 | 3685.525 | 3685.533 | 3685.541 |
| 6 | 30,2 | 3685.526 | 3685.534 | 3685.542 |
| 7 | 35,3 | 3685.527 | 3685.535 | 3685.543 |
| 8 | 40,3 | 3685.528 | 3685.536 | 3685.544 |
| 10 | 50,5 | 3685.529 | 3685.537 | 3685.545 |
| 12 | 60,7 | 3685.530 | 3685.538 | 3685.546 |

Front panels for type I, II, IV, IVs or VII handles

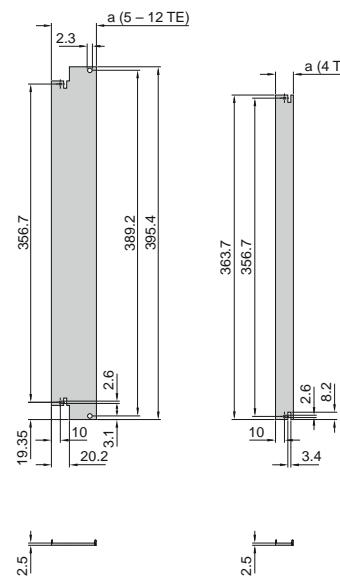
3 U



6 U



9 U



¹⁾ 2.3 mm drilled hole not contained in versions 5 – 7 HP.

HE = U
TE = HP

COMPONENTS / ACCESSORIES

FRONT PANELS, HANDLES

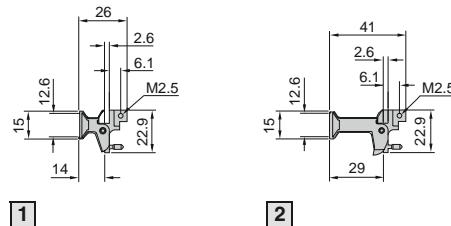
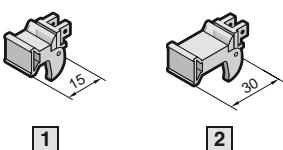


Extractor handle type I and type II

- Suitable for flat front panels/U-channel front panels
- With removal function
- May be used in combination with horizontal rails with 10 mm extension.

Supply includes:
Assembly parts

Note:
With 3 U, only one extractor handle is required.



① Type I extractor handle, 15 mm

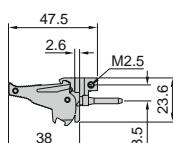
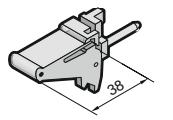
| Colour | Packs of | Model No. RP |
|--------|----------|--------------|
| Grey | 1 | 3685.587 |
| Black | 1 | 3685.589 |

② Type II extractor handle, 30 mm

| Colour | Packs of | Model No. RP |
|--------|----------|--------------|
| Grey | 1 | 3685.588 |
| Black | 1 | 3685.590 |

+ Accessories:

Identification strips for extractor handles,
see page 139



Injector/extractor handle type IV

Handles with micro-switch

For inserting and removing connectors with a large number of pins.

- Insertion/removal function
- Integral microswitch for "live insertion" applications
- Self-activation of the micro-switch during insertion/removal
- ESD pin to dissipate static charges before contacting the connectors and for precise positioning of the board type plug-in unit
- Keyable
- Integral PCB attachment
- Self-locking
- Bayable

Handle without micro-switch

Description see above. Micro-switch may be retrofitted.

Supply includes:

1 handle without or with micro-switch,
assembly parts.

Note:

- Insertion only when used with front horizontal rails, with 10 mm extension (B, B1, B2),
see page 109-110
- With 3 U front panels, only one extractor handle is required.

Handles with micro-switch

| Colour | Installation | Packs of | Model No. RP |
|--------|--------------|----------|--------------|
| Grey | Top | 1 | 3686.905 |
| Grey | Bottom | 1 | 3686.904 |
| Black | Top | 1 | 3686.907 |
| Black | Bottom | 1 | 3686.906 |

Handle without micro-switch

| Colour | Installation | Packs of | Model No. RP |
|--------|--------------|----------|--------------|
| Grey | Top | 1 | 3686.901 |
| Grey | Bottom | 1 | 3686.900 |
| Black | Top | 1 | 3686.903 |
| Black | Bottom | 1 | 3686.902 |

+ Accessories:

Keys,
see page 124
Keyable guide rails,
see page 120
Micro-switches,
see page 141
Connector pin for bayeing,
see page 139



Injector/extractor handle type IV

8 HP, bayed

Suitable for two front panels 4 HP that must be connected to another mechanically.

Supply includes:

2 bayed handles,
fully assembled.

| Colour | Installation | Packs of | Model No. RP |
|--------|--------------|----------|--------------|
| Black | Bottom | 1 | 3686.908 |
| Black | Top | 1 | 3686.909 |

+ Accessories:

Connector pin for bayeing,
see page 139

COMPONENTS / ACCESSORIES

FRONT PANELS, HANDLES



Identification strips

For type I, II extractor handle and type IV injector/extractor handle
Width 4 HP

| Packs of | Model No. RP |
|----------|--------------|
| 100 | 3684.328 |



Injector/extractor handle type IVs

With push-button

For inserting and removing connectors with a large number of pins. A metal insert ensures reliable functioning, even at forces of up to 815 N.

- Insertion/removal function
- Push-button for locking and unlocking the board type plug-in unit (cannot be extracted in the locked position)
- Optionally with ½ HP offset PCB attachment, e. g. for component mounting on both sides
- Optional integral micro-switch for "live insertion" applications
- ESD pin to dissipate static charges before contacting the connectors and for precise positioning of the board type plug-in unit
- Keyable
- Integral PCB attachment
- Bayable

Material:

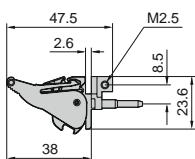
Plastic/metal

Supply includes:

Assembly parts.

Note:

- Insertion only when used with front horizontal rails, with 10 mm extension (B, B1, B2), see page 109-110
- With 3 U front panels, only one extractor handle is required.



Handles without offset

| Installation | Packs of | Model No. RP |
|--------------|----------|--------------|
| Top | 1 | 3688.770 |
| Bottom | 1 | 3688.771 |

Handles with ½ HP offset

| Installation | Packs of | Model No. RP |
|--------------|----------|--------------|
| Top | 1 | 3688.772 |
| Bottom | 1 | 3688.773 |

+ Accessories:

Keys,
see page 124
Keyable guide rails,
see page 120
Keyable guide rails with 1/2 HP offset,
see page 121
Micro-switches,
see page 141
Connector pin for baying,
see page 139



Connection pin

For injector/extractor handles, types IV, IVs and VII

The connection pin can be used to connect injector/extractor handles, types IV, IVs and VII.

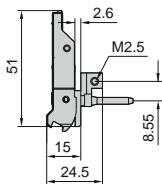
Material:

Steel

| Packs of | Model No. RP |
|----------|--------------|
| 20 | 3685.319 |

COMPONENTS / ACCESSORIES

FRONT PANELS, HANDLES



Injector/extractor handle type VII

Plastic (telecom)

For inserting and removing connectors with a large number of pins. This handle was specifically designed for use in telecom applications.

- Insertion/removal function
- Optionally with $\frac{1}{2}$ HP offset PCB attachment, e. g. for component mounting on both sides
- Minimum front space requirements, due to foldup handle
- Keyable
- Optional integral micro-switch for "live insertion" applications
- ESD pin to dissipate static charges prior to making contact with the connectors and for precise positioning of the board type plug-in unit
- Large labelling area on the front

Material:

Plastic

Supply includes:

Assembly parts.

Note:

Insertion only when used with front horizontal rails, with 10 mm extension (B, B1, B2), see page 109-110

Handles without offset

| Installation | Packs of | Model No. RP |
|--------------|----------|-----------------|
| Top | 1 | 3688.784 |
| Bottom | 1 | 3688.785 |

Handles with $\frac{1}{2}$ HP offset

| Installation | Packs of | Model No. RP |
|--------------|----------|-----------------|
| Top | 1 | 3688.780 |
| Bottom | 1 | 3688.781 |

+ Accessories:

Keys,

see page 124

Keyable guide rails,

see page 120

Keyable guide rails with $\frac{1}{2}$ HP offset,

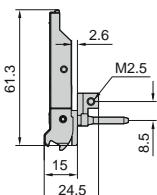
see page 121

Micro-switches,

see page 141

Connector pin for baying,

see page 139



Injector/extractor handle type VII

Metal (telecom)

For inserting and removing PCBs with a high connector pin-count (up to 815 N). This handle was specifically designed for use in telecom applications.

- Insertion/removal function
- Optionally with $\frac{1}{2}$ HP offset PCB attachment, e. g. for component mounting on both sides
- Minimum front space requirements due to foldup handle
- Keyable
- Optional integral micro-switch for "live insertion" applications
- ESD pin to dissipate static charges prior to making contact with the connectors and for precise positioning of the board type plug-in unit
- Metal design for use in aggressive atmospheres

Material:

Die-cast zinc

Supply includes:

Assembly parts.

Note:

Insertion only when used with front horizontal rails, with 10 mm extension (B, B1, B2), see page 109-110

Handles without offset

| Installation | Packs of | Model No. RP |
|--------------|----------|-----------------|
| Top | 1 | 3688.790 |
| Bottom | 1 | 3688.791 |

Handles with $\frac{1}{2}$ HP offset

| Installation | Packs of | Model No. RP |
|--------------|----------|-----------------|
| Top | 1 | 3688.786 |
| Bottom | 1 | 3688.787 |

+ Accessories:

Keys,

see page 124

Keyable guide rails,

see page 120

Keyable guide rails with $\frac{1}{2}$ HP offset,

see page 121

Micro-switches,

see page 141

Connector pin for baying,

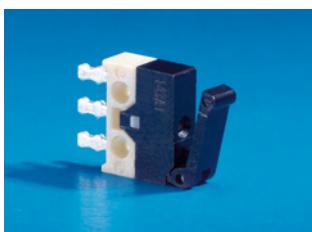
see page 139

Micro-switch

For "live insertion" applications. Installation in injector/extractor handles, types IV, IVs and VII. May also be retrofitted.

Technical specifications:

Switching load: 50 mA 30 V DC
Service life:
At nominal load: 30.000
mechanical: 50.000



| Packs of | Model No. RP |
|----------|-----------------|
| 10 | 3684.410 |

+ Also required:

Micro-switch mounting clip,
see page 141

COMPONENTS / ACCESSORIES

FRONT PANELS, HANDLES



- 1** Lever not depressed
- 2** Lever hinge
- 3** Lever contact point

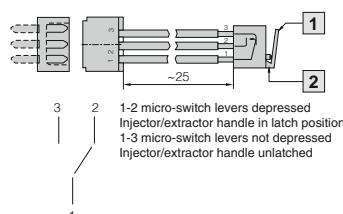
Micro-switch

With cable and connector

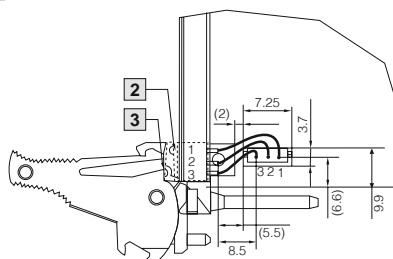
For "live insertion" applications.
Installation in injector/extractor handles, types IV, IVs and VII.

Supply includes:

Micro-switch, connector type Molex 51021-0300,
mounting clips, 3 cables,
25 mm x #32 AWG,
fully assembled.



| Packs of | Model No. RP |
|----------|--------------|
| 1 set | 3686.536 |



Micro-switch mounting clip

For mounting micro-switches in handles.

| Packs of | Model No. RP |
|----------|--------------|
| 10 | 3684.411 |



Plastic covers

For PCBs

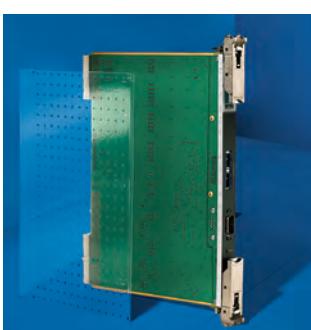
For mechanical protection of the component side and of the EMC gaskets.
Attachment holes as per CPCl or VME-specifications. Optionally available as perforated or solid version.

Material:

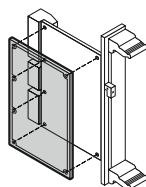
0.3 mm plastic, anti-static
Maximum temperature up to 65°C

¹⁾ 0.5 mm plastic, transparent, anti-static
UL 94-V0, maximum temperature up to 65°C

²⁾ 0.5 mm plastic, black, anti-static UL 94-V0,
maximum temperature up to 120°C



| For PCBs | Packs of | Model No. RP | | | |
|--------------|----------|------------------------------|------------------------------|-----------------|-----------------|
| | | for CPCl | | | for VME |
| | | Perforated ¹⁾ | Solid ¹⁾ | Solid | Solid |
| 3 U x 160 mm | 1 | 3687.932 | 3686.572 | 3685.966 | 3685.626 |
| | 5 | — | — | — | 3685.279 |
| 3 U x 220 mm | 1 | — | — | — | 3685.805 |
| | 5 | — | — | — | 3685.266 |
| 6 U x 80 mm | 1 | 3687.933 | 3686.573 | 3686.037 | 3686.146 |
| | 1 | 3687.934 | 3686.574 | 3685.967 | 3685.627 |
| 6 U x 160 mm | 1 | 9905.574²⁾ | 9905.990²⁾ | — | — |
| | 5 | — | — | — | 3685.280 |
| | 1 | — | — | — | 3685.824 |
| | 5 | — | — | — | 3685.000 |

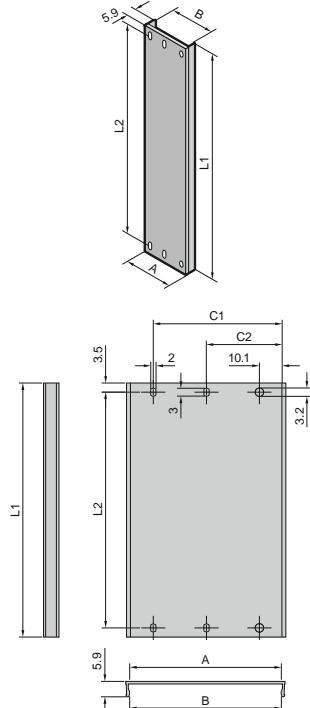


! Also required:

Required for mounting the perforated CPCl covers:
Mounting clips, Packs of = 100
order no. 3687.955

COMPONENTS / ACCESSORIES

FRONT PANELS, HANDLES



Front panels

For type III extractor handle

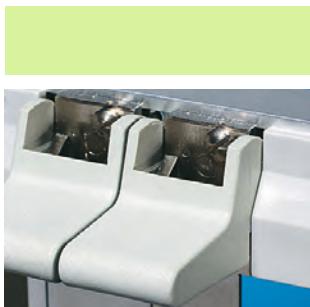
Material:

1.0 mm extruded aluminium section

Surface finish:

Untreated

| HP | A mm | B mm | C1 mm | C2 mm | Model No. RP | | |
|-------|---------|---------|----------|----------|-----------------|-----------------|-----------------|
| | | | | | 3 U | 6 U | 9 U |
| 3 | 15,20 | 12,20 | — | — | 3685.548 | 3685.555 | — |
| 4 | 20,22 | 17,20 | — | — | 3685.549 | 3685.556 | 3685.562 |
| 5 | 25,28 | 22,28 | — | 22,68 | 3685.550 | 3685.557 | 3685.563 |
| 6 | 30,36 | 27,36 | — | 25,22 | 3685.551 | 3685.558 | 3685.564 |
| 8 | 40,52 | 37,52 | — | 30,30 | 3685.552 | 3685.559 | 3685.566 |
| 10 | 50,68 | 47,68 | 40,46 | 25,22 | 3685.553 | 3685.560 | 3685.567 |
| 12 | 60,84 | 57,84 | 50,62 | 30,30 | 3685.554 | 3685.561 | 3685.568 |
| L1 mm | | | | | 97,00 | 230,35 | 363,70 |
| L2 mm | | | | | 90,00 | 223,35 | 356,70 |



Type III extractor handle

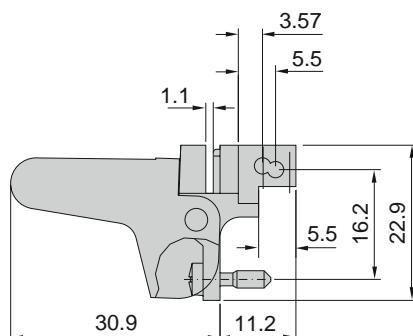
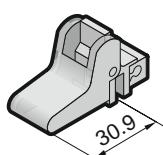
Material:

Fibreglass-reinforced polycarbonate
Base section nickel-plated ABS

Colour:

Grey

| HP | Packs of | Model No. RP |
|----|----------|-----------------|
| 3 | 1 | 3685.591 |
| 4 | 1 | 3685.592 |



Covers

For panel end spaces

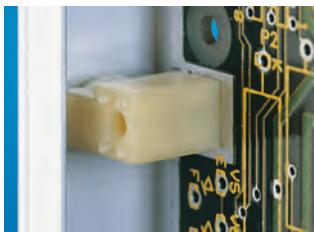
Material:

Fibreglass-reinforced polycarbonate

| HP | Width mm | Packs of | Model No. RP |
|----|----------|----------|-----------------|
| 1 | 5 | 1 | 3687.529 |
| 2 | 10,08 | 1 | 3687.530 |
| 4 | 20,24 | 1 | 3687.531 |

COMPONENTS / ACCESSORIES

FRONT PANELS, HANDLES



Universal holder

For front panel support

Material:

Nickel-plated plastic

| HP | Packs of | Model No. RP |
|----|----------|--------------|
| 4 | 1 | 3687.545 |



Flat front panels

With type V handle and PCB holder
Complete modular systems

Material:

Front panel: 2.5 mm aluminium, natural-anodised
Handle: Aluminium, natural-anodised
PCB holder: Polycarbonate

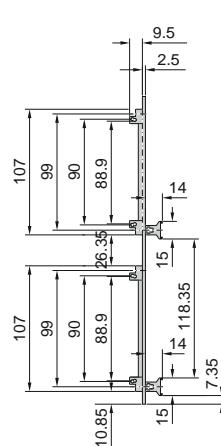
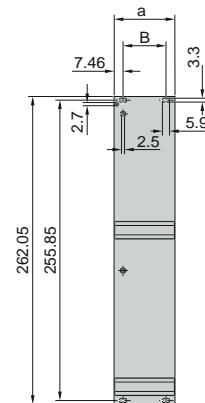
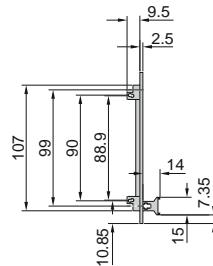
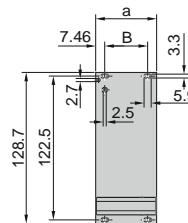
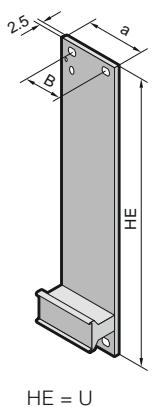
Supply includes:

1 front panel,
1 handle (2 with 6 U),
1 PCB holder (2 with 6 U),
assembly parts.

| HP | a mm | W (B) mm | Model No. RP. | |
|----|---------|-------------|------------------|-------------------|
| | | | 3 U H = 128,7 | 6 U H = 262,05 |
| 3 | 14,9 | — | 3652.000 | 3652.200 |
| 4 | 20,0 | — | 3652.010 | 3652.210 |
| 5 | 25,1 | — | 3652.020 | 3652.220 |
| 6 | 30,1 | — | 3652.030 | 3652.230 |
| 7 | 35,2 | — | 3652.040 | 3652.240 |
| 8 | 40,3 | — | 3652.050 | 3652.250 |
| 10 | 50,5 | 35,6 | 3652.060 | 3652.260 |
| 12 | 60,6 | 45,7 | 3652.070 | 3652.270 |
| 14 | 70,8 | 55,9 | 3652.080 | — |

+ Accessories:

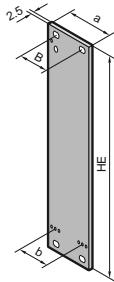
Identification strips for handles,
see page 145



COMPONENTS / ACCESSORIES

FRONT PANELS, HANDLES

Flat front panels

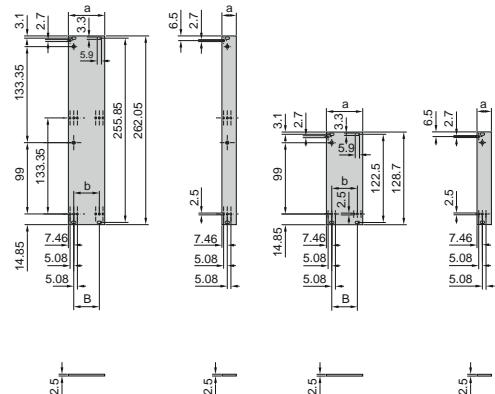


HE = U

For type V and VI handle

Material:

2.5 mm aluminium, anodised



| HP | a mm | W (B) mm | b mm | Packs of | Model No. RP | |
|----|---------|-------------|---------|----------|-----------------|-----------------|
| | | | | | 3 U | 6 U |
| 3 | 14,9 | — | — | 1 | 3685.569 | 3685.578 |
| 4 | 20,0 | — | — | 1 | 3685.570 | 3685.579 |
| 5 | 25,1 | — | — | 1 | 3685.571 | 3685.580 |
| 6 | 30,2 | — | 15,2 | 1 | 3685.572 | 3685.581 |
| 7 | 35,2 | — | 20,3 | 1 | 3685.573 | 3685.582 |
| 8 | 40,3 | — | 25,4 | 1 | 3685.574 | 3685.583 |
| 10 | 50,5 | 35,6 | 35,6 | 1 | 3685.575 | 3685.584 |
| 12 | 60,6 | 45,7 | 45,7 | 1 | 3685.576 | 3685.585 |
| 14 | 70,8 | 55,9 | 55,9 | 1 | 3685.577 | 3685.586 |

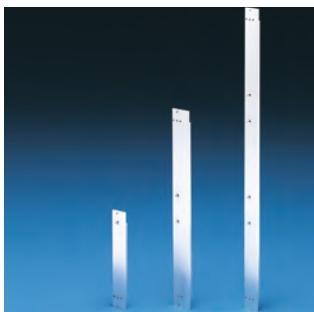
+ Also required:

Collar screws and plastic collars,
packs of 100 sets, order no. 3658.160,
see page 164

! Accessories:

Handles type V,
see page 145
Handles type VI,
see page 146

U-channel front panels



For type V and VI handle

Material:

2.5 mm aluminium, clear-chromated

Supply includes:

1 vertical EMC gasket, version 1.



| HP | a mm | W (B) mm | Packs of | Model No. RP | |
|----|---------|-------------|----------|-----------------|-----------------|
| | | | | 3 U | 6 U |
| 4 | 20,0 | — | 1 | 3687.655 | 3687.660 |
| 6 | 30,2 | — | 1 | 3687.656 | 3687.661 |
| 8 | 40,3 | — | 1 | 3687.657 | 3687.662 |
| 10 | 50,5 | 35,6 | 1 | 3687.658 | 3687.663 |
| 12 | 60,6 | 45,7 | 1 | 3687.659 | 3687.664 |

! Also required:

Slotted centering screws,
packs of 100, order no. 3687.050,
see page 165
Cross-head centering screws,
packs of 100, order no. 3687.051
see page 165

+ Accessories:

Handles type V,
see page 145
Handles type VI,
see page 146

Detailed drawing,
see page 144

COMPONENTS / ACCESSORIES

FRONT PANELS, HANDLES



Type V handle

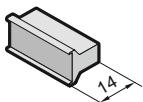
Plastic

Material:
Plastic

| HP | Colour | Packs of | Model No. RP |
|----|--------|----------|--------------|
| 3 | Grey | 1 | 3685.490 |
| 4 | Grey | 1 | 3685.491 |
| 8 | Grey | 1 | 3685.492 |
| 12 | Grey | 1 | 3685.493 |
| 20 | Grey | 1 | 3685.494 |
| 3 | Black | 1 | 3685.495 |
| 4 | Black | 1 | 3685.496 |
| 8 | Black | 1 | 3685.497 |
| 12 | Black | 1 | 3685.498 |
| 20 | Black | 1 | 3685.499 |

! Also required:

Mounting kit,
packs of 1 set, order no. 3687.519,
see page 164



Type V handle

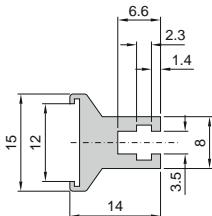
Aluminium

Material:
Aluminium, anodised.

| HP | Model No. RP | HP | Model No. RP |
|----|--------------|-----|--------------|
| 3 | 3685.595 | 12 | 3685.602 |
| 4 | 3685.596 | 14 | 3685.603 |
| 5 | 3685.597 | 21 | 3685.761 |
| 6 | 3685.598 | 28 | 3685.762 |
| 7 | 3685.599 | 42 | 3685.763 |
| 8 | 3685.600 | 1 m | 3685.604 |
| 10 | 3685.601 | | |

! Also required:

Mounting kit,
packs of 1 set, order no. 3687.146,
(from 6 HP 2 packs required),
see page 165



Identification strips

For type V handle, aluminium

For individual labelling of the handles.

Material:
0.5 mm aluminium, anodised

| HP | Packs of | Model No. RP |
|-------|----------|--------------|
| 3 | 1 | 3685.746 |
| 4 | 1 | 3685.747 |
| 5 | 1 | 3685.748 |
| 6 | 1 | 3685.749 |
| 7 | 1 | 3685.750 |
| 8 | 1 | 3685.751 |
| 10 | 1 | 3685.752 |
| 12 | 1 | 3685.753 |
| 14 | 1 | 3685.754 |
| 21 | 1 | 3685.755 |
| 28 | 1 | 3685.756 |
| 42 | 1 | 3685.757 |
| 1 m | 1 | 3685.758 |
| 0,5 m | 5 | 3606.300 |

COMPONENTS / ACCESSORIES

FRONT PANELS, HANDLES



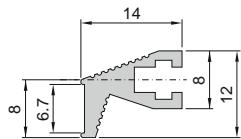
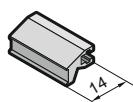
Type VI handle

Aluminium

Material:

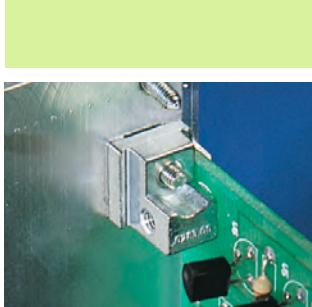
Aluminium, anodised.

| HP | Model No. RP | HP | Model No. RP |
|----|--------------|-----|--------------|
| 3 | 3685.605 | 12 | 3685.612 |
| 4 | 3685.606 | 14 | 3685.613 |
| 5 | 3685.607 | 21 | 3685.614 |
| 6 | 3685.608 | 28 | 3685.615 |
| 7 | 3685.609 | 42 | 3685.616 |
| 8 | 3685.610 | 84 | 3685.617 |
| 10 | 3685.611 | 1 m | 3685.618 |



! Also required:

Mounting kit,
packs of 1 set, order no. 3687.146,
(from 6 HP 2 packs required),
see page 165



PCB holder kit

For attaching the PCB to front panels with handle types I, II, IV, IVs, VII.

Material:

Die-cast

Note:

Only required at the top with 3 U front panels.

| Packs of | Model No. RP |
|----------|--------------|
| 10 | 3685.198 |

! Also required:

For attaching the PCB to the PCB holder:
Pan-head screws,
packs of 100, order no. 3654.320,
see page 164

For attaching the front panel to the PCB holder:
Oval csk-screws,
packs of 100, order no. 3685.282,
see page 165



PCB holder

For front panels

For attaching PCBs to front panels
(handle type V, VI).

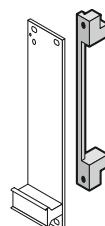
Material:

Noryl

Supply includes:

Assembly parts.

| Packs of | Model No. RP |
|----------|--------------|
| 10 | 3606.330 |



COMPONENTS / ACCESSORIES

FRONT PANELS, HANDLES

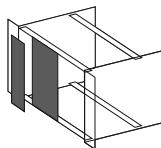
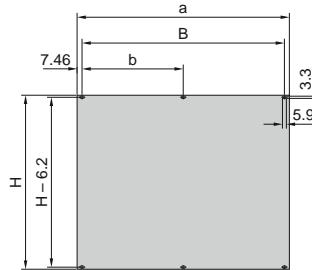


Front panels

As filler panel, flat

Material:

2.5 mm aluminium, natural-anodised.



! Also required:

Collar screws and plastic collars,
packs of 100 sets, order no. 3658.160,
see page 164

| HP | a mm | W (B) mm | b mm | Model No. RP | | | | | | |
|----|---------|-------------|---------|-----------------|------------------|------------------|-------------------|-------------------|------------------|------------------|
| | | | | 1 U H = 39,8 | 2 U H = 84,25 | 3 U H = 128,7 | 4 U H = 173,15 | 6 U H = 262,05 | 7 U H = 306,5 | 9 U H = 395,4 |
| 2 | 9,8 | — | — | — | — | 3684.889 | — | 3684.911 | — | 3684.738 |
| 3 | 14,9 | — | — | — | — | 3684.890 | — | 3684.912 | — | — |
| 4 | 20,0 | — | — | — | — | 3684.891 | — | 3684.913 | — | 3684.739 |
| 5 | 25,1 | — | — | — | — | 3684.892 | — | 3684.914 | — | — |
| 6 | 30,1 | — | — | — | — | 3684.893 | — | 3684.915 | — | — |
| 7 | 35,2 | — | — | — | — | 3684.894 | — | 3684.916 | — | — |
| 8 | 40,3 | — | — | — | — | 3684.895 | — | 3684.917 | — | 3684.740 |
| 10 | 50,5 | 35,6 | — | — | — | 3684.896 | — | 3684.918 | — | — |
| 12 | 60,6 | 45,7 | — | — | — | 3684.897 | — | 3684.919 | — | 3684.741 |
| 14 | 70,8 | 55,9 | — | — | — | 3684.898 | — | 3684.920 | — | — |
| 20 | 101,3 | 86,4 | — | — | — | 3684.899 | — | 3684.921 | — | — |
| 21 | 106,4 | 91,4 | — | — | 3685.350 | 3684.900 | — | 3684.922 | — | — |
| 24 | 121,7 | 106,7 | — | — | 3685.429 | — | — | — | — | — |
| 27 | 136,8 | 121,9 | — | — | — | 3684.901 | — | 3684.923 | — | — |
| 28 | 141,9 | 127,0 | — | — | — | 3684.902 | — | 3684.924 | — | — |
| 40 | 202,9 | 188,0 | — | — | — | 3684.903 | — | 3684.976 | — | 3684.977 |
| 42 | 213,0 | 198,1 | — | 3684.885 | 3684.887 | 3684.904 | 3684.908 | 3684.925 | 3684.928 | 3684.742 |
| 60 | 304,5 | 289,6 | — | — | — | 3684.905 | — | — | — | — |
| 63 | 319,7 | 304,8 | 152,4 | — | — | 3684.906 | 3684.909 | 3684.926 | 3684.929 | — |
| 84 | 426,4 | 411,5 | 203,2 | 3684.886 | 3684.888 | 3684.907 | 3684.910 | 3684.927 | 3684.930 | 3684.743 |
| 85 | 431,5 | 431,5 | 203,2 | — | — | 3684.744 | 3684.745 | 3684.746 | 3684.747 | 3684.748 |

COMPONENTS / ACCESSORIES

FRONT PANELS, HANDLES

Front panels



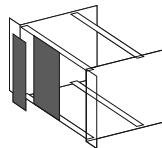
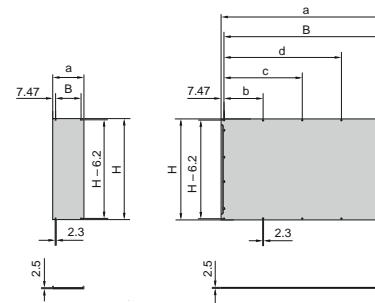
As filler panels, U-shaped

Material:

2.5 mm extruded aluminium section,
clear-chromated.

Supply includes:

1 front panel, one-piece (with 2 – 14 HP version)
or three-piece (with > 14 HP version),
1 vertical EMC gasket, version 1,
1 contact strip (three-piece only)
1 gasket strip (three-piece only).



! Also required:

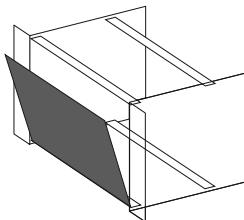
Slotted centering screws,
packs of 100, order no. 3687.050,
see page 165

Cross-head centering screws,
packs of 100, order no. 3687.051
see page 165

| HP | a mm | W (B) mm | b mm | c mm | d mm | Model No. RP | | | | | | |
|----|---------|-------------|---------|---------|---------|-----------------|------------------|------------------|-------------------|-------------------|------------------|------------------|
| | | | | | | 1 U H = 39,8 | 2 U H = 84,25 | 3 U H = 128,7 | 4 U H = 173,15 | 6 U H = 262,05 | 7 U H = 306,5 | 9 U H = 395,4 |
| 2 | 9,8 | — | — | — | — | — | — | 3685.177 | — | 3685.185 | — | 3685.193 |
| 3 | 14,9 | — | — | — | — | — | — | 3686.138 | — | 3686.139 | — | 3686.140 |
| 4 | 20,0 | — | — | — | — | — | — | 3685.178 | — | 3685.186 | — | 3685.194 |
| 5 | 25,1 | — | — | — | — | — | — | 3685.179 | — | 3685.187 | — | — |
| 6 | 30,1 | — | — | — | — | — | — | 3685.180 | — | 3685.188 | — | — |
| 7 | 35,2 | — | — | — | — | — | — | 3685.181 | — | 3685.189 | — | — |
| 8 | 40,3 | 25,4 | — | — | — | — | — | 3685.182 | — | 3685.190 | — | 3685.195 |
| 10 | 50,5 | 35,6 | — | — | — | — | — | 3685.183 | — | 3685.191 | — | — |
| 12 | 60,6 | 45,7 | — | — | — | — | — | 3685.184 | — | 3685.192 | — | 3685.196 |
| 14 | 70,8 | 55,9 | — | — | — | — | — | 3684.249 | — | 3684.258 | — | 3684.278 |
| 16 | 80,9 | 66,0 | — | — | — | — | — | 3685.348 | — | 3685.349 | — | — |
| 20 | 101,3 | 86,4 | — | — | — | — | — | 3684.250 | — | 3684.259 | — | 3684.279 |
| 21 | 106,4 | 91,4 | — | — | — | — | — | 3684.272 | — | 3684.275 | — | — |
| 28 | 141,9 | 127,0 | 61,0 | — | — | — | — | 3684.251 | — | 3684.260 | — | — |
| 40 | 202,9 | 188,0 | 91,5 | — | — | — | — | 3684.273 | — | 3684.276 | — | 3684.280 |
| 42 | 213,0 | 198,1 | 96,5 | — | — | — | — | 3684.252 | 3684.255 | 3684.261 | 3684.264 | 3684.267 |
| 60 | 304,5 | 289,6 | 96,5 | 193,0 | — | — | — | 3684.274 | — | 3684.277 | — | — |
| 63 | 319,7 | 304,8 | 101,6 | 203,2 | — | — | — | 3684.253 | 3684.256 | 3684.262 | 3684.265 | 3684.268 |
| 84 | 426,4 | 411,5 | 101,6 | 203,2 | 304,8 | 3684.247 | 3684.248 | 3684.254 | 3684.257 | 3684.263 | 3684.266 | 3684.269 |

COMPONENTS / ACCESSORIES

FRONT PANELS, HANDLES



Front panels

Hinged

Material:

2.5 mm aluminium, anodised

Supply includes:

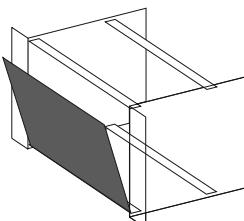
1 set of hinges,
assembly parts.

| U | HP | Model No. RP | |
|---|------------------|-------------------|---------------------|
| | | vertically hinged | horizontally hinged |
| 3 | 42 ¹⁾ | 3652.600 | 3652.500 |
| 3 | 84 ¹⁾ | 3652.610 | 3652.510 |
| 3 | 85 | — | 3684.291 |
| 4 | 85 | — | 3684.292 |
| 6 | 42 ¹⁾ | 3652.620 | 3652.520 |
| 6 | 84 ¹⁾ | 3652.630 | 3652.530 |
| 6 | 85 | — | 3684.293 |
| 7 | 85 | — | 3684.294 |
| 9 | 85 | — | 3684.295 |

! Also required:

¹⁾With rear mounting of 42 HP and 84 HP front panels, additional trim sections must be attached at the rear of the subrack.

Rear trim sections, see page 104



EMC front panels

Hinged

Material:

2.5 mm aluminium, clear-chromated



Supply includes:

1 front panel,
1 set of hinges,
1 contact strip,
1 gasket strip,
1 vertical EMC gasket, version 1,
assembly parts.

| U | HP | Model No. RP | |
|---|----|---------------------|--|
| | | horizontally hinged | |
| 3 | 84 | 3684.298 | |
| 4 | 84 | 3684.299 | |
| 6 | 84 | 3684.300 | |
| 7 | 84 | 3684.301 | |
| 9 | 84 | 3684.302 | |



Door cut-out trim

For subracks installed indoors

Material:

Aluminium

| Width | Packs of | Model No. UN |
|--------------------|----------|-----------------|
| 269,2 mm (1/2 19") | 2 | 3634.060 |
| 482,6 mm (19") | 2 | 3634.070 |

COMPONENTS / ACCESSORIES

FRONT PANELS, HANDLES



Mezzanine front panels

Extruded aluminium section

For PCI mezzanine cards (PMC). Conforms to IEEE 1386

Material/surface finish:

Extruded aluminium section, clear-chromated

Packs of

1

Model No. RP

3688.658

+ Accessories:

EMC seals,

see page 150

Assembly screws M2.5 x 6,
packs of 100, order no. 3654.340,
see page 164



Mezzanine front panels

Die-cast zinc

For PCI mezzanine cards (PMC). Conforms to IEEE 1386

Material:

Die-cast zinc

Packs of

1

Model No. RP

3688.659

+ Accessories:

EMC seals,

see page 150

Assembly screws M2.5 x 6,
packs of 100, order no. 3654.340,
see page 164



Support spacers

For mezzanine cards

10 mm, for mounting mezzanine cards.

Packs of

1

Model No. RP

3688.663



Covers

For mezzanine cut-outs

To conceal unused mezzanine cut-outs. The covers are simply clipped into the cut-outs.

Material:

Stainless steel

Packs of

1

Model No. RP

3688.660



EMC seals

For mezzanine front panels

For inserting into the all-round channel of the mezzanine front panels.

Material/surface finish:

Sealing ring made of conductive carbon filled silicon, sealing gasket made from stainless steel.

| Design | Packs of | Model No. RP |
|----------------|----------|--------------|
| Sealing ring | 1 | 3688.661 |
| Sealing gasket | 1 | 3688.662 |

COMPONENTS / ACCESSORIES

BOX-TYPE PLUG-IN UNITS



HeiPac BOX-TYPE PLUG-IN UNITS - type 1

Technical specifications:

Installation depth: 160 and 220 mm
Height: 3 U and 6 U to IEC 60 297-3
Rear panel to accommodate single connectors

Material:

Front panel: 2.5 mm aluminium, pure anodised
Rear panel: 2 mm aluminium, untreated
Side panel profile: extruded aluminium profile, pure anodised
Handle: aluminium, pure anodised
PCB holder: plastic

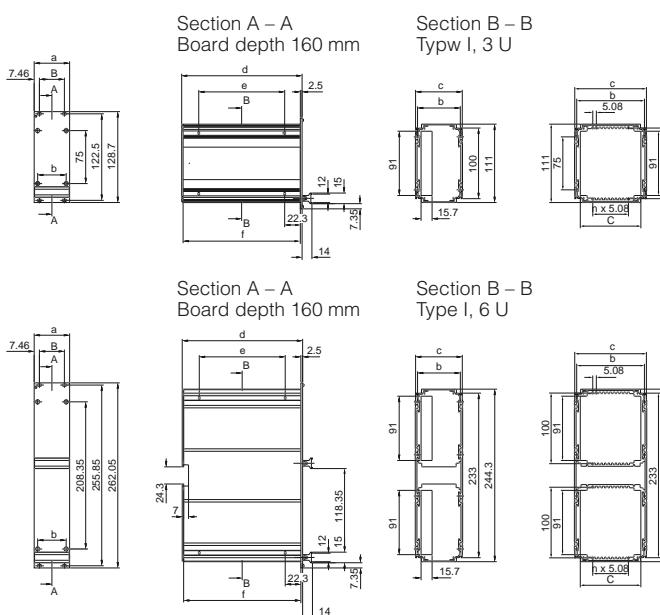
Available on request:

- box-type plug-in units in special sizes or printed
- EMC box-type plug-in units with EMC front panels

+ Accessories:

Covers, see page 152
Guide rails, see page 119
Individual components, see page 152

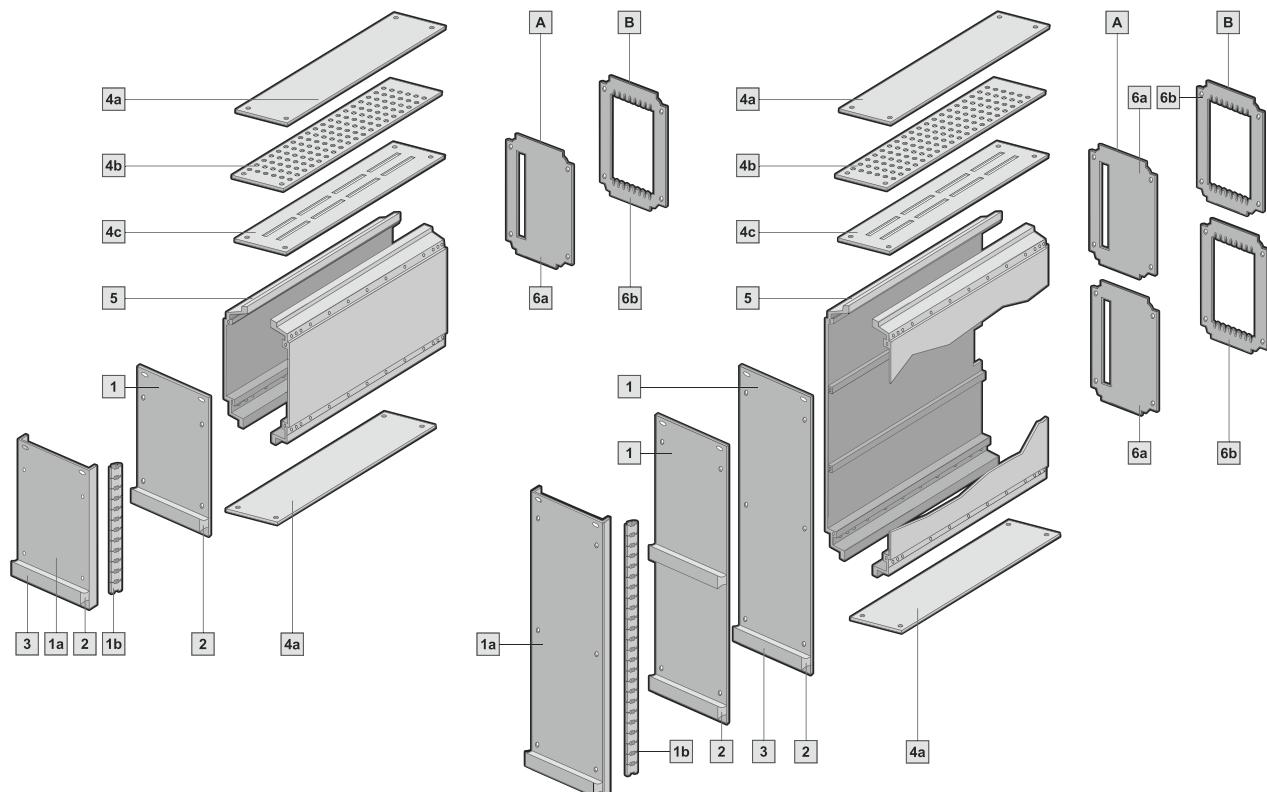
| HP | a mm | B mm | b mm | c mm | C mm | d mm | e mm | f mm | Order No. | | |
|------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|-----------------|-----------------|-----------------|
| | | | | | | | | | 3 U | 3 U | 6 U |
| Board depth 160 mm | | | | | | | | | | | |
| 6 | 32,2 | — | 20,3 | 27,5 | — | 171,5 | 122 | 167 | 3653.000 | — | — |
| 8 | 40,3 | — | 30,5 | 36,0 | — | 171,5 | 122 | 167 | — | 3653.010 | — |
| 10 | 50,5 | 35,6 | 40,6 | 46,2 | — | 171,5 | 122 | 167 | — | 3653.020 | 3653.100 |
| 12 | 60,6 | 45,7 | 50,8 | 56,4 | — | 171,5 | 122 | 167 | — | 3653.030 | 3653.110 |
| 14 | 70,8 | 55,9 | 60,9 | 66,5 | — | 171,5 | 122 | 167 | — | 3653.040 | 3653.120 |
| 21 | 106,3 | 91,4 | 96,4 | 102,0 | 86,3 | 171,5 | 122 | 167 | — | 3653.050 | 3653.130 |
| 28 | 141,9 | 127,0 | 132,0 | 137,6 | 121,8 | 171,5 | 122 | 167 | — | 3653.060 | 3653.140 |
| 42 | 213,1 | 198,1 | 203,2 | 208,8 | 193,0 | 171,5 | 122 | 167 | — | 3653.070 | 3653.150 |
| Board depth 220 mm | | | | | | | | | | | |
| 10 | 50,5 | 35,6 | 40,6 | 46,2 | — | 231,5 | 182 | 227 | — | 3653.200 | 3653.300 |
| 12 | 60,6 | 45,7 | 50,8 | 56,4 | — | 231,5 | 182 | 227 | — | 3653.210 | 3653.310 |
| 14 | 70,8 | 55,9 | 60,9 | 66,5 | — | 231,5 | 182 | 227 | — | 3653.220 | 3653.320 |
| 21 | 106,3 | 91,4 | 96,4 | 102,0 | 86,3 | 231,5 | 182 | 227 | — | 3653.230 | 3653.330 |
| 28 | 141,9 | 127,0 | 132,0 | 137,6 | 121,8 | 231,5 | 182 | 227 | — | 3653.240 | 3653.340 |
| 42 | 213,1 | 198,1 | 203,2 | 208,8 | 193,0 | 231,5 | 182 | 227 | — | 3653.250 | 3653.350 |
| Supply includes | | | | | | | | | | | |
| Front panel | | | | | | | | | 1 | 1 | 1 |
| Handle | | | | | | | | | 1 | 1 | 2 |
| Side panel | | | | | | | | | 1 | 2 | 2 |
| Cover plate incl. rear panel | | | | | | | | | 1 | — | — |
| Rear panel | | | | | | | | | — | 1 | 2 |
| PCB holder | | | | | | | | | 2 | 2 | 2 |
| Assembly parts (set) | | | | | | | | | 1 | 1 | 1 |



COMPONENTS / ACCESSORIES

BOX-TYPE PLUG-IN UNITS

HeiPac BOX-TYPE PLUG-IN UNITS – individual components



HeiPac box-type plug-in units, types I and II in 3 U and 6 U, individual components

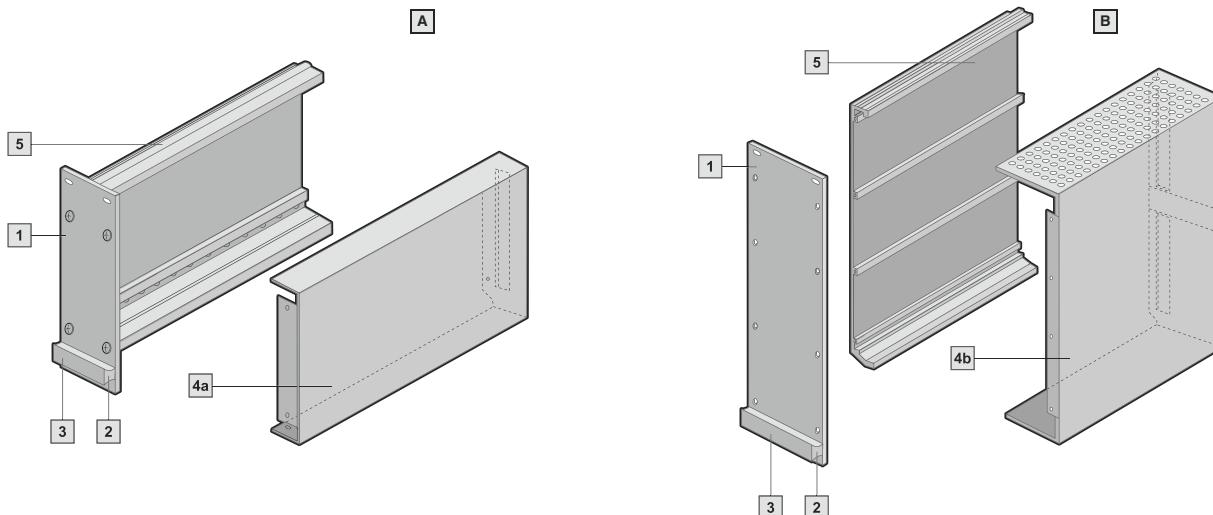
| Box-type plug-in units, individual components | A Type I | B Type II | Packs of | 8 HP | 10 HP | 12 HP | 14 HP | 21 HP | 8 HP | 42HP | Page |
|--|-------------|--------------|-------------|----------|----------|----------|----------|----------|----------|----------|------|
| Front panels of 2.5 mm aluminium, anodised surface finish | | | | | | | | | | | |
| for 3 U | ■ | ■ | 1 | 3685.769 | 3685.629 | 3685.630 | 3685.631 | 3685.636 | 3685.637 | 3685.638 | – |
| 1 for 6 U (for 1 handle) | ■ | ■ | 1 | 3685.767 | 3685.633 | 3685.634 | 3685.635 | 3685.639 | 3685.640 | 3685.641 | – |
| for 6 U (for 2 handles) | ■ | ■ | 1 | – | 3687.520 | 3687.521 | 3687.522 | 3687.523 | 3687.524 | 3687.525 | – |
| EMC front panels of 2.5 mm aluminium, surface finish clear-chromated (only for use in conjunction with 10 HP box-type plug-in unit) | | | | | | | | | | | |
| 1a for 3 U/10 HP box-type plug-in units | ■ | ■ | 1 | – | – | 3687.587 | – | – | – | – | – |
| 1a for 6 U/10 HP box-type plug-in units | ■ | ■ | 1 | – | – | 3687.588 | – | – | – | – | – |
| EMC gaskets, vertical, for front panels | | | | | | | | | | | |
| 1b for 3 U | ■ | ■ | 1 | – | – | 3686.975 | – | – | – | – | 116 |
| 1b for 6 U | ■ | ■ | 1 | – | – | 3686.977 | – | – | – | – | 116 |
| Handle type V | | | | | | | | | | | |
| 2 of aluminium, anodised surface finish | ■ | ■ | 1 | 3685.600 | 3685.601 | 3685.602 | 3685.603 | 3685.761 | 3685.762 | 3685.763 | 145 |
| 2 of plastic | ■ | ■ | 1 | 3685.492 | – | 3685.493 | – | 3685.494 | – | – | 145 |
| Identification strips | | | | | | | | | | | |
| 3 of 0.5 mm aluminium, anodised surface finish | ■ | ■ | 1 | 3685.751 | 3685.752 | 3685.753 | 3685.754 | 3685.755 | 3685.756 | 3685.757 | 145 |
| Covers 4a 4b of 1 mm aluminium, untreated 4c of 1.2 mm sheet steel, painted, RAL 9006 (with vent slots) | | | | | | | | | | | |
| 4a unvented, for board depth 160 mm | ■ | ■ | 1 | 3687.555 | 3685.689 | 3685.690 | 3685.691 | 3685.692 | 3685.693 | 3685.694 | – |
| 4a unvented, for board depth 220 mm | ■ | ■ | 1 | 3687.562 | 3685.701 | 3685.702 | 3685.703 | 3685.704 | 3685.705 | 3685.706 | – |
| 4b vented, for board depth 160 mm | ■ | ■ | 1 | 3687.585 | 3685.683 | 3685.684 | 3685.685 | 3685.686 | 3685.687 | 3685.688 | – |
| 4b vented, for board depth 220 mm | ■ | ■ | 1 | – | 3685.695 | 3685.696 | 3685.697 | 3685.698 | 3685.699 | 3685.700 | – |
| 4c vent slots for guide rails, for board depth 160 mm | ■ | ■ | 1 | – | 3687.556 | 3687.557 | 3687.558 | 3687.559 | 3687.560 | 3687.561 | – |
| 4c vent slots for guide rails, for board depth 220 mm | ■ | ■ | 1 | – | 3687.563 | 3687.564 | 3687.565 | 3687.566 | 3687.567 | 3687.568 | – |
| Side panel of extruded aluminium section, anodised surface finish | | | | | | | | | | | |
| 5 3 U, for board depth 160 mm | ■ | ■ | 1 | – | – | – | 3685.645 | – | – | – | – |
| 5 6 U, for board depth 160 mm | ■ | ■ | 1 | – | – | – | 3685.648 | – | – | – | – |
| 5 3 U, for board depth 220 mm | ■ | ■ | 1 | – | – | – | 3685.646 | – | – | – | – |
| 5 6 U, for board depth 220 mm | ■ | ■ | 1 | – | – | – | 3685.649 | – | – | – | – |
| Rear panel 6a of 2.0 mm aluminium, untreated 6b of 1.2 mm sheet steel, spray-finished | | | | | | | | | | | |
| 6a for 1 connector | ■ | – | 1 | 3687.536 | 3685.707 | 3685.708 | 3685.709 | 3685.710 | 3685.711 | 3685.712 | – |
| 6b for several connectors | – | ■ | 1 | – | – | – | – | 3687.537 | 3687.538 | 3687.539 | – |

Assembly parts for box-type plug-in units, see page 164

COMPONENTS / ACCESSORIES

BOX-TYPE PLUG-IN UNITS

HeiPac BOX-TYPE PLUG-IN UNITS – individual components



HeiPac box-type plug-in units, types V and VI in 3 U and 6 U, individual components

Type V with cover (unvented)/type VI with cover (vented)

| Box-type plug-in units, individual components | A Type V | B Type VI | Packs of | 6 HP | 7 HP | 8 HP | 10 HP | 12 HP | 14 HP | Page |
|--|-------------|--------------|-------------|----------|----------|----------|----------|----------|----------|------|
| Front panels of 2.5 mm aluminium, anodised surface finish | | | | | | | | | | |
| [1] for 3 U | ■ | ■ | 1 | 3685.768 | 3685.628 | 3685.769 | 3685.629 | 3685.630 | 3685.631 | – |
| [1] for 6 U | ■ | ■ | 1 | 3685.766 | 3685.632 | 3685.767 | 3685.633 | 3685.634 | 3685.635 | – |
| Handle type V | | | | | | | | | | |
| [2] of aluminium, anodised surface finish | ■ | ■ | 1 | 3685.598 | 3685.599 | 3685.600 | 3685.601 | 3685.602 | 3685.603 | 145 |
| [2] of plastic | ■ | ■ | 1 | – | – | 3685.492 | – | 3685.493 | – | 145 |
| Identification strips for 3 U | | | | | | | | | | |
| [3] of 0.5 mm aluminium, anodised surface finish | ■ | ■ | 1 | 3685.749 | 3685.750 | 3685.751 | 3685.752 | 3685.753 | 3685.754 | 145 |
| Cover of 1 mm aluminium, clear-chromated surface finish | | | | | | | | | | |
| [4a] unvented, 3 U, for board depth 160 mm | ■ | – | 1 | 3685.774 | 3685.658 | 3685.776 | 3685.659 | 3685.660 | 3685.661 | – |
| [4a] unvented, 3 U, for board depth 220 mm | ■ | – | 1 | 3685.775 | 3685.674 | 3685.777 | 3685.675 | 3685.676 | 3685.677 | – |
| [4a] unvented, 6 U, for board depth 160 mm | ■ | – | 1 | 3685.717 | 3685.662 | 3685.764 | 3685.663 | 3685.664 | 3685.665 | – |
| [4a] unvented, 6 U, for board depth 220 mm | ■ | – | 1 | 3685.718 | 3685.678 | 3685.765 | 3685.679 | 3685.680 | 3685.681 | – |
| [4b] vented, 3 U, for board depth 160 mm | – | ■ | 1 | 3685.770 | 3685.650 | 3685.772 | 3685.651 | 3685.652 | 3685.653 | – |
| [4b] vented, 3 U, for board depth 220 mm | – | ■ | 1 | 3685.771 | 3685.666 | 3685.773 | 3685.667 | 3685.668 | 3685.669 | – |
| [4b] vented, 6 U, for board depth 160 mm | – | ■ | 1 | 3685.713 | 3685.654 | 3685.715 | 3685.655 | 3685.656 | 3685.657 | – |
| [4b] vented, 6 U, for board depth 220 mm | – | ■ | 1 | 3685.714 | 3685.670 | 3685.716 | 3685.671 | 3685.672 | 3685.673 | – |
| Side panel of extruded aluminium section, anodised surface finish | | | | | | | | | | |
| [5] 3 U, for board depth 160 mm | ■ | ■ | 1 | | | 3685.645 | | | | – |
| [5] 6 U, for board depth 160 mm | ■ | ■ | 1 | | | 3685.648 | | | | – |
| [5] 3 U, for board depth 220 mm | ■ | ■ | 1 | | | 3685.646 | | | | – |
| [5] 6 U, for board depth 220 mm | ■ | ■ | 1 | | | 3685.649 | | | | – |

Assembly parts for box-type plug-in unit types I, II, V, VI

| Description | for installation of: | Packs of | Model No. RP | |
|---|--|----------|--------------|-----|
| Assembly kit for box-type plug-in unit I/II, 3 U | Box-type plug-in units, type I/II, 3 U | 1 set | 3687.589 | – |
| Assembly kit for box-type plug-in unit I/II, 6 U | Box-type plug-in units, type I/II, 6 U | 1 set | 3687.590 | – |
| Assembly kit for box-type plug-in unit type V/VI | Box-type plug-in units, type V/VI | 1 set | 3685.294 | – |
| Assembly kit for box-type plug-in unit with EMC front panel | Box-type plug-in unit with EMC front panel | 1 set | 3687.591 | – |
| Assembly kit for plastic handles | Plastic handles on box-type plug-in units | 1 set | 3687.519 | 164 |

Guide rails for box-type plug-in units, see page 119

For more screws, see page 164

COMPONENTS / ACCESSORIES

BOX-TYPE PLUG-IN UNITS



Vertical drive module

For the installation of drives or CD-ROMs. May be installed in all HeiPac subracks.

- Optionally prepared for EMC or non-EMC
- Accommodation for 3½" or 5¼" drives or CD-ROM, vertical
- Front panel and support plate integrated

Material:

Front panel: 2.5 mm aluminium
Support plate: Aluminium

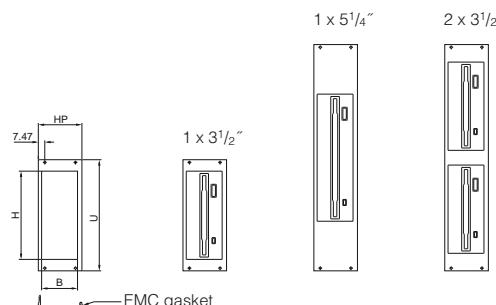
Surface finish:

Clear-chromated


Supply includes:

1 front panel with support plate,
1 EMC gasket (with EMC version),
assembly parts.

| Installation drives | Front panel | | Depth drive approx. mm | Front panel cut-out | | Model No. RP | |
|---------------------|-------------|----|------------------------|---------------------|--------------|-----------------|-----------------|
| | U | HP | | Height (H) mm | Width (B) mm | EMC | Non-EMC |
| 1 x 3½" | 3 | 8 | 160 | 102 | 26 | 3684.469 | 3685.078 |
| 1 x 5¼" | 6 | 10 | 220 | 147 | 41,5 | 3684.481 | 3685.090 |
| 1 x 3½" | 3 | 8 | 160 | — | — | — | 3685.091 |
| | 3 | 10 | 160 | — | — | — | 3685.092 |
| 2 x 3½" | 6 | 8 | 160 | — | — | — | 3685.095 |
| | 6 | 10 | 160 | — | — | — | 3685.096 |



Guide rails


For drive chassis

For routing drive chassis in the subrack.

Material:

Aluminium

Supply includes:

Press-fit pin.

| For installation depth mm | Packs of | Model No. RP |
|---------------------------|----------|-----------------|
| 160 | 1 | 3686.989 |

Note:

Two guide rails are required for each drive chassis.
Guide rails 4.4" for plastic drives, see page 122.

! Also required:

Assembly screws,
packs of 100, order no. 3654.340,
see page 164

PCB holder


For box-type plug-in units

For fastening PCBs in box-type plug-in units.

Material:

PBTP, basic material to UL 94-V0

Supply includes:

Assembly parts.

| Packs of | Model No. RP |
|----------|-----------------|
| 2 | 3606.321 |

COMPONENTS / ACCESSORIES

POWER SUPPLIES

Maximum Performance and Efficient Power Supply

HEITEC offers an extensive range of power supply units in various designs. The range includes 482.6 mm (19") compatible, Open Frame and PS/2 variants to supply DC voltage to controllers, systems and plant in many different areas.

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- **Open Frame (VME)**
- **3 U, 6 U (VME), plug-in**
- **3 U, 6 U (CPCI), plug-in**
- **PS/2 (AT/ATX)**
- **UPS**

HEITEC POWER SUPPLIES OVERVIEW

Open Frame (VME)



E.g. 400 Watt

Order no. see page 158

Applications:

Power supplies for VMEbus systems

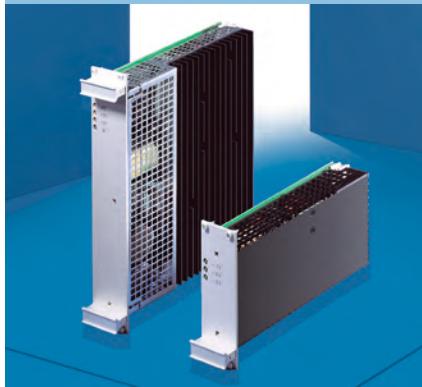
Technical specifications:

- 400 Watt
- Open frame version
- For installing on mounting base or rear panel
- Built-in fans
- Wide-range input
- Aluminium case
- 3 outputs

Benefits at a glance:

- Small size with high power output
- All-purpose model
- Approvals: EN 60 950, UL 1950, IEC 950 and CSA 22.2 No. 234
- Compact design

3 U, 6 U, plug-in (VME)



E.g. 130, 160, 270 Watt

Order no. see page 159

Applications:

Plug-in power supply for VMEbus systems with integrated VMEbus signalling

Technical specifications:

- 130, 160, 270 Watt
- 482.6 mm (19") rack-mount unit to IEC 60 297-3
- Installation depth 160 mm
- Mounted by guide rails
- Connection via connectors H15, IEC 60 603-2
- 3 outputs

Benefits at a glance:

- 482.6 mm (19") compatible
- Easily exchangeable
- Approvals: EN 60 950, VDE 0805 and IEC 950

3 U, 6 U, plug-in (PCI)



E.g. 250, 350 Watt

Order no. see page 160

Applications:

Plug-in power supply for CompactPCI systems

Technical specifications:

- 250, 350 Watt
- 482.6 mm (19") rack-mount unit to IEC 60 297-3
- Installation depth 160 mm
- Mounted by guide rails
- Connection via connectors type Positronic, 47-pole PICMG 2.9
- 4 outputs

Benefits at a glance:

- 482.6 mm (19") compatible
- Easily exchangeable
- Approvals: EN 60 950 A1-A4, CSA 22.2, UL 1950, CE
- Conforms to PICMG specification



HEITEC POWER SUPPLIES OVERVIEW

UPS



PS/2 (AT/ATX)



Redundant



E.g. 180 Watt

Order no. see page 161

Applications:

Uninterruptible power system for installation in a 5 1/4 drive slot. Guarantees a continuous power supply even in the event of a mains failure (6 min.).

Technical specifications:

- 300 VA/180 Watt
- Installation in 5 1/4 drive slots
- Integral, maintenance-free batteries

Benefits at a glance:

- Small size
- Approvals: CE, EN 60 950

E.g. 250, 300, 400 Watt

Order no. see pages 162

Applications:

Power supply unit for ATX- and CPCI systems

Technical specifications:

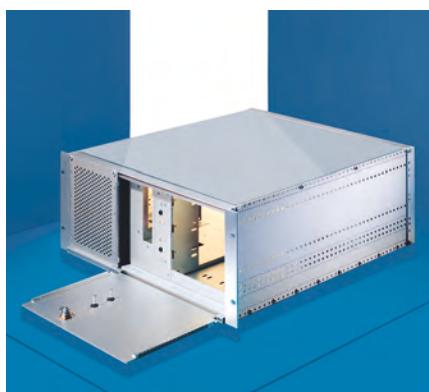
- 250, 300, 400 Watt
- Open frame version
- For installing on mounting base or rear panel
- Built-in fan
- Sheet steel case
- PFC active/passive

Benefits at a glance:

- All-purpose model
- Approvals: CSA

E.g. 2 x 300 Watt

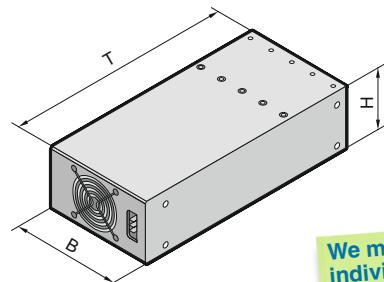
Redundant power supply units on request



COMPONENTS / ACCESSORIES

POWER SUPPLIES

HeiPac power supplies – Open Frame



B = Width
T = Depth

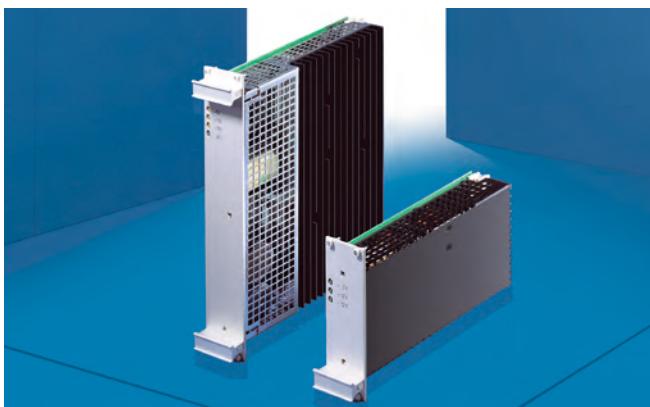
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Email:
eps-quote@heitec.de
see page 14

| | | | | | |
|--|--|----------|-------|--|--|
| | 400 W | | | | |
| Height (H) mm | 63,0 | | | | |
| Width (B) mm | 126,5 | | | | |
| Depth (T) mm | 279,0 | | | | |
| Model No. RP | 3686.629 | | | | |
| Output sizes | | | | | |
| Output | 1 | 2 | 3 | | |
| Output voltage | 5 V | +12 V | -12 V | | |
| Output current | 60 A | | | | |
| | 85 A | 8 A | | | |
| Maximum power output | 400 W | | | | |
| Setting range of output voltage | 4,5 – 5,5 V (60 A) 2,5 – 5,7 V (85 A) | 5 – 16 V | | | |
| Load compensation (load variation 0 – 100 %) | < 0,5 % | | | | |
| Line regulation (U _e min. – U _e max.) | < 25 mV | < 60 mV | | | |
| Base load | – | | | | |
| Infeed compensation (Sense) | 0,5 V | – | | | |
| Residual ripple (max.) | 1 % | 2 % | | | |
| Temperature coefficient | 0,03 %/°C | | | | |
| Overvoltage protection | yes | | | | |
| Overload protection ¹⁾ | Thermal current limiting | | | | |
| Overload protection, thermal | – | | | | |
| Overload protection, electronic | – | | | | |
| Input variables | | | | | |
| Mains voltage U _e | 90 – 264 V AC | | | | |
| Mains frequency | 47 – 63 Hz | | | | |
| Power factor | > 0,95 | | | | |
| Startup current limitation | < 50 A | | | | |
| Efficiency (typ.) | 75 % | | | | |

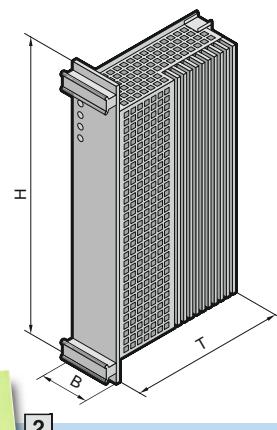
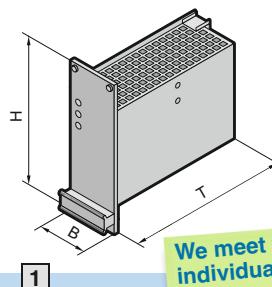
COMPONENTS / ACCESSORIES

POWER SUPPLIES

HeiPac power supplies for VME, plug-in



B = Width
T = Depth



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see page 14

| | [1] | [2] | |
|----------------------------------|-----------------|-----------------|-----------------|
| Height (H) | 3 U | 6 U | |
| Width (B) | 10 HP | 8 HP | 12 HP |
| Depth (T) mm | 170,0 | 170,0 | 170,0 |
| Model No. RP power supply | 3686.469 | 3686.471 | 3685.306 |
| Model No. RP front panel | 3685.304 | 3686.472 | 3685.307 |

Output sizes

| Output | 1 | 2 | 3 | 1 | 2 | 3 |
|---|---|--------------|--------------|-----------------------------|--------------|-----------|
| Output voltage | 5 V | +12 V | -12 V | 5 V | +12 V | -12 V |
| Output current 3 U, 10 HP/6 U, 8 HP | 14 A | 5 A | 2 A | 20 A | 5 A | 2 A |
| Output current 3 U, 12 HP/6 U, 12 HP | 20 A | 5 A | 2 A | 35 A | 6 A | 2 A |
| Maximum power output | 130 W | | | 160 W (8 HP), 270 W (12 HP) | | |
| Setting range of output voltage | ± 5 % | – | | ± 5 % | – | |
| Load compensation (load variation 0 – 100 %) | < 0,1 % | < 1 % | | < 0,1 % | < 1 % | |
| Line regulation ($U_e \text{ min.} - U_e \text{ max.}$) | < 0,2 % | | | < 0,2 % | | |
| Base load | – | | | | | |
| Compensation time | < 1 ms at I_a 20 – 80 % | | | | | |
| Infeed compensation (Sense) | ± 0,25 V | – | | ± 0,25 V | – | |
| Residual ripple (max.) | < 35 mV | < 20 mV | | < 45 mVss | < 30 mVss | < 15 mVss |
| Interference voltage | 50 mVss typ. (bandwidth 20 MHz) | | | | | |
| Temperature coefficient | 0,025 %/K | | | | | |
| Oversupply protection (automatically recovery) | 125 % + 5 % | 125 % + 10 % | | 125 % ± 5 % | 120 % ± 10 % | |
| Overload protection | typ. 110 % I_a rated, U/I characteristic curve acting on all outputs, outputs short circuit-resistant | | | | | |
| Overtemperature protection | Cuts out if the internal temperature is too high, cuts in again with hysteresis | | | | | |
| AC-FAIL, SYSRESET | TTL signals with 48 mA drive current, active low | | | | | |
| ON delay | < 0,5 s | | < 0,5 s | | | |
| Ramp-up time | \leq 50 ms | | \leq 50 ms | | | |

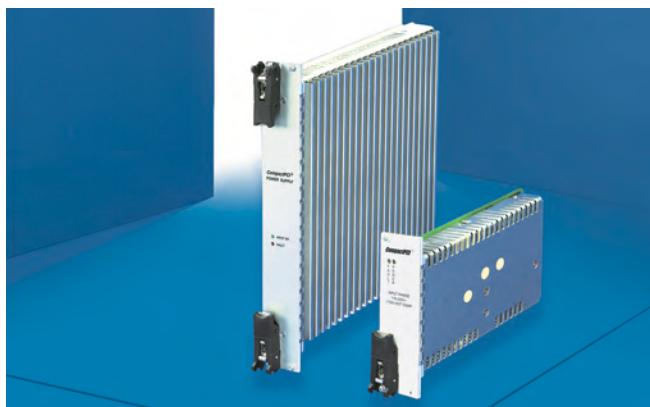
Input variables

| | | |
|----------------------------|---|---|
| Mains voltage U_e | AC 187 – 264 V, 50/60 Hz with automatic changeover to AC 90 – 138 V | AC 187 – 264 V, 50/60 Hz with automatic changeover to AC 90 – 138 V |
| Mains frequency | 50 – 60 Hz | |
| Efficiency (typ.) | 80 % | |
| Startup current limitation | < 10 As typ. – in cold state < 15 As typ. – in warm state | < 25 As typ. – in cold state < 35 As typ. – in warm state |
| Fuse | 4 AT | 8 AT |

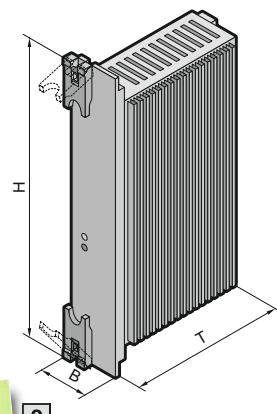
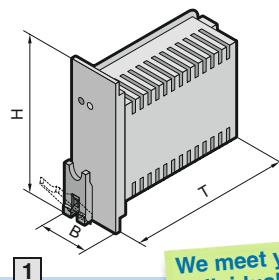
COMPONENTS / ACCESSORIES

POWER SUPPLIES

HeiPac power supplies for CPCI, plug-in



B = Width
T = Depth



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see page 14

| | [1] | [2] |
|--|---|---|
| Height (H) | 3 U | 6 U |
| Width (B) | 8 HP | 8 HP |
| Depth (T) mm | 170,0 | 170,0 |
| Model No. RP AC power supply | | 3688.695 |
| Model No. RP DC power supply | | 3688.528 |
| Output sizes | | |
| Output | | U ₁ U ₂ U ₃ U ₄ U ₁ U ₂ U ₃ U ₄ |
| Output voltage | | 5 V 3,3 V 12 V -12 V 5 V 3,3 V 12 V -12 V |
| Output current | | 33 A 33 A 6 A 1 A 40 A 40 A 9 A 1 A |
| Output current U ₁ and U ₂ | | 55 A max. |
| Maximum power output | | 250 W |
| Base load (nur U ₁) | 5 % | - |
| Load compensation (dyn.) | < 3 % at 25 % load variation (1 A/μs) 1 % after 300 μs | |
| Line regulation | < ± 1 % (90 – 264 V AC) | < ± 1 % (90 – 264 V AC) U ₁ , U ₂ , U ₃ |
| Infeed compensation (Sense) | | 0,25 V 0,25 V 0,25 V - 0,25 V 0,25 V 0,25 V - |
| Residual ripple (PARD) | 50 mVss or 1 % (bandwidth 20 MHz) | |
| Temperature coefficient | < ± 0,02 %/K (0° – 50°C) after 20 min. start-up time | |
| Oversupply protection | 125 % ± 10 %, reset by switching on again | |
| Overload protection | Current limiting of all outputs, automatic return at normal load | |
| Overtemperature protection | At overtemperature switches off all outputs, automatic return at normal temperature | |
| Input variables | | |
| Mains voltage or DC input | 90 – 264 V AC, 47 – 63 Hz, 3,6 A max. | 90 – 264 V AC, 47 – 63 Hz, 7 A |
| Power Factor | 0,99 at AC 115 V, full load | |
| Starting current | 15 As (115 V AC) cold start, 30 As (230 V AC) cold start | |
| Fuse | 4 A, 250 V AC | 10 A, 250 V AC |
| Signals and control cables | | |
| Power Fail (Pin 42) | In the event of a mains failure > 4 ms before output voltages exit control range. Power fail also triggered by failure or under-voltage of V1 or V2 (3 U) or any output (6 U) | |
| DEG (Pin 38) | In case of overtemperature | - |
| Remote enable | Use logic „0“ (TTL level) | |
| Remote inhibit | Use logic „1“ (TTL level) | |
| LED displays, two-colour | Green: "Power ON" and output voltages present Red: Error | |

COMPONENTS / ACCESSORIES

POWER SUPPLIES



Uninterruptible power supply

- Ensures power continuity in the event of a mains failure
- Suitable for installation in a 5 1/4" drive holder
- Floating contacts (DB-9) for UPS communication: Indicates the operating states: mains ok/ mains failure/end of battery capacity/input for UPS deactivation signal
- Integral maintenance-free batteries
- CE certified, IEC 60 950 tested (LVD/EMC)

Note:

The UPS does not have an RS232 interface. Upon request you can obtain an adaptor cable including CD-ROM with shutdown drivers for automatic termination of program routines and shutdown of the system for Windows, Netware and Linux. Additional battery (5 1/4") to extend to 500 VA available on request.

Technical specifications:

Output 300 VA/180 W
Input/output voltage:
220, 230, 240 V AC ± 15 %
Input frequency: 50 Hz ± 5 %
Output frequency: 50 Hz ± 1 %

| Packs of | Order No. |
|----------|-----------|
| 1 | 3659.080 |

Technical specifications:

Switch-over time: < 4 ms
Charging time: 6 – 8 hours (to 90 % capacity)
Operating environment:
Temperature 0°C – 40°C
Humidity 0 – 90 %
Status displays:
LED for mains operation, back-up, low battery, over-temperature
Acoustic alarms:
Mains interruption (sounds every 5 sec.), Low battery (sounds every sec.)
Test function:
Test switch on the front panel to check the UPS function
Approvals:
CE, EN 60 950 tested (LVD/EMC)
Hold-up time: 6 min.



Front panel

For ATX power supply

Front panel with cut-outs for mounting the ATX power supply units in the subrack.

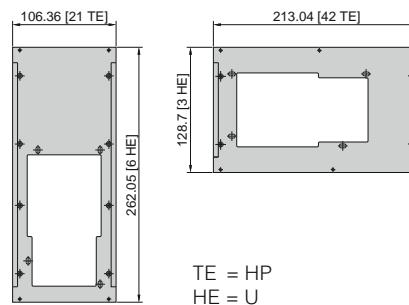
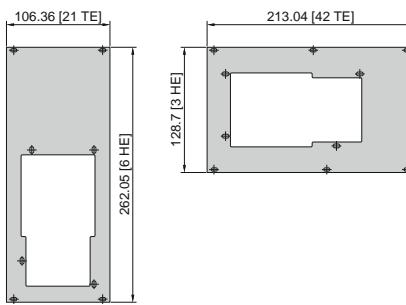
Material:

Aluminium, clear-chromated

Supply includes:

Assembly parts,
EMC gaskets (with EMC version).

| U | HP | Model No. RP | |
|---|----|--------------|----------|
| | | EMC | Non-EMC |
| 3 | 42 | 3685.331 | 3685.328 |
| 6 | 21 | 3685.332 | 3685.329 |



TE = HP
HE = U

COMPONENTS / ACCESSORIES

POWER SUPPLIES

AT/ATX power supply



For ATX

- PS/2 model
- Built-in fan
- Short circuit-protected
- CSA-approved
- On/off switch
- PFC active/passive
- W x H x D = 86 x 150 x 140 mm
- 47 – 63 Hz

Supply includes:

Connection cable.

| Design | Power | Packs of | Model No. RP |
|--------|-------|----------|-----------------|
| AT | 300 W | 1 | 3688.118 |
| ATX | 400 W | 1 | 9916.222 |

Technical specifications:

3688.118

300 W max./
230 V AC
5,0 V/30,0 A
–5,0 V/0,5 A
12,0 V/12,0 A
–12,0 V/0,5 A
PFC passive

9916.222

400 W max./
90 – 240 V AC
3,3 V/20,0 A
5,0 V/20,0 A
–5,0 V/0,3 A
12,0 V/32 A
–12,0 V/32 A
+5 VSB/2,5 A
3,3 V u. 5 V plus
max. 150 W
3,3 V, 5 V u. 12 V
plus max. 385 W
PFC aktive

ATX power supply 1 U



For ATX

- 2 built-in fans
- Short circuit-protected
- On/off switch
- PFC active
- W x H x D = 85 x 40 x 230 mm

Supply includes:

Connection cable.

| Design | Packs of | Order No. |
|--------|----------|-----------------|
| ATX | 1 | 3688.130 |

Technical specifications:

250 W max./
90 – 264 V AC
47 – 63 Hz
3,3 V/16,0 A
5,0 V/18,0 A
–5,0 V/0,3 A

12,0 V/18 A
–12,0 V/0,8 A
+5 VSB/2,5 A
+3,3 V plus 5 V total
max. 120 W

COMPONENTS / ACCESSORIES

POWER SUPPLIES



Mounting base for power supplies

For ATX

- Attaches to the subrack side panel

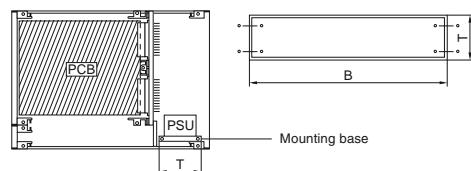
Material:

2 mm aluminium, clear-chromated

Supply includes:

Assembly parts.

| Width (B) mm | Depth (T) mm | Order No. |
|--------------|--------------|-----------|
| 431.8 | 100 | 3684.323 |
| 431.8 | 130 | 3684.324 |



Female connector type M24/8

IEC 60 603-2

- Female connector for plug-in CPCI power supplies
- Quality level 2 to IEC 60 603-2 (DIN 41 612)
- Optional 20 A high current contacts for straight conductor connection either crimp or solder
- Volume resistance max. 1.5 mΩ
- Max. rated current: 40 A

Supply includes:

5 connection sockets (crimping or soldering method)

| Type of connection | Packs of | Order No. |
|--------------------|----------|-----------|
| Soldering | 1 set | 3687.665 |
| Crimping | 1 set | 3687.666 |

! Also required:

For mounting in the subrack, a Z rail is required, see page 114.

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INDIVIDUAL NEEDS!**

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the field of electronic packaging
that is not in our catalogue?

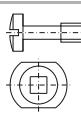
Please contact us! We will gladly
submit a tailored quotation.

Phone: + 49 – 9126 – 29 34 0
Email: eps-quote@heitec.de

COMPONENTS / ACCESSORIES

ASSEMBLY PARTS

Assembly parts

| For the attachment of | Description | Dimensions | Model No. | Packs of |
|---|---|--|--|--------------------------|
| Front panels to unit side panels | Oval csk-screw ISO 7047-4.8-Z-A2K | M3 x 8 |  | 3606.550 100 |
| Rear panels to box-type plug-in units | Panhead screw ISO 7045-4.8-Z-A2K | M3 x 8 |  | 3606.560 100 |
| PCB holders (plastic) to front panels, top | Oval csk-screw ISO 7047-4.8-Z-A2K | M2.5 x 10 |  | 3606.610 100 |
| - Horizontal rails to side panels - Divider panels to horizontal rails - Horizontal rails to vertical supports | Panhead self-locking screw similar to DIN ISO 7045-8.8-Z-A2K | M4 x 12 |  | 3654.300 100 |
| Front/rear horizontal rails for side panels (HeiPac EASY) | Drill screw, T20, self-locking | M4 x 16 | | 3634.430 100 |
| Centre horizontal rails for side panels (HeiPac EASY) | Fastening screw, T20, self-locking | M4 x 12 | | 3634.435 100 |
| - PCBs to PCB holders (die-cast for 3 U), top - PCBs to extractor handles with 6 U | Panhead posidrive screw ISO 7045-4.8-Z-A2K | M2.5 x 8 |  | 3654.320 100 |
| - PCB holder (plastic) to type V/VI handles, bottom - PCBs to PCB holders (plastic) - Backplanes to threaded inserts | Panhead posidrive screw ISO 7045-4.8-Z-A2K | M2.5 x 10 |  | 3654.330 100 |
| - Connectors to Z rails - Z rails to horizontal rails - Type V/VI handles to partial front panels, bottom right for ≥ 5 HP - Aluminium guide rails to horizontal rails - Mezzanine front panels | Panhead posidrive screw ISO 7045-4.8-Z-A2K | M2.5 x 6 |  | 3654.340 100 |
| Aluminium guide rails to horizontal rails (fastening of square nuts) | Retaining cage | M2.5 | | 9901.417 100 |
| Handle type V (plastic) to front panels and box-type plug-in units | Mounting kit for type V handle (plastic): Cover black Cover grey Hex nut Screw Screw Square nut DIN 562-04-A2K | M2.5 M2.5 x 16 M2.5 x 12 M2.5 | | 3687.519 1 set |
| Connectors to PCBs | Panhead posidrive screw ISO 7045-4.8-Z-A2K | M2.5 x 12 |  | 3654.350 100 |
| Guide rails (plastic) to horizontal rails | Screw for plastic WN 141 | M2.2 x 6 |  | 3654.360 100 |
| - Flat front panels to handles type V, VI - Aluminium guide rails to horizontal rails | Square nut DIN 562-A2K | M2.5 |  | 3654.370 100 |
| - Flat front panels to horizontal rails - Trim frame to conceal the front sections of the horizontal mounting kit | Captive screws (cheese-head) and plastic collars | M2.5 x 11 |  | 3658.160 100 sets |
| Flat front panels | Plastic collars | |  | 3687.021 100 |
| PCB to type III handle | Screw for plastic WN 141 | 3,0 x 8 |  | 3658.190 100 |
| - PCBs to PCB holders (plastic) - PCB holders to front panels, top | Hex nut ISO 4032-8 | M2.5 |  | 3658.210 100 |
| - Backplanes to threaded inserts - Air partitions to horizontal rails | Mounting kit for backplanes: Panhead posidrive screw ISO 7045-4.8-Z-A2K Washer PE, natural DIN 125 | M2.5 x 6 2,7 |   | 3684.019 100 |
| - Covers to mounting blocks - EMC contact strips | Flat csk-screw ISO 7046-1-4.8-Z-A2K | M3 x 6 |  | 3684.233 100 |
| Covers to side panels | Mounting block | |  | 3684.234 10 |
| Type V/VI handle to front panels | Bracket | |  | 3684.435 100 |
| Female connector to PCB attachment | Pop rivet DIN 7340-B-CuZn | 2,5 x 0,3 x 10 | | 3684.482 100 |

COMPONENTS / ACCESSORIES

ASSEMBLY PARTS

Assembly parts

| For the attachment of | Description | Dimensions | Model No. | Packs of |
|--|--|------------------------------|-----------------|----------|
| Ground contact to keyable guide rails | Fastening screw for ground contact | 3,5 x 12 | 3684.109 | 50 |
| Fans to fan mounting plate | Mounting kit for fans: Flat csk-screw ISO 7046-1-4.8-Z-A2K Hex nut ISO 4032-8 Serrated washer DIN 6798-A-Fst-A2K | M4 x 12 M4 4,3 | 3685.197 | 1 set |
| Covers to side panels | Mounting kit for covers: Mounting block Flat csk-screw ISO 7046-1-4.8-Z-A2K | | 3685.256 | 24 sets |
| PCB holders (die-cast) to front panels, top | Oval csk-screw DIN ISO 7047-4.8-Z-A2K | M2.5 x 8 | 3685.282 | 100 |
| – Covers box-type plug-in units type I/II – Contact/spring sections for 3-part front panels | Flat csk-screw ISO 7046-1-4.8-Z-A2K | M2.5 x 5 | 3685.289 | 100 |
| – Handles on front panels for box type plug-in units – Front panels to hinge strip | Flat csk-screw ISO 7046-1-4.8-Z-A2K | M2.5 x 6 | 3685.290 | 100 |
| Holder (horizontal assembly kit) to horizontal rail | Flat csk-screw similar to DIN ISO 7046-1-4.8-Z-A2K | M2.5 x 5 | 3686.916 | 100 |
| Holder (horizontal assembly kit) to horizontal rail | Flat csk-screw similar to DIN ISO 7046-1-4.8-Z-A2K | M2.5 x 8 | 3686.917 | 100 |
| Contact and spring sections on 3-part front panels without countersink | Panhead posidrive screw DIN ISO 7046-4.8-Z-A2K | M2.5 x 5 | 3686.924 | 100 |
| Set back flanges to side panels | Mounting kit for set back flanges: Panhead self-locking screw similar to DIN ISO 7045-8.8-Z-A2K Hex nut ISO 4032-8 Washer | M4 x 8 M4 4,3 | 3687.015 | 4 sets |
| Fastening the threaded inserts in horizontal rails | Grub screw ISO 7434-14H | M2.5 x 8 | 3687.020 | 100 |
| – EMC front panels to horizontal rails – EMC trim frame to conceal the front sections of the horizontal mounting kit | Centering screw, slotted | M2.5 x 11 | 3687.050 | 100 |
| EMC front panels to horizontal rails | Centering screw, posidrive | M2.5 x 11 | 3687.051 | 100 |
| EMC front panels to horizontal rails | Centering screw, hex screws | M2.5 x 11 | 3688.709 | 100 |
| Front panels and rear panels to horizontal rails | Collar screw, cheese-head, slotted | M2.5 x 11 | 3685.097 | 100 |
| Type V/VI handles (aluminium) to front panels | Mounting kit for type V/VI handles: Panhead posidrive screw ISO 7045-4.8-Z-A2K Bracket Square nut DIN 562-11H-A2K | M2.5 x 6 M2.5 | 3687.146 | 1 set |

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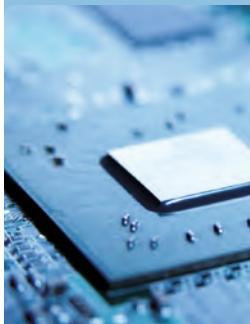
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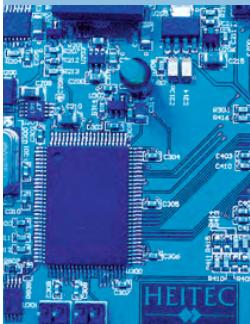
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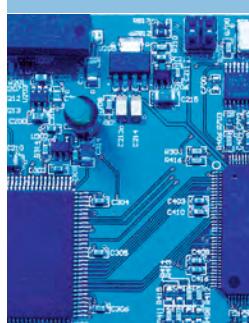
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