

CONNECT AND PROTECT

Systems

OVERVIEW

MAIN KATALOG

Cabinets 1

Wall mounted cases 2

Accessories for cabinets and wall mounted cases . . 3

Climate control . . 4

Electronics cases 5

Subracks/ 19" chassis 6

Front panels, plug-in units . . . 7

Systems 8

Power supply units 9

Backplanes 10

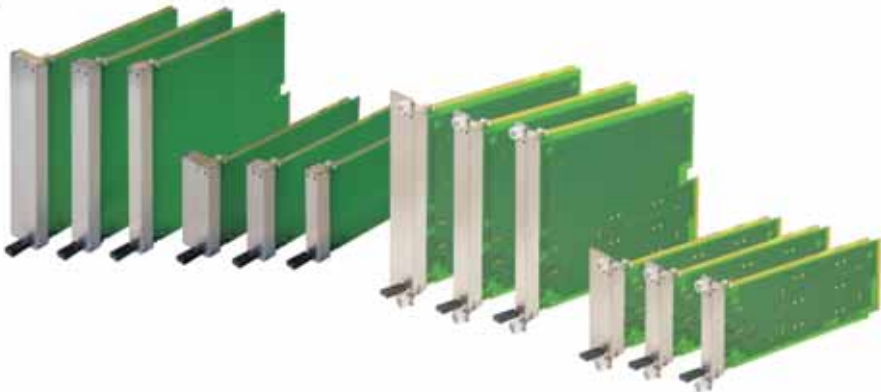
Connectors, front panel component system 11

Appendix 12

AdvancedTCA™



AdvancedMC™



μTCA™



CompactPCI

CompactPCI Serial,
CompactPCI PlusIO,
PSB



Open Modular
Computing Specifications

VME, VME64x, VXS, VPX



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Systems – AdvancedTCA

OVERVIEW

MAIN KATALOG

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Electronics cases	5
Subracks/ 19" chassis	6
Front panels, plug-in units	7
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12707010

EVERYTHING A SYSTEM NEEDS

Schroff's AdvancedTCA systems make the development of new, forward-looking telecommunications installations with high data-processing rates as simple for you as possible.

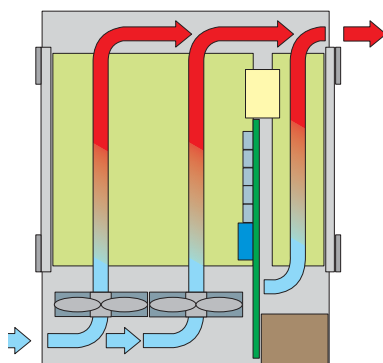
We offer everything on the basis of the AdvancedTCA specification that you have come to expect from a Schroff complete system

Excellent mechanics, optimised cooling, reliable power supply, efficient data distribution and secure system management.

But that is not all:
As a matter of course, our complete systems are also available in shock and vibration-resistant versions with UL certification.

With Schroff, AdvancedTCA means matured products and wide ranges of options:

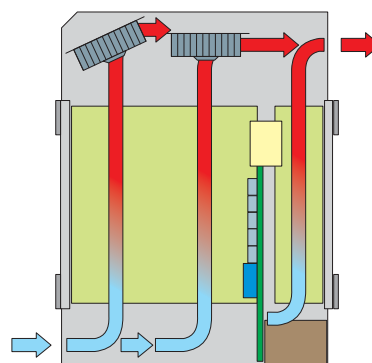
- Dimensions from 2 to 14 U
- 2 to 16 slot installations
- Cooling concepts (push, pull, push-pull)
- Backplane topologies (dual star, full mesh)
- Shelf manager based on Pigeon Point technology



12706053

PUSH COOLING

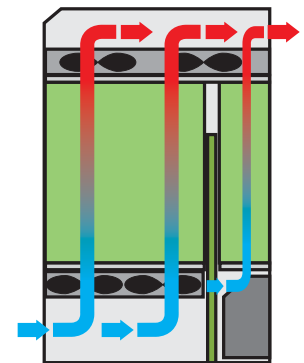
The fans are situated near the air inlet and push the air through the system.



12706055

PULL COOLING

The fans are situated near the air outlet and suck the air through the system.



12606007

PUSH-PULL

The fans are situated below and above the board cage for maximum airflow and optimal redundancy.

Systems – AdvancedTCA

OVERVIEW

SYSTEMS AND COMPONENTS AVAILABLE WORLD-WIDE

- Very wide product range with regard to dimensions, number of slots, cooling designs, backplane topologies and shelf managers; all completely assembled and tested
- NEBS ready, UL recognized
- For mounting in ETSI, 19" or 23" cabinets
- Cooling up to 400 W per board



12705006 12705005

ADVANCEDTCA SYSTEMS

- 2 ... 14 U; 2 ... 16 slot
- Backplane with dual star, full mesh topology, 15-fold connected fabric interface with hub/hub or node/node configuration; bussed or radial IPMB
- Push, pull or push-pull cooling
- Shelf manager based on Pigeon Point technology



12708006 127070173

ADVANCEDTCA ACCESSORIES

- Front panels and handles
- Shelf manager based on Pigeon Point technology
- Backplane

e.g. individual configuration and assembly
e.g. modifications (integration)
e.g. downloads (CAD drawings, user manuals, test reports)
e.g. custom solutions

Overview 8.2

Systems

5 U, 6 slot	8.5
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14 U, 14 slot, ECO, 84 HP	8.8

Accessories 8.10

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Systems – AdvancedTCA

ADVANCEDTCA 300/40 SERIES, 6 SLOT, DC



Front view

12710001



Accessories: optional shelf manager

12708006



- 40 G backplane with 6 slots, triple replicated mesh topology; 2 versions:
 - Bussed IPMB
 - Radial IPMB
- 300 W cooling capacity per slot at an ambient temperature of 55 °C
- -48 V_{DC}/ -60 V_{DC} input voltage, two redundant power entry modules (PEM)
- Two hot swap fan trays, airflow from right to left (push/pull cooling), air filter exchangeable from front
- 2 shelf managers and 1 SAP (shelf alarm panel) can be installed
- Conforms to AdvancedTCA Standard PICMG 3.0 rev.3.0
- UL recognized, E229721 type T06



DELIVERY COMPRISES (completely assembled, wired and tested)

Item	Qty	Description
1	1	Shielded 19" subrack system, St, zinc-plated, 5 U, 84 HP, 464 mm deep, front with overlays, black, RAL 9005, with 6 horizontal slots for 8 U, 6 HP, 280 mm depth AdvancedTCA boards; 6 horizontal slots at rear, 8 U, 6 HP, 70 mm deep
2	1	Backplane, 6 slot, triple replicated mesh, 2 hub slots, 4 node slots
3	2	Redundant -48 V _{DC} / -60 V _{DC} power entry module (PEM) with circuit breaker
4	2	Hot-swap fan tray with 6 fans each for cooling the boards (> 350 W/ board); Filter mat
5	2	Front panel; Space to accommodate shelf manager
6	1	Front panel; Space for fitting shelf alarm panel (SAP)

ORDER INFORMATION

AdvancedTCA system	Backplane type	Part no.
AdvancedTCA 300/40 series, 6 slot, DC	Triple replicated mesh, 40 Gbps, bussed IPMB	11596-160
	Triple replicated mesh, 40 Gbps, radial IPMB	11596-161

Accessories

Shelf manager (bussed) 1 piece - page 8.19	21596-300
Shelf manager (radial) 1 piece - page 8.19	21596-301
Cable RJ 45 Cat 5 plug - D-Sub plug, 9-pin, length 2 m, 1 piece; page 8.19	23204-187
Front panels and handles	Page 8.11
AdvancedMC carriers	Page 8.26

Replacement parts (FRUs)

Power entry module (PEM) - page 8.19	21990-058
Fuse 30 A/80 V for power entry module, PU 10 pieces	21191-207
Shelf alarm panel (SAP)	21596-077
Fan tray - page 8.20	21990-057
Air filter - page 8.22	21990-059

NOTE

- Modified systems available on request

Systems – AdvancedTCA

ADVANCEDTCA 300/40 SERIES, 14 SLOT, DC



Front view

12707005

- 40 G backplane with 14 slots, dual star topology; 2 versions:
- 300 W cooling capacity per slot at an ambient temperature of 55 °C
- -48 V_{DC}/ -60 V_{DC} input voltage, two redundant power entry modules (PEM)
- Redundant hot-swap fan trays, airflow from bottom front to top rear; air filter exchangeable from front
- Shelf alarm panel (SAP) and shelf alarm display (SAD)
- Prepared for two Schroff shelf managers with Pigeon Point ShMM 700 for bussed IPMB
- Conforms to AdvancedTCA standard PICMG 3.0 rev. 3.0
- UL recognized, E229721 type T07



DELIVERY COMPRISES (completely assembled, wired and tested)

Item	Qty	Description
1	1	Shielded 19" subrack system, St, 13 U, 84 HP, 383 mm deep; powder-coated, black, RAL 9005; front 14 slot, 8 U, vertical board mounting, boards 6 HP, 280 mm deep, rear 6 HP, 70 mm deep; cable channel at front and rear
2	1	Backplane, 14 slot
3	2	Redundant power entry module (PEM), -48 V _{DC} / -60 V _{DC} , plugged in at rear, with 4 pairs of lines each per input (8 fuses, 30 A)
4	1	Fan unit at top; 3 redundant fan trays with 400 m ³ /h (230 cfm) each, with 2 fans each to cool the front and rear I/O boards; filter mat
5	1	Shelf alarm panel (SAP)
6	1	Shelf alarm display (SAD)
7	2	Mounting bracket, for assembly in 19" cabinets

ORDER INFORMATION

AdvancedTCA system	Backplane type	Part no.
AdvancedTCA 300/40 series, 14 slot, DC	Dual star, 40 Gbps, bussed IPMB	11990-600
	Dual star, 40 Gbps, bussed IPMB	11990-601
	Full mesh, 25 Gbps, radial IPMB	11990-603

Accessories

Shelf manager (bussed) 1 piece - page 8.19	21596-300
Shelf manager (radial) 1 piece - page 8.19	21596-301
Cable RJ 45 Cat 5 plug - D-Sub plug, 9-pin, length 2 m, 1 piece; page 8.19	23204-187
Mounting bracket 13 U RAL 9005, from 19" to 23", PU 1 kit	21596-278
Front panels and handles	Page 8.11
AdvancedMC carriers	Page 8.26

Replacement parts (FRUs)

Chassis Data Module - page 8.24	21596-023
Power entry module (PEM) - page 8.20	21596-020
Fuse 30 A/80 V for power entry module, PU 10 pieces	21191-207
Shelf alarm panel (SAP) - page 8.23	21596-140
Shelf alarm display (SAD) - page 8.24	21596-026
Fan tray - page 8.21	21990-184
Air filter - page 8.22	21596-138

NOTE

- Modified systems available on request

Systems – AdvancedTCA

ADVANCEDTCA 450/40 SERIES, 2 SLOT, DC, COOLING FROM FRONT TO REAR



Front view

12715001



Rear view

12715002

Power connection

12715003

- Conforms to AdvancedTCA Standard PICMG 3.0 rev. 3.0
- 40 G backplane with 2 slots, 15x connected fabric interface
- 450 W cooling capacity per slot at an ambient temperature of 55°C
- Input voltage -48 V_{DC}/–60 V_{DC}, two redundant power connections with fuse and switch
- Two hot-swap fan modules on rear of case, airflow from front to rear; air filter replaceable from front
- Prepared for one shelf alarm panel and two Schroff shelf managers with Pigeon Point ShMM 700 for bussed or radial IPMB
- FRU file to support the shelf manager with Pigeon Point ShMM 700 are available for download
- UL recognized, E229721 type T15

DELIVERY INCLUDES (completely assembled, cabled and tested)

Item	Qty	Description
1	1	Shielded 19" subrack, St, 3 U, 84 HP, 464 mm deep, powder coated, black, RAL 9005; with 2 horizontal slots at front for 8 U, 6 HP, 280 mm deep boards and 2 horizontal slots at rear, 8 U, 6 HP, 70 mm deep
2	1	Backplane, 2 slots
3	2	Redundant power connection, -48 V DC/-60 V DC, at the rear, with 1 pair of power terminals (1 fuse, 30 A) each
4	2	Redundant fan unit, rear, with 2x2 fans each
5	1	Air filter replaceable from front
6	2	Mounting bracket, for installation in 19" cabinets

ORDER INFORMATION

Cooling capacity	Airflow	Transmission rate	Voltage	Number of slots	Height U	Description	Part no.
450 W/slot	from front to rear	40 Gbps	- 48/-60 V _{DC}	2	3	15x connected fabric interface with node/node configuration, bussed IPMB	11990-800
450 W/slot	from front to rear	40 Gbps	- 48/-60 V _{DC}	2	3	15x connected fabric interface with hub/hub configuration, bussed IPMB	11990-801
450 W/slot	from front to rear	40 Gbps	- 48/-60 V _{DC}	2	3	15x connected fabric interface with node/node configuration, radial IPMB	11990-802
450 W/slot	from front to rear	40 Gbps	- 48/-60 V _{DC}	2	3	15x connected fabric interface with hub/hub configuration, radial IPMB	11990-803

Accessories

Shelf manager, ACB-V, bussed 1 piece	21596-300
Shelf manager ACB-V, radial 1 piece	21596-301
Shelf manager, ACB-VI, bussed 1 piece	21990-404
Shelf manager ACB-VI, radial 1 piece	21990-405
Shelf alarm panel 1 piece	21596-077
Front panels and handles	Seite 8.11
AdvancedMC carriers	Seite 8.26

Replacement parts (FRUs)

Fan tray - page 8.21	21990-526
Air filter - page 8.22	21990-527

NOTE

- Modified systems available on request

Systems – AdvancedTCA

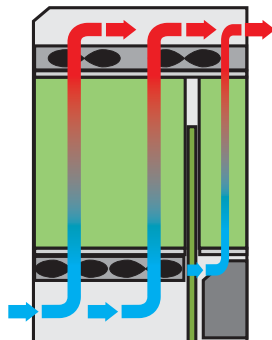
ADVANCEDTCA 450/40 SERIES CHASSIS, 14 SLOT, DC



Front view



Accessories: optional shelf manager Push-pull cooling



- 40 G backplane with 14 slots, dual star topology, 2 versions: bussed and radial IPMB
- 450 W cooling capacity per slot at an ambient temperature of 55 °C
- -48 V_{DC}/ -60 V_{DC} input voltage, two redundant power entry modules (PEM)
- 2 redundant hot-swap fan trays in push-pull configuration, airflow from bottom front to top rear; air filter exchangeable from front
- Prepared for 2 x Schroff shelf managers with Pigeon Point ShMM 700 for bussed or radial IPMB topology
- Conforms to AdvancedTCA standard PICMG 3.0 Rev.3.0
- UL recognized, E229721 type T08

DELIVERY COMPRISES (completely assembled, wired and tested)

Item	Qty	Description
1	1	Shielded 19" plug-in units, St, 14 U, 84 HP, 383 mm deep, powder coated, black, RAL 9005; with 14 vertical slots at front for 8 U, 6 HP, 280 mm deep AdvancedTCA boards; 14 vertical slots at rear, 8 U, 6 HP, 70 mm deep; cable channel on front and rear
2	1	Backplane, 14 slots
3	2	Redundant power entry module (PEM) -40 ... -72 V _{DC} , inserted at rear, with 2 pairs of lines per input
4	1	Fan tray at top with 6 fans, each 565 m ³ /h (336 cfm)
5	1	Fan tray at bottom with 6 fans, each 565 m ³ /h (336 cfm)
6	1	Telco alarm panel integrated in the bottom fan drawer
7	1	Air filter, can be changed from the front
8	2	Mounting bracket, for assembly in 19" cabinets

ORDER INFORMATION

AdvancedTCA system	Backplane type	Part no.
AdvancedTCA 450/40 series chassis, 14 slot, DC	Dual star, 40 Gbps, bussed IPMB	11990-100
	Dual star, 40 Gbps, radial IPMB	11990-101

Accessories

Shelf manager (bussed) 1 piece - page 8.19	21596-300
Shelf manager (radial) 1 piece - page 8.19	21596-301
Cable RJ 45 Cat 5 plug - D-Sub plug, 9-pin, length 2 m, 1 piece; page 8.19	23204-187
Front panels and handles	Page 8.11
AdvancedMC carriers	Page 8.26

Replacement parts (FRUs)

Chassis Data Module - page 8.24	21990-226
Power entry module (PEM) - page 8.20	21990-224
Fuse 30 A/80 V for power entry module, PU 10 pieces	21990-225
Fan tray - page 8.22	21990-227
	21990-228
Air filter - page 8.22	21990-229

NOTE

- Modified systems available on request



Systems – AdvancedTCA

ADVANCEDTCA ECO MODULAR SYSTEM, 14 SLOTS, DC



- Thanks to their reduced hot-swap features in the fan module, PEM, and CDM areas, Schroff ECO modular systems are optimized for cost-sensitive applications
- A sophisticated modular concept opens up the option of obtaining the ECO modular system in several versions with a range of performance classes
- 14 U, 14-slot system, airflow from bottom front to top rear, 2 slots for Schroff shelf manager ACB-VI
- Support for on-blade shelf management
- A fan module under the board cage featuring an integrated, replaceable air filter, RJ45 sockets for connecting serial interfaces of Schroff shelf managers, plus LEDs for displaying Telco alarms
- Fan control via Schroff shelf managers, on-blade shelf managers, or – in autonomous mode – a temperature sensor in the air inlet area
- Option of additional temperature sensor in air exit area
- Non-hot-swap PEM at the rear, redundant in 450 W/slot version, non-redundant in 250 W/slot version
- Shelf FRU data EEPROMs directly on the backplane rear, UL recognized, E229721 type T16/T19

DELIVERY INCLUDES (completely assembled, cabled and tested)

12715004

Item	Qty	Description
1	1	Shielded 19" subrack, St, 14 U, 84 HP, 383 mm deep, powder-coated, black, RAL 9005, with 14 vertical slots at front for 8 U, 6 HP, 280 mm deep boards and 14 slots at rear, 8 U, 6 HP, 70 mm deep
2	1	Backplane, 14 slots
3a	1	250 W/slot: Non-redundant power connection, -48 V _{DC} / -60 V _{DC} , at the rear, with 1 pair of power terminals (2 fuses, 50 A each)
3b	1	450 W/slot: Redundant power connection, -48 V _{DC} / -60 V _{DC} , at the rear, with 4 pairs of power terminals (8 fuses, 50 A each)
4	1	Fan unit with 8 fans, exchangeable air filter, Telco alarm display, and interfaces for shelf managers
5	2	Mounting bracket, for installation in 19" cabinets

12708006



Accessories: optional shelf manager



ORDER INFORMATION

Cooling capacity	Power	Airflow	Transmission rate	Voltage	Number of slots	Height U	Backplane type	Part no.
250 W/slot	250 W/slot, non-redundant	from front to rear	40 Gbps	-48/-60 V _{DC}	14	14	Dual star, bussed IPMB	11990-900
450 W/slot	450 W/slot, redundant	from front to rear	40 Gbps	-48/-60 V _{DC}	14	14	Dual-dual star, bussed IPMB	11990-903
Accessories								
Shelf manager, ACB-VI, bussed 1 piece								21990-404

NOTE

- Modified systems available on request

Systems – AdvancedTCA

ADVANCEDTCA 450/40 FC SERIES, 14 SLOT, DC



Picture shows 11990-190

12718001



12708006

Accessories: optional shelf manager



ORDER INFORMATION

Airflow	Depth mm	Number of slots	Backplane type	Transmission rate	Cooling capacity	Voltage	Height U	Width HP	Part no.
From bottom to top	383	14	Dual star, 40 Gbps, bussed IPMB	40 Gbps	450 W / slot	- 48/-60 V _{DC}	14	84	11990-190
From front to rear	383	14	Dual star, 40 Gbps, bussed IPMB	40 Gbps	450 W / slot	- 48/-60 V _{DC}	14	84	11990-192

Accessories

Shelf manager, ACB-VI, bussed 1 piece									21990-404
AdvancedTCA air deflector Front panel, 8 U, 6 HP, stainless steel, for rear I/O section incl. air baffle (65 mm deep) with mesh gasketing, 1 piece									21591-099
AdvancedTCA air deflector Front panel, 8 U, 6 HP, stainless steel, incl. air baffle (280 mm deep) with mesh gasketing, 1 piece									21591-079
AdvancedTCA air deflector Front panel, 8 U, 6 HP, Al extrusion, incl. air baffle (280 mm deep) with mesh gasketing, 1 piece									21596-008
AdvancedTCA air deflector Front panel, 8 U, 6 HP, Al profile for rear I/O section incl. air baffle (65 mm deep) with mesh gasketing, 1 piece									21591-107
Front panel, stainless steel to cover an unused shelf manager slot, width 15.22 mm, height 99.33 mm, incl. EMC gasket, 1 piece									21596-012
Cable for the serial console of the shelf manager via the SAP RJ 45 Cat 5 plug - D-Sub plug, 9-pin, length 2 m, 1 piece									23204-187

- 40 G backplane with 14 slots, dual star topology, bussed IPMB
- 450 W cooling capacity per slot at an ambient temperature of 55 °C
- -48 V_{DC}/60 V_{DC} input voltage, two redundant power entry modules (PEM)
- 2 redundant hot-swap fan trays in push-pull configuration
- Prepared for 2 x Schroff shelf managers with Pigeon Point ShMM 700 for bussed IPMI topology
- Shelf Manager slots on the right hand side in the ATCA card cage
- Shelf Manager consoles and Telco alarm interface in lower fan tray
- Rear I/O on all slots
- Air filter exchangeable from front
- Air flow either from bottom to top or from front to rear

DELIVERY INCLUDES (completely assembled, cabled and tested)

Item	Qty	Description
1	1	Shielded 19" plug-in units, St, 14 U, 84 HP, 383 mm deep, powder coated, black, RAL 9005; with 14 vertical slots at front for 8 U, 6 HP, 280 mm deep AdvancedTCA boards; 14 vertical slots at rear, 8 U, 6 HP, 70 mm deep; cable channel on front and rear
2	1	Backplane, 14 slots
3	2	Redundant power entry module (PEM) -40 ... -72 V _{DC} , inserted at rear, with 2 pairs of lines per input
4	1	Fan tray at top with 6 fans, each 565 m ³ /h (336 cfm)
5	1	Fan tray at bottom with 6 fans, each 565 m ³ /h (336 cfm)
6	1	Telco alarm panel integrated in the bottom fan drawer
7	1	Air filter, can be changed from the front
8	2	Mounting bracket, for assembly in 19" cabinets

NOTE

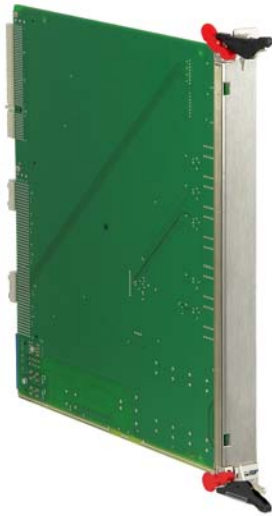
- Modified systems available on request

ACCESSORIES OVERVIEW

- Front panel **reinforced** with die-cast end piece and IEA handle **with** spring loading, see from page 8.11
 - Kit
 - Individual configuration
- Front panel and IEA handle **without** spring loading, see from page 8.13
 - Kit
 - Individual configuration (Al or stainless steel) with/without spring loading
- AdvancedTCA front panels with integrated side two cover, see page 8.15
- AdvancedTCA air deflectors, filler panels, see page 8.16
- Shelf managers, see page 8.19
- Backplanes, see page 8.18
- Replacement parts - field replacement units (FRUs), see from page 8.19

Systems – AdvancedTCA

FRONT PANEL REINFORCED WITH DIE-CAST END PIECE AND IEA HANDLE WITH SPRING LOADING



Delivery excludes board

12708004



AdvancedTCA spring-loaded IEA handle

12707017

- Schroff hot-swap handle (when open, the spring loading aids the complete opening of the handle and thus facilitates the insertion of the board)
- Front panel: aluminum or stainless steel, reinforced by the die-cast end piece (increases robustness of front panel)
- Versions for 2 microswitch types (plunger or lever contact)
- EMC textile gasket

DELIVERY COMPRISES (Kit)

Item	Qty	Description
1	1	Front panel
3	2	Die-cast endpiece, alignment pin, knurled screws M3
2	1	Lower IEA handle incl. bearing, spring assisted, (pre-fitted as transport securing device)
4	1	Upper IEA handle incl. bearing, spring-assisted, (pre-fitted as transport securing device)
5	1	EMC gasket, length 299 mm
6	1	Fixing material kit and user manual

ORDER INFORMATION

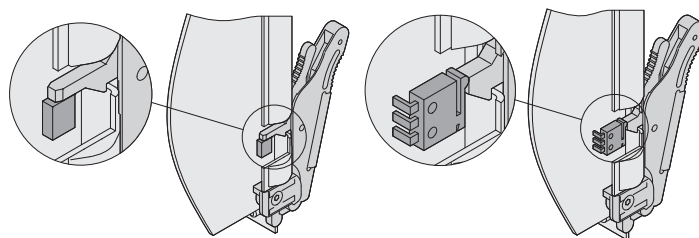
Height U	Width HP	Front panel reinforced with die-cast end piece and IEA handle with spring loading	Part no.
8	6	Stainless steel, with AdvancedTCA IEA handle (plunger type)	20818-160
8	6	Stainless steel, with AdvancedTCA IEA handle (lever type)	20818-161
8	6	Al extrusion, 1 mm, with AdvancedTCA IEA handle (plunger style)	20818-169
8	6	Al extrusion, 1 mm, with AdvancedTCA IEA handle (lever style)	20818-170

Accessories

AdvancedTCA handle (IEA) design element Plastic, transparent, to clip on, for customers' logos, UL 94 V-0, PU 10 pcs	20818-140
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NOTE

- Front panels with copper-beryllium gasket (CuBe) available on request
- Front panels with board cover on request
- With its front panel service Schroff offers extensive modification options, including custom cut-outs, foils and screen printing
- Intuitive Ergonomic Aesthetic = IEA handle



Handle with plunger contact (plunger style)

12707051


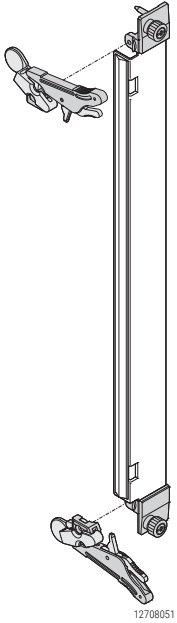
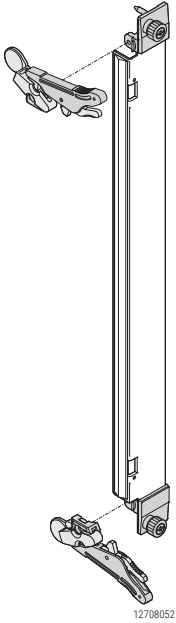
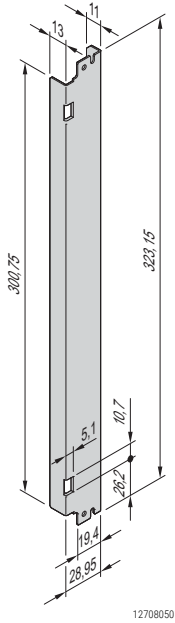
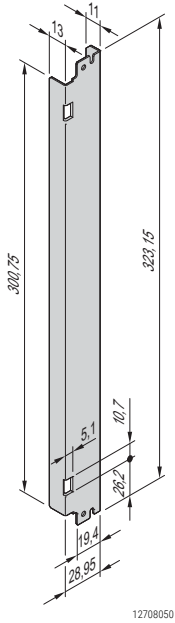

Handle with lever contact (lever style)

12707052

Systems – AdvancedTCA

CONFIGURATION: FRONT PANEL REINFORCED WITH DIE-CAST END PIECE AND IEA HANDLE WITH SPRING LOADING

ORDER INFORMATION

	Handle with spring loading and die-cast end piece		Front panel		EMC textile gasket	Design element for handle
	Plunger style	Lever style	Stainless steel	Al extrusion		
 12708004	 12708051	 12708052	 12708050	 12708050	 12712051	 12706024
	2 x handle with spring loading; 2 x die-cast end pieces, PIN, M3 screw; with the IEA handle, when open, the spring loading holds the handle open and thus facilitates insertion of the board		8 U, 6 HP, stainless steel, 1 mm	8 U, 6 HP, Al extrusion, 1 mm	PET triangular gasket, height 2.3 mm, conductive coating CuNi, UL 94 V0, self-adhesive	Plastic, transparent, clips in, UL 94 V-0
	PU 1 kit		1 piece	1 piece	PU 10 pieces	PU 10 pieces
Plunger style	20818-163	—	31596-791	31596-899	21596-376	20818-140
Lever style	—	20818-164	31596-792	31596-900	21596-376	20818-140

NOTE

- Intuitive **E**rgonomic **A**esthetic = IEA handle

Systems – AdvancedTCA

FRONT PANELS AND IEA HANDLE (WITHOUT SPRING LOADING)



Left: application example; right: scope of delivery without board

- Schroff hot-swap handle (when open, the handle must be held in the open position)
- Stainless steel front panel
- Versions for 2 microswitch types (plunger or lever contact)
- EMC textile gasket

DELIVERY COMPRISES ((kit))

Item	Qty	Description
1	1	Stainless steel or Al extrusion front panel incl. alignment pin and M3 knurled screws
2	1	Lower handle incl. bearing
3	1	Upper handle incl. bearing
4	1	EMC mesh gasket
5	1	Fixing material kit (M2.5 screws incl. thread locking compound)

ORDER INFORMATION

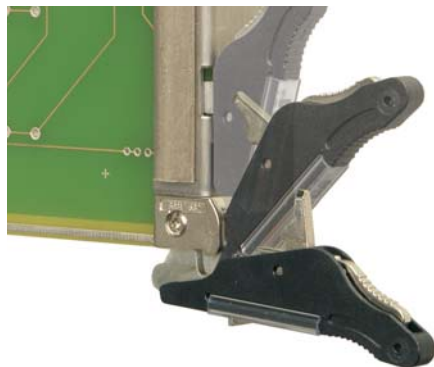
Height U	Width HP	Front panels and IEA handle (without spring loading)	Part no.
8	6	Stainless steel, with AdvancedTCA IEA handle (plunger type)	21596-324
8	6	Stainless steel, with AdvancedTCA IEA handle (lever type)	21596-325

Accessories

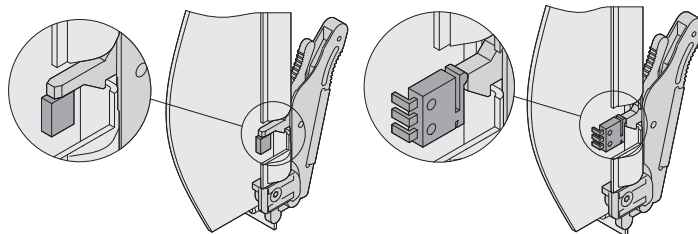
AdvancedTCA handle (IEA) design element Plastic, transparent, to clip on, for customers' logos, UL 94 V-0, PU 10 pcs	20818-140
--	-----------

NOTE

- Al front panel available through individual configuration service
- Front panels with copper-beryllium gasket (CuBe) available on request
- Front panels with board cover on request
- With its front panel service Schroff offers extensive modification options, including custom cut-outs, foils and screen printing
- Intuitive Ergonomic Aesthetic = IEA handle



AdvancedTCA IEA handle



Handle with plunger contact (plunger style)

Handle with lever contact (lever style)

Systems – AdvancedTCA

FRONT PANELS AND IEA HANDLE (WITH/WITHOUT SPRING LOADING)

ORDER INFORMATION

	IEA handle (with spring loading)	IEA handle (without spring loading)	Front panel		EMC textile gasket	Design element for handle
			Stainless steel	Al extrusion		
 12909002	 12707017 Pre-fitted handle with microswitch activation; when open, the spring loading of the IEA handle holds the handle open and thus facilitates insertion of the board	 12707017 Pre-fitted handle with microswitch activation; when open, the handle must be held in open position	 12705059 Stainless steel, 1 mm, 8 U, 6 HP	 12708050 Al extrusion, 2.5 mm, 8 U, 6 HP	 12712051 PET triangular gasket, height 2.3 mm, conductive coating CuNi, UL 94 V-0, self-adhesive	 12706024 Plastic, transparent, clips in, UL 94 V-0
	PU 10 pieces	PU 10 pieces	1 piece	1 piece	PU 10 pieces	PU 10 pieces
Plunger style, upper	20818-145	20818-121	31591-422	31596-575	21596-376	20818-140
Plunger style, lower	20818-146	20818-122	31591-422	31596-575	21596-376	20818-140
Lever style, upper	20818-147	20818-123	31596-423	31596-576	21596-376	20818-140
Lever style, lower	20818-148	20818-124	31596-423	31596-576	21596-376	20818-140

NOTE

- Intuitive **E**rgonomic **A**esthetic = IEA handle

Systems – AdvancedTCA

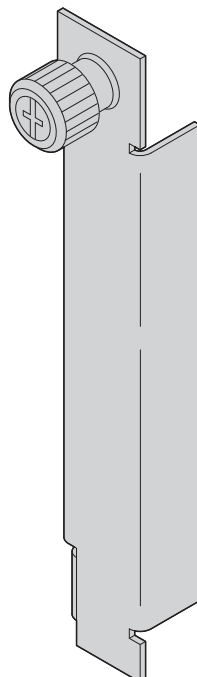
FRONT PANEL WITH INTEGRATED SIDE TWO COVER



12706022

- For protection of components on solder side of backplane
- Customised version available on request
- Schroff offers extensive modification options with the Front Panel Service, including customised cut-outs, foils and silk-screen printing

FRONT PANEL TO COVER OPEN SHELF MANAGER SLOTS



12706052

DELIVERY INCLUDES

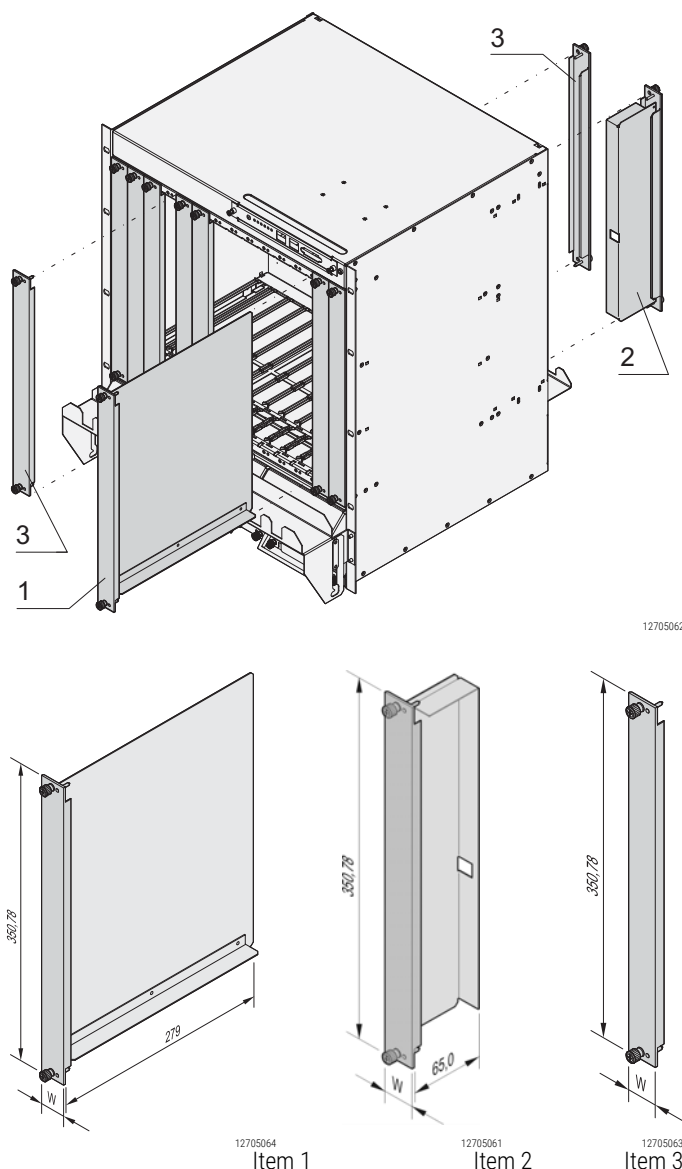
Item	Qty	Description
1	1	Front panel, St, stainless, height 99.32 mm, width 15.22 mm, including EMC sealing
2	1	Knurled screw

ORDER INFORMATION

Description	Qty/PU piece	Part no.
Front panel to cover open shelf manager slots	1	21596-012

Systems – AdvancedTCA

ADVANCEDTCA AIR DEFLECTORS, FILLER PANELS



- Front panels, stainless steel or Al extrusion
- 6 HP front panels in three versions
 - Front: Front panel with air baffle (item 1, air baffle blocks the air from unused slots)
 - Rear: Front panel with air baffle (item 2, air baffle blocks the air from unused slots)
 - Only front panel (item 3)

DELIVERY COMPRISES (Kit)

Item	Qty	Description
1	1	Front panel
2	1	Air baffle (front or rear)

ORDER INFORMATION

AdvancedTCA air deflector

Item	Height U	Width HP	Depth mm	W mm	Description	Part no.
1	8	6	280	30.14	Front panel, Al extrusion, incl. air baffle, with mesh gasket	21596-008
1	8	6	280	28.95	Front panel, stainless steel, incl. air baffle with mesh gasket	21591-079
2	8	6	70	30.14	Front panel, Al extrusion, for rear I/O area, incl. air baffle, with mesh gasket	21591-107
2	8	6	70	28.95	Front panel, stainless steel, for rear I/O area, incl. air baffle with mesh gasket	21591-099

AdvancedTCA filler panel

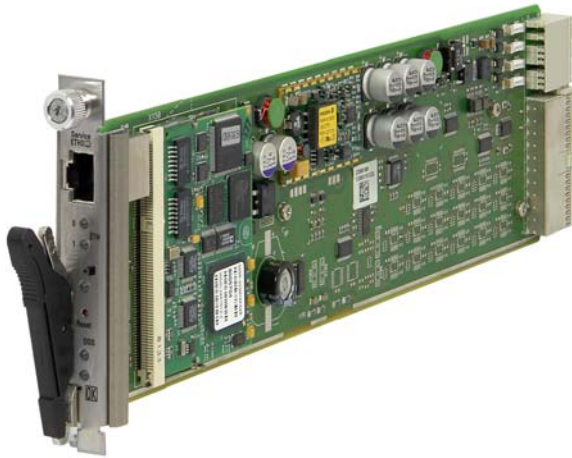
Item	Height U	Width HP	Depth mm	W mm	Description	Part no.
3	8	6	–	30.14	Al extrusion, front panel with mesh gasket	21591-104
3	8	6	–	28.95	Front panel, stainless steel, with mesh gasket	21591-097

NOTE

- Version with CuBe gasket available on request
- AdvancedMC carriers see page 8.26

Systems – AdvancedTCA

SHELF MANAGER, ACB-V/VI, BUSSED/RADIAL



12708006



12706021

Cable for the serial console of the shelf manager via the SAP

- Shelf manager for Schroff AdvancedTCA systems
- Based on Pigeon Point shelf management technology ShMM 500 (ACB-V) and ShMM 700 (ACB-VI) respectively
- Versions for bussed or radial IPMB
- Ethernet service interface on the front panel
- Serial console for the shelf manager is available via SAP
- ACB-V and ACB-VI shelf managers are plug compatible but require different shelf FRU files
- Shelf FRU files and firmware versions are available for download

ORDER INFORMATION

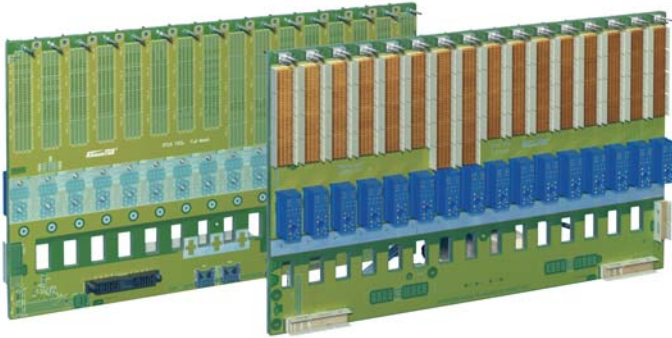
Version	ShMM	IPMB	Part no.
ACB-V	500	bussed	21596-300
ACB-V	500	radial	21596-301
ACB-VI	700	bussed	21990-404
ACB-VI	700	radial	21990-405

Accessories

Cable for the serial console of the shelf manager via the SAP RJ 45 Cat 5 plug - D-Sub plug, 9-pin, length 2 m, 1 piece	23204-187
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Systems – AdvancedTCA

BACKPLANE

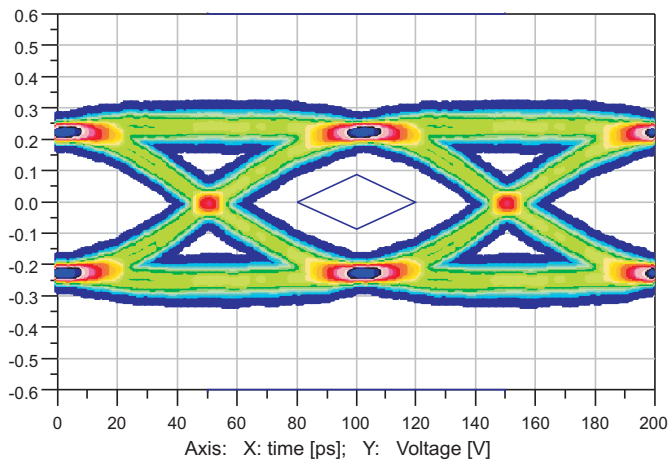


12606003

All Schroff AdvancedTCA systems are equipped with a high-performance Schroff backplane. Thanks to our years of experience in high-speed data transfer we have now built 40G backplanes to the XAUI specification into our systems, which are constructed with the low-cost FR 4 material. Additionally, the number of layers has been reduced to less than half of the first backplanes.

- The Schroff AdvancedTCA systems are equipped and available with:
 - Backplane with dual star, full mesh and replicated mesh topology; dual dual star topology on request
 - Bussed or radial intelligent platform management interface (IPMB)
 - Redundant power supply, divided into up to four independent segments
 - Point-to-point connection structure independent of protocol
 - Data transfer rates of up to 40 Gbps
 - I²C bus for internal monitoring
 - Outstanding eye pattern of up to 10 Gbps per differential pair (40G backplane)

Eye pattern @ 10,0 Gbps



12707058

Systems – AdvancedTCA

FIELD REPLACEABLE UNITS (FRUS)

Field replaceable unit (FRU) designates system components that can be replaced on site. This reduces system downtime to a minimum. Schroff offers various FRU components for AdvancedTCA systems:

- Power entry modules, see from page 8.19
- Fan trays, see from page 8.20
- Air filters see page 8.22
- Shelf alarm panels, see from page 8.23
- Shelf alarm display, see page 8.24
- Chassis data module, see page 8.24

POWER ENTRY MODULE FOR 5 U, 6 SLOT ADVANCEDTCA SYSTEM



- Input 48 V_{DC}/60 V_{DC}
- Plugged-in at rear of chassis
- For 2 pairs of lines each (RTN and -48 V_{DC}/-60 V_{DC}) per input
- Delivers up to 350 W/slot
- Hot-swap push-button and LED display (hot-swap, alarms, etc.)
- 2 circuit breakers and 2 double lugs (power terminals)

ORDER INFORMATION

Description	Qty/PU	Part no.
Power entry module 6-slot system (11596-160, 11596-161)	1	21990-058

NOTE

- AdvancedTCA systems see from page 8.6

12710002

POWER ENTRY MODULE FOR 12 U, 14 SLOT ADVANCEDTCA SYSTEM



- Input 48 V_{DC}/60 V_{DC}
- Plugged-in at rear of chassis
- For 4 pairs of lines each (RTN and -48 V_{DC}/-60 V_{DC}) per input
- 8 fuses 30 A/80 V each

ORDER INFORMATION

Description	Qty/PU	Part no.
Power entry module for 12 U, 14 slot AdvancedTCA system (11596-300, -303)	1	21596-003
Fuse 30 A/80 V for power entry module, PU 10 pieces		21191-207

NOTE

- AdvancedTCA systems see page 8.9

12706006

Systems – AdvancedTCA

POWER ENTRY MODULE FOR 13 U, 14/16 SLOT ADVANCEDTCA SYSTEM



12706006

- Input 48 V_{DC}/60 V_{DC}
- Plugged-in at rear of chassis
- For 4 pairs of lines each (RTN and -48 V_{DC}/60 V_{DC}) per input
- 8 fuses 30 A/80 V each

ORDER INFORMATION

Description	Qty/PU	Part no.
Power entry module for 13 U, 14/16 slot AdvancedTCA system (11990-600, -601, -603)	1	21596-020
Fuse 30 A/80 V for power entry module, PU 10 pieces		21191-207

NOTE

- AdvancedTCA systems see from page 8.9

POWER ENTRY MODULE FOR 14 U, 14-SLOT ADVANCEDTCA SYSTEM



12712003

- Input 48 V_{DC}/60 V_{DC}
- Plugged-in at rear of chassis
- For 2 pairs of lines each (RTN and -48 V_{DC}/60 V_{DC}) per input
- 8 fuses 50 A/80 V each

ORDER INFORMATION

Description	Qty/PU	Part no.
Power entry module for 14 U, 14-slot AdvancedTCA system (11990-10x)	1	21990-224
Accessories		
Fuse 50 A/80 V for power entry module, PU 10 pieces		21990-225

- AdvancedTCA systems see page 8.7

FAN TRAY FOR 5 U, 6 SLOT ADVANCEDTCA SYSTEM



12710003

- Fan tray with 6 axial fans to cool front and rear boards in system
- Cooling capacity up to 350 W per board
- Extractor handle, hot-swap push-button and LED display (hot-swap, alarms, etc.)

ORDER INFORMATION

Description	Qty/PU	Part no.
Fan tray for 5 U, 6-slot system (11596-160, 11596-161)	1	21990-057

NOTE

- AdvancedTCA systems see from page 8.6

Systems – AdvancedTCA

FAN TRAY FOR 12 U, 14 SLOT ADVANCEDTCA SYSTEM



12706007

- Fan tray with 2 fans ($330 \text{ m}^3/\text{h} = 195 \text{ cfm}$ each) to cool front and rear boards in system
- Extractor handle and LED display (hot-swap, alarms, etc.)

ORDER INFORMATION

Description	Qty/PU	Part no.
Fan tray 12 U, 14 slot system (11596-3xx)	1	21596-236

NOTE

- AdvancedTCA systems see from page 8.5

FAN TRAY FOR 13 U, 14 SLOT ADVANCEDTCA SYSTEM



12706009

- Fan tray with 3 radial fans ($300 \text{ m}^3/\text{h} = 175 \text{ cfm}$) to cool front and rear boards in the system
- Extractor handle and LED display (hot-swap, alarms, etc.)

ORDER INFORMATION

Description	Qty/PU	Part no.
Fan tray for 14-slot systems (11990-60x)	1	21990-184

- AdvancedTCA systems see page 8.5

FAN TRAY FOR 3 U, 2 SLOT-ADVANCEDTCA SYSTEM



12715005

- Fan tray with 2 * 2 axial fans ($108 \text{ m}^3/\text{h} = 64,4 \text{ cfm}$) to cool front and rear boards in the system
- Extractor handle and LED display (Operation and Error)

ORDER INFORMATION

Description	Qty/PU	Part no.
Fan tray for 2-slot systems (11990-800, -801, -802, -803)	1	21990-526

- AdvancedTCA systems see page 8.10

Systems – AdvancedTCA

UPPER FAN TRAY FOR 14 U, 14-SLOT ADVANCEDTCA SYSTEM



12712001

- Fan tray with 6 axial fans (570 m³/h = 336 cfm) to cool front and rear boards in the system
- Extractor handle and LED display (hot-swap, alarms, etc.)
- Telco alarm interface on front

ORDER INFORMATION

Description	Qty/PU	Part no.
Upper fan tray for 14 U, 14-slot systems (11990-10x)	1	21990-227

- AdvancedTCA systems see page 8.7

LOWER FAN TRAY FOR 14 U, 14-SLOT (11990-10X)



12712002

- Fan tray with 6 axial fans (570 m³/h = 336 cfm) to cool front and rear boards in the system
- Extractor handle and LED display (hot-swap, alarms, etc.)
- Telco alarm interface on front

ORDER INFORMATION

Description	Qty/PU	Part no.
Lower fan tray for 14 U, 14-slot systems (11990-10x)	1	21990-228

- AdvancedTCA systems see page 8.7

AIR FILTERS FOR ADVANCEDTCA SYSTEMS



12706005

- 45 PPE, 80 % dust collection to NEBS GR-78 Core standard
- Material Polyurethan UL 94 HF1

ORDER INFORMATION

Air filter	Qty/PU	Part no.
for 3 U, 2 slot systeme (11990-800, -801, -802, -803)	1	21990-527
for 5 U, 6 slot systems (11596-16x)	1	21990-059
for 13 U, 16 slot systems (11592-50x)	1	21594-144
for 14 U, 14 slot system (11990-10x)	1	21990-229

NOTE

- AdvancedTCA systems see from page 8.4

Photo shows air filter of 14 slot system

Systems – AdvancedTCA

SHELF ALARM PANEL FOR 12 U, 14 SLOT ADVANCEDTCA SYSTEM



12706008

- Displays all alarm signals in accordance with AdvancedTCA specification
- With alarm cut-off push button
- Two RJ 45 sockets to connect one serial console (serial interface of the two shelf managers)
- D-Sub plug for Telco alarm

ORDER INFORMATION

Description	Qty/PU	Part no.
Shelf alarm panel for 12 U, 14 slot systems (11592-40x, 11596-30x)	1	21596-022

- AdvancedTCA systems see page 8.5

SHELF ALARM PANEL FOR 13 U, 14 SLOT ADVANCEDTCA SYSTEM



12707004

- For output of all Telco alarm signals in accordance with AdvancedTCA Specification
- D-Sub socket for Telco alarm

ORDER INFORMATION

Description	Qty/PU	Part no.
Shelf alarm panel for 13 U, 14 slot systems (11596-10x)	1	21596-140

NOTE

- AdvancedTCA systems see page 8.5

SHELF ALARM PANEL FOR 13 U, 16 SLOT ADVANCEDTCA SYSTEM



12706010

- For output of all Telco alarm signals in accordance with AdvancedTCA specification
- D-Sub socket for Telco alarm

ORDER INFORMATION

Description	Qty/PU	Part no.
Shelf alarm panel for 13 U, 16 slot systems (11592-50x)	1	21596-025

NOTE

- AdvancedTCA systems see page 8.9

Systems – AdvancedTCA

SHELF ALARM DISPLAY FOR 13 U, 14 AND 16 SLOT ADVANCEDTCA SYSTEM



12706015

- Display the Telco and fan tray alarm signals in accordance with AdvancedTCA Specification
- With alarm cut-off push button
- Two RJ 45 sockets to connect one serial console (serial interface of the two shelf managers)

ORDER INFORMATION

Description	Qty/PU	Part no.
Shelf alarm display for 13 U, 14 and 16 slot systems (11592-5xx, 11596-1xx)	1	21596-026

NOTE

- AdvancedTCA systems see page 8.9

CHASSIS DATA MODULE FOR 12, 13 AND 14 U ADVANCEDTCA SYSTEMS



12706014

- EEPROM for chassis FRU data (user must specifically program it for the chassis)
- Temperature sensors for input temperature of chassis
- Hall sensor for filter mat ("air filter present")

ORDER INFORMATION

Chassis data module	Qty/PU	Part no.
for systems 11592-50x, 11596-30x, 11596-60x	1	21596-023
for systems 11990-10x	1	21990-226

NOTE

- AdvancedTCA systems see from page 8.9

Illustration shows chassis data module 21596-023

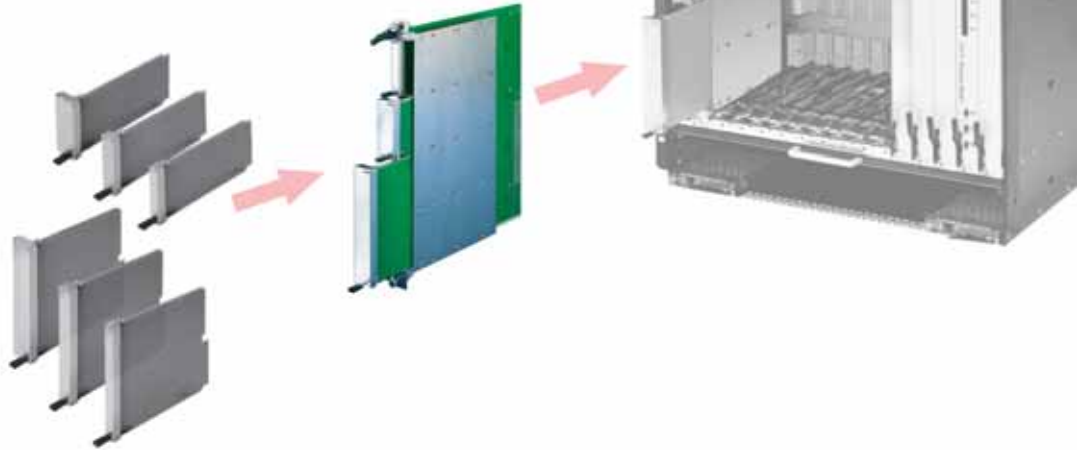
Systems – AdvancedTCA

Systems – AdvancedMC carriers

OVERVIEW

MAIN KATALOG

Cabinets	1
Wall mounted cases	2
Accessories for cabinets and wall mounted cases	3
Climate control	4
Electronics cases	5
Subracks/ 19" chassis	6
Front panels, plug-in units	7
Systems	8
Power supply units	9
Backplanes	10
Connectors, front panel component system	11
Appendix	12



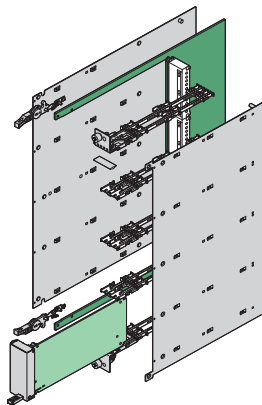
12806028

ADVANCEDMC CARRIERS

AdvancedMC carriers are plug-in units that are slotted into an AdvancedTCA system. They contain the carrier board that accepts AdvancedMC modules.

Electrical connection to the AdvancedTCA backplane is via connectors. With the fully-assembled AdvancedMC carrier in place, cost-effective additional functions may be integrated into the system.

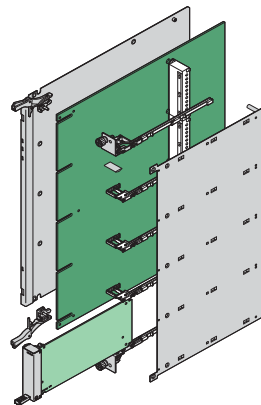
The standard, in accordance with PICMG specification AMC.0 R2.0, defines three different mechanical versions:



12805082

Cutaway carrier

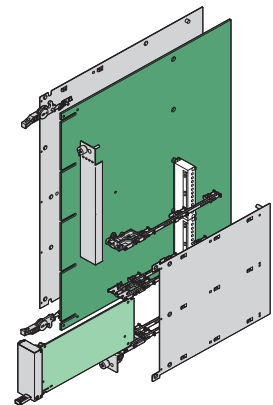
- Carrier board is cut out in the area of the AdvancedMC modules
- Max. placement:
8 single compact or 4 single full-size AdvancedMC modules
- Combinations of full-size and compact modules are possible



12805083

Conventional carrier

- Carrier board runs continuously from front to rear
- Max. placement:
4 single compact or 4 single mid-size AdvancedMC modules



12805081

Hybrid carrier

- Carrier board is a combination of conventional and cutaway carrier
- The maximum placement depends on the carrier board design
- Combinations of all AdvancedMC modules are possible

Systems – AdvancedMC carriers

OVERVIEW

Overview 8.26

ADVANCEDMC CARRIERS FOR ADVANCEDTCA SYSTEMS

- Cutaway, conventional and hybrid carrier mechanics for
 - compact AdvancedMC carrier boards
 - Mid-size AdvancedMC carrier boards
 - Full-size AdvancedMC carrier boards
- Standard versions from stock
- Individual carrier/module combination of your choice



ADVANCEDMC CARRIERS

- 1 slot chassis, 8 U, 6 HP for AdvancedTCA systems
- Inserter/extractor handle for microswitch activation
- Versions
 - **Cutaway carrier** for compact and full-size modules
 - **Conventional carrier** for mid-size and compact modules

12807020



INDIVIDUAL SOLUTIONS ON REQUEST

- AdvancedMC hybrid carrier
- AdvancedMC hybrid mechanics for rugged AdvancedMC modules (MicroTCA.1)



12812005 12806016

SERVICEPLUS

- e.g. individual configuration and fitting of hybrid carriers)
- e.g. modifications (cut-outs, special colours)
- e.g. custom solutions (special sizes)

Cutaway carriers	
For compact and full-size modules	
Complete kits	8.28
Kit without struts, guide rails	8.29
Guide rails/struts	8.30
Microswitches . . .	8.31
Differences between standard and MF handles for AMC carriers	8.31

Conventional carriers	
For mid-size and compact modules	
Complete kits with AdvancedTCA IEA handle	8.32
Guide rails/struts	8.33
Microswitches . . .	8.33

ServicePLUS configuration	
Hybrid carrier	8.34

Systems – AdvancedMC cutaway carrier

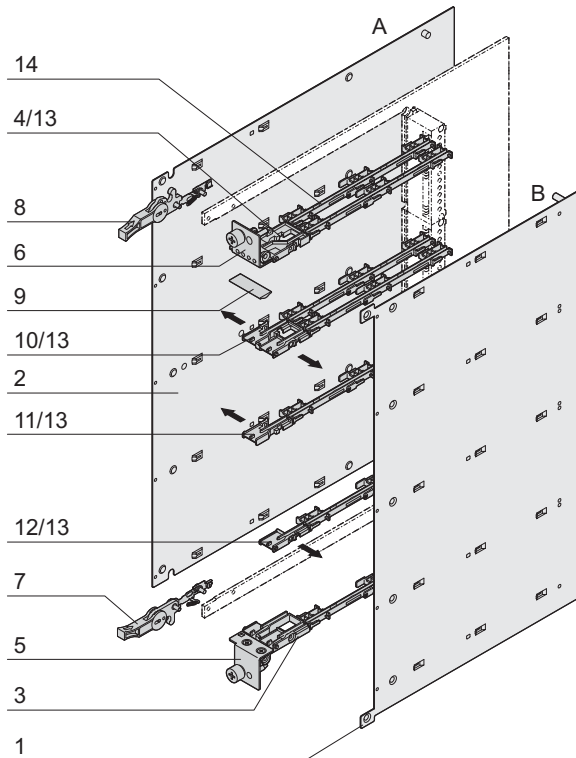
CARRIER MECHANICS FOR COMPACT AND FULL-SIZE ADVANCEDMC MODULES



- Mechanics for cutaway carrier board (carrier **with** 3 different struts, guide rails, ESD clips)
- Stainless steel (EMC shielded)
- Width 1 slot (6 HP), height 8 U, corresponds to PICMG® AMC.0 R2.0
- Inserter/extractor handle, designed for microswitch activation hot-swap

DELIVERY COMPRISES (Kit)

Item	Qty	Description
1	1	Cover plate B (right), stainless steel, brushed, 0.6 mm, inner surface electrically insulated, exterior with protective film
2	1	Cover plate A (left), stainless steel, brushed, 0.6 mm, inner surface electrically insulated, exterior with protective film
3	1	Lower splitting extrusion (strut), Zn die-cast, nickel-plated
4	1	Upper splitting extrusion (strut), Zn die-cast, nickel-plated
5	1	Lower front panel, stainless steel, brushed, 1 mm, alignment pin and retention screws pressed in
6	1	Upper front panel, stainless steel, brushed, 1 mm, alignment pin and retention screws pressed in, with holes for LEDs
7	1	Standard inserter/extractor handle, with microswitch operation, plastic lever, black
8	1	Standard inserter/extractor handle, plastic lever, black
9	1	EMC profile seal, core: foam, sleeve: textile cladding with CuNi coating
10	3	Support member between cover A and B
11	3	Support member for cover A (on the left)
12	3	Support member for cover B (on the right)
13	8	ESD clip
14	10	AdvancedMC guide rail, PBT, UL 94 V-0, red
15	1	Assembly kit

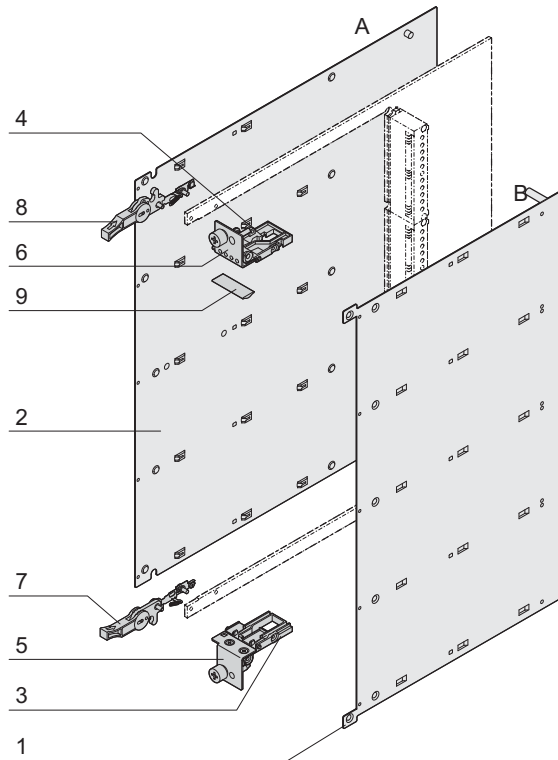


ORDER INFORMATION

Description	Part no.
Carrier mechanics for AdvancedMC compact and full-size modules with struts, ESD clips and guide rails	10849-001
Accessories	
Microswitch, normally closed , for AdvancedMC carrier (compact and full-size modules) for soldering (SMD), PU 10 pieces	20849-236
Microswitch, normally open , for AdvancedMC carrier (compact and full-size modules) for soldering (SMD), PU 10 pieces	20849-235
Description inserter/extractor handle	Page 8.31
Microswitch description	Page 8.31
AdvancedMC module mechanics	Page 8.56

Systems – AdvancedMC cutaway carrier

CARRIER MECHANICS FOR COMPACT AND FULL-SIZE ADVANCEDMC MODULES



- Mechanics for cutaway carrier board (carrier **without** struts, guide rails, ESD clips, for individual placement)
- Stainless steel (EMC shielded)
- Width 1 slot (6 HP), height 8 U, corresponds to PICMG® AMC.0 R2.0
- Inserter/extractor handle, designed for microswitch activation (hot-swap)

DELIVERY COMPRISES (Kit)

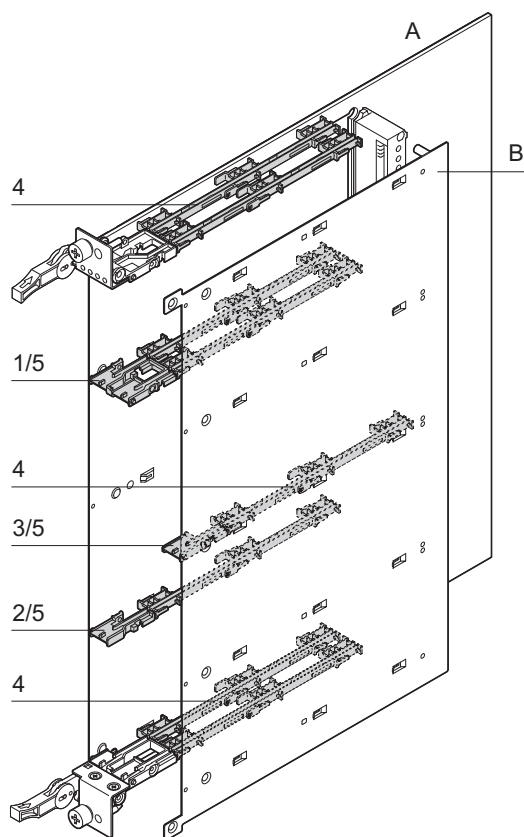
Item	Qty	Description
1	1	Cover plate B (right), stainless steel, brushed, 0.6 mm, inner surface electrically insulated, exterior with protective film
2	1	Cover plate A (left), stainless steel, brushed, 0.6 mm, inner surface electrically insulated, exterior with protective film
3	1	Lower splitting extrusion (strut), Zn die-cast, nickel-plated
4	1	Upper splitting extrusion (strut), Zn die-cast, nickel-plated
5	1	Lower front panel, stainless steel, brushed, 1 mm, alignment pin and retention screws pressed in
6	1	Upper front panel, stainless steel, brushed, 1 mm, alignment pin and retention screws pressed in, with holes for LEDs
7	1	Standard inserter/extractor handle, with microswitch operation, plastic lever, black
8	1	Standard inserter/extractor handle, plastic lever, black
9	1	EMC profile seal, core: foam, sleeve: textile cladding with CuNi coating
10	1	Assembly kit

ORDER INFORMATION

Description	Part no.
Carrier mechanics for AdvancedMC compact and full-size modules without struts, ESD clips and guide rails	10849-002
Accessories	
Microswitch, normally closed , for AdvancedMC carrier (compact and full-size modules) for soldering (SMD), PU 10 pieces	20849-236
Microswitch, normally open , for AdvancedMC carrier (compact and full-size modules) for soldering (SMD), PU 10 pieces	20849-235
Further struts, ESD clips and guide rails	Page 8.30
Description inserter/extractor handle	Page 8.31
Microswitch description	Page 8.31
AdvancedMC module mechanics	Page 8.56

Systems – AdvancedMC cutaway carrier

BOARD GUIDES/STRUTS FOR ADVANCEDMC COMPACT AND FULL-SIZE MODULES



- Struts and guide rails are always required to guide boards
- 3 different struts
 - The strut is assembled between the cover plates A and B
 - The strut is assembled on the left of cover plate A
 - The strut is assembled on the right of cover plate B
- The ESD clip pushes into the strut (one per board guide)
- The guide rails clip into the cover plate

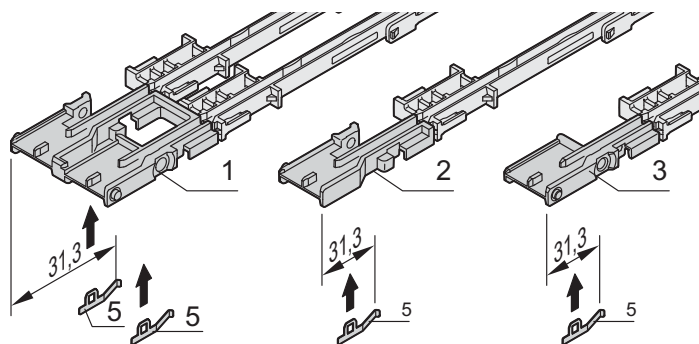
ORDER INFORMATION

Item	Description	Qty/PU	Part no.
1	Strut between cover A (left) and B (right), Zn die-cast, nickel-plated	10	20849-009
2	Splitting extrusion (strut) for cover A (left), Zn die-cast, nickel-plated	10	20849-010
3	Splitting extrusion (strut) for cover B (on the right), Zn die-cast, nickel-plated	10	20849-011
4	AdvancedMC guide rail, PBT, UL 94 V-0, red	10	20849-008
5	ESD clip, stainless spring steel, for deflection of electrostatic charges	50	20849-021

Accessories

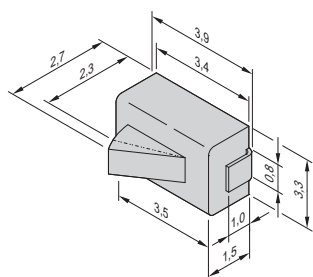
Microswitch, **normally closed**, for AdvancedMC carrier (compact and full-size modules)
for soldering (SMD), PU 10 pieces, page 8.31 **20849-236**

Microswitch, **normally open**, for AdvancedMC carrier (compact and full-size modules)
for soldering (SMD), PU 10 pieces - page 8.31 **20849-235**



Systems – AdvancedMC cutaway carrier

MICROSWITCH FOR CARRIER (COMPACT AND FULL-SIZE ADVANCEDMC MODULES)



- Microswitch for soldering (SMD)

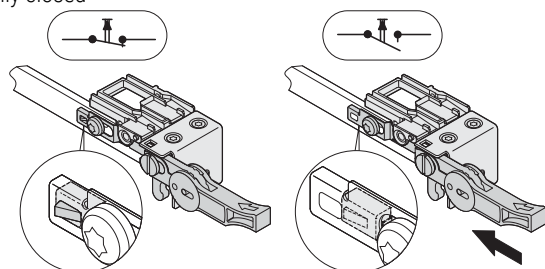
ORDER INFORMATION

Description	Qty/PU	Part no.
Microswitch, normally closed , for AdvancedMC carrier (compact and full-size modules)	10	20849-236
Microswitch, normally open , for AdvancedMC carrier (compact and full-size modules)	10	20849-235

Technical data

Max. switch current	1 mA, 5 V _{DC}
Operating temperature	-15 °C ... +70 °C
Electrical lifespan	10 ⁵ switching cycles

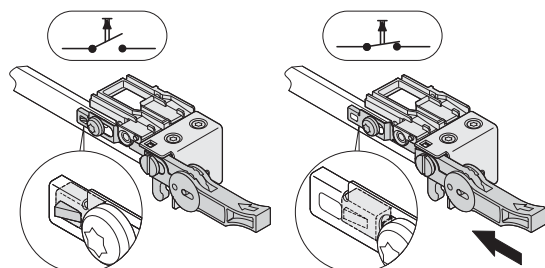
"Normally closed"



Handle in inoperative position

Handle activated

Closer

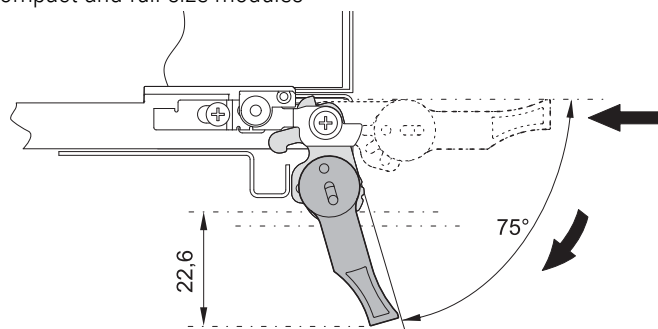


Handle in inoperative position

Handle activated

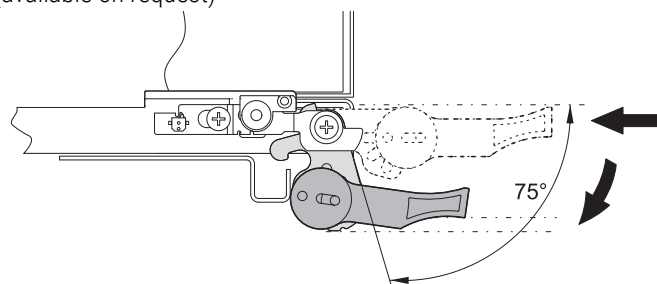
DIFFERENCES BETWEEN STANDARD AND MF HANDLE FOR ADVANCEDMC CARRIER (COMPACT AND FULL-SIZE MODULES)

Standard front handle - is included in delivery of carriers for compact and full-size modules



- Extractor handle 75° opening angle
- Insertion/extraction in one step
- Swing range: 23 mm below and above the pitch line
- Included in delivery of carrier

MF handle - can be exchanged by standard handle if needed (available on request)



- Extractor handle 75° opening angle
- Insertion/extraction in three steps (2 operations)
- Small swing range (0 mm) below and above the pitch line. The lower respectively upper limit of the carrier is not exceeded during extraction.

Systems – AdvancedMC conventional carri-

CARRIER MECHANISM FOR MID-SIZE ADVANCEDMC MODULES WITH ADVANCEDTCA IEA HANDLE, COMPLETE KIT



12808001 12808002

- Mechanics for conventional carrier, stainless steel (EMC shielded)
- Width 1 slot (6 HP), height 8 U, corresponds to PICMG® AMC.0 R2.0
- AdvancedTCA **IEA** inserter/extractor handle, designed for microswitch activation (hot-swap)
- Carrier mechanics with struts and guide rails for four modules

DELIVERY COMPRISES (Kit)

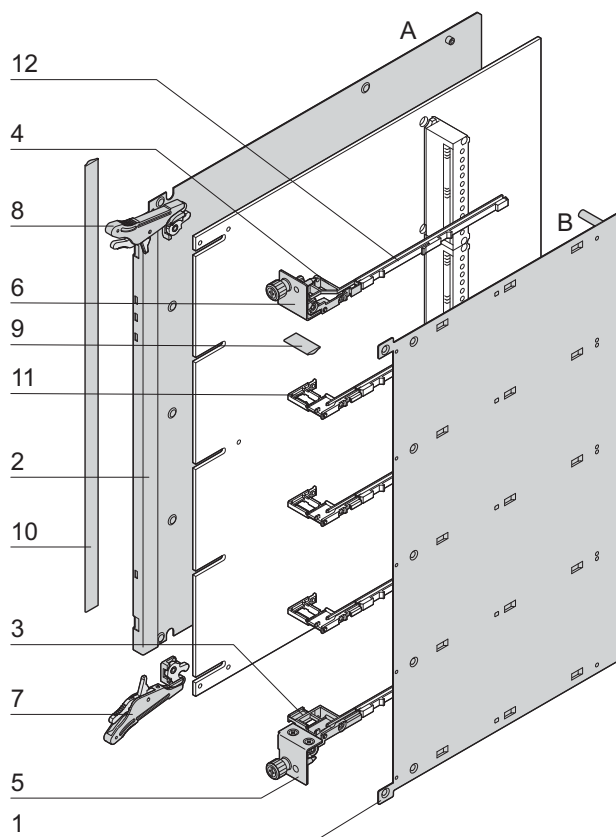
Item	Qty	Description
1	1	Cover plate B (right), stainless steel, brushed, 0.6 mm, inner surface electrically insulated, exterior with protective film
2	1	Cover plate A (left), stainless steel, brushed, 0.6 mm, inner surface electrically insulated, exterior with protective film
3	1	Lower splitting extrusion (strut), Zn die-cast, nickel-plated
4	1	Upper splitting extrusion (strut), Zn die-cast, nickel-plated
5	1	Lower front panel, stainless steel, brushed, 1 mm, alignment pin and retention screws pressed in
6	1	Upper front panel, stainless steel, brushed, 1 mm, alignment pin and retention screws pressed in
7	1	Lower AdvancedTCA IEA inserter/extractor handle, with microswitch activation, plastic lever, black
8	1	AdvancedTCA IEA inserter/extractor handle, top, with microswitch activation, lever plastic, black
9	1	EMC profile seal, core: foam, sleeve: textile cladding with CuNi coating
10	1	EMC profile seal, core: foam, sleeve: textile cladding with CuNi coating
11	3	Splitting extrusion between covers A and B (4 ESD clips)
12	5	AdvancedMC guide rail, PBT, UL 94 V-0, green
13	1	Fixing material kit

ORDER INFORMATION

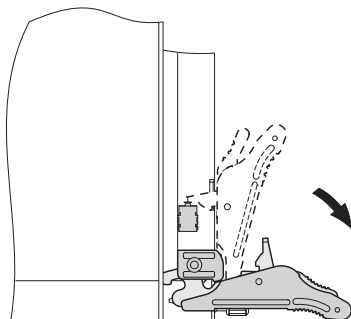
Description	Part no.
AdvancedMC carrier mechanism for mid-size AdvancedMC modules with AdvancedTCA IEA handle with struts, ESD clips and guide rails	10849-011
Accessories	
Microswitch for carriers (mid-size AdvancedMC modules) normally closed, for soldering (SMD), PU 10 pieces	20817-853
Microswitch for carriers (mid-size AdvancedMC modules) normally open, for soldering (SMD), PU 10 pieces	20817-909
AdvancedMC module mechanics	Page 8.56

NOTE

- Carrier with stronger cover plate A (1 mm) on request
- Carrier for compact AdvancedMC modules on request
- Southco type handle kit on request



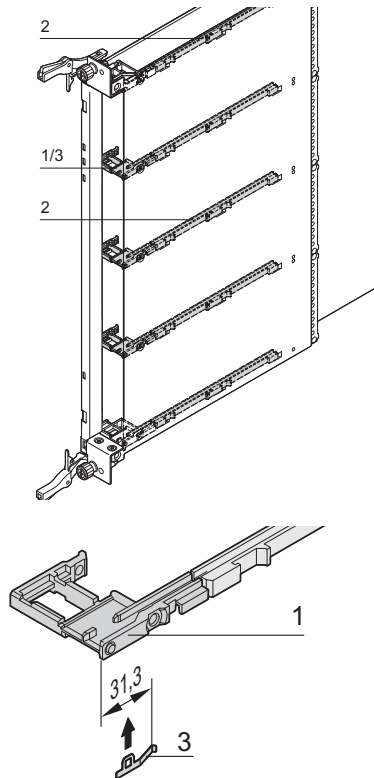
12808050



12808051

Systems – AdvancedMC conventional

BOARD GUIDES/STRUTS FOR ADVANCEDMC MID-SIZE MODULES



12806061

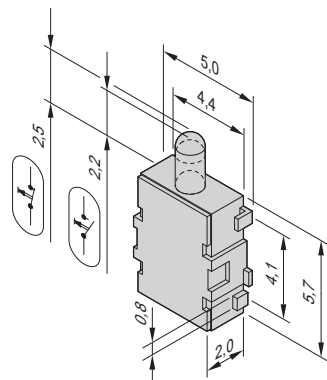
12806062

- Struts and guide rails are always required to guide boards
- Strut is assembled between cover plates A and B
- The ESD clip pushes into the strut (one per board guide)
- The guide rails clip into the cover plate

ORDER INFORMATION

Item	Description	Qty/PU	Part no.
1	Strut between cover A (left) and B (right), Zn die-cast, nickel-plated	10	20849-242
2	AdvancedMC guide rail for mid-size carrier, PBT, UL 94 V-0, green	10	20849-166
3	ESD clip, stainless spring steel, for deflection of electrostatic charges	50	20849-021

MICROSWITCH FOR CARRIERS (MID-SIZE ADVANCEDMC MODULES)



12807071

- Microswitch for soldering (SMD)
- Can be used for all conventional carrier handles

ORDER INFORMATION

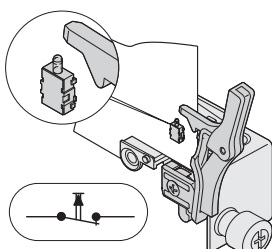
Description	Qty/PU	Part no.
Microswitch (normally closed) for carrier (mid-size AdvancedMC modules)	10	20817-853
Microswitch (normally open) for carrier (mid-size AdvancedMC modules)	10	20817-909

Technical data

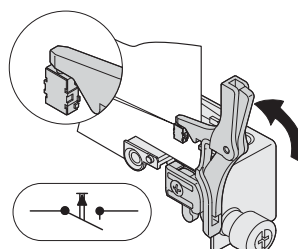
Max. switch current	100 mA, 12 V _{DC}
Operating temperature	-20 °C ... +60 °C
Electrical lifespan	5 x 10 ⁵ switching cycles

Opener

Closer



12807079



12807087

Systems – AdvancedMC carrier Ser-

SERVICEPLUS: SOLUTION



12812004

ADVANCEDMC CARRIER MECHANICS

- The carrier board is a combination of conventional and cutaway carriers
- Max. placement depends on the design of the carrier board
- Custom versions on request
 - Single/double combinations
- Handles
 - AdvancedTCA IEA
 - AdvancedTCA Southco

Systems – AdvancedMC conventional

Systems – MicroTCA

OVERVIEW

MAIN KATALOG

Cabinets	1
Wall mounted cases	2
Accessories for cabinets and wall mounted cases . .	3
Climate control	4
Electronics cases	5
Subracks/ 19" chassis	6
Front panels, plug-in units	7
Systems	8
Power supply units	9
Backplanes	10
Connectors, front panel component system	11
Appendix	12



12907003

MICROTCA (MICRO TELECOMMUNICATIONS COMPUTING ARCHITECTURE)

MicroTCA.0 R1.0 is a modular standard that utilises AdvancedMC modules. These are plugged directly onto the backplane.

In addition to standard systems, modifications and customised solutions, SCHROFF also offers all components for building systems.

The central unit of a MicroTCA system is the MicroTCA carrier hub (MCH), which performs the carrier and often also shelf management. It also acts as the data switch in the system.

Carrier and shelf management include, among other things, temperature, voltage and air monitoring.

Remote monitoring can be set up via an external Ethernet connection. This allows early detection and remedying of temperature problems. Downtimes are thus reduced.

APPLICATIONS

Reduced development costs and shorter time-to-market are the advantages of the MicroTCA standard compared to proprietary system solutions, as they can be found increasingly often in telecommunications today.

Among others the advantages over the previous bus systems (VME, CompactPCI busses) are the higher speed, smaller designs and larger flexibility.

MicroTCA is used in areas where faster data transfer rates are required and large data volumes must be processed in the shortest time, e.g. in telecommunications, automation, image processing, medical systems, defence systems etc.

HEAT DISSIPATION

MicroTCA defines very high heat dissipation for the AdvancedMC modules.

The maximum heat dissipation for the largest module (double full-size) is determined as 80 W. Cooling is thus a challenge.

MicroTCA systems from SCHROFF can reliably dissipate this volume of thermal power loss. Special fans have been purpose-developed and create a particularly high static pressure.

In addition, thermal simulations and measurements are performed on SCHROFF MicroTCA systems to optimise the airflow.

Systems – MicroTCA

OVERVIEW

MODULAR MICROTCA HIGH SPEED SYSTEMS

- Very wide product range in terms of dimensions, number of slots, cooling principles, backplane topologies
- Modifications to your requests
- Systems for MicroTCA.0, MicroTCA.1 and MicroTCA.4



12911003

MICROTCA.4 SYSTEMS FOR TEST AND MEASUREMENT APPLICATIONS

- Cube and 19" systems
- For double mid-size AMC modules
- With rear board cage for rear transition modules
- Cooling units with management controller



12912005

MICROTCA.1 SYSTEMS FOR INDUSTRIAL APPLICATIONS

- Cube systems
- For double mid-size AdvancedMC modules
- For harsh environmental conditions
- Cooling units with management controller



12908003

MICROTCA.0 SYSTEMS FOR COMMUNICATIONS APPLICATIONS

- Cube and 19" systems
- For single and double AdvancedMC modules
- Cooling units with management controller



12908004

MICROTCA.0 SYSTEMS FOR LABORATORY APPLICATIONS

- Desk-top enclosures with tip-up feet
- Cube and 19" systems
- Cooling units without management controller

SERVICEPLUS

- e.g. individual configuration and assembly
- e.g. modifications (backplanes, power supply)
- e.g. ventilation concepts
- e.g. custom solutions

Overview 8.36

MicroTCA.4 systems for test and measurement applications

Cube, 5 U, 42 HP, for 7 double modules 8.38

9 U, for 12 double mid-size modules . . 8.40

7/9 U, for 12 double full-size modules . . 8.41

MicroTCA.1 systems for industrial applications

Cube, 5 U, 42 HP, for 6 single modules 8.42

MicroTCA.0 systems for communications applications

Cube, 3 U, 30 HP, for 4 single modules 8.43

Mini, 1 U, for 2 single modules 8.44

1 U, with eMCH for 2 Single AMC-modules 8.45

1 U, for 6 single modules 8.46

3 U, for 10 single modules 8.47

MicroTCA.0 case systems for laboratory applications

Cube, 3 U, 30 HP, for 4 single modules 8.49

3 U vertical, for 4 single modules . . . 8.50

Accessories

Splitting kit 8.48

Guide rails 8.49

Power feeder modules 8.50

Power supply systems 8.51

Field replaceable units (FRUs) 8.54

Systems – MicroTCA

MICROTCA.4 SYSTEM, CUBE, 5 U, 42 HP, FOR 7 DOUBLE ADVANCEDMC MODULES



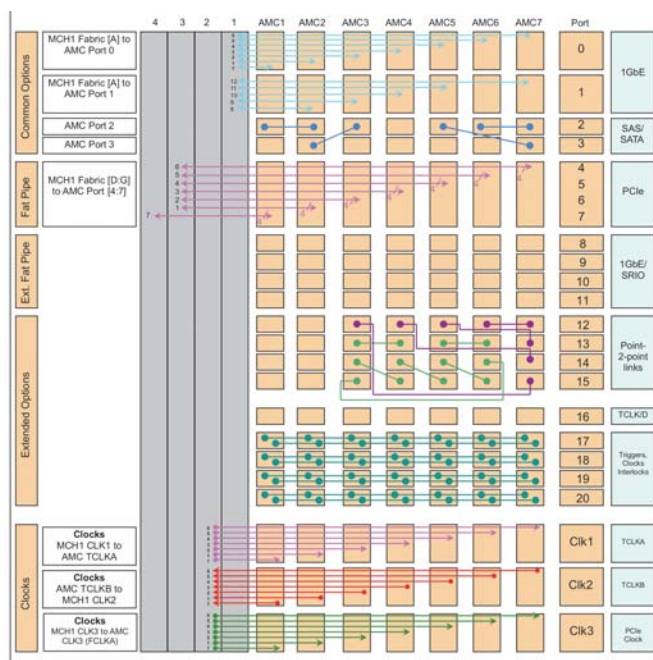
Front view

12912001



Rear view

12912004



Backplane topology

12912052

- In accordance with PICMG MTCA.4 R1.0 specification
- 5 U, 42 HP cube system for 6 double mid-size and 1 double full-size AdvancedMC modules, 1 double full-size MCH and 1 double full-size power module
- 6 rear transition module slots for double mid-size modules and one slot for double full-size
- Backplane with star topology, direct connections for S-ATA/SAS, clock and trigger lines as per PICMG MTCA.4
- Clock topology to PICMG AMC.0 R2.0
- Hot-swap fan module with cooling unit manager (CU EMMC), airflow from bottom to top, fan speed for front and rear sections can be separately adjusted via MCH
- Air filter, exchangeable from front

DELIVERY COMPRISES

Item	Qty	Description
1	1	MicroTCA system, 5 U, 42 HP, 373 mm deep, zinc-plated
2	7	AdvancedMC module slot, with guide rail, for vertical board mounting
3	1	Backplane with star topology for 7 AdvancedMC modules, 1 MCH and 1 power module
4	1	Hot-swap fan module with cooling unit manager (CU EMMC) and 6 fans
5	1	Air filter, exchangeable from front

ORDER INFORMATION

Height mm	Height U	Width HP	Depth mm	Number of slots	Part no.
222.25	5	42	373	7	11850-021

Accessories

AC/DC, double full-size, with power management (PM EMMC) 550 W, 1 piece	11098-547
Splitting kit PU 5 pieces	20849-115
PFM, single full-size 12 V _{DC} input, 40 A, with PM EMMC, non-redundant, with reverse polarity and overvoltage protection, 1 piece	21596-571
PFM, single full-size 12 V _{DC} input, 80 A, with PM EMMC, non-redundant, without reverse polarity and overvoltage protection, 1 piece	21596-572

Replacement parts (FRUs)

Fan tray (21850-113)	Page 8.52
Air filter (21850-116)	Page 8.53

NOTE

- Modified systems available on request

Systems – MicroTCA

MICROTCA.4 SYSTEM, 3 U, 84 HP, FOR 6 AMC'S, 4 RTM'S, JSM-SLOT



Front view

12919001



Rear view

12919002

- Conforms to PICMG MTCA.4 R1.0 specification
- 3 U, 84 HP system for 5 Double Mid-size-AMC, 1 Double Full-size AMC, 1 Double Full-size MCH and 2 Double Full-size-Power-Modules
- 4 rear transition module pin positions for double mid-size RTMs
- Backplane with star topologie, direct connection for S-ATA / SAS, clock- and trigger lines as per PICMG MTCA.4
- Telecom and fabric clock topology as per PICMG AMC.0 R2.0
- Hot-swap fan units at the rear, air flow from front to rear; air filter exchangeable from front
- Fan speeds can be separately adjusted via the MCH
- Installation space for optimum JSM module on the back of the housing
- Different Backplane topologies: PCIe x16 from MCH to AMC1 and AMC2 or x8 connection from MCH to all 6 AMC slots

The system is designed for high-performance high availability applications. The hot-swap fan modules with EMMC in pull configuration ensure that the front and rear slots are cooled perfectly. The fan speed is adjustable via the MCH. The separate JSM installation space prevents an AMC slot from being occupied by a JTAG module. The system can take up to two power modules to ensure a sufficient power supply for the application. The backplane features clock and trigger lines as per PICMG MTCA.4, as well as interlocks. It also provides direct connections for SAS/SATA between the AMCs.

DELIVERY INCLUDES (completely assembled, wired and tested)

Item	Qty	Description
1	1	MicroTCA system, 3 U, 84 HP, 373 mm deep, zinc-plated
2	6	AdvancedMC module slots, with guide rail, for horizontal board mounting
3	4	RTM module slots, with guide rail, for horizontal board mounting
4	1	Backplane with star topology for 6 AdvancedMC modules, 1 MCHs and 2 power modules
5	1	Hot-swap fan module with cooling unit manager (CU EMMC) and 2 fans
6	1	Air filter, swappable from front

ORDER INFORMATION

Depth mm	Number of slots	Transmis sion rate	Height U	Width HP	Airflow	Backplane type	Part no.
373	6	40 Gbps	3	84	Front to rear	X16 connections from MCH to AMC 1 & AMC 2	11890-164
373	6	40 Gbps	3	84	Front to rear	X8 connections from MCH to all AMC's	11890-193

NOTE

- Modified systems available on request
- Optionally available with 3 fans and 2 EMMC's

Systems – MicroTCA

MICROTCA.4 SYSTEM, 9 U, 84 HP, FOR 12 DOUBLE MID-SIZE ADVANCEDMC MODULES



Front view

12915003

- In accordance with PICMG MTCA.4 R1.0 specification
- 84 HP system for
12 double full-size AdvancedMC modules,
2 single full-size MCHs, and 4 / 2 single full-size-power modules
- 12 rear transition module slots for double mid-size RTMs
- 2 hot-swap fan modules with cooling unit manager (CU EMMC) in push/pull configuration, airflow from bottom front to top rear
- Fan speeds for front and rear sections can be separately adjusted via the MCH
- Prepared to install an LLRF backplane in the RTM area

DELIVERY INCLUDES (completely assembled, wired and tested)

Item	Qty	Description
1	1	MicroTCA system, 9 U, 84 HP, 373 mm deep, zinc-plated
2	12	AdvancedMC module slots, with guide rail, for vertical board mounting
3	12	RTM module slots, with guide rail, for vertical board mounting
4	1	Backplane with dual star topology for 12 AdvancedMC modules, 2 MCHs and 4 power modules
5	2	Hot-swap fan module with cooling unit manager (CU EMMC) and 6 fans
6	1	Air filter, swappable from front

The system is designed for high-performance applications with a high level of availability, where redundancy of all components is required. The two redundant hot-swap fan modules with EMMC in push-pull configuration ensure that the front and rear slots are cooled perfectly. The fan speed is controlled independently for front and rear and is set via the MCH. Cable trays on the front and rear of the enclosure simplify cable management. The system can take up to four power modules to ensure a sufficient power supply for the application. The backplane features clock and trigger lines as per PICMG MTCA.4, as well as interlocks. It also provides direct connections for SAS/SATA and lines between the AMCs.



12917002



Rear view 11850-026

ORDER INFORMATION

JSM Slot	White Rabbit Support	Number of slots	Transmission rate	Height U	Width HP	Depth mm	Airflow	Topology GbE	Part no.
No	No	12	40 Gbps	9	84	373	From front to rear	MicroTCA.4 Backplane Topologie	11850-026
Yes	Yes	12	40 Gbps	9	84	373	From front to rear	MicroTCA.4 Backplane Topologie	11850-027
Yes	No	12	40 Gbps	9	84	373	From front to rear	MicroTCA.4 Backplane Topologie	11850-028

Accessories

19" AC/DC switched-mode PSU for MicroTCA, double full-size, with power management (EMMC) 600 W, 1 piece	11098-547
Splitting kit PU 5 pieces	20849-115
PFM, single full-size 12 V _{DC} input, 40 A, with PM EMMC, non-redundant, with reverse polarity and overvoltage protection, 1 piece	21596-571
PFM, single full-size 12 V _{DC} input, 80 A, with PM EMMC, non-redundant, without reverse polarity and overvoltage protection, 1 piece	21596-572

Replacement parts (FRUs)

Fan tray (21890-142)	Page 8.57
Air filter (21890-143)	Page 8.53

NOTE

- Modified systems available on request

Systems – MicroTCA

MICROTCA.4 SYSTEM, 7 / 9 U, 84 HP, FOR 12 DOUBLE FULL-SIZE ADVANCEDMC MODULES



Front view 9 U

12916001



Front view 7 U

12916005

- Conforms to PICMG MTCA.4 R1.0 specification
- 84 HP system for 12 double full-size AdvancedMC modules, 2 single full-size MCHs, and 4 / 2 single full-size-power modules
- 6 rear transition module slots for double full-size RTMs
- 1 single full-size slot for a JTAG switch module (JSM)
- Backplane with dual-star topology
- 2 hot-swap fan modules with cooling unit manager (CU EMMC)
- Optional fan speeds for front and rear sections can be separately adjusted via the MCH
- Air filter that can be changed on the front
- CMS and/or MTCA.4 backplane topology
- 7 U system with airflow from bottom to top, 9 U system with airflow from front to rear

DELIVERY INCLUDES (completely assembled, wired and tested)

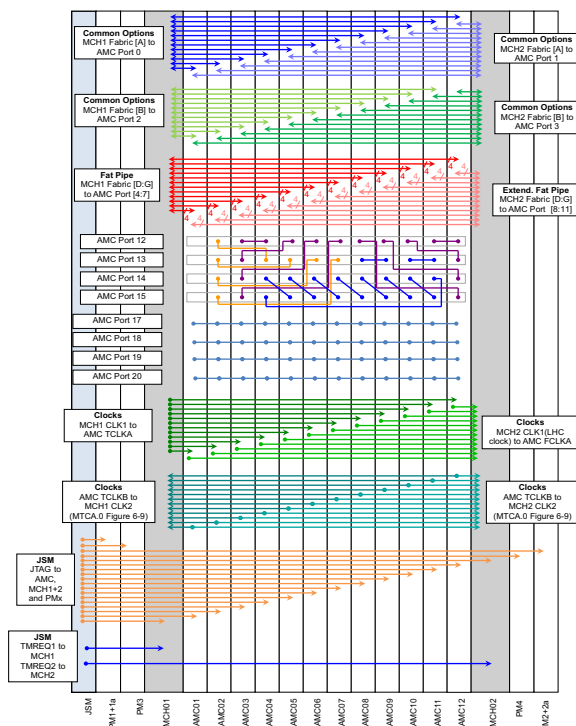
Item	Qty	Description
1	1	MicroTCA system, 7 and/or 9 U, 84 HP, 373.3 mm deep, zinc-plated
2	12	AdvancedMC module slots, double full-size, with guide rail, for vertical board mounting
3	6	RTM module slots, double full-size, with guide rail, for vertical board mounting
4	4/2	Power module slots, single full-size
5	2	MCH slots, single full-size
6	1	JSM module slots, single full-size
7	1	Backplane with dual star topology for 12 AdvancedMC modules, 2 MCHs, 4/2 power modules, 1 JSM
8	2	Hot-swap fan module with cooling unit manager (CU EMMC) and 6 fans
9	1	Air filter, replaceable from front

ORDER INFORMATION

Height U	Width HP	Depth mm	Number of slots	Backplane type	Airflow	Part no.
7	84	373	12	CMS backplane topology	Bottom to top	11890-119
7	84	373	12	MTCA.4 backplane topology	Bottom to top	11890-152
9	84	373	12	CMS backplane topology	From front to rear	11890-156
9	84	373	12	MTCA.4 backplane topology	Bottom to top	11890-170

NOTE

- Modified systems available on request



CMS backplane topology

12916050



- 12912005

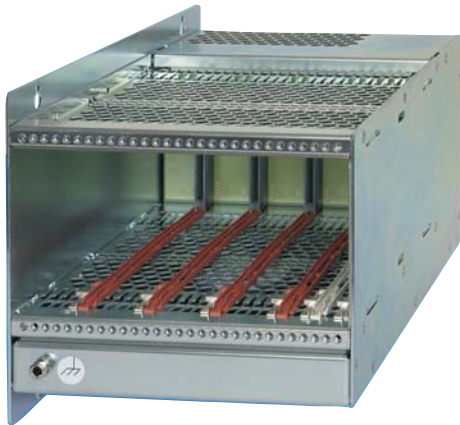
The diagram illustrates the MCH Fabric architecture, showing the connection between various input/output blocks and the central fabric. The central fabric is divided into sections for MCH, MCA, and AMC. The input blocks on the left include Common Options, Extended Fat Pipe, User defined area, Clocks, PWR switch control, EEPROM, IPMB-D, IPMB-L, Fan Control, and Fan Cassette. The output blocks on the right include MCH, MCA, and AMC sections. The diagram shows the flow of data and control signals between these components.

12912051

SCHROFF PRODUCT CATALOG EN 04/2019

Systems – MicroTCA

MICROTCA.0 SYSTEM, CUBE, 3 U, 30 HP, FOR 4 SINGLE FULL-SIZE ADVANCEDMC MODULES



- In accordance with PICMG MTCA.0 R1.0 specification
- Cube systems for wall mounting
4 single full-size AdvancedMC modules and 1 single full-size MCH
- Backplane with star topology, direct connections for S-ATA/SAS
- Clock topology to PICMG AMC.0 R2.0
- Power supply via 250 W open-frame PSU, mains supply via IEC plug on rear, switching logic for individual slots on backplane

DELIVERY COMPRISES

Item	Qty	Description
1	1	MicroTCA system, cube, 3 U, 30 HP, 250 mm deep
2	4	AdvancedMC module slots, with guide rail, for vertical board mounting
3	1	Backplane with star topology for 4 AdvancedMC modules and 1 MCH
4	2	Fan for forced ventilation of slots
5	1	250 W open-frame PSU and IEC mains inlet with switch and fuse; power switching to slots via power management board
6	1	Power management board for 21850-046 and 21850-081

ORDER INFORMATION

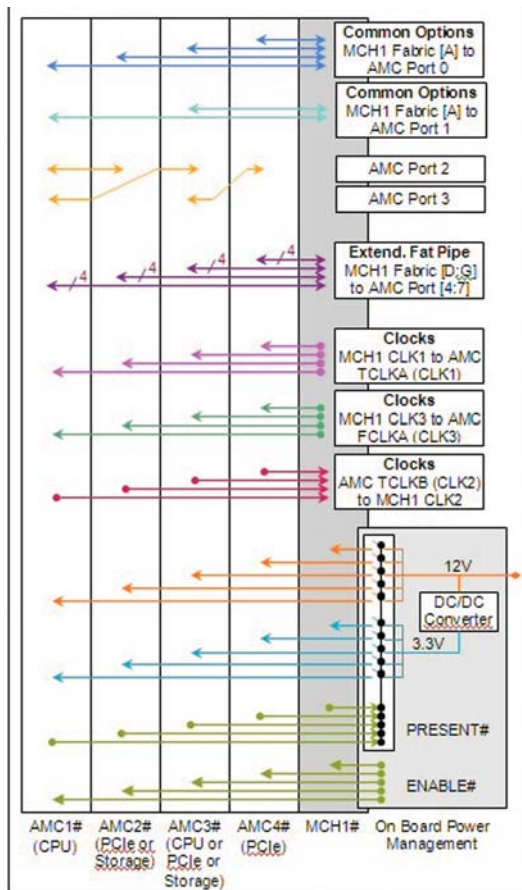
Height U	Width HP	Depth mm	Number of slots	Part no.
3	30	250	4	21850-046

Accessories

AdvancedMC front panels	Page 8.60
AdvancedMC filler panels	Page 8.64

NOTE

- Modified systems available on request



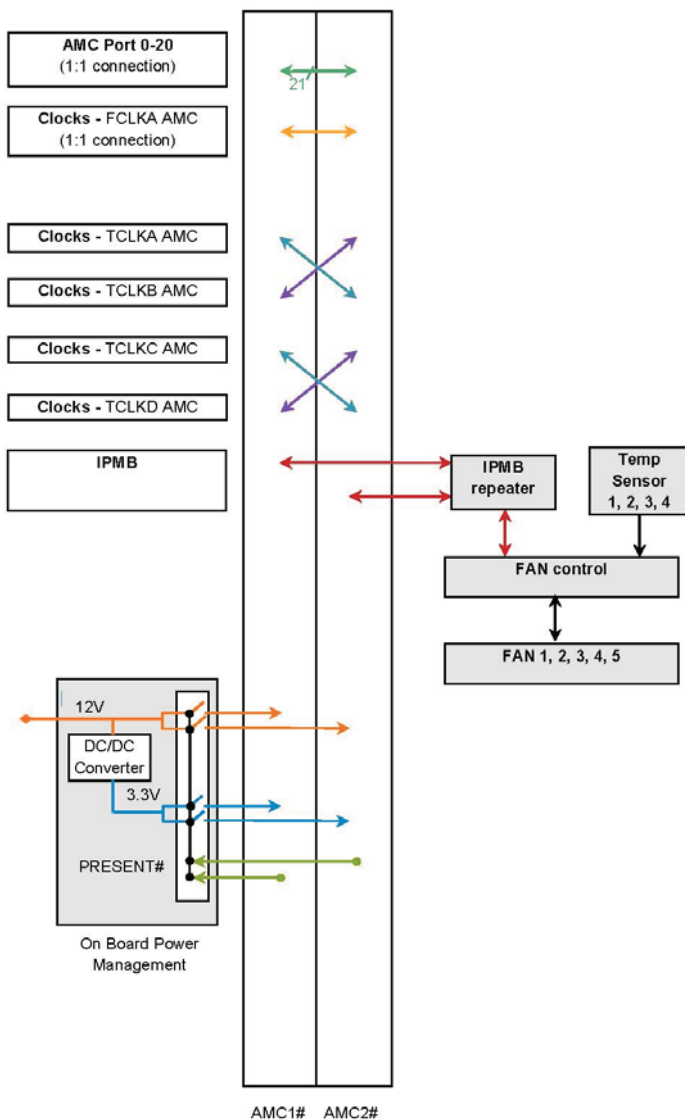
Backplane topology

Systems – MicroTCA

ADVANCEDMC MINI SYSTEM FOR 2 SINGLE ADVANCEDMC MODULES



12913001



12613050

- Small, compact case to hold 2 single full-size AdvancedMC modules
- 150 W cooling capacity at an ambient temperature of 55 °C, airflow from right to left, temperature-regulated fans
- 90 - 264 V_{AC} wide range input on rear of case, 150 W power supply in rear section of enclosure
- Direct connection of all ports between both AdvancedMC slots (see backplane topology); data transfer rates up to 10 Gbps per port
- The system can be stacked and is prepared for a mounting plate
- Fan unit and fan filter are easy to replace
- 12 V_{DC} voltage is activated by the AdvancedMC module presence signal

DELIVERY INCLUDES (completely assembled, cabled and tested)

Item	Qty	Description
1	1	Shielded case, St, black RAL 9005, 1 U, 252 mm wide, 302 mm deep, with 2 horizontal slots for single full-size AdvancedMC modules
2	1	Backplane, 2 slot, with fan control and AdvancedMC slot power activation
3	1	AC mains input via 1 IEC 320-C20 AC mains plug, 150 W open frame PSU, 90 ... 264 V _{AC}
4	2	Fan tray, easy to replace
5	1	Air filter, easy to replace
6	4	Rubber feet, included
7	1	Filler module, 2 HP

ORDER INFORMATION

MicroTCA system	Backplane type	Part no.
AdvancedMC mini system for 2 single AdvancedMC modules	Direct connection of ports 0 - 20 and FLCK, cross connects for TCLK A.D	11850-023

NOTE

- Modified systems available on request

Systems – MicroTCA

MICROTCA SYSTEM WITH INTEGRATED EMCH FOR 2 SINGLE AMC MODULES



- Small, compact case to hold 2 single full-size AMC modules. With the integrated 2 HP filler module, 2 single mid-size modules can also be fitted
- Integrated MCH with Ethernet uplink and USB interface
- 2 GbE links from MCH to each of 2 AMC slots
- Direct connection of ports 2 to 11 between both AMC slots (see backplane topology); data transfer rates up to 10 Gbps per port
- 150 W cooling capacity at an ambient temperature of 55 °C, airflow from right to left, temperature-regulated fans
- 90 ... 264 V_{AC} wide voltage range input on rear of case, 150 W PSU in rear section of case
- The system can be stacked and is prepared for a mounting plate
- Fan unit and fan filter are easy to replace

DELIVERY INCLUDES

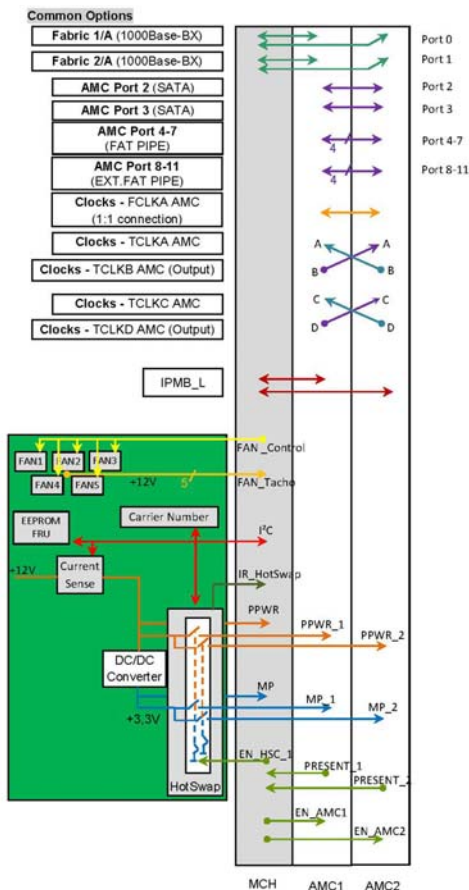
Item	Qty	Description
1	1	Shielded case, St, black RAL 9005, 1 U, 265 mm wide, 302 mm deep, with 2 horizontal slots for single full-size AdvancedMC modules
2	1	Embedded MCH, installed permanently
3	1	Backplane, 2 slot, with fan control and AdvancedMC slot power activation
4	1	AC mains input via 1 IEC 320-C20 AC mains plug, 150 W open frame PSU, 90 - 264 V _{AC}
5	2	Fan tray, easy to replace
6	1	Air filter, easy to replace
7	4	Rubber feet, included

ORDER INFORMATION

Number of slots	Height U	Width mm	Depth mm	Transmission rate	Backplane type	Part no.
2	1	265	302	10 Gbps/per port	2x GbE from eMCH for every AMC slot, direct connection of ports 2 - 11	11850-016

NOTE

- Modified systems available on request



Topology 23005-491

Systems – MicroTCA

MICROTCA.0 SYSTEM, 1 U, FOR 6 SINGLE MID-SIZE ADVANCEDMC MODULES (MTCA.0, SCOPE)



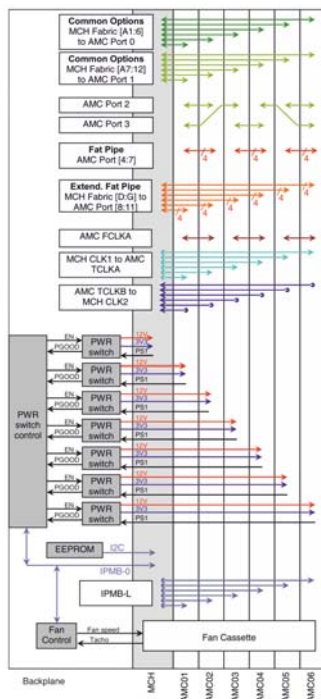
Front view (11850-025)

12915001



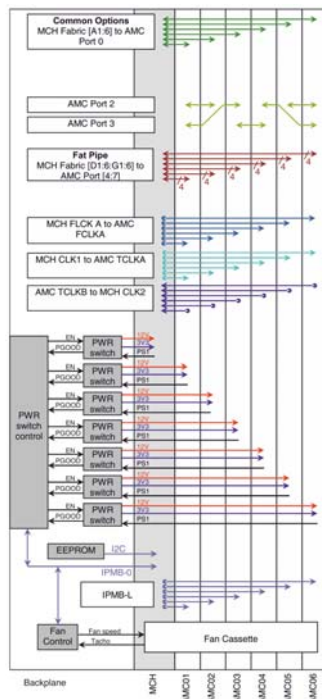
Rear view (11850-025)

12915002



Backplane topology
(11850-024)

12915006



Backplane topology
(11850-025)

12915007

- Conforming to PICMG MTCA.0 R1.0 specification
- 1 U, 19" subrack system for 6 single mid-size AdvancedMC modules, 1 single full-size MCH
- AC mains input (100 ... 240 V_{AC}) on rear of case, 400 W PSU built in, power management (PM EMMC) on backplane
- 2 different backplane topologies to MTCA.0 and Scope (see backplane topology)
- Hot-swap fan module with cooling unit manager (CU EMMC), airflow from right to left
- Air filter, swappable from front

DELIVERY INCLUDES

Item	Qty	Description
1	1	MicroTCA system, St, black, RAL 9005, 1 U, 84 HP, 301 mm deep
2	6	Slot for single mid-size AdvancedMC module, with guide rails, for horizontal board mounting
3	1	Slot for single full-size AdvancedMC module, with guide rails, for horizontal board mounting
4	1	Backplane, MTCA.0 or Scope topology, for 6 AdvancedMC modules and 1 MCH
5	1	Hot-swap fan tray with cooling unit manager (CU EMMC) and 5 fans
6	1	Fan tray, replaceable from front
7	1	400 W open frame PSU and power management (PM EMMC) on backplane

ORDER INFORMATION

Height U	Width HP	Depth mm	Number of slots	Trans-mis- sion rate	Topology	Part no.
1	84	301	6	40 Gbps	Scope topology	11850-024
1	84	301	6	40 Gbps	MicroTCA.0 topology	11850-025

Replacement parts (FRUs)

Fan tray (21850-132)	Page 8.53
Air filter (21850-118)	Page 8.53

NOTE

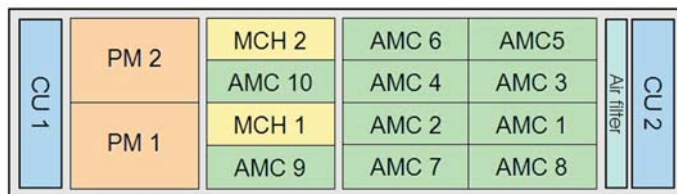
- Modified systems available on request

Systems – MicroTCA

MICROTCA.0 SYSTEM, 3 U, 84 HP, FOR 10 SINGLE FULL-SIZE ADVANCEDMC MODULES

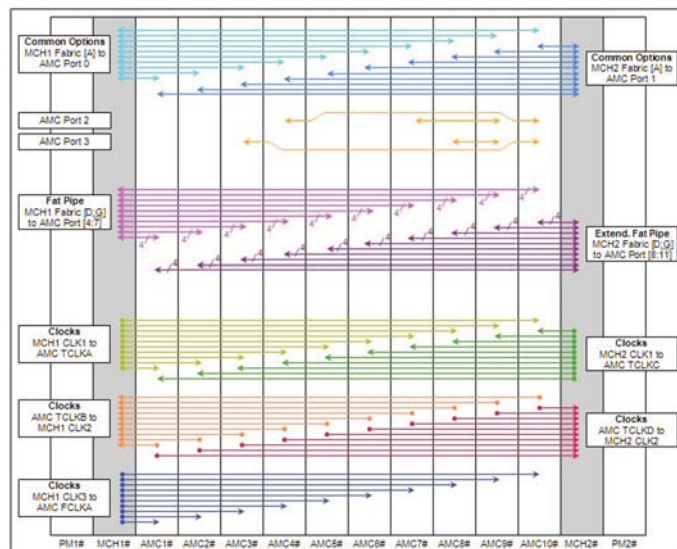


12908003



Slot allocation

12907050



Backplane topology

12907051

- In accordance with PICMG MTCA.0 R1.0 specification
- 3 U, 19" subrack system for 10 single full-size AdvancedMC modules, 2 single full-size MCHs and 2 power modules with up to 12 HP width
- Instead of 8 single full-size AdvancedMC modules, the right-hand board cage can be used for 4 double full-size modules
- Backplane with dual star topology, direct connections for S-ATA/SAS
- Clock topology to PICMG AMC.0 R2.0
- Two hot-swap fan modules in push/pull configuration, each with cooling unit manager (CU EMMC), airflow from right to left
- Air filter, exchangeable from front, with presence signal

DELIVERY COMPRISES

Item	Qty	Description
1	1	MicroTCA system, 3 U, 84 HP, 216 mm deep, powder-coated, black, RAL 9005
2	10	AdvancedMC module slot, with guide rail, for horizontal board mounting
3	1	Backplane with dual-star topology for 10 AdvancedMC modules, 2 MCHs and 2 power modules
4	2	Hot-swap fan unit with cooling unit manager (CU EMMC) and 1 fan;
5	1	Air filter, exchangeable from front
6	4	Splitting kit

ORDER INFORMATION

Height mm	Height U	Width HP	Depth mm	Number of slots	Part no.
133.35	3	84	216	10	11850-011

Accessories

PFM, single full-size 12 V_{DC} input, 40 A, with PM EMMC, non-redundant, with reverse polarity and overvoltage protection, 1 piece 21596-571

PFM, single full-size 12 V_{DC} input, 80 A, with PM EMMC, non-redundant, without reverse polarity and overvoltage protection, 1 piece 21596-572

AdvancedMC front panels **Page 8.60**

AdvancedMC filler panels **Page 8.64**

Replacement parts (FRUs)

Fan tray (21850-038) **Page 8.53**

Air filter (21850-034) **Page 8.53**

NOTE

- For description of the power supply module see page 8.50
- Replacement parts (FRUs) see from page 8.53

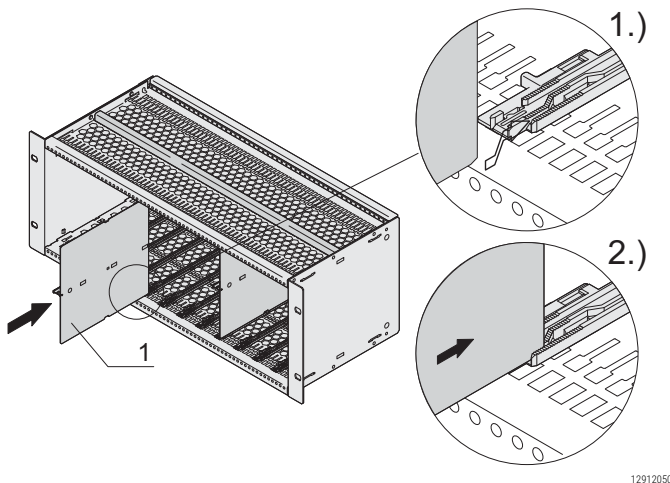
Systems – MicroTCA

ACCESSORIES AND FIELD REPLACEABLE UNITS (FRUS)

Field replaceable unit (FRU) designates system components that can be replaced on site. This reduces system downtime to a minimum. SCHROFF offers various FRU components for AdvancedTCA systems:

- Splitting kit, see page 8.48
- MicroTCA guide rails, see page 8.49
- Power feed-through modules, see page 8.50
- PSUs (AC/DC, double full-size) with and without management, see from page 8.51
- Fan modules, see from page 8.53
- Air filters, see page 8.53

SPLITTING KIT



- For fitting 2 single AdvancedMC modules one above the other in one double AdvancedMC slot
- Splitting kit is inserted into the appropriate receptacle of the SCHROFF MicroTCA guide rail and locks into the appropriate stud of the guide rail
- With the use of the splitting kit, no slots are lost

DELIVERY COMPRISES

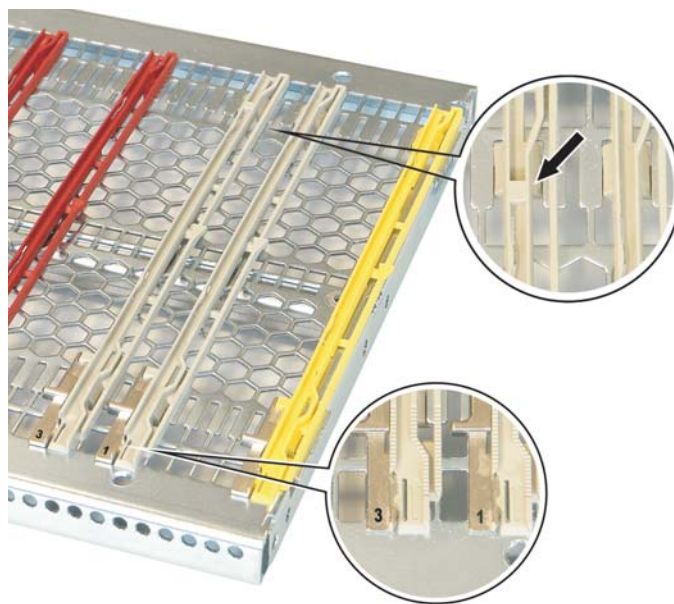
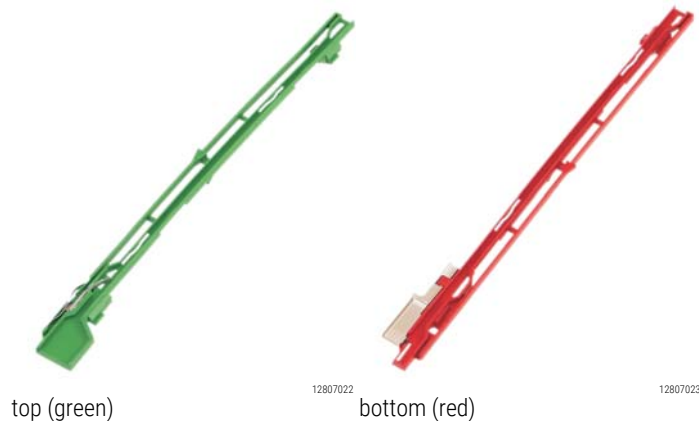
Item	Qty	Description
1	1	Stainless steel, chassis to accommodate a guide rail
2	1	Guide rail, AdvancedMC
3	1	Splitting extrusion, centre
4	1	ESD contact spring
5	1	Fixing material kit, user manual

ORDER INFORMATION

Description	Part no.
Splitting kit, PU 5 pieces	20849-115

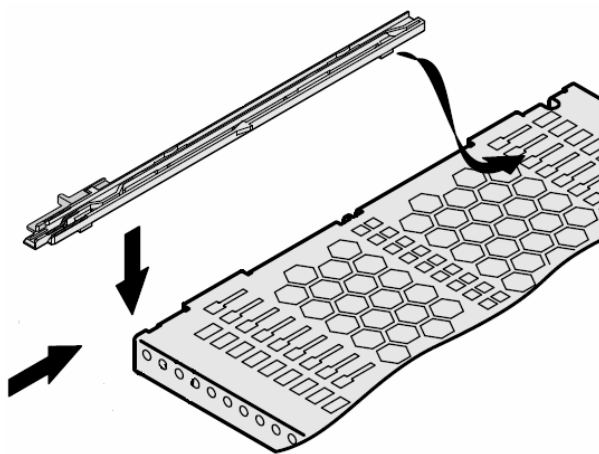
Systems – MicroTCA

MICROTCA GUIDE RAILS



Guide rails bottom, grey, for guide rails of 6 HP wide (full-size) MicroTCA carrier hubs

12807011



12807059

- Easy installation without tools in 1 HP grid; the minimum distance between two guide rails is 3 HP (compact)

ORDER INFORMATION

Description	Qty/PU	Part no.
Guide rail, top, green, with ESD clip; for all modules	10	20849-200
Guide rail, top, green, with ESD clip; for all modules	100	20849-201
Guide rail bottom, red; for AdvancedMC function modules	10	20849-194
Guide rail bottom, red; for AdvancedMC function modules	100	20849-195
Guide rail bottom, yellow; for power supplies	10	20849-196
Guide rail bottom, yellow; for power supplies	100	20849-197
Guide rail bottom, grey; for left-hand guide rail of a 6 HP wide MicroTCA carrier hub (designation 3)	10	20849-202
Guide rail bottom, grey; for right-hand guide rail of a 6 HP wide MicroTCA carrier hub (designation 1)	10	20849-198
Guide rail bottom, grey; for right-hand guide rail of a 6 HP wide MicroTCA carrier hub (designation 1)	100	20849-199

Systems – MicroTCA

MICROTCA POWER FEEDER MODULES, SINGLE FULL-SIZE



Photo shows 21596-571

12812006

- Infeed of +12 V_{DC} supply voltage from an external source via D-Sub plug to 16 x 12 V_{DC} outputs to MicroTCA backplane
- Generation of +3.3 V_{DC} management voltage and distribution to 16 outputs
- Used in the power module slot (single full-size) instead of a MicroTCA power module, plug and form factor compatible
- 2 versions
 - With power management (PM EMMC), with protection against overvoltage and polarity reversal of input voltage, 5-pin D-Sub input plug
 - With power management (PM EMMC), no protection against overvoltage or polarity reversal of input voltage, 5-pin D-Sub input plug

DELIVERY COMPRISES

Item	Qty	Description
1	1	Power feeder module, single full-size
2	1	Power management mezzanine board

ORDER INFORMATION

MicroTCA power feeder, single full-size	Part no.
With power management with overvoltage protection	21596-571
With power management without overvoltage protection	21596-572

Accessories

Connection cable for power feeder module, 5-pin D-Sub 5W5 (-48 V _{DC}) on M5 ring terminal, cable length 1.8 m, 1 piece	23204-835
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AC/DC, DOUBLE FULL-SIZE, WITH POWER MANAGEMENT (EMMC)



11316001

- Mains input at front with wide input voltage range for AC voltages with IEC locking system
- Construction compatible with AdvancedMC double full-size
- Supports N+1 and 2+2 redundancy, load sharing and hot swap
- Power management for 16 current channel (12 AMC, 2 CU and 2 MCHs)
- High efficiency
- Visual performance display

The MTCA PSU 600 is an exceptionally efficient power module (PM) for MicroTCA[®] applications. This 600W power supply is the most efficient available in double-width full-size format. This PM's integrated management controller makes it ideally suited for use in complex communications systems running the latest generations of processors and an increased number of AMC modules. The MTCA PSU 600 provides the power required for 12 AMCs, 2 Cooling Units (CUs) and 2 MicroTCA[®] Carrier Hubs (MCHs).

DELIVERY INCLUDES

Qty.	Description
1	PSU for MicroTCA Double height (148.3 mm) Full-size width (6 HP) Depth 186.65 mm Connector MicroTCA Power Front panel with handle and EMC gasket (fitted)

ORDER INFORMATION

Voltage V	Current A	Power W	Description	Part no.
V1: 12 V2: 3.3	I1: 6.8 I2: 0.18	600	MTCA PSU 600	11098-547

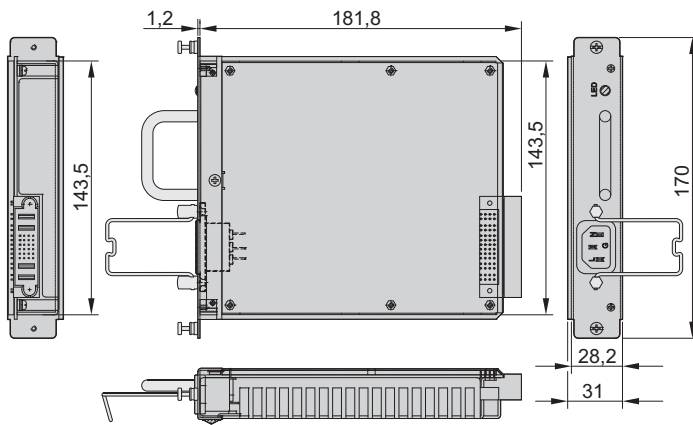
Systems – MicroTCA

AC/DC, DOUBLE FULL-SIZE, WITHOUT MANAGEMENT



Photo shows 11098-392

11309004



11312050

- Wide input voltage range 90 ... 264 V_{AC}
- Active power factor correction
- Construction compatible with AdvancedMC double full-size
- Single-wire current share cable for redundancy operation
- 2 output voltages, 12 V and 3.3 V
- Corresponds to EMC class B as per EN 55022
- Without MicroTCA power management controller
- Mains input at front

DELIVERY COMPRISES

Qty	Description
1	PSU for MicroTCA height double (148.3 mm) width full-size (6 HP) depth 186.65 mm connector Molex SSI front panel with handle and EMC gasket (fitted)

ORDER INFORMATION

Voltage V	Current A	Power W	Description	Part no.
V1: 12	I ₁ : 25	300	MCA 300 AC	11098-392
V ₂ : 3.3	I ₂ : 3			

NOTE

- Output data for T_A = -25 ... 55 °C with forced cooling of 20 cfm
- Connector FCI 51720-10202402AA or Molex 87631-2019

Systems – MicroTCA

FAN MODULE FOR MICROTCA.0 SYSTEM, 1 U



12915008

- For SCHROFF 1 U MicroTCA system 11850-024 and 11850-025
- With cooling unit enhanced module management controller (CU EMMC)
- Hot-swap fan tray with 4 regulated axial fans (40.2 m³/h each free blowing), 1 unregulated axial fan (17 m³/h), 12 V_{DC}

ORDER INFORMATION

Description	Qty/PU piece	Part no.
Fan module for 1 U MicroTCA.0 system (11850-024, 11850-025)	1	21850-132

FAN MODULE FOR MICROTCA.0 SYSTEMS, 3 U, WITHOUT TELCO ALARM PANEL



12907013

- Fan tray with 1 axial fan (225 m³/h), free blowing, 12 V_{DC}
- With cooling unit enhanced module management controller (CU EMMC)

ORDER INFORMATION

Description	Qty/PU piece	Part no.
Fan module for 3 U MicroTCA system (11850-003)	1	21850-038

FAN MODULE FOR MICROTCA.4 CUBE SYSTEM, 5 U



12912002

- Hot-swap fan tray with 6 regulated axial fans (109 m³/h each), free blowing, 12 V_{DC}
- With cooling unit enhanced module management controller (CU EMMC); fan speeds for front and rear sections independently adjustable via MCH

ORDER INFORMATION

Description	Qty/PU piece	Part no.
Fan module for 5 U physics cube system (11850-021), 1 piece	1	21850-113

Systems – MicroTCA

FAN MODULE FOR 5 U MICROTCA.1 CUBE SYSTEM, 5 U



12912006

- Hot-swap fan tray with 4 regulated axial fans (109 m³/h each), free blowing, 12 V_{DC}
- With cooling unit enhanced module management controller (CU EMMC)

ORDER INFORMATION

Description	Qty/PU piece	Part no.
Fan module for 5 U cube system (11850-020)	1	21850-114

FAN MODULE FOR MICROTCA.4 19" SYSTEMS, 9 U



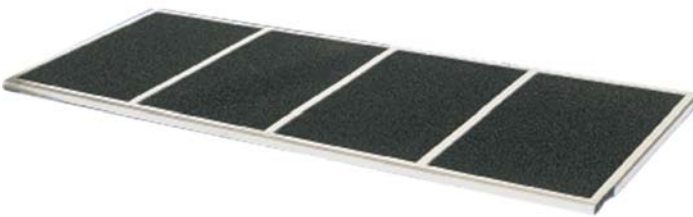
12915005

- Hot-swap fan tray with 6 regulated axial fans (3 x 290 m³/h each free blowing and 3 x 190 m³/h free blowing), 12 V_{DC}
- With cooling unit enhanced module management controller (CU EMMC); fan speeds for front and rear sections independently adjustable via MCH

ORDER INFORMATION

Description	Qty/PU piece	Part no.
Fan module for 9 U MicroTCA.4 19" systems (11850-026)	1	21890-142

AIR FILTERS



12907005

Photo shows air filter 21850-033

- Material: polyurethane UL 94 HF1
- 45 ppi, 80 % dust reduction under NEBS GR-78 core standard

ORDER INFORMATION

Description	Qty/PU	Part no.
Air filter for 1 U MicroTCA.0 system (11850-024, 11850-025)	1	21850-118
Air filter for 3 U MicroTCA.0 system (11850-003)	1	21850-034
Air filter for 5 U MicroTCA.1 cube system (11850-020)	1	21850-120
Air filter for 5 U MicroTCA.4 cube system (11850-021)	1	21850-116
Air filter for 9 U MicroTCA.4 19" system (11850-026)	1	21890-143

Systems – AdvancedMC modules

OVERVIEW

MAIN KATALOG

Cabinets	1
Wall mounted cases	2
Accessories for cabinets and wall mounted cases	3
Climate control	4
Electronics cases	5
Subracks/ 19" chassis	6
Front panels, plug-in units	7
Systems	8
Power supply units	9
Backplanes	10
Connectors, front panel component system	11
Appendix	12

AdvancedTCA™



12808006



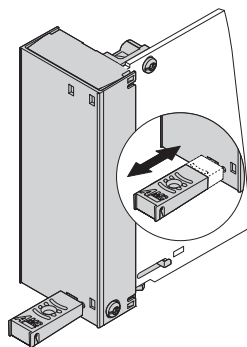
12808007



12806029

12808005

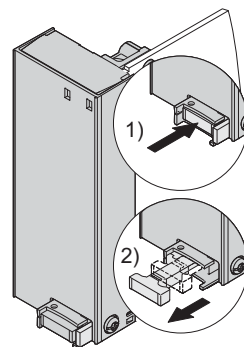
Stainless steel



12808060

Pull-handle mechanism

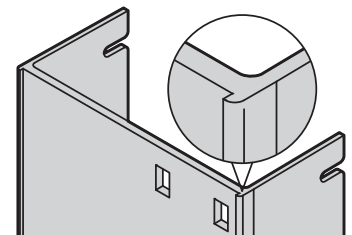
- For compact, mid-size and full-size module widths
- Forward protrusion of handle 20 mm, width 8 mm



12808059

Push-pull handle mechanism

- For mid-size and full-size module widths
- Forward protrusion of handle 5 mm, width 14 mm



12808056

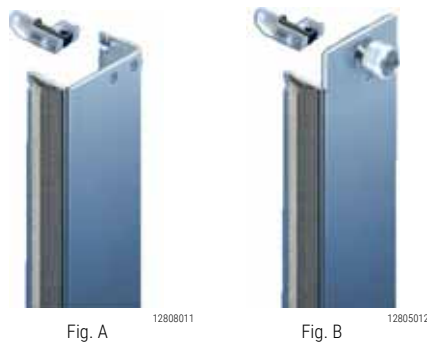
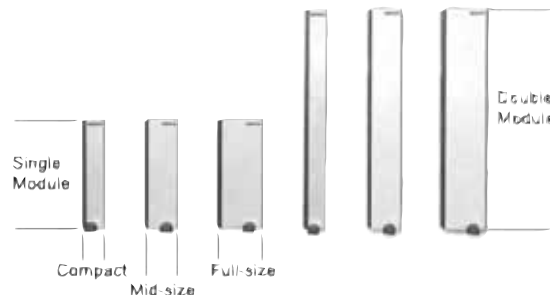
Aluminium extrusion

Systems – AdvancedMC modules

OVERVIEW

ADVANCEDMC MODULE MECHANICS

- Front panels with two locking mechanisms, usable for AdvancedMC carriers and MicroTCA systems
- Front panels in steel or aluminium extrusion
- Dimensions
 - Single compact, mid-size, full-size
 - Double compact, mid-size, full-size
- Ruggedized AdvancedMC modules for MicroTCA.1 and MicroTCA.4 applications
- MicroTCA filler modules with adjustable airflow

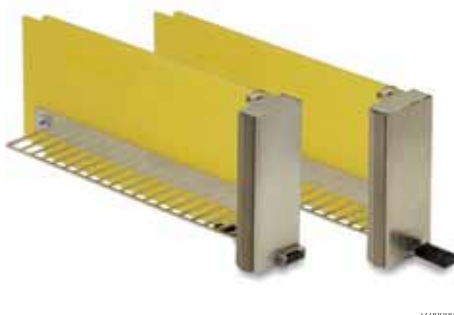


ADVANCEDMC MODULE MECHANICS

- For PICMG® AMC.0 R2.0 (Fig. A), locking of modules without screws
- Ruggedized module mechanics for MicroTCA.1 and MicroTCA.4 (Fig. B) applications, with patented screw locking
- EMC shielded front panel in two materials (stainless steel; aluminium)
- Two different handle mechanisms (pull, push-pull)

ADVANCEDMC-MICROTCA FILLER MODULES

- Front panels with handle, PCB and air baffle for compact, mid-size and full-size AdvancedMC modules
- Air baffles to adjust air resistance of an unused slot
- Air passage adjustable (sliding plates)



Overview 8.56

AdvancedMC module mechanics

PICMG AMC.0 R2.0RC1.2

Modules with push-pull-handle mechanism 8.58

Modules with pull-handle mechanism 8.58

Front panels for module with pull-handle mechanism 8.59

Pull-handle mechanism 8.60

Modules with ruggedized pull-handle mechanism 8.61

Filler modules for MicroTCA

Pull-handle mechanism 8.62

Air baffle for filler module ECO 8.65

Microswitch 8.67

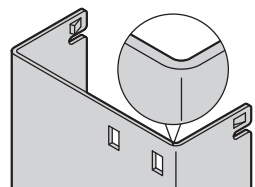
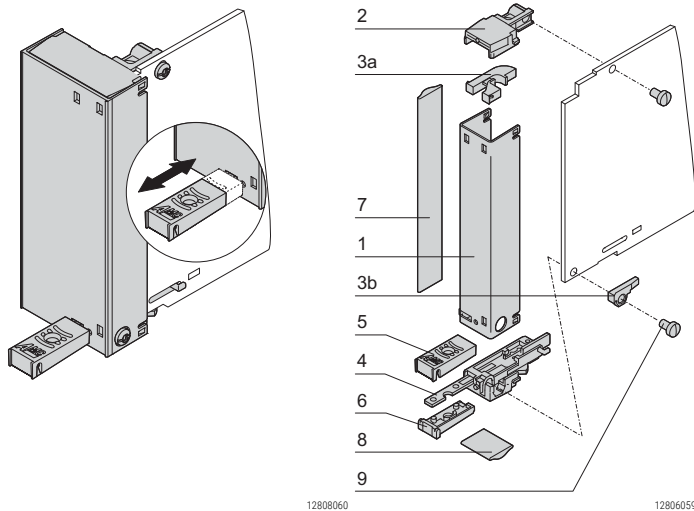
Systems – AdvancedMC modules

MODULES WITH PULL-HANDLE MECHANISM, PICMG® AMC.0 R2.0

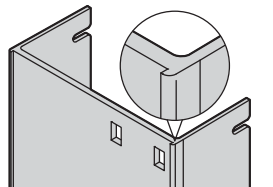


Photo shows modules with steel front panel (PCB not included)

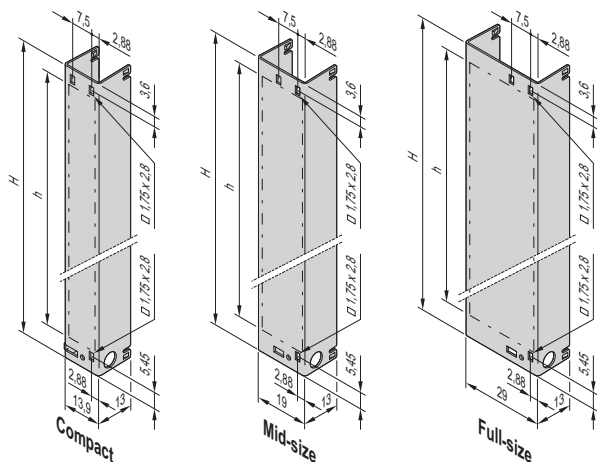
Pull-handle mechanism



Stainless steel



Aluminium extrusion



12808061

- Module in accordance with AdvancedMC standard
- For installation in MicroTCA chassis or AdvancedMC carriers (e.g. conventional, cutaway and hybrid carriers)
- Front panels in 2 versions:
 - Stainless steel
 - Aluminium extrusion; for foil printing

DELIVERY COMPRISES (kit)

Item	Qty	Description
1	1	U-shaped front panel, stainless steel or Al extrusion
2	1	Accepts light pipe and board bracket at top, Zn die-cast, nickel-plated
3a	1	Light pipe, top, PC, UL 94 V-0
3b	1	Light pipe, bottom, PC, UL 94 V-0
4	1	Pull-handle mechanism with microswitch activation and board bracket
5+6	1	Pull-handle, PC, UL 94 V-0, black
7	1	Lateral EMC gasket, core: foam, sleeve: textile cladding with CuNi coating
8	1	Lower EMC gasket, core: foam, sleeve: textile cladding with CuNi coating
9	1	Assembly kit

ORDER INFORMATION

Module with pull-handle mechanism, PICMG® AMC.0 R2.0	H	h	Part no.	Part no. Stainless steel
	mm	mm	Aluminium	
Single compact, 3 HP	73.8	60.8	20849-312	20849-127
Single mid-size, 4 HP	73.8	60.8	20849-268	20849-128
Single full-size, 6 HP	73.8	60.8	20849-270	20849-129
Double compact, 3 HP	148.8	135.8	20849-313	20849-130
Double mid-size, 4 HP	148.8	135.8	20849-269	20849-131
Double full-size, 6 HP	148.8	135.8	20849-271	20849-132

Accessories

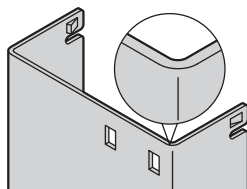
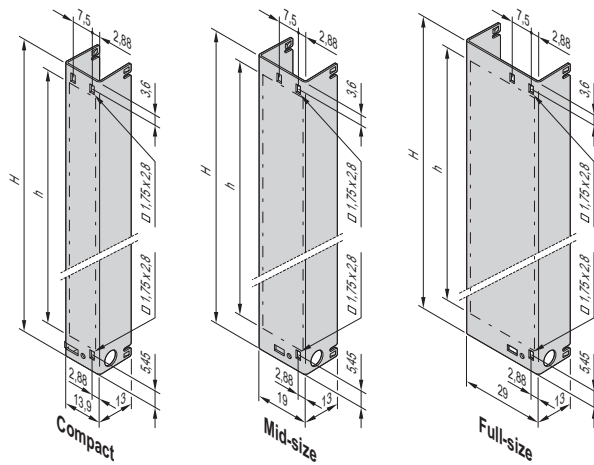
Microswitch for AdvancedMC modules "normally open" for soldering (SMD), PU 10 pieces - page 8.67	20849-209
Filler Modules	Seite 8.62
Air baffle modules	Seite 8.62

Note

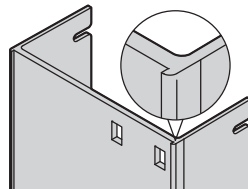
- Mechanism with pull-handle mechanism see page 8.60
- SCHROFF offers extensive modification options with the Front Panel Service, including customised cut-outs, foils and silk-screen printing.

Systems – AdvancedMC modules

FRONT PANELS FOR MODULE WITH PULL-HANDLE MECHANISM, PICMG® AMC.0 R2.0



Stainless steel



Aluminium extrusion

- Front panel for pull-handle mechanism (with cut-outs for light pipe)
- For AdvancedMC modules
- 2 front panel materials:
 - Stainless steel
 - Aluminium extrusion; for foil printing

DELIVERY COMPRISES

Item	Qty	Description
1	1	U-shaped front panel

ORDER INFORMATION

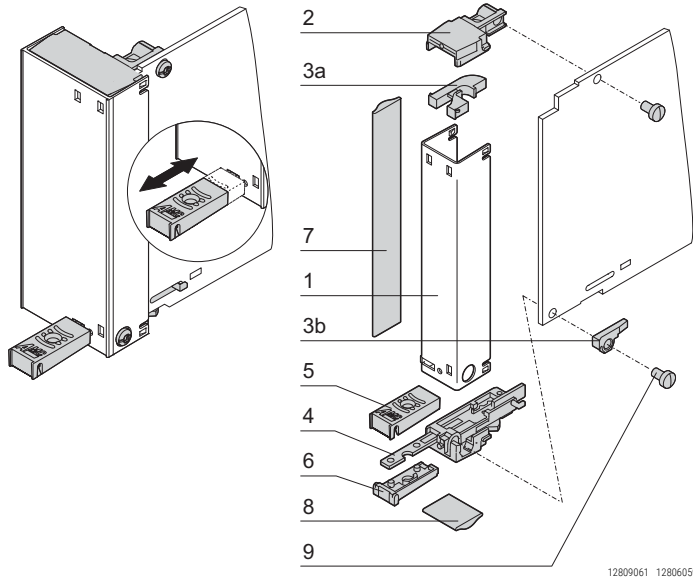
Front panel for module with pull-handle mechanism, PICMG® AMC.0 R2.0	Part no. Aluminium	Part no. Stainless steel
Single compact, 3 HP	30849-708	30849-402
Single mid-size, 4 HP	30849-658	30849-403
Single full-size, 6 HP	30849-682	30849-404
Double compact, 3 HP	30849-714	30849-405
Double mid-size, 4 HP	30849-670	30849-406
Double full-size, 6 HP	30849-694	30849-407

Note

- Locking mechanism for front panel see page 8.60
- SCHROFF offers extensive modification options with the Front Panel Service, including customised cut-outs, foils and silk-screen printing.

Systems – AdvancedMC modules

PULL-HANDLE MECHANISM, PICMG® AMC.0 R2.0



Pull-handle mechanism

- Complete pull-handle mechanism, designed for microswitch activation (hot-swap), includes light pipe
- For AdvancedMC modules

DELIVERY COMPRISES (kit)

Item	Qty	Description
2	1	Accepts light pipe and board bracket at top, Zn die-cast, nickel-plated
3a	1	Light pipe, top, PC, UL 94 V-0
3b	1	Light pipe, bottom, PC, UL 94 V-0
4	1	Pull-handle mechanism with microswitch activation and board bracket
5+6	1	Pull-handle, PC, UL 94 V-0, black
7	1	Lateral EMC gasket, core: foam, sleeve: textile cladding with CuNi coating
8	1	Lower EMC gasket, core: foam, sleeve: textile cladding with CuNi coating
9	1	Assembly kit

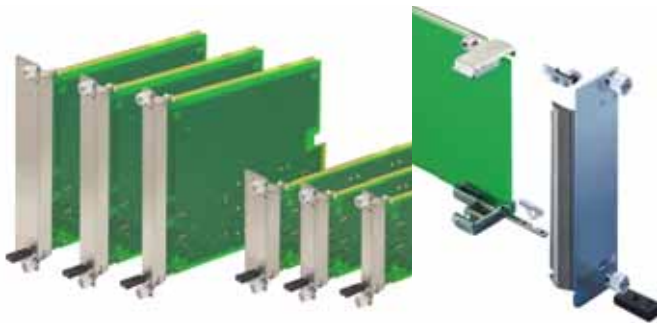
ORDER INFORMATION

Pull-handle mechanism, PICMG® AMC.0 R2.0	Part no.
For single compact, 3 HP	20849-151
For single mid-size, 4 HP	20849-152
For single full-size, 6 HP	20849-153
For double compact, 3 HP	20849-154
For double mid-size, 4 HP	20849-155
For double full-size, 6 HP	20849-156

- Front panel for pull-handle mechanism page 8.59

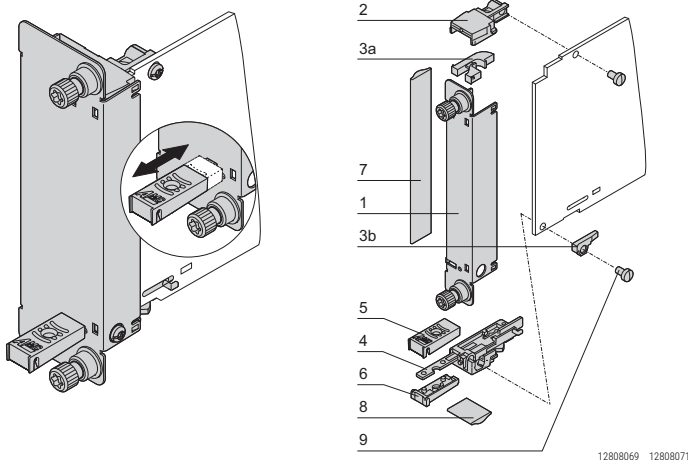
Systems – AdvancedMC modules

MODULES WITH RUGGEDIZED PULL-HANDLE MECHANISM (MICROTCA.1 OR MICROTCA.4), SHIELDED

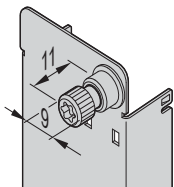


12808015 12805012

Pull-handle mechanism with additional screw locking



12808069 12808071

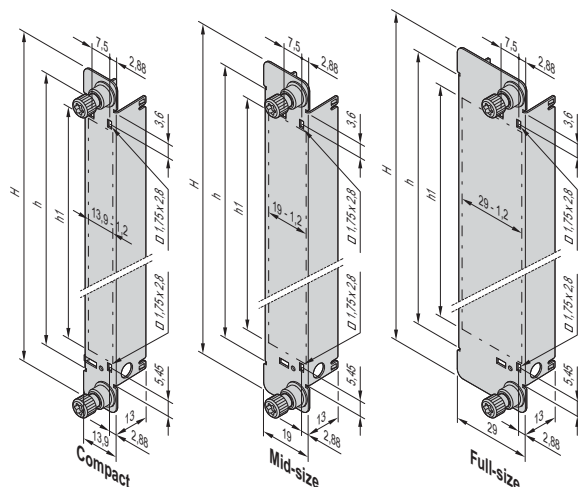


Steel, stainless



Screw locking

12808072 12809001



12808070

- Module in accordance with AdvancedMC standard
- Modules conform to:
 - PICMG® AMC.0 R2.0
 - Ruggedized: MicroTCA.1, MicroTCA.4
- Mounts in MicroTCA chassis or AdvancedMC carrier (e.g. cutaway, conventional or hybrid carrier)
- Stainless steel front panel
- Additional securing of components in MicroTCA system; with patented screw locking

DELIVERY COMPRISES (kit)

Item	Qty	Description
1	1	U-shaped front panel, stainless steel; with welded-on screw locking, Torx T10
2	1	Board support, die-cast zinc, nickel-plated
3a	1	Light pipe, top, PC, UL 94 V-0
3b	1	Light pipe, bottom, PC, UL 94 V-0
4	1	Pull-handle mechanism with microswitch activation and board bracket
5+6	1	Pull-handle, PC, UL 94 V-0, black
7	1	Lateral EMC gasket, core: foam, sleeve: textile cladding with CuNi coating
8	1	Lower EMC gasket, core: foam, sleeve: textile cladding with CuNi coating
9	1	Assembly kit

ORDER INFORMATION

Module with ruggedized pull-handle mechanism	H mm	h mm	h1 mm	Part no.
Single compact, 3 HP	95.0	73.8	60.8	21850-066
Single mid-size, 4 HP	95.0	73.8	60.8	21850-067
Single full-size, 6 HP	95.0	73.8	60.8	21850-068
Double compact, 3 HP	170.0	148.8	135.8	21850-069
Double mid-size, 4 HP	170.0	148.8	135.8	21850-070
Double full-size, 6 HP	170.0	148.8	135.8	21850-071

Accessories

Microswitch for AdvancedMC modules "normally open" for soldering (SMD), PU 10 pieces - page 8.67	20849-209
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Individual components

Screw locking (patented) for ruggedized front panel Screw retainer must be welded to front panel (screw, expansion bolt, bushing; fitted), PU 10 pieces	21850-057
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Note

- Filler modules MicroTCA.1 and MicroTCA.4 see from page 8.63
- SCHROFF offers extensive modification options with the Front Panel Service, including customised cut-outs, foils and silk-screen printing.

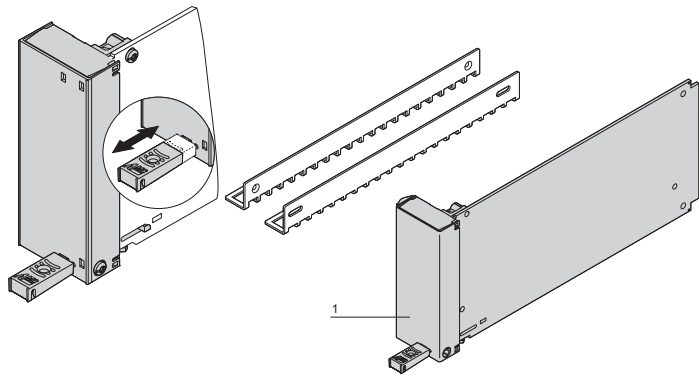
Systems – AdvancedMC modules

FILLER MODULES WITH PULL-HANDLE MECHANISM



Filler module ECO, single, with air baffle

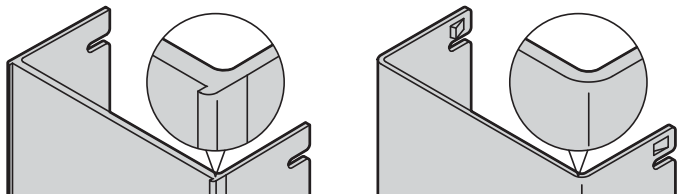
12807012



Pull-handle mechanism

12808060

12805050



Aluminium extrusion

Stainless steel

12808068

12808067

- Shielded filler modules are used to close unused slots
- The optional air baffle (airflow adjustable) can be used to prevent an air short-circuit
- For conventional, cutaway and hybrid carrier
- Pull-handle mechanism meets AdvancedMC standard; pull handle to extract sub-assembly
- 2 front panel materials:
 - Stainless steel
 - Aluminium extrusion; for foil labelling

DELIVERY COMPRISES (assembled)

Item	Qty	Description
1	1	AdvancedMC filler module, consisting of
1	1	U-shaped front panel, stainless steel or Al extrusion
1	1	Board support, die-cast zinc, nickel-plated
1	1	PCB
1	1	Pull-handle mechanism and board bracket
1	1	Pull-handle, plastic, PC, UL 94 V-0, black
1	1	Lateral EMC gasket, core: foam, sleeve: textile cladding with CuNi coating
1	1	Lower EMC gasket, core: foam, sleeve: textile cladding with CuNi coating

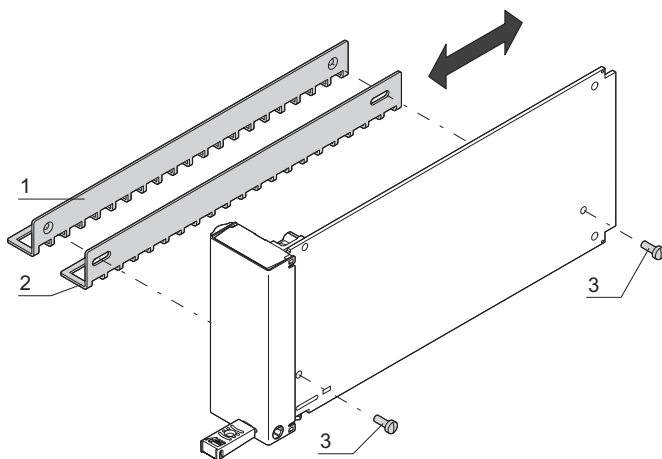
ORDER INFORMATION

Filler module with pull-handle mechanism	Part no. Aluminium	Part no. Stainless steel
Single compact, 3 HP	20849-304	20849-022
Single mid-size, 4 HP	20849-248	20849-106
Single full-size, 6 HP	20849-250	20849-024
Double compact, 3 HP	20849-305	20849-023
Double mid-size, 4 HP	20849-249	20849-107
Double full-size, 6 HP	20849-251	20849-025

Note

- Please order air baffle separately, see page 8.62
- Low-cost alternative: Filler module with fixed handle, see page 8.65

AIR BAFFLE FOR ADVANCEDMC FILLER MODULES



12805051

- Retrofittable

DELIVERY COMPRISES

Item	Qty	Description
1	1	Metal sheet with perforation, Al
2	1	Sliding metal sheet with perforation, Al
3	1	Assembly kit

ORDER INFORMATION

Description	Qty/PU	Part no.
Air baffle for compact filler module	10	20849-016
Air baffle for mid-size filler module	10	20849-017
Air baffle for full-size filler module	10	20849-018

Systems – AdvancedMC modules

MICROTCA FILLER MODULES WITH AIR BAFFLE



Photo shows mid-size double module

12812001

- In accordance with MicroTCA.1 and MicroTCA.4 specifications
- With air baffle
- Shielded filler modules are used to close unused slots and together with the air baffle plates prevent air short circuits occurring through unused slots
- Can be screwed on; is inserted into the guide rail
- With retention screws for screwing onto the board cage
- With air baffle
- Used to close an empty slot

DELIVERY COMPRISES (assembled)

Item	Qty	Description
1	1	Front panel with side panel and air baffle, stainless steel, 1 mm; with captive screws (2 pieces)
2	1	Lateral EMC gasket, core: foam, sleeve: textile cladding with CuNi coating

ORDER INFORMATION

Description	Part no.
MicroTCA filler module with air baffle, mid-size single	21850-104
MicroTCA filler module with air baffle, full-size single	21850-105
MicroTCA filler module with air baffle, mid-size double	21850-106
MicroTCA filler module with air baffle, full-size double	21850-107

MICROTCA FILLER MODULES (ABOVE AN MCH)



Photo shows full-size single module

12812003

- In accordance with MicroTCA.1 and MicroTCA.4 specifications
- Filler module is fitted above an MCH or PM when double modules are used
- Shielded filler modules are used to close unused slots
- Can be screwed on; is supported on the guide rail
- Mit Befestigungsschraube zum Anschrauben an den Kartenkorb
- Wird verwendet um die Lücke zu schließen, wenn eine Single Mid-size Karte mit Splitting Kit in einen Double Mid-size Slot eingesetzt wird

DELIVERY COMPRISES

Item	Qty	Description
1	1	Front panel, stainless steel, 1 mm; with captive screw (1 piece)
2	1	Lateral EMC gasket, core: foam, sleeve: textile cladding with CuNi coating

ORDER INFORMATION

Description	Part no.
MicroTCA filler module with front panel, mid-size single	21850-102
MicroTCA filler module with front panel, mid-size double	21850-103

Systems – AdvancedMC modules

MICROTCA FILLER MODULES, 2 HP



Photo shows AdvancedMC-Filler Modul, Single

12807014

- In accordance with MicroTCA.1 and MicroTCA.4 specifications
- Shielded filler modules are required e.g. if a mid-size or full-size AdvancedMC module is fitted in a 84 HP system
- Can be screwed on
- With retention screws for screwing onto the board cage
- Used to close the gap if a mid-size module is installed in a full-size slot

DELIVERY COMPRISES

Item	Qty	Description
1	1	Front panel, stainless steel, 0.6 mm
2	1	Lateral EMC gasket, core: foam, sleeve: textile cladding with CuNi coating

ORDER INFORMATION

Description	Qty	Part no.
MicroTCA filler module, single, 2 HP	1 piece (SPQ 5)	20849-213
MicroTCA filler module, double, 2 HP	1 piece (SPQ 5)	20849-214

Delivery is exclusively made in Standard Pack Quantity (SPQ): Please order at least 5 pieces or a multiple. Pricing is per individual item.

Pozidrive panhead screw M3 x 6, zinc-plated, 100 pieces	21102-024
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RTM FILLER MODULES WITH AIR BAFFLE



Photo shows full-size double module

12812002

- In accordance with MicroTCA.1 and MicroTCA.4 specifications
- Filler Modul zum Abdecken leerer Slots
- Shielded rear transition (RTM) filler modules are used to close unused slots and together with the air baffle plates prevent air short circuits occurring through unused slots
- Can be screwed on
- With retention screws for screwing onto the board cage
- With air baffle
- Used to close an empty RTM (Rear Transition Module) slot if no RF backplane is installed

DELIVERY COMPRISES (assembled)

Item	Qty	Description
1	1	Front panel with side panel and air baffle, stainless steel, 1 mm; with captive screws (2 pieces)
2	1	Lateral EMC gasket, core: foam, sleeve: textile cladding with CuNi coating

ORDER INFORMATION

Description	Part no.
RTM filler module with air baffle, mid-size double	21850-108
RTM filler module with air baffle, full-size double	21850-109
MicroTCA RTM-Filler Modul mit Flansch und Luftschottblech, Double Mid-size (RF BP)	21850-130
MicroTCA RTM-Filler Modul mit Flansch und Luftschottblech, Double Full-size (RF BP)	21850-131
MicroTCA RTM-Filler Modul mit Flansch und Luftschottblech, Double Full-size (RF BP, Zone 3)	21850-129

Systems – AdvancedMC modules

FILLER MODULE ECO WITH FIXED HANDLE



Filler module ECO, single, with air baffle

12809002

- Shielded filler modules are used to close unused slots
- The optional air baffle (airflow adjustable) can be used to prevent an air short-circuit
- For conventional, cutaway and hybrid carriers and MicroTCA systems
- Low-cost filler module (no pull- or push-pull-handle mechanism)

DELIVERY COMPRISES (assembled)

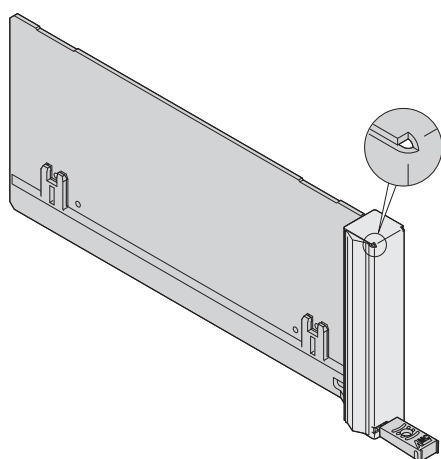
Item	Qty	Description
1	1	AdvancedMC ECO filler module, consisting of
	1	Front panel, stainless steel
	1	PCB, plastic, PC, UL 94 V-0 with built-in air baffle holder
	1	Handle, fixed, plastic, PC, UL 94 V-0, black
	1	Lateral EMC gasket, core: foam, sleeve: textile cladding with CuNi coating
	1	Lower EMC gasket, core: foam, sleeve: textile cladding with CuNi coating

ORDER INFORMATION

	Part no.
Single compact, 3 HP	20849-348
Single mid-size, 4 HP	20849-350
Single full-size, 6 HP	20849-352
Double compact, 3 HP	20849-349
Double mid-size, 4 HP	20849-351
Double full-size, 6 HP	20849-353

Note

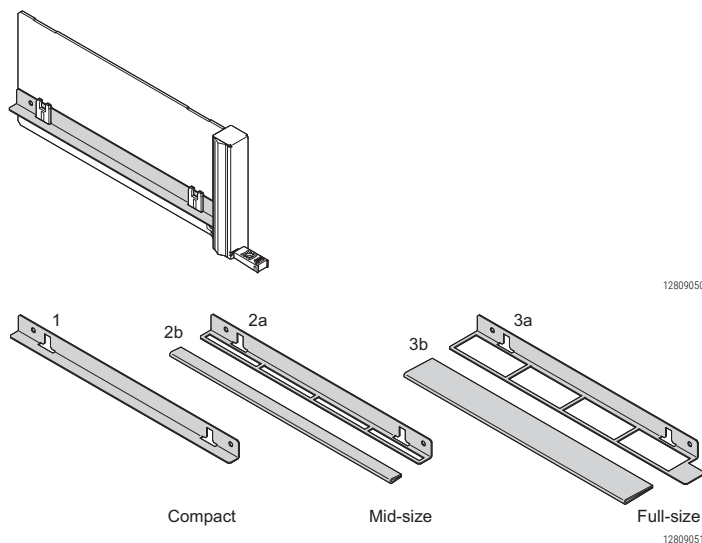
- Microswitch cannot be used
- Please order air baffle separately
- Filler modules with handle mechanism (pull- or push-pull-handles) see from page 8.62



Single compact module

12809052

AIR BAFFLE FOR FILLER MODULE ECO WITH FIXED HANDLE



12809050

- Retrofittable; simply clip onto the PCB of the filler module
- To adjust the airflow volume the plastic cover can be individually cut to size (not for compact modules)

ORDER INFORMATION

Air baffle for filler modules ECO with fixed handle		Part no.
For compact filler module, PU 10 pieces	Item 1: VA plate	20849-355
For mid-size filler module, PU 10 pieces	Item 2a: VA plate with ventilation slots; Item 2b: plastic cover, PVC, UL 94 V-0	20849-356
For full-size filler module, PU 10 pieces	Item 3a: VA plate with ventilation slots; Item 3b: plastic cover, PVC, UL 94 V-0	20849-357

Systems – AdvancedMC modules

MODULE COVER FOR MTCA.4 FRONT AND RTM MODULES



Illustration shows MTCA.4 AdvancedMC module with MTCA.4 cover

12815001



Illustration shows MTCA.4 AdvancedMC RTM module with MTCA.4 cover

12815002



Illustration shows MTCA.4 AdvancedMC front and RTM module with MTCA.4 cover

12815003

- To protect the sensitive electronics
- Protects both mounting sides
- Stainless steel

DELIVERY INCLUDES

Item	Qty	Description
1	1	Cover for mounting side 1, stainless steel
2	1	Cover for mounting side 2, stainless steel
3	1	Fixing materials kit

ORDER INFORMATION

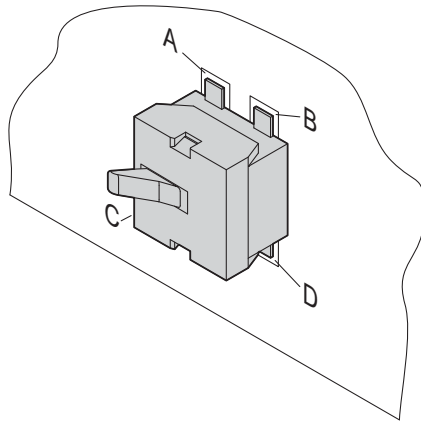
Description	Part no.
Module cover for MTCA.4 front modules, double mid-size	21850-133
Module cover for MTCA.4 RTM modules, double mid-size	21850-134

Note

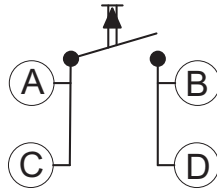
- Double full-size modules available on request

Systems – AdvancedMC modules

MICROSWITCH FOR ADVANCEDMC MODULES



12807050



12807078

- Microswitch for soldering (SMD)

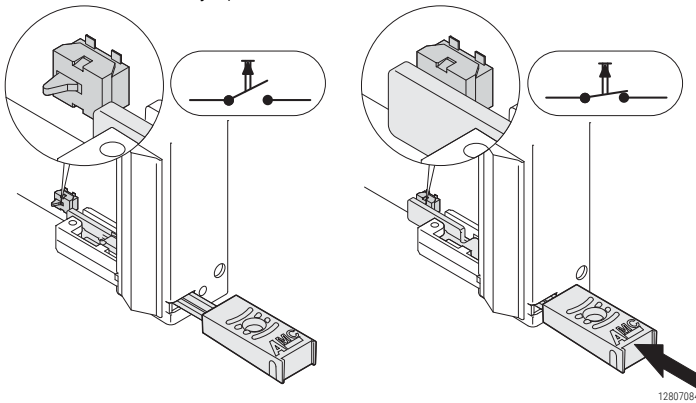
ORDER INFORMATION

Description	Qty/PU	Part no.
Microswitch for AdvancedMC modules "normally open"	10	20849-209

Technical data

Max. switch current	1 mA, 5 V _{DC}
Operating temperature	-15 °C ... +70 °C
Electrical lifespan	10 ⁵ switching cycles

Microswitch "normally open"



12807084

Systems – CompactPCI subrack systems

OVERVIEW

MAIN KATALOG

Cabinets	1
Wall mounted cases	2
Accessories for cabinets and wall mounted cases . .	3
Climate control . .	4
Electronics cases	5
Subracks/ 19" chassis	6
Front panels, plug-in units	7
Systems	8
Power supply units	9
Backplanes	10
Connectors, front panel component system	11
Appendix	12



12306002

WHAT WE UNDERSTAND TO BE A SYSTEM

We at SCHROFF regard a system as being a combination of mechanical components like a subrack or case with electronic components such as a backplane and power supply unit, a cooling unit where appropriate and a system management module.

A STRONG STANDARD RANGE

Our extensive and highly-developed standard range offers you mechanical, electronic and thermal components in an almost unlimited variety of dimensions and specifications. Simply select a complete ready system or configure your system from our standard components, online or using the catalogue, to your exact requirements.

FLEXIBILITY FOR MODIFICATIONS

Often only small adjustments are needed to create the required solution from a standard product. And we have set ourselves up to offer just that. We can make modifications in accordance with your individual specifications - with our usual speed and reliability.

COMPETENT WITH NEW DEVELOPMENTS

If your requirements cannot be met with standard products or modified standard solutions, our qualified and experienced team will create a customised solution for your system. We have all the necessary development and manufacturing competencies gathered under one roof.

STANDARDS/APPROVALS

- Inner and outer dimensions in accordance with:
IEC 60297-3-101 / IEEE 1101.1
IEC 60297-3-102 / IEEE 1101.10/11
IEC 60297-3-103
- Ingress protection IP 20 in accordance with IEC 60529
- EMC testing in accordance with IEC 61587-3
- In accordance with PICMG 2.0 rev. 3.0,
PICMG 2.16 and PXI 2.0



AREAS OF APPLICATION

- Measurement, control and instrumentation technology
- Automation technology, machine monitoring
- Aerospace
- Defence systems
- Medical technology
- Telecommunications

Systems – CompactPCI subrack systems

OVERVIEW

COMPACTPCI SUBRACK AND CASE SYSTEMS

- Large selection of standard CompactPCI, PSB and H.110 systems
- Standard systems to the new CompactPCI PlusIO and CompactPCI Serial standards
- Individual configuration within 9 working days
- Custom solutions on request



12310002

COMPACTPCI SERIAL

CompactPCI Serial (PICMG CPCI-S.0) is a systematic further development of CompactPCI. Instead of the former PCI bus, this defines the current and future serial protocols for data transmission. In addition to PCIe, S-ATA, USB 2.0 & 3.0 and Ethernet are also available on every slot.

CompactPCI Serial
4 U, 9 slot 8.70



12309004

COMPACTPCI PLUSIO

CompactPCI PlusIO (PICMG 2.30) defines a unified pinout for the fast serial PCIe, S-ATA, USB and Ethernet protocols on the 32-bit CompactPCI system slot. Hybrid CompactPCI/CompactPCI Serial systems can be built. CompactPCI PlusIO thus offers simple migration to the new technology.

CompactPCI PlusIO
4 U, 8 slot 8.72



12302002

COMPACTPCI

CompactPCI (PICMG 2.0) was specified in 1995 and is based on the widely-used PCI bus. This bus, with the CompactPCI specification, is packaged in a robust modular 19" enclosure and is thus suitable for industrial use.

CompactPCI
subrack systems
with ATX power
supply, 1, 2, 3 U . . . 8.75
with 19" power
supply, 1, 2, 3
and 4 U 8.76
3 U 8.77
4 U 8.78
6 U 8.80
6 + 1 U 8.81
CompactPCI
case systems
4 U 8.83
7 U 8.84



12306003

PSB

PSB (Packet Switching Backplane, PICMG 2.16) and H.110 (Computer Telephony Bus, PICMG 2.5) are CompactPCI sub-specifications that define additional buses, specifically for telecommunications applications, in 6 U CompactPCI.

SUBRACKS

CompactPCI subracks for building an individual CompactPCI system can be found in the subracks section, page 6.16

PSB plug-in units
4 U 8.85
10 U 8.86

SERVICEPLUS

- e.g. individual configuration and assembly
- e.g. modifications (integration)
- e.g. downloads (CAD drawings, user manuals, test reports)
- e.g. custom solutions

PXI case system
4 U, 8 slot, 44 HP 8.87
4 U, 21 slot 8.88
Express, 4 U, 8 Slot, 44 HP 8.89

Subracks
Kit, shielded,
with/without
rear I/O 6.16

Systems – CompactPCI Serial

COMPACTPCI SERIAL, 4 U, WITH/WITHOUT REAR I/O



Front view (24579-416)

12315001



Front view with rear I/O (24579-421)

12315002



Rear view with rear I/O (24579-421)

12315003



Fan module

12315004

- 4 U CompactPCI Serial system with vertical 3 U board cage
- Airflow from bottom to top with fan modules that can be changed on the front
- Retrofittable air filter
- Supports PCIe up to Gen3, USB 2.0 and 3.0, S-ATA up to Rev 3.0, and Ethernet up to 10 GBase-T
- Preference types can be ordered directly from stock, other configurations on request
- AC wide range input, 1 pluggable 300 W PSU (without rear I/O), 2 pluggable 300 W PSUs (with rear I/O)
- 9 slot backplane, system slot left, Ethernet as star

DELIVERY INCLUDES (completely assembled, wired and tested)

Item	Qty	Description
1	1	Shielded 19" chassis, Al; perforated top cover and base plate; front handles
2	9	Slot at front; IEEE guide rails incl. ESD clips (ESD clips fitted at bottom front), for vertical board mounting (3 U, 160 mm deep)
3	9	Version with rear I/O: Slot at rear; IEEE guide rails incl. ESD clips (ESD clips fitted at bottom), for vertical mounting of rear I/O boards (3 U, 80 mm deep)
4	1	CompactPCI Serial backplane for 3 U boards; 9 slot, system slot left (without rear I/O part no. 23007-629, with rear I/O part no. 23007-669)
5	1 / 2	Power backplane, 3 U, 8 HP with 1 x Pwrblade connector without rear I/O, 2 power backplanes for version with rear I/O (part no. 23098-397)
6	1 / 2	19" PSU, 300 W, 3 U, 8 HP (part no. 11098-538); 2 PSUs installed for version with rear I/O
7	1	AC input module, 3 U, 8 HP; A/C line filter, max. current 10 A
8	1	Hot-swap fan tray, pull-out, 1 U, 3 x 12 V _{DC} fans
9	1	Cable harness to connect all system components

ORDER INFORMATION

Height U	Width mm	Depth HP	Depth mm	Number of slots	Version	Part no.
4	177	84	275	9	Without rear I/O	24579-416
4	177	84	275	9	With rear I/O	24579-421

Accessories

Air filter retainer for CompactPCI Serial systems	1 piece	24579-632
Air filter mat for CompactPCI, CompactPCI Serial, and VME systems	1 piece	60713-471

Note

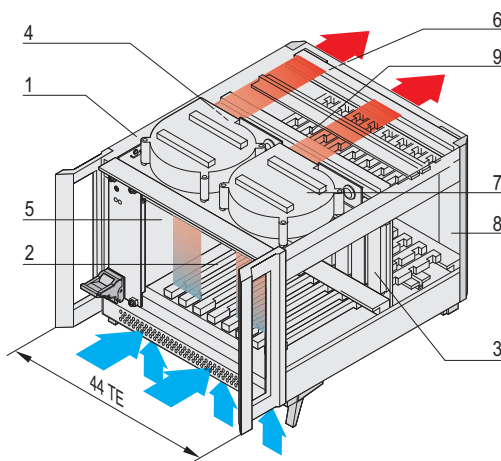
- System in accordance with IEC 60297-3-101, -102, -103; IEEE 1101.1, 1101.10/11; backplane in accordance with PICMG CPCI-S.0
- Modified systems available on request

Systems – CompactPCI Serial subrack sys-

4 U, 9 SLOT, 44 HP, WITHOUT REAR I/O, WITH 19" PSU



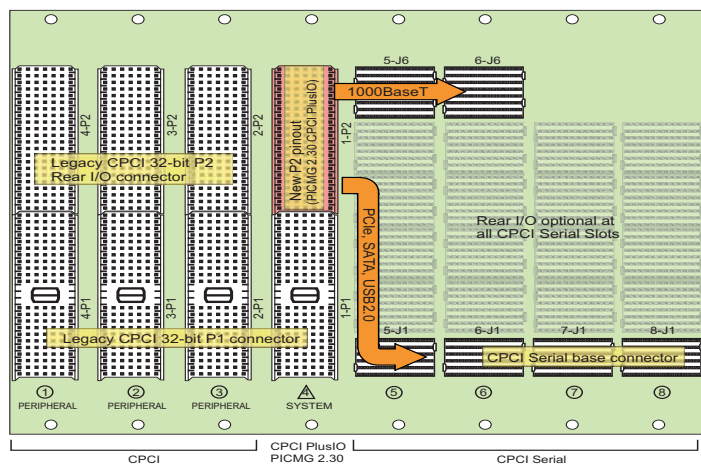
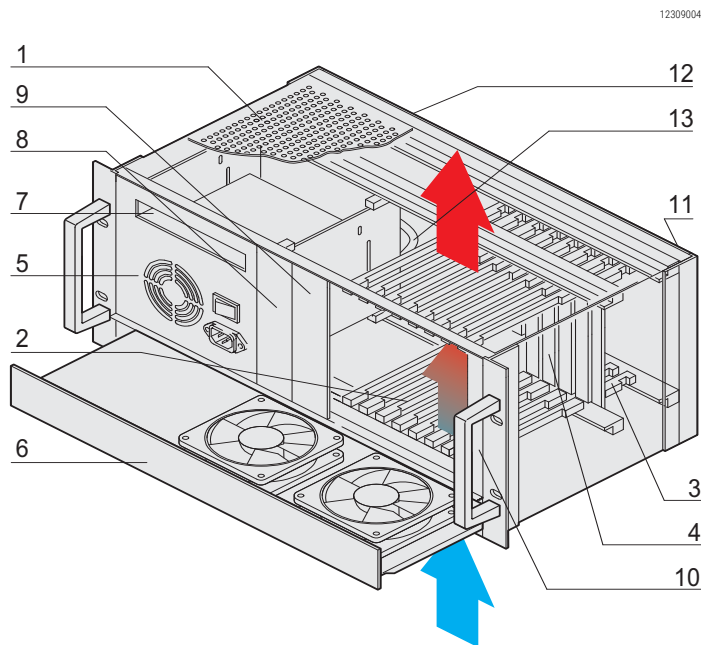
Frontansicht



Physical Slot Number	1	2	3	4	5	6	7	8	9
Slot	0111	0110	0101	0100	0011	0010	0001	0000	
Interf.	SVS	Port. 1	Port. 2	Port. 3	Port. 4	Port. 5	Port. 6	Port. 7	Port. 8
ETB_0	Link_1,0	Link_1,1	Link_1,2	Link_1,3	Link_1,4	Link_1,5	Link_1,6	Link_1,7	Link_1,8
ETB_1	Link_1,9	Link_1,10	Link_1,11	Link_1,12	Link_1,13	Link_1,14	Link_1,15	Link_1,16	Link_1,17
ETB_2	Link_1,18	Link_1,19	Link_1,20	Link_1,21	Link_1,22	Link_1,23	Link_1,24	Link_1,25	Link_1,26
ETB_3	Link_1,27	Link_1,28	Link_1,29	Link_1,30	Link_1,31	Link_1,32	Link_1,33	Link_1,34	Link_1,35
ETB_4	Link_1,36	Link_1,37	Link_1,38	Link_1,39	Link_1,40	Link_1,41	Link_1,42	Link_1,43	Link_1,44
ETB_5	Link_1,45	Link_1,46	Link_1,47	Link_1,48	Link_1,49	Link_1,50	Link_1,51	Link_1,52	Link_1,53
ETB_6	Link_1,54	Link_1,55	Link_1,56	Link_1,57	Link_1,58	Link_1,59	Link_1,60	Link_1,61	Link_1,62
ETB_7	Link_1,63	Link_1,64	Link_1,65	Link_1,66	Link_1,67	Link_1,68	Link_1,69	Link_1,70	Link_1,71
ETB_8	Link_1,72	Link_1,73	Link_1,74	Link_1,75	Link_1,76	Link_1,77	Link_1,78	Link_1,79	Link_1,80
ETB_9	Link_1,81	Link_1,82	Link_1,83	Link_1,84	Link_1,85	Link_1,86	Link_1,87	Link_1,88	Link_1,89
ETB_10	Link_1,90	Link_1,91	Link_1,92	Link_1,93	Link_1,94	Link_1,95	Link_1,96	Link_1,97	Link_1,98
ETB_11	Link_1,99	Link_1,100	Link_1,101	Link_1,102	Link_1,103	Link_1,104	Link_1,105	Link_1,106	Link_1,107
ETB_12	Link_1,108	Link_1,109	Link_1,110	Link_1,111	Link_1,112	Link_1,113	Link_1,114	Link_1,115	Link_1,116
ETB_13	Link_1,117	Link_1,118	Link_1,119	Link_1,120	Link_1,121	Link_1,122	Link_1,123	Link_1,124	Link_1,125
ETB_14	Link_1,126	Link_1,127	Link_1,128	Link_1,129	Link_1,130	Link_1,131	Link_1,132	Link_1,133	Link_1,134
ETB_15	Link_1,135	Link_1,136	Link_1,137	Link_1,138	Link_1,139	Link_1,140	Link_1,141	Link_1,142	Link_1,143
ETB_16	Link_1,144	Link_1,145	Link_1,146	Link_1,147	Link_1,148	Link_1,149	Link_1,150	Link_1,151	Link_1,152
ETB_17	Link_1,153	Link_1,154	Link_1,155	Link_1,156	Link_1,157	Link_1,158	Link_1,159	Link_1,160	Link_1,161
ETB_18	Link_1,162	Link_1,163	Link_1,164	Link_1,165	Link_1,166	Link_1,167	Link_1,168	Link_1,169	Link_1,170
ETB_19	Link_1,171	Link_1,172	Link_1,173	Link_1,174	Link_1,175	Link_1,176	Link_1,177	Link_1,178	Link_1,179
ETB_20	Link_1,180	Link_1,181	Link_1,182	Link_1,183	Link_1,184	Link_1,185	Link_1,186	Link_1,187	Link_1,188
ETB_21	Link_1,189	Link_1,190	Link_1,191	Link_1,192	Link_1,193	Link_1,194	Link_1,195	Link_1,196	Link_1,197
ETB_22	Link_1,198	Link_1,199	Link_1,200	Link_1,201	Link_1,202	Link_1,203	Link_1,204	Link_1,205	Link_1,206
ETB_23	Link_1,207	Link_1,208	Link_1,209	Link_1,210	Link_1,211	Link_1,212	Link_1,213	Link_1,214	Link_1,215
ETB_24	Link_1,216	Link_1,217	Link_1,218	Link_1,219	Link_1,220	Link_1,221	Link_1,222	Link_1,223	Link_1,224
ETB_25	Link_1,225	Link_1,226	Link_1,227	Link_1,228	Link_1,229	Link_1,230	Link_1,231	Link_1,232	Link_1,233
ETB_26	Link_1,234	Link_1,235	Link_1,236	Link_1,237	Link_1,238	Link_1,239	Link_1,240	Link_1,241	Link_1,242
ETB_27	Link_1,243	Link_1,244	Link_1,245	Link_1,246	Link_1,247	Link_1,248	Link_1,249	Link_1,250	Link_1,251
ETB_28	Link_1,252	Link_1,253	Link_1,254	Link_1,255	Link_1,256	Link_1,257	Link_1,258	Link_1,259	Link_1,260
ETB_29	Link_1,261	Link_1,262	Link_1,263	Link_1,264	Link_1,265	Link_1,266	Link_1,267	Link_1,268	Link_1,269
ETB_30	Link_1,270	Link_1,271	Link_1,272	Link_1,273	Link_1,274	Link_1,275	Link_1,276	Link_1,277	Link_1,278
ETB_31	Link_1,279	Link_1,280	Link_1,281	Link_1,282	Link_1,283	Link_1,284	Link_1,285	Link_1,286	Link_1,287
ETB_32	Link_1,288	Link_1,289	Link_1,290	Link_1,291	Link_1,292	Link_1,293	Link_1,294	Link_1,295	Link_1,296
ETB_33	Link_1,297	Link_1,298	Link_1,299	Link_1,300	Link_1,301	Link_1,302	Link_1,303	Link_1,304	Link_1,305
ETB_34	Link_1,306	Link_1,307	Link_1,308	Link_1,309	Link_1,310	Link_1,311	Link_1,312	Link_1,313	Link_1,314
ETB_35	Link_1,315	Link_1,316	Link_1,317	Link_1,318	Link_1,319	Link_1,320	Link_1,321	Link_1,322	Link_1,323
ETB_36	Link_1,324	Link_1,325	Link_1,326	Link_1,327	Link_1,328	Link_1,329	Link_1,330	Link_1,331	Link_1,332
ETB_37	Link_1,333	Link_1,334	Link_1,335	Link_1,336	Link_1,337	Link_1,338	Link_1,339	Link_1,340	Link_1,341
ETB_38	Link_1,342	Link_1,343	Link_1,344	Link_1,345	Link_1,346	Link_1,347	Link_1,348	Link_1,349	Link_1,350
ETB_39	Link_1,351	Link_1,352	Link_1,353	Link_1,354	Link_1,355	Link_1,356	Link_1,357	Link_1,358	Link_1,359
ETB_40	Link_1,360	Link_1,361	Link_1,362	Link_1,363	Link_1,364	Link_1,365	Link_1,366	Link_1,367	Link_1,368
ETB_41	Link_1,369	Link_1,370	Link_1,371	Link_1,372	Link_1,373	Link_1,374	Link_1,375	Link_1,376	Link_1,377
ETB_42	Link_1,378	Link_1,379	Link_1,380	Link_1,381	Link_1,382	Link_1,383	Link_1,384	Link_1,385	Link_1,386
ETB_43	Link_1,387	Link_1,388	Link_1,389	Link_1,390	Link_1,391	Link_1,392	Link_1,393	Link_1,394	Link_1,395
ETB_44	Link_1,396	Link_1,397	Link_1,398	Link_1,399	Link_1,400	Link_1,401	Link_1,402	Link_1,403	Link_1,404
ETB_45	Link_1,405	Link_1,406	Link_1,407	Link_1,408	Link_1,409	Link_1,410	Link_1,411	Link_1,412	Link_1,413
ETB_46	Link_1,414	Link_1,415	Link_1,416	Link_1,417	Link_1,418	Link_1,419	Link_1,420	Link_1,421	Link_1,422
ETB_47	Link_1,423	Link_1,424	Link_1,425	Link_1,426	Link_1,427	Link_1,428	Link_1,429	Link_1,430	Link_1,431
ETB_48	Link_1,432	Link_1,433	Link_1,434	Link_1,435	Link_1,436	Link_1,437	Link_1,438	Link_1,439	Link_1,440
ETB_49	Link_1,441	Link_1,442	Link_1,443	Link_1,444	Link_1,445	Link_1,446	Link_1,447	Link_1,448	Link_1,449
ETB_50	Link_1,450	Link_1,451	Link_1,452	Link_1,453	Link_1,454	Link_1,455	Link_1,456	Link_1,457	Link_1,458
ETB_51	Link_1,459	Link_1,460	Link_1,461	Link_1,462	Link_1,463	Link_1,464	Link_1,465	Link_1,466	Link_1,467
ETB_52	Link_1,468	Link_1,469	Link_1,470	Link_1,471	Link_1,472	Link_1,473	Link_1,474	Link_1,475	Link_1,476
ETB_53	Link_1,477	Link_1,478	Link_1,479	Link_1,480	Link_1,481	Link_1,482	Link_1,483	Link_1,484	Link_1,485
ETB_54	Link_1,486	Link_1,487	Link_1,488	Link_1,489	Link_1,490	Link_1,491	Link_1,492	Link_1,493	Link_1,494
ETB_55	Link_1,495	Link_1,496	Link_1,497	Link_1,498	Link_1,499	Link_1,500	Link_1,501	Link_1,502	Link_1,503
ETB_56	Link_1,504	Link_1,505	Link_1,506	Link_1,507	Link_1,508	Link_1,509	Link_1,510	Link_1,511	Link_1,512
ETB_57	Link_1,513	Link_1,514	Link_1,515	Link_1,516	Link_1,517	Link_1,518	Link_1,519	Link_1,520	Link_1,521
ETB_58	Link_1,522	Link_1,523	Link_1,524	Link_1,525	Link_1,526	Link_1,527	Link_1,528	Link_1,529	Link_1,530
ETB_59	Link_1,531	Link_1,532	Link_1,533	Link_1,534	Link_1,535	Link_1,536	Link_1,537	Link_1,538	Link_1,539
ETB_60	Link_1,540	Link_1,541	Link_1,542	Link_1,543	Link_1,544	Link_1,545	Link_1,546	Link_1,547	Link_1,548
ETB_61	Link_1,549	Link_1,550	Link_1,551	Link_1,552	Link_1,553	Link_1,554	Link_1,555	Link_1,556	Link_1,557
ETB_62	Link_1,558	Link_1,559	Link_1,560	Link_1,561	Link_1,562	Link_1,563	Link_1,564	Link_1,565	Link_1,566
ETB_63	Link_1,567	Link_1,568	Link_1,569	Link_1,570	Link_1,571	Link_1,572	Link_1,573	Link_1,574	Link_1,575
ETB_64	Link_1,576	Link_1,577	Link_1,578	Link_1,579	Link_1,580	Link_1,581	Link_1,582	Link_1,583	Link_1,584
ETB_65	Link_1,585	Link_1,586	Link_1,587	Link_1,588	Link_1,589	Link_1,590	Link_1,591	Link_1,592	Link_1,593
ETB_66	Link_1,594	Link_1,595	Link_1,596	Link_1,597	Link_1,598	Link_1,599	Link_1,600	Link_1,601	Link_1,602
ETB_67	Link_1,603	Link_1,604	Link_1,605	Link_1,606	Link_1,607	Link_1,608	Link_1,609	Link_1,610	Link_1,611
ETB_68	Link_1,612	Link_1,613	Link_1,614	Link_1,615	Link_1,616	Link_1,617	Link_1,618	Link_1,619	Link_1,620
ETB_69	Link_1,621	Link_1,622	Link_1,623	Link_1,624	Link_1,625	Link_1,626	Link_1,627	Link_1,628	Link_1,629
ETB_70	Link_1,630	Link_1,631	Link_1,632	Link_1,633	Link_1,634	Link_1,635	Link_1,636	Link_1,637	Link_1,638
ETB_71	Link_1,639	Link_1,640	Link_1,641	Link_1,642	Link_1,643	Link_1,644	Link_1,645	Link_1,646	Link_1,647
ETB_72	Link_1,648	Link_1,649	Link_1,650	Link_1,651	Link_1,652	Link_1,653	Link_1,654	Link_1,655	Link_1,656
ETB_73	Link_1,657	Link_1,658	Link_1,659	Link_1,660	Link_1,661	Link_1,662	Link_1,663	Link_1,664	Link_1,665
ETB_74	Link_1,666	Link_1,667	Link_1,668	Link_1,669	Link_1,670	Link_1,671	Link_1,672	Link_1,673	Link_1,674
ETB_75	Link_1,675	Link_1,676	Link_1,677	Link_1,678	Link_1,679	Link_1,680	Link_1,681	Link_1,682	Link_1,683
ETB_76	Link_1,684	Link_1,685	Link_1,686	Link_1,687	Link_1,688	Link_1,689	Link_1,690	Link_1,691	Link_1,692
ETB_77	Link_1,693	Link_1,694	Link_1,695	Link_1,696	Link_1,697	Link_1,698	Link_1,699	Link_1,700	Link_1,701
ETB_78	Link_1,702	Link_1,703	Link_1,704	Link_1,705	Link_1,706	Link_1,707	Link_1,708	Link_1,709	Link_1,710
ETB_79	Link_1,711	Link_1,712	Link_1,713	Link_1,714	Link_1,715	Link_1,716	Link_1,717	Link_1,718	Link_1,719
ETB_80	Link_1,720	Link_1,721	Link_1,722	Link_1,723	Link_1,724	Link_1,725	Link_1,726	Link_1,727	Link_1,728
ETB_81	Link_1,729	Link_1,730	Link_1,731	Link_1,732	Link_1,733	Link_1,734	Link_1,735	Link_1,736	Link_1,737
ETB_82	Link_1,738	Link_1,739	Link_1,740	Link_1,741	Link_1,742	Link_1,743	Link_1,744	Link_1,745	Link_1,746
ETB_83	Link_1,747	Link_1,748	Link_1,749	Link_1,750	Link_1,751	Link_1,752	Link_1,753	Link_1,754	Link_1,755
ETB_84	Link_1,756	Link_1,757	Link_1,758	Link_1,759	Link_1,760	Link_1,761	Link_1,762	Link_1,763	Link_1,764
ETB_85	Link_1,765	Link_1,766	Link_1,767	Link_1,768	Link_1,769	Link_1,770	Link_1,771	Link_1,772	Link_1,773
ETB_86	Link_1,774	Link_1,775	Link_1,776	Link_1,777	Link_1,778	Link_1,779	Link_1,780	Link_1,781	Link_1,782
ETB_87	Link_1,783	Link_1,784	Link_1,785	Link_1,786	Link_1,787	Link_1,788	Link_1,789	Link_1,790	Link_1,791
ETB_88	Link_1,792	Link_1,793	Link_1,794	Link_1,795	Link_1,796	Link_1,797	Link_1,798	Link_1,799	Link_1,800
ETB_89	Link_1,801	Link_1,802	Link_1,803	Link_1,804	Link_1,805	Link_1,806	Link_1,807	Link_1,808	Link_1,809
ETB_90	Link_1,810	Link_1,811	Link_1,812	Link_1,813	Link_1,814	Link_1,815	Link_1,816	Link_1,817	Link_1,818
ETB_91	Link_1,819	Link_1,820	Link_1,821	Link_1,822	Link_1,823	Link_1,824	Link_1,825	Link_1,826	Link_1,827
ETB_92	Link_1,828	Link_1,829	Link_1,830	Link_1,831	Link_1,832	Link_1,833	Link_1,834	Link_1,835	Link_1,836
ETB_93	Link_1,837	Link_1,838	Link_1,839	Link_1,840	Link_1,841	Link_1,842	Link_1,843	Link_1,844	Link_1,845
ETB_94	Link_1,846	Link_1,847	Link_1,848	Link_1,849	Link_1,850	Link_1,851	Link_1,852	Link_1,853	Link_1,854
ETB_95	Link_1,855	Link_1,856	Link_1,857	Link_1,858	Link_1,859	Link_1,860	Link_1,861	Link_1,862	Link_1,863
ETB_96	Link_1,864	Link_1,865	Link_1,866	Link_1,867	Link_1,868	Link_1,869	Link_1,870	Link_1,871	Link_1,872
ETB_97	Link_1,873	Link_1,874	Link_1,875	Link_1,876	Link_1,877	Link_1,878	Link_1,879	Link_1,880	Link_1,881
ETB_98	Link_1,882	Link_1,883	Link_1,884	Link_1,885	Link_1,886	Link_1,887	Link_1,888	Link_1,889	Link_1,890
ETB_99	Link_1,891	Link_1,892	Link_1,893	Link_1,894	Link_1,895	Link_1,896	Link_1,897	Link_1,898	Link_1,899

Systems – CompactPCI PlusIO subrack sys-

4 U, 8 SLOT, WITH REAR I/O, ATX PSU



Backplane topology



- System for vertical board mounting with board format
 - Front: 3 U, 160 mm deep, 8 slot
 - Rear, rear I/O: 3 U, 80 mm deep, 3 slot
- Backplane
 - 4 slot, 3 U, 32 bit, CompactPCI
 - 4 slot, 3 U, CompactPCI PlusIO
 - Power Backplane
- ATX PSU, 300 W
- Heat dissipation by 1 U hot-swap fan unit, from bottom to top
- Option to mount a slimline DVD drive and hard disk

DELIVERY COMPRISES (completely assembled, wired and tested)

Item	Qty	Description
1	1	Shielded 19" chassis, Al; perforated top cover and base plate; front handles
2	8	Front slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to bottom front), for vertical boards (3 U, 160 mm deep)
3	3	Rear slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to bottom), for vertical rear I/O boards (3 U, 80 mm deep)
4	1	Backplane for 3 U boards; 8 slots comprising 4 slots 32-bit CompactPCI plus 4 slots CompactPCI PlusIO (PICMG 2.30, part no. 23007-601)
5	1	ATX power supply, 300 W; 32 HP wide range input 100 ... 240 V _{AC} (3.3 V/28 A, 5 V/35 A, 12 V/22 A, -12 V/0.8 A); IEC AC input module with socket; mains switch; fan
6	1	Hot-swap fan tray, extractable, 1 U, 2 x 12 V _{DC} fan
7	1	Module to accommodate a slimline DVD drive unit
8	1	3 U, 8 HP module to accommodate a hard disk drive
9	1	Front panel, front, 3 U, 8 HP
10	1	Front panel, front, 3 U, 4 HP, removable, to expand system slot to 8 HP
11	1	Front panel, rear, 3 U, 24 HP
12	1	Front panel, rear, 3 U, 48 HP
13	1	Cable harness to connect all system components

ORDER INFORMATION

Height U	Height mm	Width HP	Depth mm	Number of slots	Part no.
4	177	84	275	8	24579-405

Accessories

Equipment cables	Page 3.38
Front panels	Page 7.5
Modules to mount drive units	Page 8.110
Front panels with handle	Page 7.32
Fan control modules (FCM)	Page 8.108

Note

- Modified systems available on request
- System in accordance with IEC 60297-3-101, -102, -103; IEEE 1101.1, 1101.10/11; backplane in accordance with PICMG 2.0 rev. 3.0 and 2.30

Systems – CompactPCI PlusIO subrack sys-

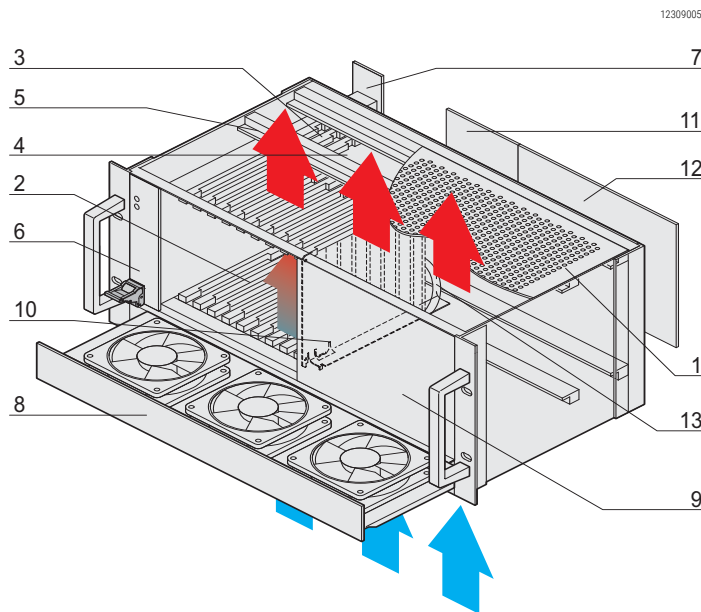
4 U, 8 SLOT, WITH REAR I/O, 19"-COMPATIBLE PSU



- System for vertical board mounting with board format
 - Front: 3 U, 160 mm deep, 8 slot
 - Rear, rear I/O: 3 U, 80 mm deep, 3 slot
- Backplane
 - 4 slot, 3 U, 32 bit, CompactPCI
 - 4 slot, 3 U, CompactPCI PlusIO
 - Power backplane
- 19"-compatible PSU, 250 W, 3 U, 8 HP
- Heat dissipation by 1 U hot-swap fan unit, from bottom to top
- Option to mount a hard disk

DELIVERY COMPRISES (completely assembled, wired and tested)

Item	Qty	Description
1	1	Shielded 19" chassis, Al; perforated top cover and base plate; front handles
2	8	Front slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to bottom front), for vertical boards (3 U, 160 mm deep)
3	3	Rear slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to bottom), for vertical rear I/O boards (3 U, 80 mm deep)
4	1	Backplane for 3 U boards; 8 slots comprising 4 slots 32-bit CompactPCI plus 4 slots CompactPCI PlusIO (PICMG 2.30, part no. 23007-601)
5	1	Power backplane, 3 U, 8 HP with 1 x P47 connector (part no. 23098-105)
6	1	19" compatible power supply, 250 W (3 U, 8 HP, part no. 13100-141)
7	1	AC input module, 3 U, 8 HP; AC line filter, 110 ... 250 V _{AC} , 50 ... 60 HZ, max. current 10 A
8	1	Hot-swap fan tray, extractable, 1 U, 3 x 12 V _{DC} fans
9	1	Front panel front, 3 U, 44 HP
10	1	Air baffle, 3 U, 160 mm deep
11	1	Front panel, rear, 3 U, 60 HP
12	1	Front panel, rear, 3 U, 4 HP
13	1	Cable harness to connect all system components



ORDER INFORMATION

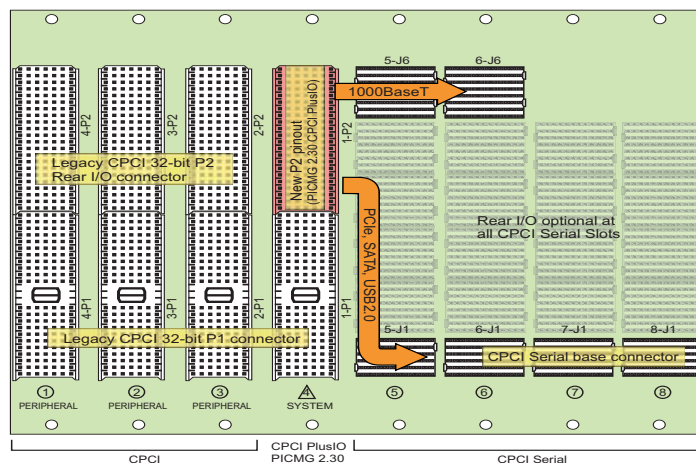
Height U	Height mm	Width HP	Depth mm	Number of slots	Part no.
4	177	84	275	8	24579-400

Accessories

Equipment cables	Page 3.38
Front panels	Page 7.5
Modules to mount drive units	Page 8.110
Front panels with handle	Page 7.32
Fan control modules (FCM)	Page 8.108

Note

- Modified systems available on request
- System in accordance with IEC 60297-3-101, -102, -103; IEEE 1101.1, 1101.10/11; backplane in accordance with PICMG 2.0 rev. 3.0 and 2.30



Backplane topology

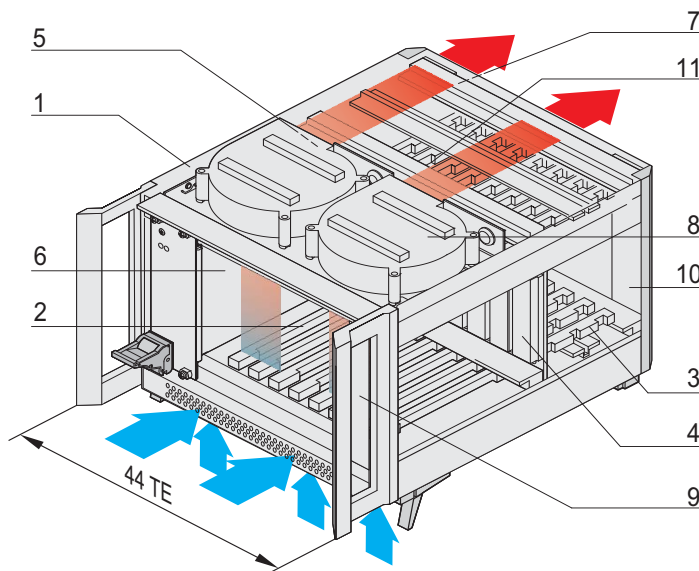


Systems – CompactPCI PlusIO subrack sys-

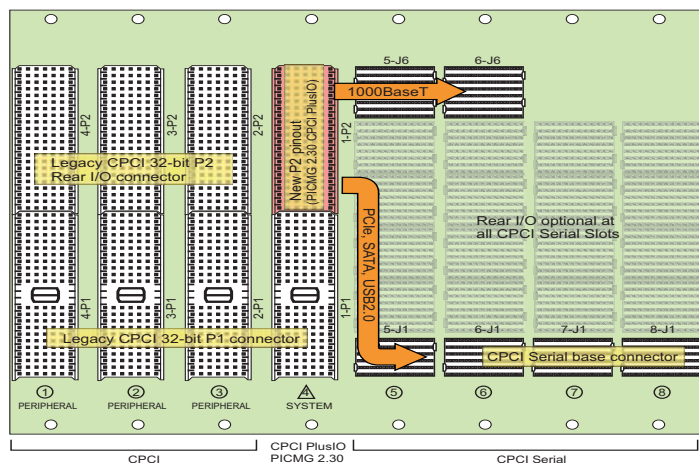
4 U, 8 SLOT, 44 HP, WITH REAR I/O



12312001



12309052



12409051

Backplane topology



- System for vertical board mounting with board format
 - Front: 3 U, 160 mm deep
 - Rear I/O: 3 U, 80 mm deep, 3 slot
- Backplane
 - 4 slot, 3 U, 32 bit, CompactPCI
 - 4 slot, 3 U, CompactPCI PlusIO
 - Power Backplane
- 19" PSU, 250 W, 3 U, 8 HP
- Heat dissipation by two radial fans, from front to rear

DELIVERY COMPRISES (completely assembled, wired and tested)

Item	Qty	Description
1	1	ratioPacPRO-air case, RAL 9006, shielded, perforated air inlet/exhaust openings front and rear; front handles RAL 7016
2	8	Front slot; IEEE guide rails, incl. ESD clips (ESD clips fitted at bottom front), for vertical boards (3 U, 160 mm deep)
3	3	Rear slot; IEEE guide rails, incl. ESD clips (ESD clips fitted at bottom), for vertical rear I/O boards (3 U, 80 mm deep)
4	1	Backplane for 3 U boards; 8 slots comprising 4 slots 32-bit CompactPCI plus 4 slots CompactPCI PlusIO (PICMG 2.30, part no. 23007-601)
5	1	Power backplane, 3 U, 8 HP with 1 x P47 connector part no. 23098-105)
6	1	19" compatible power supply, 250 W (3 U, 8 HP; part no. 13100-141)
7	1	AC input module, 3 U, 8 HP; AC line filter, 110 ... 250 V _{AC} , 50 ... 60 HZ, max. current 10 A
8	2	Radial fan, 36 m ³ /h each, free blowing
9	1	Front panel, front, 3 U, 4 HP, removable
10	1	Front panel, rear, 3 U, 24 HP
11	1	Cable harness to connect all system components

Height U	Height mm	Width HP	Depth mm	Number of slots	Part no.
4	177	44	275	8	24579-605

Accessories

Equipment cables	Page 3.38
Front panels	Page 7.5
Modules to mount drive units	Page 8.110
Front panels with handle	Page 7.32
Fan control modules (FCM)	Page 8.108

Note

- Modified systems available on request
- System in accordance with IEC 60297-3-101, -102, -103; IEEE 1101.1, 1101.10/11; backplane in accordance with PICMG 2.0 rev. 3.0 and 2.30

Systems – CompactPCI subrack systems

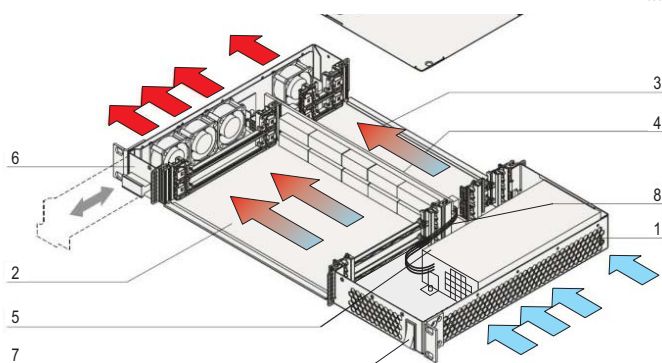
SYSTEMS, 1, 2, 3 U, WITH REAR I/O AND ATX PSU



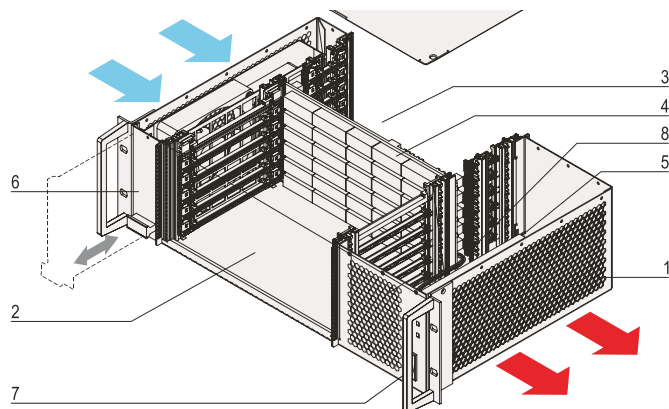
12305001



12305005



12304055



12304060

- System for horizontal board mounting with board format
 - Front: 6 U, 160 mm deep
 - Rear, rear I/O: 6 U, 80 mm deep
- Backplane: 2, 4, 6 slot, 64 bit; system slot on left
- ATX PSU
- Heat dissipation by extractable hot-swap fan unit;
 - in 1 U system from right to left;
 - in 2 and 3 U systems from left to right

DELIVERY COMPRISES (completely assembled, wired and tested)

Item	Qty	Description
1	1	Shielded 19" chassis, St, powder-coated, black, RAL 9005
2	1	Number of front slots see Order Information; IEEE guide rails, incl. ESD clips (ESD clips fitted to front left), for horizontal board mounting (6 U, 160 mm deep)
3	1	Number of rear slots see Order Information; IEEE guide rails, incl. ESD clips (ESD clips fitted to front left), for horizontal mounting of rear I/O boards (6 U, 80 mm deep)
4	1	Backplane for 6 U boards, for number of slots see Order Information, 64 bit; system slot on the left
5	1	ATX PSU, wide input range 100 ... 240 V _{AC} (rating data see Order Information); IEC plug, switch (controls DC power only), LED (Power ON); Fan
6	1	Hot-swap fan unit, number of fans see Order Information
7	1	Mains switch
8	1	Cable harness to connect all system components

Note

- Modified systems available on request
- System in accordance with IEC 60297-3-101, -102, -103; IEEE 1101.1, 1101.10/11; backplane in accordance with PICMG 2.0 rev. 3.0 and 2.30

ORDER INFORMATION

Height	Depth	Backplane	Fan unit	Power supply	Part no.
U	mm	Slots	Number of fans		
1	43.65	2 slot, 6 U	4	ATX 250 W, 3.3 V/14 A, 5 V/23 A, 12 V/16 A, -12 V/0.5 A	24579-077
2	88.10	4 slot, 6 U	2	ATX 250 W, 3.3 V/14 A, 5 V/20 A, 12 V/16 A, -12 V/0.8 A	24579-081

*) Systems with additional heat dissipation in rear I/O space for 3 U systems available on request



Accessories

Equipment cables	Page 3.38
Front panels	Page 7.5
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Front panels with handle	Page 7.32
Fan control modules (FCM)	Page 8.108

Systems – CompactPCI subrack systems

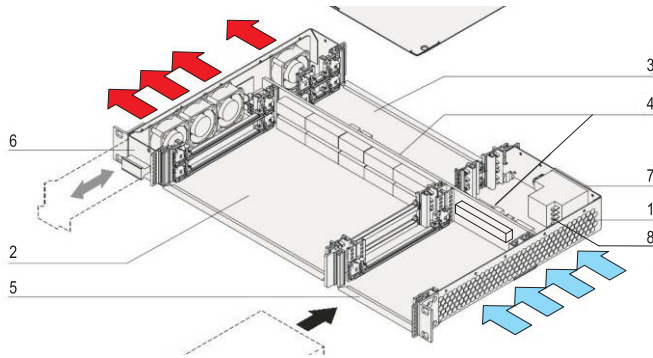
SYSTEMS, 1, 2, 3, 4 U, WITH REAR I/O, FOR 19" PSU



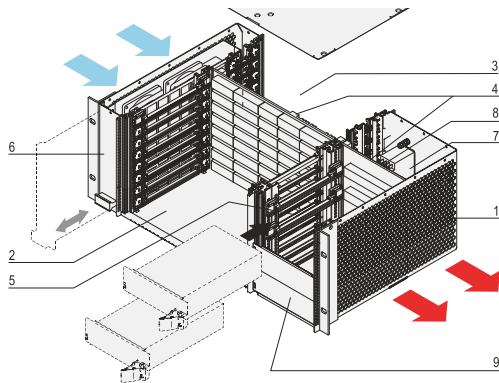
12305002



12305007



12304056



12304056

- System for horizontal board mounting with board format
 - Front: 6 U, 160 mm deep
 - Rear, rear I/O: 6 U, 80 mm deep
- Monolithic backplane for signals and power
 - 2, 4, 6, 8 slot, 6 U, 64 bit; system slot on left
 - Power plug to PICMG 2.11 (P 47)
- Prepared for installation of 19" CompactPCI PSUs (3 U, 8 HP)
- Heat dissipation by extractable hot swap fan unit; 1 U system from right to left; in 2, 3 and 4 U systems from left to right

DELIVERY COMPRISES (completely assembled, wired and tested)

Item	Qty	Description
1	1	Shielded 19" chassis, St, powder-coated, black, RAL 9005
2	1	Number of slots to front see Order Information; IEEE guide rails, incl. ESD clips (ESD clips fitted front right), for horizontal board mounting (6 U, 160 mm deep)
3	1	Number of rear slots see Order Information; IEEE guide rails, incl. ESD clips (ESD clips fitted front right), for horizontal mounting of rear I/O boards (6 U, 80 mm deep)
4	1	Monolithic backplane for 6 U boards and voltage supply, for number of slots see Order Information, 64 bit; system slot left, in accordance with PICMG 2.0 rev. 3.0, voltage supply: 1 x P 47 socket for 1 U, 2 x P 47 socket for 2, 3, 4 U
5	1	Installation space for 19" CompactPCI power supply unit (3 U, 8 HP; For quantity see Order Information)
6	1	Hot-swap fan unit, number of fans see Order Information
7	1	AC input (IEC plug), mains filter module, fuse, mains switch
8	1	Cable harness to connect all system components
9	1	3 U, 8 HP front panel, mounted at front, from 2 U system

Note

- Modified systems available on request
- 48 V_{DC} version on request
- System in accordance with IEC 60297-3-101, -102, -103; IEEE 1101.1, 1101.10/11; backplane in accordance with PICMG 2.0 rev. 3.0 and 2.30

ORDER INFORMATION

Height U	Height mm	Depth mm	Backplane Slots	Fan unit Number of fans	Power supply (please order separately)	Quantity Connector type	Part no.
1	43.65	275	2 slot, 6 U	4	1	1 x P 47	24579-078
2	88.10	275	4 slot, 6 U	2	2	2 x P 47	24579-082
3	132.50	275	6 slot, 6 U	1 *)	2 ... 3	2 x P 47	24579-080
4	177.00	275	8 slot, 6 U	4 *)	2 ... 4	2 x P 47	24579-106

19" compatible power supply, 250 W, 3 U, 8 HP Please order PSU separately, see page 9.24

13100-141

*) Systems with additional heat dissipation in rear I/O space for 3 U and 4 U systems available on request



Accessories

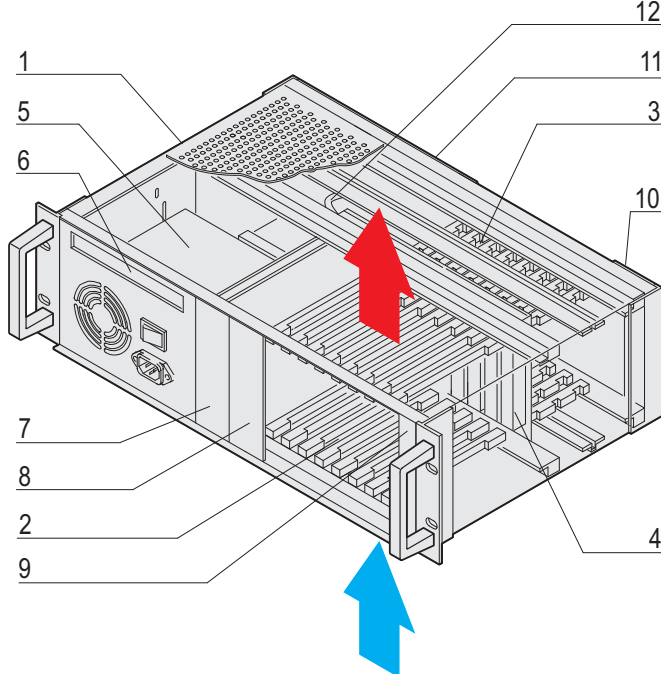
Equipment cables	Page 3.38
Front panels	Page 7.5
Modules to mount drive units	Page 8.110
Front panels with handle	Page 7.32
Fan control modules (FCM)	Page 8.108

Systems – CompactPCI subrack systems

SYSTEM, 3 U, 8 SLOT, WITH REAR I/O



12302002



12303053



- System for vertical board mounting with board format
 - Front: 3 U, 160 mm deep
 - Rear, rear I/O: 3 U, 80 mm deep
- Backplane
 - 8 slot, 3 U, 32 bit; system slot on right
 - 8 HP wide CPU can be used
- ATX PSU, 300 W
- Heat dissipation by convection, upward from below
- Option to mount a slimline DVD drive and hard disk

DELIVERY COMPRISES (completely assembled, wired and tested)

Item	Qty	Description
1	1	Shielded 19" chassis, AI; perforated top cover and base plate; 2 front handles
2	8	Front slot; IEEE guide rails, incl. ESD clips (ESD clips fitted bottom front), for vertical boards (3 U, 160 mm deep)
3	8	Rear slot; IEEE guide rails, incl. ESD clips (ESD clips fitted bottom), for vertical rear I/O boards (3 U, 80 mm deep)
4	1	Backplane for 3 U boards; 8 slot, 32 bit (part no. <u>23006-818</u>); system slot on right, 4 HP (8 HP wide CPU can be used)
5	1	ATX power supply; 300 W; 32 HP, wide input range 100 ... 240 V _{AC} (3.3 V/28 A, 5 V/35 A, 12 V/22 A, -12 V/0.8 A); IEC AC input module with socket; mains switch; fan
6	1	Module to accommodate a slimline DVD drive unit
7	1	3 U, 8 HP module to accommodate a hard disk drive
8	1	Front panel front, 3 U, 8 HP
9	1	Front panel, front, 3 U, 4 HP, to expand system slot to 8 HP
10	1	Front panel, rear, 3 U, 4 HP
11	1	Front panel, rear, 3 U, 48 HP
12	1	Cable harness to connect all system components

ORDER INFORMATION

Height U	Height mm	Depth mm	Number of slots	Part no.
3	132.55	275	8	24579-031

Accessories

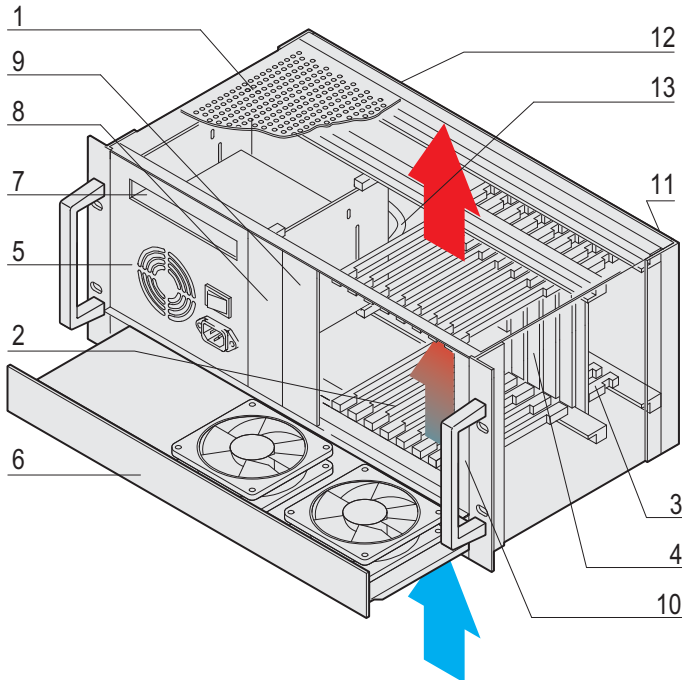
DC fan 12 V, air flow volume 140 m ³ /h, 119 x 119 x 32 mm, 1 piece	60713-600
Fan retainer for 119 x 119 x 32 mm fan, (E)PB foam, 1 piece	24579-212
Fan tray, 1 U for 3 or 6 U CompactPCI systems (boards assembled vertically), 1 piece	24579-105
Air filter consisting of filter holder and filter mat, PU 1 set	24579-033
Equipment cables	Page 3.38
Front panels	Page 7.5
Modules to mount drive units	Page 8.110
Front panels with handle	Page 7.32
Fan control modules (FCM)	Page 8.108

Note

- Modified systems available on request
- System in accordance with IEC 60297-3-101, -102, -103; IEEE 1101.1, 1101.10/11; backplane in accordance with PICMG 2.0 rev. 3.0 and 2.30

Systems – CompactPCI subrack systems

SYSTEM, 4 U, 8 SLOT, WITH REAR I/O, ATX FRAME PSU



12308001

12308050



- System for vertical board mounting with board format
 - Front: 3 U, 160 mm deep
 - Rear, rear I/O: 3 U, 80 mm deep
- Backplane
 - 8 slot, 3 U, 32 bit; system slot on right
 - 8 HP wide CPU can be used
- ATX PSU, 300 W
- Heat dissipation by 1 U hot-swap fan unit, upward from below
- Option to mount a slimline DVD drive and hard disk

DELIVERY COMPRISES (completely assembled, wired and tested)

Item	Qty	Description
1	1	Shielded 19" chassis, Al; perforated top cover and base plate; front handles
2	8	Front slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to bottom front), for vertical boards (3 U, 160 mm deep)
3	8	Rear slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to bottom), for vertical rear I/O boards (3 U, 80 mm deep)
4	1	Backplane for 3 U boards; 8 slot, 32 bit (part no. <u>23006-818</u>); system slot on right, 4 HP (8 HP wide CPU can be used)
5	1	ATX power supply, 300 W; 32 HP, wide input range 100 ... 240 V _{AC} (3.3 V/28 A, 5 V/35 A, 12 V/22 A, -12 V/0.8 A); IEC AC input module with socket; mains switch; fan
6	1	Hot-swap fan tray, extractable, 1 U, 2 × 12 V _{DC} fans
7	1	Module to accommodate a slimline DVD drive unit
8	1	Module to accommodate a CD ROM drive, 3 U, 8 HP
9	1	Front panel, front, 3 U, 8 HP
10	1	Front panel, front, 3 U, 4 HP, removable, to expand system slot to 8 HP
11	1	Front panel, rear, 3 U, 4 HP
12	1	Front panel, rear, 3 U, 48 HP
13	1	Cable harness to connect all system components

ORDER INFORMATION

Height U	Height mm	Width HP	Depth mm	Number of slots	Part no.
4	177	84	275	8	24579-250

Accessories

Air filter consisting of filter holder and filter mat, PU 1 set	24579-033
Equipment cables	Page 3.38
Front panels	Page 7.5
Modules to mount drive units	Page 8.110
Front panels with handle	Page 7.32
Fan control modules (FCM)	Page 8.108

Note

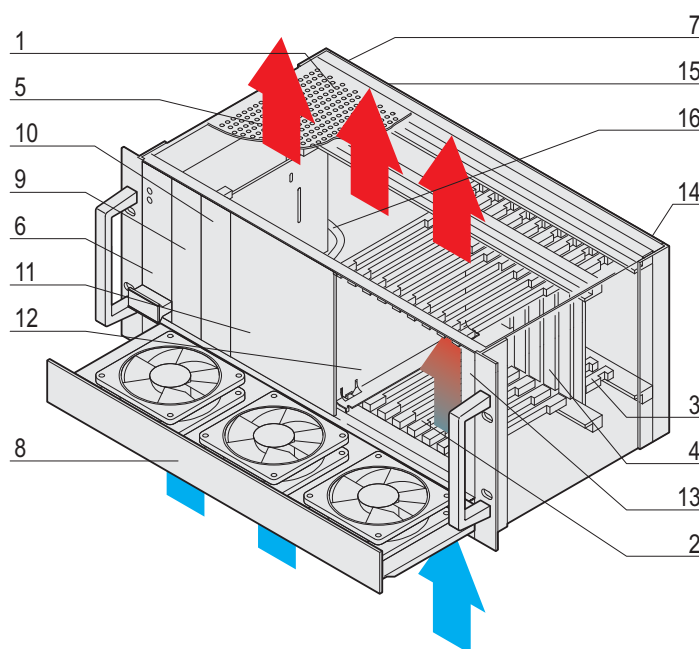
- Modified systems available on request
- System in accordance with IEC 60297-3-101, -102, -103; IEEE 1101.1, 1101.10/11; backplane in accordance with PICMG 2.0 rev. 3.0 and 2.30

Systems – CompactPCI subrack systems

SYSTEM, 4 U, 8 SLOT, WITH REAR I/O, 19"-COMPATIBLE PSU



12308005



12308052



- System for vertical board mounting with board format
 - Front: 3 U, 160 mm deep
 - Rear, rear I/O: 3 U, 80 mm deep
- Backplane
 - 8 slot, 3 U, 32 bit; system slot on right
 - 8 HP wide CPU can be used, power backplane
- 19"-compatible PSU, 250 W, 3 U, 8 HP
- Heat dissipation by 1 U hot-swap fan unit, from bottom to top
- Option to mount a hard disk

DELIVERY COMPRISES (completely assembled, wired and tested)

Item	Qty	Description
1	1	Shielded 19" chassis, AI; perforated top cover and base plate; front handles
2	8	Front slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to bottom front), for vertical boards (3 U, 160 mm deep)
3	8	Rear slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to bottom), for vertical rear I/O boards (3 U, 80 mm deep)
4	1	Backplane for 3 U boards; 8 slot, 32 bit (part no. 23006-818); system slot on right, 4 HP (8 HP wide CPU can be used)
5	1	Power backplane, 3 U, 8 HP with 1 x P47 plug
6	1	19" compatible power supply, 250 W (3 U, 8 HP; part no. 13100-141)
7	2	AC input module, 3 U, 8 HP; AC line filter, 110 ... 250 V _{AC} , 50 ... 60 HZ, max. current 10 A
8	1	Hot-swap fan tray, extractable, 1 U, 3 x 12 V _{DC} fans
9	1	Front panel front, 3 U, 8 HP
10	1	3 U, 8 HP module to accommodate a hard disk drive
11	1	Front panel front, 3 U, 24 HP
12	1	Air baffle, 3 U, 160 mm deep
13	1	Front panel, front, 3 U, 4 HP, removable, to expand system slot to 8 HP
14	1	Front panel, rear, 3 U, 4 HP
15	1	Front panel, rear, 3 U, 40 HP
16	1	Cable harness to connect all system components

ORDER INFORMATION

Height U	Height mm	Width HP	Depth mm	Number of slots	Part no.
4	177	84	275	8	24579-260

Accessories

Air filter consisting of filter holder and filter mat, PU 1 set	24579-033
Equipment cables	Page 3.38
Front panels	Page 7.5
Modules to mount drive units	Page 8.110
Front panels with handle	Page 7.32
Fan control modules (FCM)	Page 8.108

Note

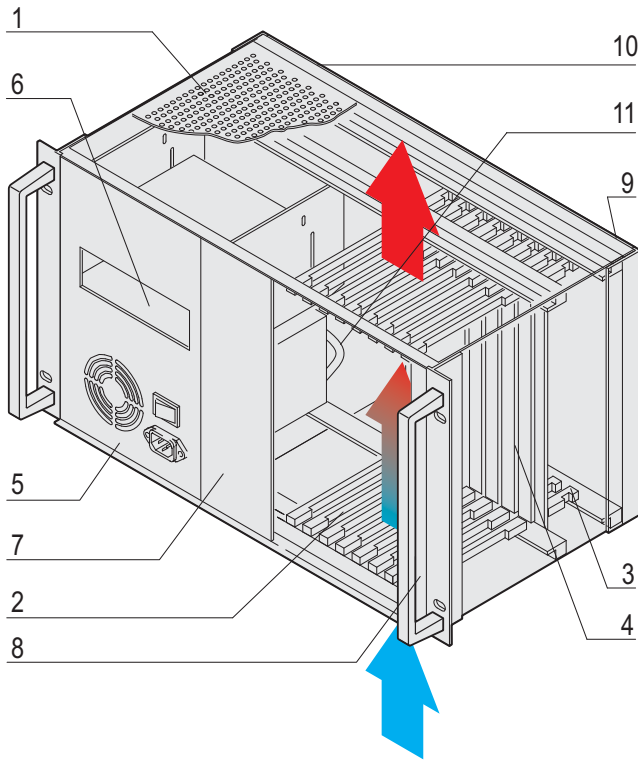
- Modified systems available on request
- System in accordance with IEC 60297-3-101, -102, -103; IEEE 1101.1, 1101.10/11; backplane in accordance with PICMG 2.0 rev. 3.0 and 2.30

Systems – CompactPCI subrack systems

6 U, 8 SLOT, WITH REAR I/O



12302004



12303056



- System for vertical board mounting with board format
 - Front: 6 U, 160 mm deep
 - Rear, rear I/O: 6 U, 80 mm deep
- Backplane
 - 8 slot, 6 U, 64 bit; system slot to right
 - 8 HP wide CPU can be used
- ATX PSU, 300 W
- Heat dissipation by convection, from bottom to top
- Option to mount a 5.25" DVD drive unit

DELIVERY COMPRISES (completely assembled, wired and tested)

Item	Qty	Description
1	1	Shielded 19" chassis, AI; perforated top cover and base plate; 2 front handles
2	8	Front slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to bottom front), for vertical boards (6 U, 160 mm deep)
3	8	Rear slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to bottom), for vertical rear I/O boards (6 U, 80 mm deep)
4	1	Backplane for 6 U boards; 8 slot, 64 bit (part no. <u>23006-868</u>); system slot on right, 4 HP (8 HP wide CPU can be used)
5	1	ATX power supply, 300 W, 32 HP, wide input range 100 ... 240 V _{AC} (3.3 V/28 A, 5 V/35 A, 12 V/22 A, -12 V/0.8 A); IEC AC input module with socket; mains switch; fan
6	1	Module to accommodate a 5.25" DVD drive
7	1	Front panel, front, 6 U, 16 HP
8	1	Front panel, front, 6 U, 4 HP, removable, to expand system slot to 8 HP
9	1	Front panel, rear, 6 U, 4 HP
10	1	Front panel, rear, 6 U, 48 HP
11	1	Cable harness to connect all system components

ORDER INFORMATION

Height	Height	Depth	Number of	Part no.
U	mm	mm	slots	
6	265.9	275	8	24579-030

Accessories

DC fan 12 V, air flow volume 140 m ³ /h, 119 x 119 x 32 mm, 1 piece	60713-600
Fan retainer for 119 x 119 x 32 mm fan, (E)PB foam, 1 piece	24579-212
Fan tray, 1 U for 3 or 6 U CompactPCI systems (boards assembled vertically), 1 piece	24579-105
Air filter consisting of filter holder and filter mat, PU 1 set	24579-033
Equipment cables	Page 3.38
Front panels	Page 7.5
Modules to mount drive units	Page 8.110
Front panels with handle	Page 7.32
Fan control modules (FCM)	Page 8.108

Note

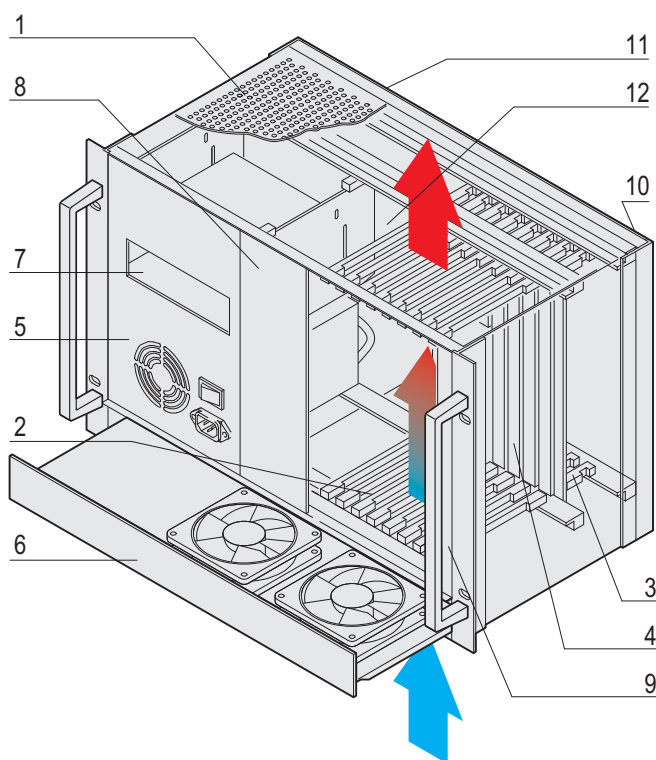
- Modified systems available on request
- System in accordance with IEC 60297-3-101, -102, -103; IEEE 1101.1, 1101.10/11; backplane in accordance with PICMG 2.0 rev. 3.0 and 2.30

Systems – CompactPCI subrack systems

SYSTEM, 7 U, 8 SLOT, WITH REAR I/O



12302013



12303057

- System for vertical board mounting with board format
 - Front: 6 U, 160 mm deep
 - Rear, rear I/O: 6 U, 80 mm deep
- Backplane
 - 8 slot, 6 U, 64 bit, system slot to right
 - 8 HP wide CPU can be used
- ATX PSU, 300 W
- Heat dissipation by 1 U hot-swap fan unit, from bottom to top
- Option to mount a 5.25" DVD drive unit

DELIVERY COMPRISES (completely assembled, wired and tested)

Item	Qty	Description
1	1	Shielded 19" chassis, Al; perforated top cover and base plate; Front handles
2	8	Front slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to bottom front), for vertical boards (6 U, 160 mm deep)
3	8	Rear slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to bottom), for vertical rear I/O boards (6 U, 80 mm deep)
4	1	Backplane for 6 U boards; 8 slot, 64 bit (part no. <u>23006-868</u> ; system slot on right, 4 HP (8 HP wide CPU can be used))
5	1	ATX power supply, 300 W, 32 HP, wide input range 100 ... 240 V _{AC} (3.3 V/28 A, 5 V/35 A, 12 V/22 A, -12 V/0.8 A); IEC AC input module with socket; mains switch; fan
6	1	Hot-swap fan tray, extractable, 1 U, 2 x 12 V _{DC} fans
7	1	Module to accommodate a 5.25" DVD drive
8	1	Front panel, front, 6 U, 16 HP
9	1	Front panel, front, 6 U, 4 HP, removable, to expand system slot to 8 HP
10	1	Front panel, rear, 6 U, 4 HP
11	1	Front panel, rear, 6 U, 48 HP
12	1	Cable harness to connect all system components

ORDER INFORMATION

Height U	Height mm	Depth mm	Number of slots	Part no.
7	310.35	275	8	24579-026

Accessories

Air filter consisting of filter holder and filter mat, PU 1 set	24579-033
Equipment cables	Page 3.38
Front panels	Page 7.5
Modules to mount drive units	Page 8.110
Front panels with handle	Page 7.32
Fan control modules (FCM)	Page 8.108

Note

- Modified systems available on request
- System in accordance with IEC 60297-3-101, -102, -103; IEEE 1101.1, 1101.10/11; backplane in accordance with PICMG 2.0 rev. 3.0 and 2.30

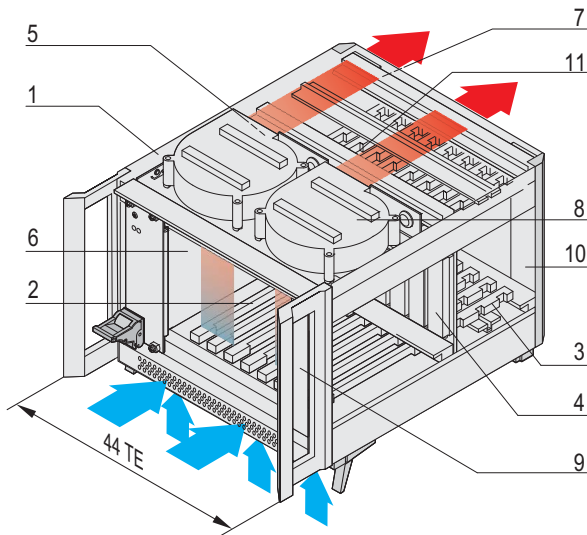


Systems – CompactPCI case systems

SYSTEM, 4 U, 8 SLOT, 44 HP, WITH REAR I/O



12309003



12309052



- System for vertical board mounting with board format
 - Front: 3 U, 160 mm deep
 - Rear, rear I/O: 3 U, 80 mm deep
- Backplane
 - 8 slot, 3 U, 32 bit, system slot on right
 - 8 HP wide CPU can be used
- 19" PSU, 250 W, 3 U, 8 HP
- Heat dissipation by two radial fans, from front to rear

DELIVERY COMPRISES (completely assembled, wired and tested)

Item	Qty	Description
1	1	ratiopacPRO-air case, RAL 9006, shielded, perforated air inlet/exhaust openings front and rear; front handles RAL 7016
2	8	Front slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to bottom front), for vertical boards (3 U, 160 mm deep)
3	8	Rear slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to bottom), for vertical rear I/O boards (3 U, 80 mm deep)
4	1	Backplane for 3 U boards; 8 slot, 32 bit (part no. 23006-818); system slot on right, 4 HP (8 HP wide CPU can be used)
5	1	Power backplane, 3 U, 8 HP with 1 x P47 plug
6	1	19" compatible power supply, 250 W (3 U, 8 HP; Part no. 13100-141)
7	1	AC input module, 3 U, 8 HP; AC line filter, 110 ... 250 V _{AC} , 50 ... 60 HZ, max. current 10 A
8	2	Radial fan, 36 m ³ /h each, free blowing
9	1	Front panel, front, 3 U, 4 HP, removable, to expand system slot to 8 HP
10	1	Front panel, rear, 3 U, 4 HP
11	1	Cable harness to connect all system components

ORDER INFORMATION

Height U	Height mm	Width HP	Depth mm	Number of slots	Part no.
4	177	44	275	8	24579-604

Accessories

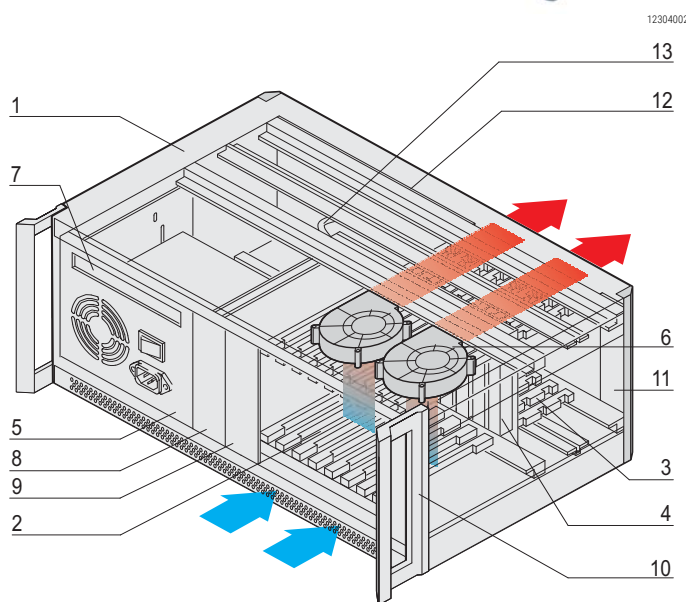
Equipment cables	Page 3.38
Front panels	Page 7.5
Modules to mount drive units	Page 8.110
Front panels with handle	Page 7.32
Fan control modules (FCM)	Page 8.108

Note

- Modified systems available on request
- System in accordance with IEC 60297-3-101, -102, -103; IEEE 1101.1, 1101.10/11); Backplane, conforms to PICMG 2.0 rev. 3.0

Systems – CompactPCI case systems

SYSTEM, 4 U, 8 SLOT, WITH REAR I/O



- System for vertical board mounting with board format
 - Front: 3 U, 160 mm deep
 - Rear, rear I/O: 3 U, 80 mm deep
- Backplane
 - 8 slot, 3 U, 32 bit, system slot to right
 - 8 HP wide CPU can be used
- ATX PSU, 300 W
- Heat dissipation by two radial fans, front to rear
- Option to mount a slimline DVD drive and hard disk

DELIVERY COMPRISES (completely assembled, wired and tested)

Item	Qty	Description
1	1	ratipacPRO-air case, RAL 9006, shielded, perforated air inlet/exhaust openings front and rear; front handles RAL 7016
2	8	Front slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to bottom front), for vertical boards (3 U, 160 mm deep)
3	8	Rear slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to bottom), for vertical rear I/O boards (3 U, 80 mm deep)
4	1	Backplane for 3 U boards; 8 slot, 32 bit (part no. 23006-818); system slot on right, 4 HP (8 HP wide CPU can be used)
5	1	ATX power supply, 300 W, wide range input 100 ... 240 V _{AC} , (3.3 V/28 A, 5 V/35 A, 12 V/22 A, -12 V/0.8 A); IEC AC input module with socket; mains switch; fan; 32 HP
6	2	Radial fan, 36 m ³ /h each, free blowing
7	1	Module to accommodate a slimline DVD drive unit
8	1	3 U, 8 HP module to accommodate a hard disk drive
9	1	Front panel, front, 3 U, 8 HP
10	1	Front panel, front, 3 U, 4 HP, removable, to expand system slot to 8 HP
11	1	Front panel, rear, 3 U, 4 HP
12	1	Front panel, rear, 3 U, 48 HP
13	1	Cable harness to connect all system components

ORDER INFORMATION

Height U	Height mm	Depth mm	Number of slots	Part no.
4	177	275	8	24579-602

Accessories

Spare fan unit Air barrier with 2 fitted radial fans, 1 piece	24579-225
Equipment cables	Page 3.38
Front panels	Page 7.5
Modules to mount drive units	Page 8.110
Front panels with handle	Page 7.32
Fan control modules (FCM)	Page 8.108

Note

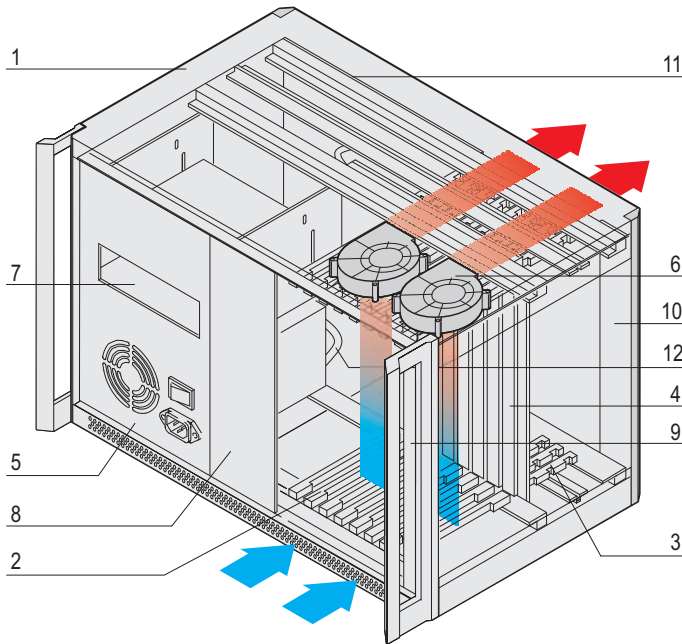
- Modified systems available on request
- System in accordance with IEC 60297-3-101, -102, -103; IEEE 1101.1, 1101.10/11); Backplane, conforms to PICMG 2.0 rev. 3.0

Systems – CompactPCI case systems

SYSTEMS, 7 U, 8 SLOT, WITH REAR I/O



12304003



12304051



- System for vertical board mounting with board format
 - Front: 6 U, 160 mm deep
 - Rear, rear I/O: 6 U, 80 mm deep
- Backplane
 - 8 slot, 6 U, 64 bit, system slot to right
 - 8 HP wide CPU can be used
- ATX PSU, 300 W
- Heat dissipation by two radial fans, from front to rear
- Option to mount a 5.25" DVD drive unit

DELIVERY COMPRISES (completely assembled, wired and tested)

Item	Qty	Description
1	1	ratiopacPRO-air case, RAL 9006, shielded, perforated air inlet/exhaust openings front and rear; front handles RAL 7016
2	8	Front slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to bottom front), for vertical boards (6 U, 160 mm deep)
3	8	Rear slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to bottom), for vertical rear I/O boards (6 U, 80 mm deep)
4	1	Backplane for 6 U boards; 8 slot, 64 bit (part no. <u>23006-868</u>); system slot on right, 4 HP (8 HP wide CPU can be used)
5	1	ATX power supply, 300 W, wide input range 100 ... 240 V _{AC} (3.3 V/28 A, 5 V/35 A, 12 V/22 A, -12 V/0.8 A); IEC-plug; mains switch; fan; 32 HP
6	2	Radial fan, 36 m ³ /h each, free blowing
7	1	Module to accommodate a 5.25" DVD drive
8	1	Front panel, front, 6 U, 16 HP, for fitting a hard disk drive
9	1	Front panel, front, 6 U, 4 HP, removable, to expand width of system slot to 8 HP
10	1	Front panel, rear, 6 U, 4 HP
11	1	Front panel, rear, 6 U, 48 HP
12	1	Cable harness to connect all system components

ORDER INFORMATION

Height U	Height mm	Depth mm	Number of slots	Part no.
7	310.35	275	8	24579-612

Accessories

Spare fan unit Air barrier with 2 fitted radial fans, 1 piece	24579-225
Equipment cables	Page 3.38
Front panels	Page 7.5
Modules to mount drive units	Page 8.110
Front panels with handle	Page 7.32
Fan control modules (FCM)	Page 8.108

Note

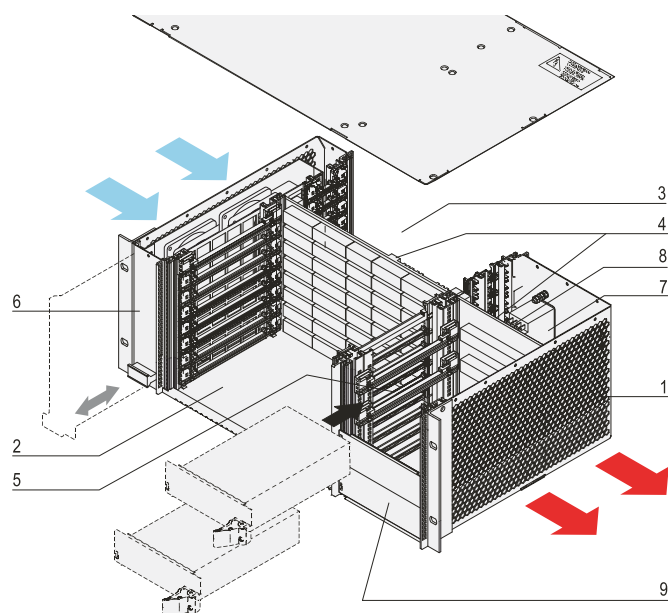
- Modified systems available on request
- System in accordance with IEC 60297-3-101, -102, -103; IEEE 1101.1, 1101.10/11); Backplane, conforms to PICMG 2.0 rev. 3.0

Systems – CompactPCI subrack systems,

SYSTEM, 4 U, 8 SLOT, WITH REAR I/O, FOR TELECOMS APPLICATIONS



12306003



12305050



Open Modular
Computing Specifications

- System for horizontal board mounting with board format
 - Front: 6 U, 160 mm deep
 - Rear, rear I/O: 6 U, 80 mm deep
- Monolithic backplane for (signals and power)
 - 64-bit CompactPCI; PSB (**P**ackage **S**witched **B**ackplane), PICMG 2.16; H.110
 - 8 slot, 6 U, 64 bit CompactPCI (2 fabric/switch slots, 6 node slots H.110), system slot to left
 - Integrated power backplane with 2 x P 47 connectors
- Prepared to accept two 19" CompactPCI PSUs 250 W (3 U, 8 HP)
- Heat dissipation by extractable hot-swap fan unit, from left to right

DELIVERY COMPRISES (completely assembled, wired and tested)

Item	Qty	Description
1	1	Shielded 19" chassis, St, powder-coated, black, RAL 9005
2	8	Front slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to front right), for horizontal board mounting (6 U, 160 mm deep)
3	8	Rear slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to front right), for horizontal mounting of rear I/O boards (6 U, 80 mm deep)
4	1	Backplane for 6 U boards and voltage supply (2 x P 47 sockets); 64-bit CompactPCI; PSB, 2 fabric/switch slots; 6 node H.110 bus slots; part no. <u>23006-611</u>
5	–	Prepared to accommodate two 19" CompactPCI PSUs (250 W, 3 U, 8 HP), part no. <u>13100-141</u>
6	1	Hot-swap fan unit, 4 fans, each 109 m ³ /h (64 cfm)
7	1	AC input (IEC plug), mains filter module, fuse, mains switch
8	1	Cable harness to connect all system components
9	2	Front panel front, 3 U, 8 HP

ORDER INFORMATION

Height	Height	Depth	Number of	Part no.
U	mm	mm	slots	
4	177	275	8	24579-135

Accessories

19" compatible power supply, 250 W, 3 U, 8 HP Please order PSU separately, see page 9.24	13100-141
Fan tray for black systems, to ventilate rear I/O space 7 fans	24579-112
Equipment cables	Page 3.38
Front panels	Page 7.5
Modules to mount drive units	Page 8.110
Front panels with handle	Page 7.32
Fan control modules (FCM)	Page 8.108

Note

- Modified systems available on request
- System in accordance with IEC 60297-3-101, -102, -103; IEEE 1101.1, 1101.10/11); Backplane, conforms to PICMG 2.16

Systems – CompactPCI subrack systems,

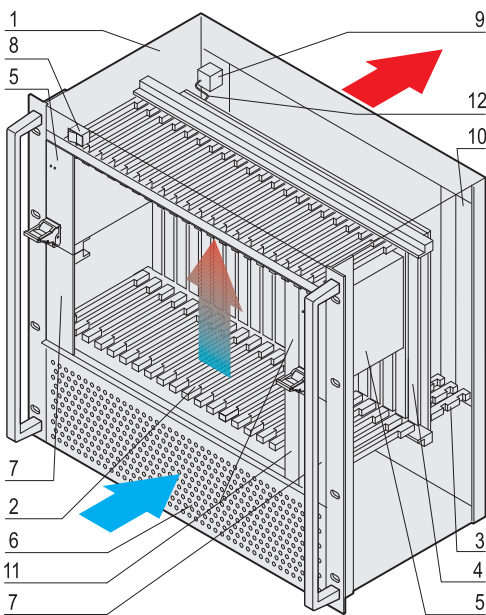
SYSTEM, 10 U, 16 SLOT, WITH REAR I/O, FOR TELECOMS APPLICATIONS



- System for vertical board mounting with board format
 - Front: 6 U, 160 mm deep
 - Rear, rear I/O: 6 U, 80 mm deep
- Backplane, PSB (**p**ackage **s**witched **b**ackplane), PICMG 2.16
 - 16-slot, 6 U, 64 bit (2 fabric/switch slots, 14 node slots)
- Two 19" CompactPCI power supplies, 250 W (3 U, 8 HP), prepared for installation of two further 19" compatible PSUs
- Heat dissipation by fan module, from front to rear
- Prepared for system monitoring with a chassis monitoring module (CMM)

DELIVERY COMPRISES (completely assembled, wired and tested)

Item	Qty	Description
1	1	Shielded 19" chassis, Al; perforated front panel to front and rear, 19" bracket in RAL 9006; remaining parts passivated in aluminium; front handles (RAL 9005)
2	16	Front slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to bottom front), for vertical boards (6 U, 160 mm deep)
3	16	Rear slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to front bottom), for vertical mounting of rear I/O boards (6 U, 80 mm deep)
4	1	PSB backplane for 6 U boards, 64 bit, 2 fabric/switch slots, 14 node slots, 2 CompactPCI segments, system slot left and right; part no. 23006-610
5	2	19" compatible power supply, 250 W (3 U, 8 HP); part no. 13100-141
6	1	Extractable fan unit with filter mat, 3 fans, 24 V _{DC} , 270 m ³ /h (160 cfm)
7	2	Front panel, front, 3 U, 8 HP, space for two further power supplies
8	1	DC switch on front
9	1	AC input (IEC connector), mains filter module, fuse, 6 U, 8 HP
10	1	Front panel, rear, 6 U, 8 HP
11	2	Front panel, front, 3 U, 4 HP, cover for optional CMM module space
12	1	Cable harness to connect all system components



12302005

12303058

ORDER INFORMATION

Height U	Height mm	Depth mm	Number of slots	Part no.
10	443.7	275	16	24579-028

Accessories

19" compatible power supply, 250 W, 3 U, 8 HP Please order PSU separately, see page 9.24	13100-141
Chassis monitoring module (CMM) 3 U, 4 HP, 160 mm deep, 1 piece Please order PSU separately, see page 8.109	23207-022
Equipment cables	Page 3.38
Front panels	Page 7.5
Modules to mount drive units	Page 8.110
Front panels with handle	Page 7.32
Fan control modules (FCM)	Page 8.108

Note

- Modified systems available on request
- System in accordance with IEC 60297-3-101, -102, -103; IEEE 1101.1, 1101.10/11; Backplane, conforms to PICMG 2.16

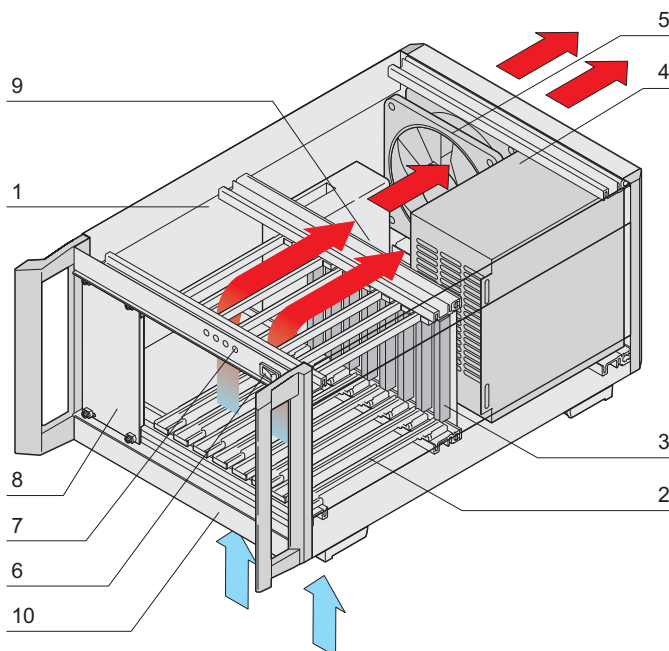


Systems – PXI case system

PXI SYSTEM, 4 U, 8 SLOT, 44 HP



12307002



12307050

- PXI desktop chassis, 4 U, 44 HP
- PXI backplane, 8 slot, 3 HE, 64 bit, system slot left
- Heat dissipation to rear from below
- ATX power supply 400 W, wide-range AC input with power switch on the back of the device
- Backplane with clock switching internal / external

DELIVERY INCLUDES (completely assembled, wired and tested)

Item	Qty	Description
1	1	ratiopacPRO-air case, RAL 9006, with 19" mounting brackets and handles RAL 7016, 4 U, 44 HP; shielded; perforated base plate; tip-up feet
2	8	Front slots, with 2 IEEE guide rails each, incl. ESD clips (ESD clips assembled at bottom front), for vertical boards (3 U, 160 mm deep)
3	1	Backplane for 3 U boards; 8 slot, 64 bit (part no. 23006-578); System slot on the left
4	1	Power supply, ATX (PS2), 400 W, wide range input 100 ... 240 V _{AC} ; Output 3.3 V/28 A, 5 V/40 A, 12 V/12 A, -12 V/ 1 A; IEC AC input module with socket; AC mains switch; Fan
5	1	Fan, 170 m ³ /h (100 cfm) assembled on rear panel
6	1	Mains switch, DC, front
7	1	Voltage display
8	1	Front panel, 10 U
9	1	Cable harness to connect all system components
10	1	Filter mat and holder

ORDER INFORMATION

Height	Width	Depth	Number of	Qty/PU	Part no.
U	HP	mm	slots	piece	
4	44	355	8	1	14579-008

NOTE

- System in accordance with IEC 60297-3-101, -102, -103; IEEE 1101.1, 1101.10/11); backplane conforms to PICMG rev. 3.0 and PXI 2.0
- Modified systems available on request

Systems – PXI-Express case system

PXI-EXPRESS SYSTEM, 4 U, 8 SLOT, 44 HP

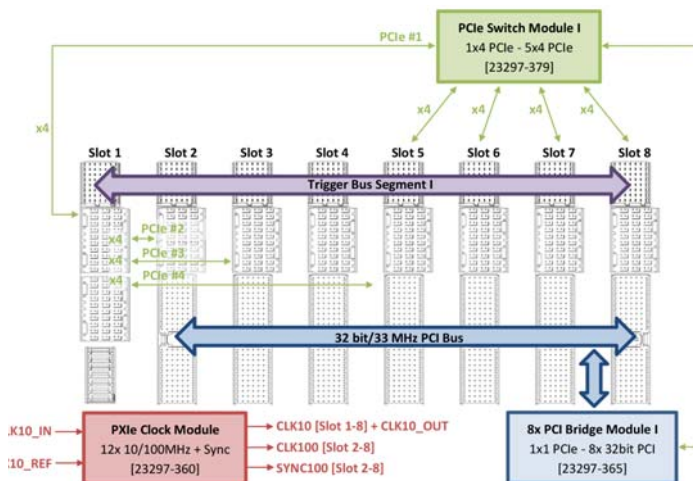


12306001



12318002

Rear view



12318050

Backplane topology

- PXI Express desktop chassis, 4 U, 44 HP
- 1 PXIe System slot and 7 Hybrid slots
- Ultra-high performance Gen 3 PCIe switching with a default four-link (4x4) system slot
- Powerful cooling concept with low fan noise, 50 W per slot @ 15K temperature increase
- Heat dissipation to rear from below with temperature controlled fans
- Wide range AC input with mains switch on the rear side, power push bottom on the front
- Rear panel external 10 MHz clock inputs/outputs

DELIVERY INCLUDES (completely assembled, wired and tested)

Item	Qty	Description
1	1	RatiopacPRO chassis with handles; 4 U, 44 HP, 315 mm deep; shielded; tip-up feet
2	8	Front slot; IEEE guide rails, incl. ESD clips (ESD clips assembled at bottom front), for vertical boards (3 U, 160 mm deep)
3	1	PXIe Backplane for 3 U boards; 8 slot; system slot on the left
4	1	PCIe 24 Lane Switch Module, PCIe Gen 3, mounted on backplane backside
5	1	PCIe-PCI Bridge Module, PCIe x1 to 32-bit 33 MHz, mounted on backplane backside
6	1	PXI Express Clock Module, PXI-1 & PXI-5 CLKs, mounted on backplane backside
7	1	Power supply 400 W; wide range input 100 ... 240 V _{AC} ; output: 3.3 V/ 25 A, 5 V/25 A, 12 V/15 A, -12 V/2 A; 5 V aux/1 A
8	2	80 mm fans with 258 m³/h (152.3 cfm) each
9	1	Fan Control module, FCM2
10	1	Mains inlet connector with switch, filter and fuse
11	1	Power push button
12	1	External 10 MHz REF clock output via BNC connector
13	1	Optional 10 MHz REF clock source via BNC connector
14	1	Cable harness to connect all system components

ORDER INFORMATION

Height U	Width HP	Depth mm	Number of slots	Qty/PU piece	Part no.
4	44	315	8	1	14579-030

TECHNICAL DATA

Ambient temperature [°C]	0 °C ... 50 °C
Input voltage range [V _{AC}]	100 ... 240 V _{AC} at 50/60 Hz
Sound pressure level [dB(A)]	21 dBA (auto fan at 25 °C), 48 dBA (max fan speed)

NOTE

- System in accordance with IEC 60297-3-101, -102, -103; IEEE 1101.1, 1101.10/11); backplane conforms to PICMG rev. 3.0 and PXI-5
- Modified systems available on request

Systems – PXI-Express case system

Systems – VME, VME64x, VXS, VPX

OVERVIEW

MAIN KATALOG

Cabinets	1
Wall mounted cases	2
Accessories for cabinets and wall mounted cases . .	3
Climate control . .	4
Electronics cases	5
Subracks/ 19" chassis	6
Front panels, plug-in units	7
Systems	8
Power supply units	9
Backplanes	10
Connectors, front panel component system	11
Appendix	12



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WHAT WE UNDERSTAND TO BE A SYSTEM

We at SCHROFF regard a system as being a combination of mechanical components like a subrack or case with electronic components such as a backplane and power supply unit, a cooling unit where appropriate and a system management module.

A STRONG STANDARD RANGE

Our extensive and highly-developed standard range offers you mechanical, electronic and thermal components in an almost unlimited variety of dimensions and specifications. Simply select a complete ready system or configure your system from our standard components, online or using the catalogue, to your exact requirements.

FLEXIBILITY FOR MODIFICATIONS

Often only small adjustments are needed to create the required solution from a standard product. And we have set ourselves up to offer just that. We can make modifications in accordance with your individual specifications - with our usual speed and reliability.

COMPETENT WITH NEW DEVELOPMENTS

If your requirements cannot be met with standard products or modified standard solutions, our qualified and experienced team will create a customised solution for your system. We have all the necessary development and manufacturing competencies gathered under one roof.

STANDARDS/CERTIFICATIONS

- Inner and outer dimensions in accordance with:
IEC 60297-3-101 / IEEE 1101.1
IEC 60297-3-102 / IEEE 1101.10/11
IEC 60297-3-103
- Ingress protection IP 20 in accordance with IEC 60529
- EMC testing in accordance with IEC 61587-3
- In accordance with VITA 1-1994 and VITA 1.1-1997

AREAS OF APPLICATION

- Measurement, control and instrumentation technology
- Automation technology, machine monitoring
- Aerospace
- Defence technology
- Medical technology
- Test systems



Systems – VME, VME64x, VXS, VPX

OVERVIEW

CHASSIS AND TOWER SYSTEMS

- **STANDARD SYSTEMS FROM STOCK**
- **INDIVIDUAL CONFIGURATION WITHIN 9 WORKING DAYS**
- **ROBUST MECHANICS, EFFECTIVE HEAT DISSIPATION AND EMC SHIELDING**



10002001

VME SUBRACK SYSTEMS

- 3 ... 8 U subrack systems, aluminium, silver
- With fan control module (FCM) for fan monitoring and control



VME64X SUBRACK SYSTEMS

- Subrack systems
 - 1, 2 U, steel, black (RAL 9005)
 - 3 ... 10 U, aluminium, silver
- With fan control module (FCM) for fan monitoring and control



10008001 10002007

VME64X/VXS TOWER SYSTEMS

- Tower systems, aluminium, RAL 9006, RAL 7016
- With fan control module (FCM) for air monitoring and control
- Chassis suitable for use as a test system



10005004

VXS



10006002

VME64x



10011001

VPX CASE SYSTEM

- Case system, 4 U, RAL 9006, RAL 7016
- Well suited as test system

SERVICEPLUS

- e.g. individual configuration and assembly
- e.g. modifications (integration)
- e.g. downloads (CAD drawings, user manuals, test reports)
- e.g. custom solutions

Overview 8.88

VME subrack systems

3 U, 5 slot	8.90
4 U, 8 slot	8.91
7 U, 12 slot	8.92
8 U, 21 slot	8.93

VME64x subrack systems

1 U, 2 slot	8.95
2 U, 4 slot	8.96
4 U, 8 slot	8.97
7 U, 12 slot	8.98
8 U, 21 slot	8.99
10 U, 21 slot	8.100

VME64x tower systems

7 slot without rear I/O	8.101
7 slot with rear I/O	8.102

VXS tower system

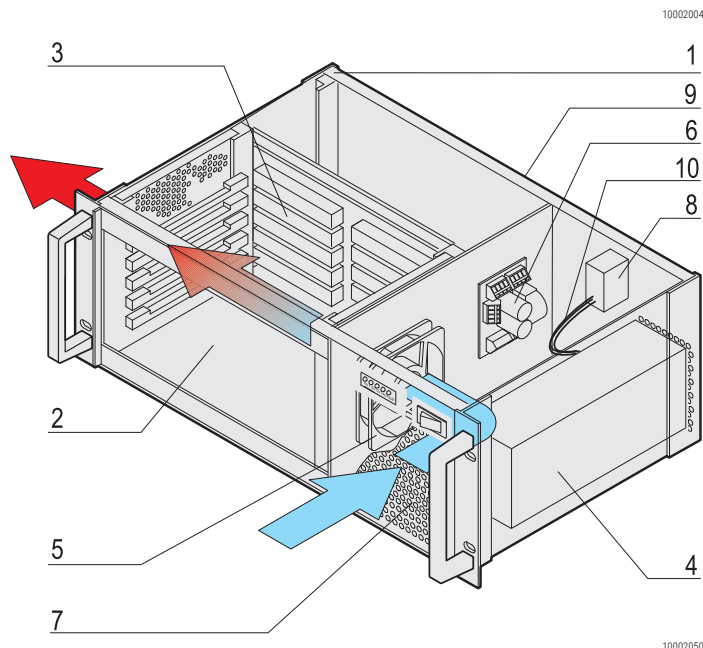
7 slot with rear I/O	8.103
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VPX case system

4 U, 5 slot	8.104
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Systems – VME subrack systems

3 U, 5 SLOT



MEMBER
VITA

- System for horizontal board mounting with board format
 - Front: 6 U, 160 mm deep
- Backplane VME
 - 5 slot, 6 U, J1/J2 monolithic
- PSU, open frame, 250 W
- Heat dissipation by 1 fan, from front to left; temperature-controlled by fan control module (FCM)
- Display module for DC operating voltages, fan and temperature alarm

DELIVERY COMPRISES (completely assembled, wired and tested)

Item	Qty	Description
1	1	Shielded 19" chassis, Al, with perforated side panels and front handles (RAL 7016)
2	5	Front slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to right), for horizontal board mounting (6 U, 160 mm deep)
3	1	Backplane VME for 6 U boards, 5 slots, J1/J2 monolithic (part no. 23001-065)
4	1	Power supply unit, open frame; 250 W (part no. 11098-316)
5	1	Fan; temperature-dependent speed control
6	1	Fan control module (FCM) for fan monitoring/regulating (part no. 23207-021)
7	1	Front panel, perforated, 3 U; display module; mains switch
8	1	AC mains input (IEC 320-C14 plug), mains filter, mains fuse
9	1	Rear panel, Al
10	1	Cable harness to connect all system components

ORDER INFORMATION

Height U	Height mm	Depth mm	Number of slots	Part no.
3	132.55	277.5	5	20836-310

Accessories

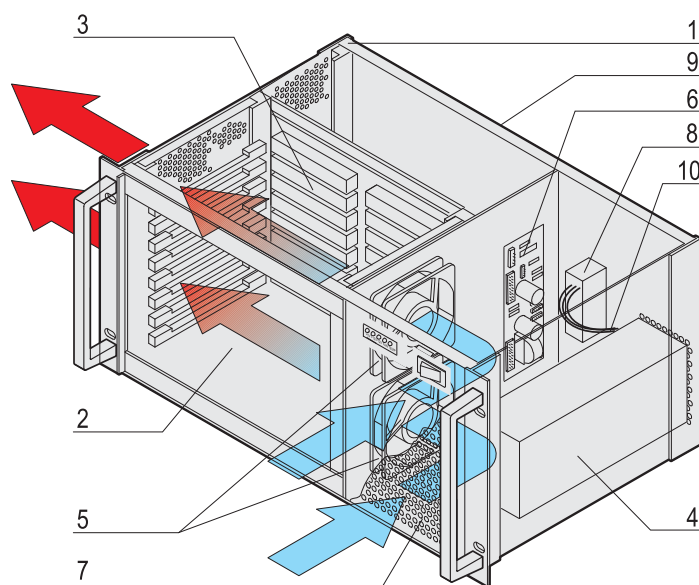
Equipment cables	Page 3.38
Front panels	Page 7.5
Modules to mount drive units	Page 8.110
Front panels with handle	Page 7.18
Fan control modules (FCM)	Page 8.108

Note

- Modified systems available on request
- System in accordance with IEC 60297-3-101, -102, -103; IEEE 1101.1, 1101.10/11; Backplane konform zu VITA 1.1-1994

Systems – VME subrack systems

4 U, 8 SLOT



MEMBER
VITA

- System for horizontal board mounting with board format
 - Front: 6 U, 160 mm deep
- Backplane VME
 - 8 slot, 6 U, J1/J2 monolithic
- PSU, open frame, 444 W (400 W at < 180 V_{AC})
- Heat dissipation by 2 fans, from front to left; temperature-controlled by fan control module (FCM)
- Display module for DC operating voltages, fan and temperature alarm

DELIVERY COMPRISES (completely assembled, wired and tested)

Item	Qty	Description
1	1	Shielded 19" chassis, Al, with perforated side panels; front handles (RAL 7016)
2	8	Front slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to right), for horizontal board mounting (6 U, 160 mm deep)
3	1	Backplane VME for 6 U boards, 8 slots, J1/J2 monolithic (part no. 23001-068)
4	1	Power supply unit, open frame; 444 W (400 W at < 180 V _{AC} ; part no. 11098-267)
5	2	Fan; temperature-dependent speed control
6	1	Fan control module (FCM) for fan monitoring/regulating (part no. 23207-021)
7	1	Front panel, perforated, 4 U; display module; mains switch
8	1	AC mains input (IEC 320-C14 plug), mains filter, mains fuse
9	1	Rear panel, Al
10	1	Cable harness to connect all system components

ORDER INFORMATION

Height U	Height mm	Depth mm	Number of slots	Part no.
4	177	277.5	8	20836-415

Accessories

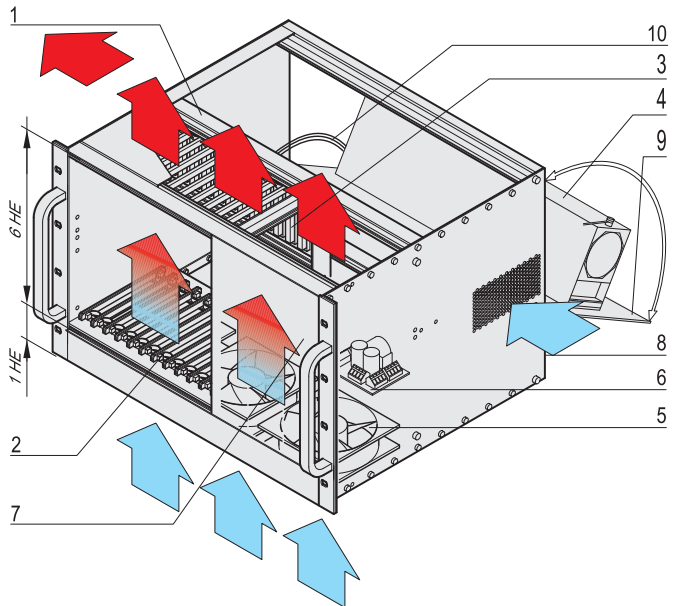
Equipment cables	Page 3.38
Front panels	Page 7.5
Modules to mount drive units	Page 8.110
Front panels with handle	Page 7.18
Fan control modules (FCM)	Page 8.108

Note

- Modified systems available on request
- System in accordance with IEC 60297-3-101, -102, -103; IEEE 1101.1, 1101.10/11; Backplane konform zu VITA 1.1-1994

Systems – VME subrack systems

7 U, 12 SLOT



1 HE = 1 U

MEMBER
VITA

- System for vertical board mounting with board format
 - Front: 6 U, 160 mm deep
- Backplane VME
 - 12 slot, 6 U, J1/J2 monolithic
- PSU, open frame, 444 W (400 W at < 180 V_{AC})
- Heat dissipation by pull-out hot-swap fan unit, from bottom to top; filter mat; temperature-controlled by fan control module (FCM)
- Display module for DC operating voltages, fan and temperature alarm

DELIVERY COMPRISES (completely assembled, wired and tested)

Item	Qty	Description
1	1	Shielded 19" chassis, Al; 19" bracket, with plain top cover and base plate (RAL 9006); front handles (RAL 7016)
2	12	Front slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to bottom front), for vertical board mounting (6 U, 160 mm deep)
3	1	Backplane VME for 6 U boards, 12 slots, J1/J2 monolithic (part no. 23001-072)
4	1	Power supply unit, open frame; 444 W (400 W at < 180 V _{AC} ; part no. 11098-267)
5	1	Hot-swap fan tray with 3 fans, pull-out, 1 U; air filter; temperature-dependent speed control
6	1	Fan control module (FCM) for fan monitoring/regulating (part no. 23207-028)
7	1	Front panel 6 U, 36 HP
8	1	AC mains input (IEC 320-C14 plug), mains filter, mains fuse, mains switch
9	1	Rear panel, hinged, Al, 6 U, 84 HP
10	1	Cable harness to connect all system components

ORDER INFORMATION

Height U	Height mm	Depth mm	Number of slots	Part no.
7 (1 + 6)	310.35	355	12	20836-715

Accessories

Air filter consisting of filter holder and filter mat, PU 1 set	24579-033
Backplanes	Page 10.15
Equipment cables	Page 3.38
Front panels	Page 7.5
Modules to mount drive units	Page 8.110
Front panels with handle	Page 7.18
Fan control modules (FCM)	Page 8.108

Note

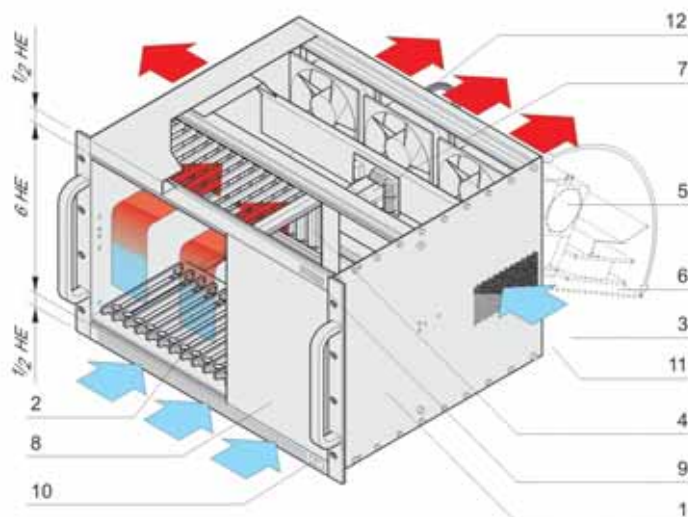
- Modified systems available on request
- System in accordance with IEC 60297-3-101, -102, -103; IEEE 1101.1, 1101.10/11;
Backplane konform zu VITA 1.1-1994

Systems – VME subrack systems

7 U, 12 SLOT, FOR TRANSITION MODULES



10002002



30402059

MEMBER
VITA

30402059

- System for vertical board mounting with board formats
 - Front: 6 U, 160 mm deep
 - Rear: 6 U, 12 HP, 80 mm deep; for transition modules
- Backplane VME
 - 12 slot, 6 U, J1/J2 monolithic
- PSU, open frame, 444 W (400 W at < 180 V_{AC})
- Heat dissipation by 3 fans, from front to rear; temperature-controlled by fan control module (FCM)
- Display module for DC operating voltages, fan and temperature alarm

DELIVERY COMPRISES (completely assembled, wired and tested)

Item	Qty	Description
1	1	Shielded 19" chassis, Al; 19" bracket, plain top cover and base plate (RAL 9006); front handles (RAL 7016)
2	12	Front slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to bottom front), for vertical board mounting (6 U, 160 mm deep)
3	3	Rear slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to bottom front), for vertical mounting of transition module (6 U, 80 mm deep) covered with EMC front panel 6 U / 12 HP
4	1	Backplane VME for 6 U boards, 12 slots, J1/J2 monolithic (part no. 23001-072)
5	1	Power supply unit, open frame; 444 W (400 W at < 180 V _{AC} ; part no. 11098-267)
6	3	Fan; rear panel, hinged, 5 U, 84 HP; temperature-dependent speed control
7	1	Fan control module (FCM) for fan monitoring/regulating (part no. 23207-021)
8	1	Front panel 6 U, 36 HP
9	1	Display module
10	1	Mains switch
11	1	AC mains input (IEC 320-C14 plug), mains filter, mains fuse
12	1	Cable harness to connect all system components

ORDER INFORMATION

Height	Height	Depth	Number of	Part no.
U	mm	mm	slots	
7 (1/2 + 6 + 1/2)	310.35	355	12	20836-716

Accessories

Backplanes	Page 10.15
Equipment cables	Page 3.38
Front panels	Page 7.5
Modules to mount drive units	Page 8.110
Front panels with handle	Page 7.18
Fan control modules (FCM)	Page 8.108

Note

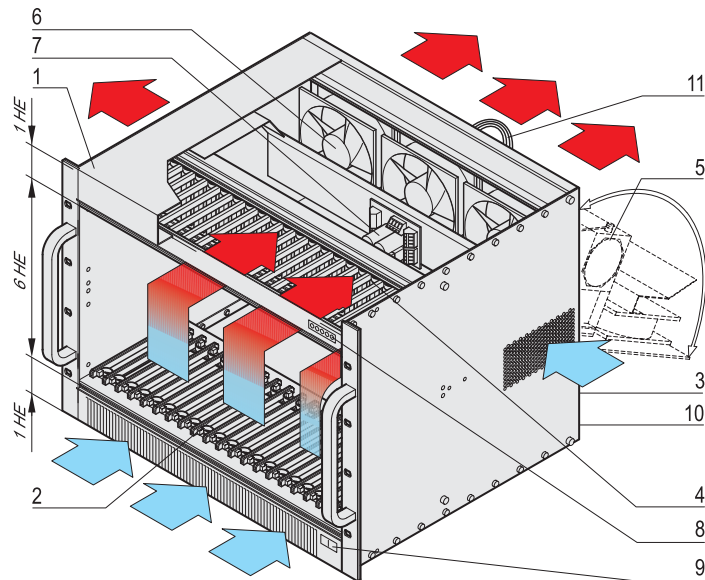
- Modified systems available on request
- System in accordance with IEC 60297-3-101, -102, -103; IEEE 1101.1, 1101.10/11;
Backplane konform zu VITA 1.1-1994

Systems – VME subrack systems

8 U, 21 SLOT



10002005



10002058

1 HE = 1 U

MEMBER
VITA

30402059

- System for vertical board mounting with board formats
 - Front: 6 U, 160 mm deep
 - Rear: 6 U, 12 HP, 80 mm deep; for transition modules
- Backplane VME
 - 21 slot, 6 U, J1/J2 monolithic
- PSU, open frame, 744 W (600 W at < 180 V_{AC})
- Heat dissipation by 3 fans, from front to rear; temperature-controlled by fan control module (FCM)
- Display module for DC operating voltages, fan and temperature alarm

DELIVERY COMPRISES (completely assembled, wired and tested)

Item	Qty	Description
1	1	Shielded 19" chassis, Al; 19" bracket, plain top cover and base plate (RAL 9006); front handles (RAL 7016)
2	21	Front slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to bottom front), for vertical board mounting (6 U, 160 mm deep)
3	3	Rear slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to bottom front), for vertical mounting of transition module (6 U, 80 mm deep) covered with EMC front panel 6 U/12 HP
4	1	Backplane VME for 6 U boards, 21 slots, J1/J2 monolithic (part no. 23001-081)
5	1	Power supply unit, open frame; 744 W (600 W at < 180 V _{AC} ; part no. 11098-140)
6	3	Fan; rear panel, hinged, 5 U, 84 HP; temperature-dependent speed control
7	1	Fan control module (FCM) for fan monitoring/regulating (part no. 23207-021)
8	1	Display module
9	1	Mains switch
10	1	AC mains input (IEC 320-C14 plug), mains filter, mains fuse
11	1	Cable harness to connect all system components

ORDER INFORMATION

Height U	Height mm	Depth mm	Number of slots	Part no.
8 (1 + 6 + 1)	354.8	355	21	20836-815

Accessories

Backplanes	Page 10.15
Equipment cables	Page 3.38
Front panels	Page 7.5
Modules to mount drive units	Page 8.110
Front panels with handle	Page 7.18
Fan control modules (FCM)	Page 8.108

Note

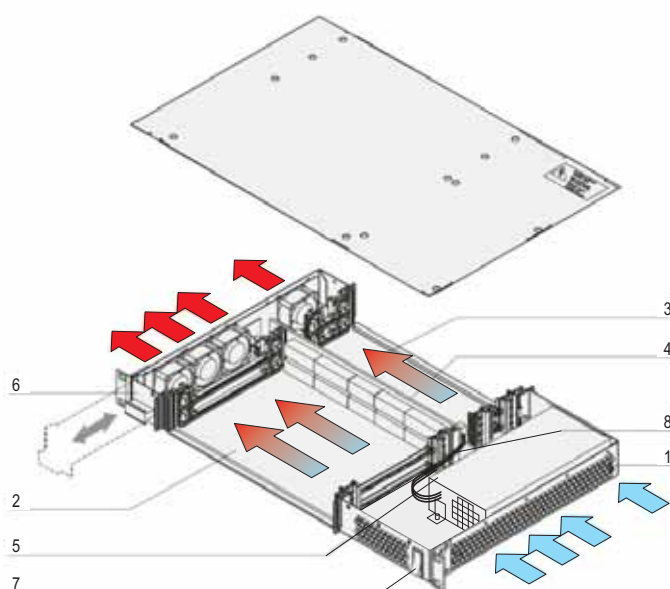
- Modified systems available on request
- System in accordance with IEC 60297-3-101, -102, -103; IEEE 1101.1, 1101.10/11; Backplane konform zu VITA 1.1-1994

System – VME64x subrack systems

1 U, 2 SLOT, WITH REAR I/O



10005003



12304055



30402059

- System for horizontal board mounting with board formats
 - Front: 6 U, 160 mm deep
 - Rear, rear I/O: 6 U, 80 mm deep
- Backplane VME64x
 - 2 slot, 6 U, with P0 plug
- ATX PSU, 250 W
- Heat dissipation by pull-out hot-swap fan unit, from right to left
- Fan monitoring and voltage display

DELIVERY COMPRISES (completely assembled, wired and tested)

Item	Qty	Description
1	1	Shielded 19" chassis, steel plate, black powder-coated (RAL 9005)
2	2	Front slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to right), for horizontal mounting of rear I/O boards (6 U, 160 mm deep)
3	2	Rear slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to right), for horizontal mounting of rear I/O boards (6 U, 80 mm deep)
4	1	Backplane VME64x for 6 U boards, 2 slot, with P0 plug, with connector plug for fan unit and ATX PSU
5	1	ATX power supply; 250 W; wide range input 100 ... 240 V _{AC} , output 3.3 V/14 A, 5 V/23 A, 12 V/16 A, -12 V/0.5 A; with IEC connector; mains switch; fan
6	1	Hot-swap fan unit with 4 fans; incl. fan monitoring and voltage display
7	1	DC switch (with LED), switches off only the DC output of the power supply unit, power ON
8	1	Cable harness to connect all system components

ORDER INFORMATION

Height U	Height mm	Depth mm	Number of slots	Part no.
1	44.45	277.5	2	20836-145

Accessories

Equipment cables	Page 3.38
Front panels	Page 7.5
Modules to mount drive units	Page 8.110
Front panels with handle	Page 7.18

Note

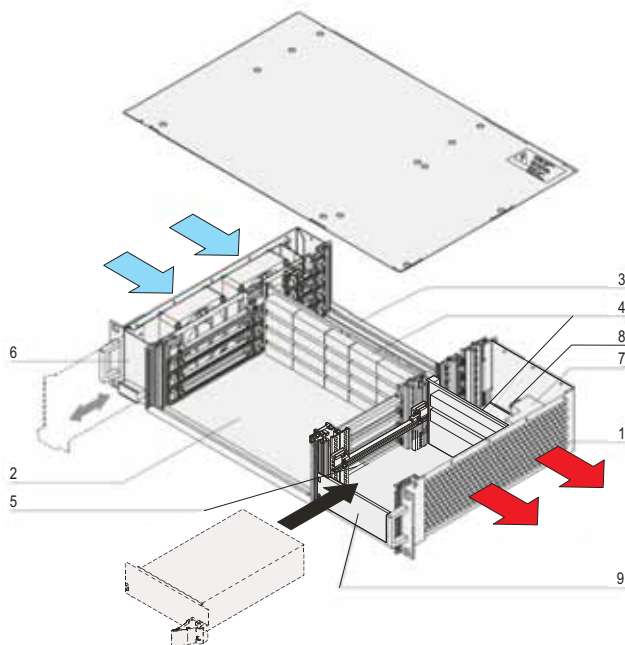
- Modified systems available on request
- System in accordance with IEC 60297-3-101, 102, 103; IEEE 1101.1, 1101.10/11; backplane conforms to VITA 1.1-1997

System – VME64x subrack systems

2 U, 4 SLOT, WITH REAR I/O



10008001



12304057



30402059

- System for horizontal board mounting with board formats
 - Front: 6 U, 160 mm deep
 - Rear, rear I/O: 6 U, 80 mm deep
- Backplane VME64x
 - 4 slot, 6 U, with P0 plug
- Power backplane to PICMG 2.11 (P 47), prepared for installation of two 19" compatible PSUs, 250 W (3 U, 8 HP)
- Heat dissipation by pull-out hot-swap fan unit, from left to right
- Fan monitoring and voltage display

DELIVERY COMPRISES (completely assembled, wired and tested)

Item	Qty	Description
1	1	Shielded 19" chassis, steel plate, black powder-coated (RAL 9005)
2	4	Front slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to right), for horizontal mounting of rear I/O boards (6 U, 160 mm deep)
3	4	Rear slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to right), for horizontal mounting of rear I/O boards (6 U, 80 mm deep)
4	1	Backplane VME64x for 6 U boards, 4 slots, with P0 plug (part no. 23001-534), power backplane, 2 x P47 plug (part no. 23098-115)
5	1	Installation space 3 U, 8 HP for two 19" compatible PSUs
6	1	Hot-swap fan unit with 2 fans (12 V _{DC}); incl. fan monitoring and voltage display
7	1	AC mains input module (IEC 320-C14 plug, mains filter, mains switch, mains fuse)
8	1	Cable harness to connect all system components
9	1	3 U, 8 HP front panel, front mounted

ORDER INFORMATION

Height U	Height mm	Depth mm	Number of slots	Part no.
2	88.1	277.5	4	20836-245

Accessories

19" compatible power supply, 250 W, 3 U, 8 HP	13100-141
Technical data see page 9.24	
Equipment cables	Page 3.38
Front panels	Page 7.5
Modules to mount drive units	Page 8.110
Front panels with handle	Page 7.18

Note

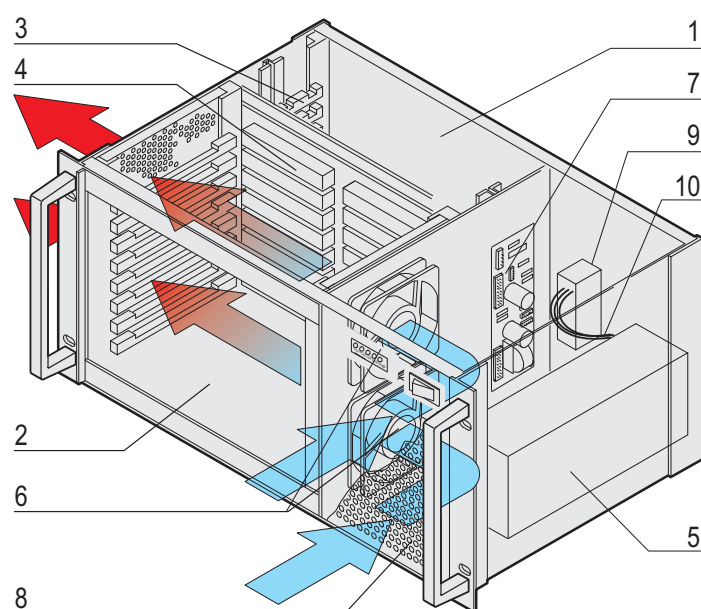
- Modified systems available on request
- System in accordance with IEC 60297-3-101, 102, 103; IEEE 1101.1, 1101.10/11; backplane conforms to VITA 1.1-1997

System – VME64x subrack systems

4 U, 8 SLOT, WITH REAR I/O



10002006



10002052

MEMBER
VITA

30402059

- System for horizontal board mounting with board formats
 - Front: 6 U, 160 mm deep
 - Rear, rear I/O: 6 U, 80 mm deep
- Backplane VME64x
 - 8 slot, 6 U, without P0 plug
- PSU, open frame, 560 W (400 W at < 180 V_{AC})
- Heat dissipation by fan, from front to left
- Display module for DC operating voltages, fan and temperature alarm

DELIVERY COMPRISES (completely assembled, wired and tested)

Item	Qty	Description
1	1	Shielded 19" chassis, Al, with perforated side panels and front handles (RAL 7016)
2	8	Front slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to right), for horizontal mounting of rear I/O boards (6 U, 160 mm deep)
3	8	Rear slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to right), for horizontal mounting of rear I/O boards (6 U, 80 mm deep)
4	1	Backplane VME64x for 6 U boards, 8 slots, without P0 plug (part no. 23001-508)
5	1	Power supply unit, open frame; 560 W (400 W at < 180 V _{AC} ; part no. 11098-212)
6	2	Fan; temperature-dependent speed control
7	1	Fan control module (FCM) for fan monitoring/regulating (part no. 23207-021)
8	1	Front panel with ventilation openings, 4 U; display module, mains switch
9	1	AC mains input (IEC 320-C14 plug), mains filter, mains fuse
10	1	Cable harness to connect all system components

ORDER INFORMATION

Height U	Height mm	Depth mm	Number of slots	Part no.
4	177	277.5	8	20836-416

Accessories

Equipment cables	Page 3.38
Front panels	Page 7.5
Modules to mount drive units	Page 8.110
Front panels with handle	Page 7.18
Fan control modules (FCM)	Page 8.108

Note

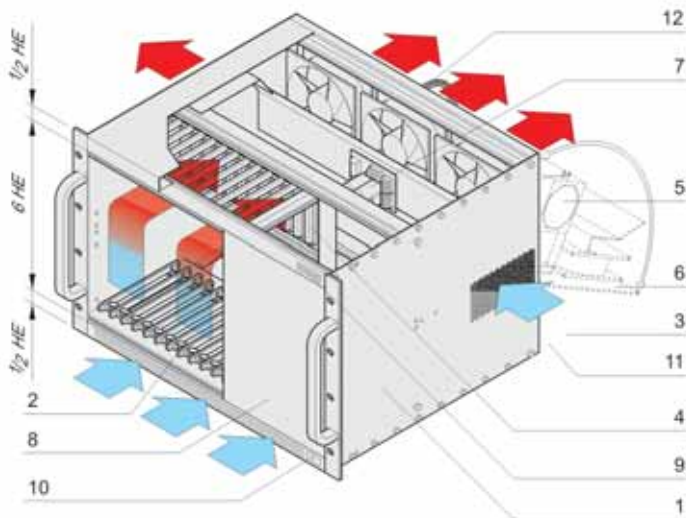
- Modified systems available on request
- System in accordance with IEC 60297-3-101, 102, 103; IEEE 1101.1, 1101.10/11; backplane conforms to VITA 1.1-1997

System – VME64x subrack systems

7 U, 12 SLOT, WITH REAR I/O



10002007



10002056

1 HE = 1 U

MEMBER
VITA

30402059

- System for vertical board mounting with board formats
 - Front: 6 U, 160 mm deep
 - Rear: 6 U, for 3 transition modules
- Backplane VME64x
 - 12 slot, 6 U, without P0 plug
- PSU, open frame, 642 W (600 W at < 180 V_{AC})
- Heat dissipation by fan, from front to rear
- Display module for DC operating voltages, fan and temperature alarm

DELIVERY COMPRISES (completely assembled, wired and tested)

Item	Qty	Description
1	1	Shielded 19" chassis, Al; with plain top cover and base plate (RAL 9006); front handle (RAL 7016); 19" bracket
2	12	Front slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to bottom front), for vertical board mounting (6 U, 160 mm deep)
3	3	Rear slot; for transition modules, for vertical board mounting (6 U, 4 HP)
4	1	Backplane VME64x for 6 U boards, 12 slots, without P0 plug (part no. 23001-512)
5	1	Power supply unit, open frame; 642 W (600 W at < 180 V _{AC} ; part no. 11098-207)
6	3	Fan; on hinged rear panel; speed control 5 U, 84 HP
7	1	Fan control module (FCM) for fan monitoring/regulating (part no. 23207-021)
8	1	Front panel 6 U, 36 HP;
9	1	Display module
10	1	Mains switch
11	1	AC mains input (IEC 320-C14 plug), mains filter, mains fuse
12	1	Front panel at rear with textile EMC gasket, 6 U, 12 HP
13	1	Cable harness to connect all system components

ORDER INFORMATION

Height U	Height mm	Depth mm	Number of slots	Part no.
7 (1/2+6+1/2)	310.35	355	12	20836-717

Accessories

Equipment cables	Page 3.38
Front panels	Page 7.5
Modules to mount drive units	Page 8.110
Front panels with handle	Page 7.18
Fan control modules (FCM)	Page 8.108

Note

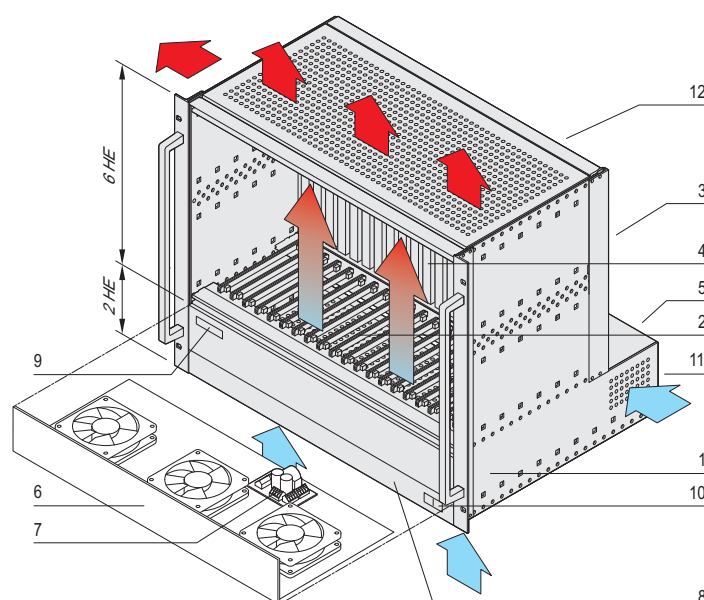
- Modified systems available on request
- System in accordance with IEC 60297-3-101, 102, 103; IEEE 1101.1, 1101.10/11; backplane conforms to VITA 1.1-1997

System – VME64x subrack systems

8 U, 21 SLOT, WITH REAR I/O



10005001



10005050

1 HE = 1 U

MEMBER
VITA

30402059

- System for vertical board mounting with board formats
 - Front: 6 U, 160 mm deep
 - Rear, rear I/O: 6 U, 80 mm deep
- Backplane VME64x
 - 21 slot, 6 U, with P0 plug
- PSU, open frame, 642 W (600 W at < 180 V_{AC})
- Heat dissipation by pull-out fan unit, from bottom to top; temperature-controlled by fan control module (FCM)
- Display module for DC operating voltages, fan and temperature alarm

DELIVERY COMPRISES (completely assembled, wired and tested)

Item	Qty	Description
1	1	Shielded 19" chassis, Al, with perforated top cover and base plate; front handles (RAL 7016), 19" bracket, front panels (RAL 9006)
2	21	Front slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to bottom), for vertical board mounting (6 U, 160 mm deep)
3	21	Rear slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to bottom), for vertical mounting of rear I/O boards (6 U, 80 mm deep)
4	1	Backplane VME64x for 6 U boards, 21 slots, with P0 plug (part no. 23001-551)
5	1	Power supply unit, open frame; 642 W (600 W at < 180 V _{AC} ; part no. 11098-207)
6	1	Fan unit with 3 fans, 1.5 U (24 V _{DC} , 250 m ³ /h each, 148 cfm); temperature-dependent speed control; filter mat
7	1	Fan control module (FCM) for fan monitoring/regulating (part no. 23207-028)
8	1	Front panel 0,5 U, 84 HP;
9	1	Display module
10	1	Mains switch
11	1	AC mains input (IEC 320-C14 plug), mains filter, mains fuse
12	1	Cable harness to connect all system components

ORDER INFORMATION

Height U	Height mm	Depth mm	Number of slots	Part no.
8	354.8	412	21	20836-820

Accessories

Equipment cables	Page 3.38
Front panels	Page 7.5
Modules to mount drive units	Page 8.110
Front panels with handle	Page 7.18
Fan control modules (FCM)	Page 8.108

Note

- Modified systems available on request
- System in accordance with IEC 60297-3-101, 102, 103; IEEE 1101.1, 1101.10/11; backplane conforms to VITA 1.1-1997

System – VME64x subrack systems

10 U, 21 SLOT, WITH REAR I/O



- System for vertical board mounting with board formats
 - Front: 6 U, 160 mm deep
 - Rear, rear I/O: 6 U, 80 mm deep
- Backplane VME64x
 - 21 slot, 6+1 U, with P0 plug
- PSU, open frame, 1000 W
- Heat dissipation by 2 pull-out fan units, from front to rear; temperature-controlled by fan control module (FCM)
- Display module for DC operating voltages, fan and temperature alarm

DELIVERY COMPRISES (completely assembled, wired and tested)

Item	Qty	Description
1	1	Shielded 19" chassis, Al, with plain top cover and base plate; front handles (RAL 7016), 19" bracket, front panels (RAL 9006)
2	21	Front slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to bottom), for vertical board mounting (6 U, 160 mm deep)
3	21	Rear slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to bottom), for vertical mounting of rear I/O boards (6 U, 80 mm deep)
4	1	VME64x backplane for 6 U boards + 1 U, 21 slots, with P0 connector
5	1	Power supply unit, open frame; 1000 W; wide range input, 100 ... 240 V _{AC} output 3.3 V/60 A, 5 V/120 A, 12 V/17 A, -12 V/17 A; mounted fan
6	2	Fan module with speed-controlled radial fan (500 m³/h = 295 cfm each) for ventilation of boards; mounted behind hinged front panel (2 U)
7	1	Air filter
8	1	Fan control module (FCM) for fan monitoring/regulating (part no. 23207-021)
9	1	Front panel, hinged, 2 U, 84 HP
10	1	Display module; mains switch, DC
11	1	Front panel, hinged, perforated, 2 U, 84 HP
12	1	AC mains input (IEC 320-C14 plug), mains filter, mains fuse
13	1	Cable harness to connect all system components

ORDER INFORMATION

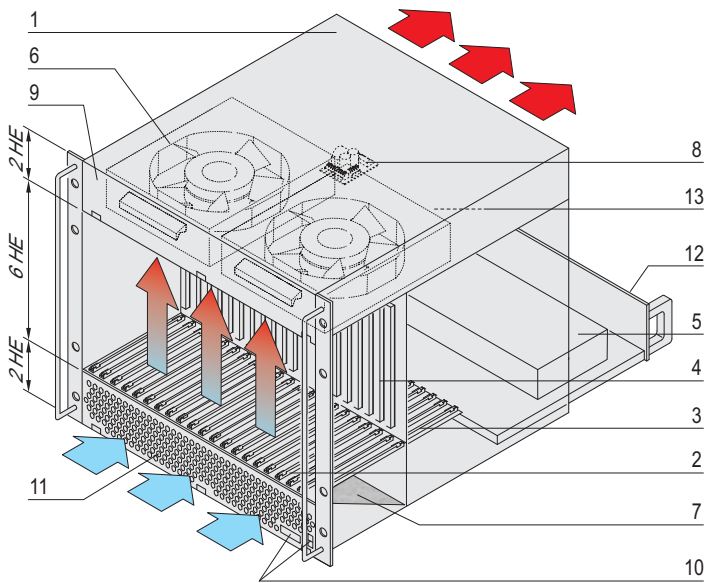
Height U	Height mm	Depth mm	Number of slots	Part no.
10	443.7	456.5	21	20836-220

Accessories

Fan module 1 piece	20836-855
Chassis Monitoring Module (CMM) for monitoring of voltage, temperature and digital inputs, 1 kit	20836-223
Equipment cables	Page 3.38
Front panels	Page 7.5
Modules to mount drive units	Page 8.110
Front panels with handle	Page 7.18
Fan control modules (FCM)	Page 8.108

Note

- Modified systems available on request
- System in accordance with IEC 60297-3-101, 102, 103; IEEE 1101.1, 1101.10/11; backplane conforms to VITA 1.1-1997

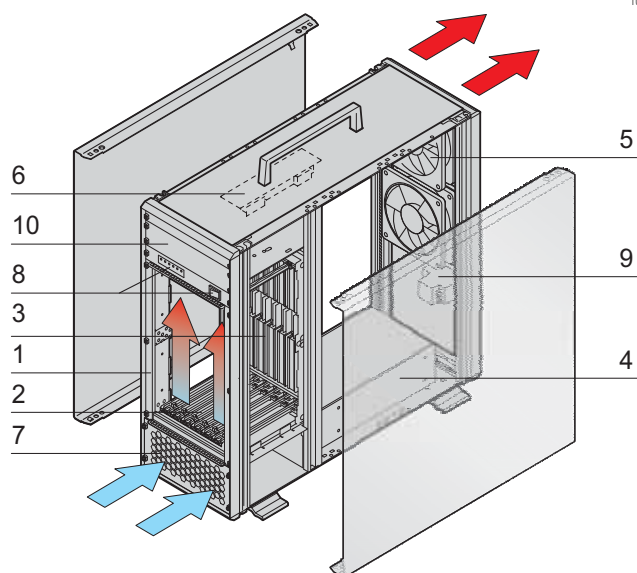


1 HE = 1 U

MEMBER
VITA

System – VME64x Tower systems

7 SLOT, WITHOUT REAR I/O



MEMBER
VITA

- Tower system for vertical board mounting with board format
 - Front: 6 U, 160 mm deep
- Backplane VME64x
 - 7 slot, 6 U, without P0 plug
- PSU, open frame, 560 W (400 W at < 180 V_{AC})
- Heat dissipation by 2 fans, from front to rear; temperature-controlled with fan control module (FCM)
- Display module for DC operating voltages and fan alarm
- Option to mount a 5.25" DVD drive unit

DELIVERY COMPRISES (completely assembled, wired and tested)

Item	Qty	Description
1	1	Tower system based on ratiopacPRO case, shielded, 500 mm deep, lateral parts in RAL 9006; handle, front frame and feet in RAL 7016
2	7	Front slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to bottom), for vertical board mounting (6 U, 160 mm deep)
3	1	Backplane VME64x for 6 U boards, 7 slots, without P0 plug (part no. 23001-507)
4	1	Power supply unit, open frame; 560 W (400 W at < 180 V _{AC} ; part no. 11098-212)
5	2	Fan; speed-controlled; for ventilation of boards
6	1	Fan control module (FCM) for fan monitoring/regulating (part no. 23207-021)
7	1	Front panel, perforated, 4 U
8	1	Display module; mains switch
9	1	AC mains input (IEC 320-C14 plug), mains filter, mains fuse
10	1	Module to accommodate a 5.25" DVD drive unit
11	1	Cable harness to connect all system components

ORDER INFORMATION

Height mm	Width mm	Depth mm	Number of slots	Part no.
496.25	177.00	500	7	10836-050

Accessories

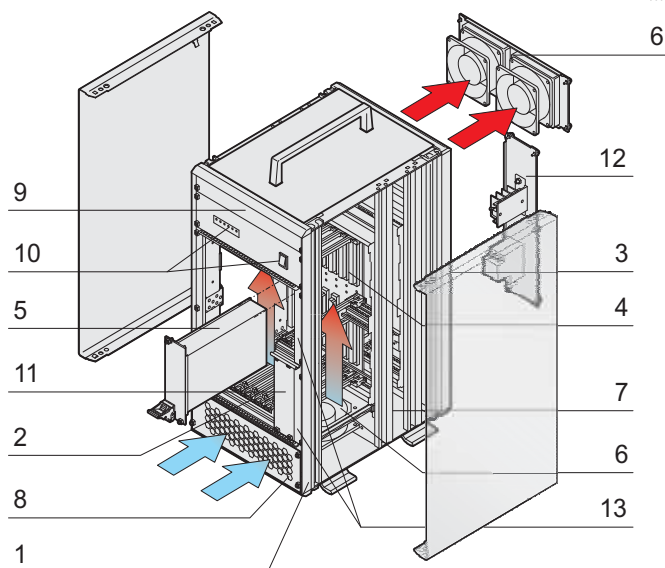
Equipment cables	Page 3.38
Front panels	Page 7.5
Modules to mount drive units	Page 8.110
Front panels with handle	Page 7.18
Fan control modules (FCM)	Page 8.108

Note

- Modified systems available on request
- System in accordance with IEC 60297-3-101, 102, 103; IEEE 1101.1, 1101.10/11; backplane conforms to VITA 1.1-1997

System – VME64x Tower systems

7 SLOT, WITH REAR I/O



10005004

10006052

30402059

- Tower system for vertical board mounting with board formats
 - Front: 6 U, 160 mm deep
 - Rear, rear I/O: 6 U, 80 mm deep
- Backplane VME64x
 - 7 slot, 6 U, without P0 plug
- PSU, 19" compatible, 250 W; a second PSU can optionally be fitted
- Heat dissipation by 4 fans, from front to rear; temperature-controlled with fan control module (FCM)
- Display module for DC operating voltages and fan and temperature alarm
- Option to mount a 5.25" DVD drive unit

DELIVERY COMPRISES (completely assembled, wired and tested)

Item	Qty	Description
1	1	Tower system based on ratiopacPRO case, shielded, 300 mm deep, lateral parts in RAL 9006; handle, front frame and feet in RAL 7016
2	7	Front slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to bottom), for vertical board mounting (6 U, 160 mm deep)
3	7	Rear slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to bottom), for vertical mounting of rear I/O boards (6 U, 80 mm deep)
4	1	VME64x backplane for 6 U boards, 7 slots, without P0 connector
5	1	19" compatible power supply, 250 W (3 U, 8 HP; part no. 13100-141)
6	4	Fan; speed-controlled; for ventilation of boards
7	1	Fan control module (FCM) for fan monitoring/regulating (part no. 23207-021)
8	1	Front panel, perforated, 5 U
9	1	Module to accommodate a 5.25" DVD drive unit
10	1	Display module; mains switch
11	1	Front panel 3 U, 8 HP; removable, to allow fitting of a further chassis power supply unit
12	1	AC mains input (IEC 320-C14 plug), mains filter, mains fuse
13	2	Front panel 3 U, 4 HP;
14	1	Cable harness to connect all system components

ORDER INFORMATION

Height mm	Width mm	Depth mm	Number of slots	Part no.
496.25	221.45	300	7	10836-045

Accessories

19" compatible power supply, 250 W, 3 U, 8 HP 1 piece, technical data see page 9.22	13100-141
Air filter kit 1 piece	20836-235
Equipment cables	Page 3.38
Front panels	Page 7.5
Modules to mount drive units	Page 8.110
Front panels with handle	Page 7.18
Fan control modules (FCM)	Page 8.108

Note

- Modified systems available on request
- System in accordance with IEC 60297-3-101, 102, 103; IEEE 1101.1, 1101.10/11; backplane conforms to VITA 1.1-1997

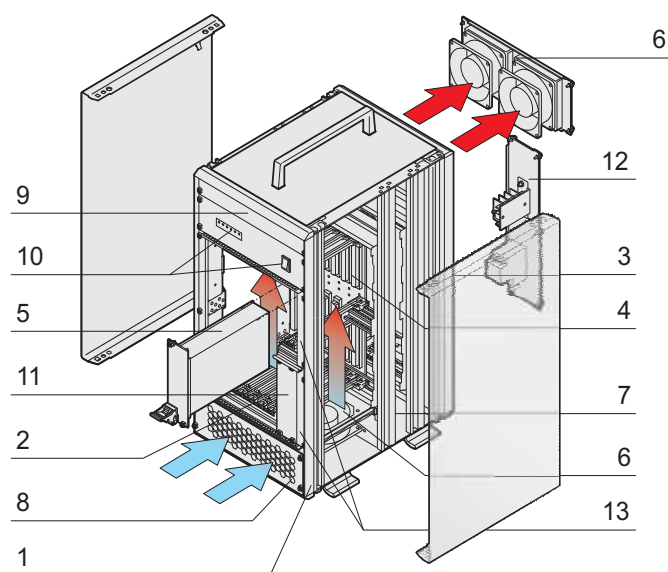
MEMBER
VITA

Systems – VXS (VITA 41) Tower systems

7 SLOT, WITH REAR I/O



10006002



10006052



30407001

- Tower system for vertical board mounting with board formats
 - Front: 6 U, 160 mm deep
 - Rear, rear I/O: 6 U, 80 mm deep
- Backplane VXS/VME64x
 - 4 slot VME64x, 6 U, with P0 plug
 - 3 x VXS payload slots connected as ring
- PSU, 19" compatible, 250 W; a second PSU can optionally be fitted
- Heat dissipation by 4 fans, from front to rear; temperature-controlled with fan control module (FCM)
- Display module for DC operating voltages and fan and temperature alarm
- Option of fitting a 5.25" DVD drive unit

DELIVERY COMPRISES (completely assembled, wired and tested)

Item	Qty	Description
1	1	Tower system based on ratiopacPRO case, shielded, 300 mm deep, lateral parts in RAL 9006; handle, front frame and feet in RAL 7016
2	7	Front slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to bottom), for vertical board mounting (6 U, 160 mm deep)
3	7	Rear slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to bottom), for vertical mounting of rear I/O boards (6 U, 80 mm deep)
4	1	VXS backplane, 3 slots VME64x, 4 slot; for 6 U boards; with P0 connector; 3 x VXS payload slots, ring connected (part no. 23001-701)
5	1	19" compatible power supply, 250 W (3 U, 8 HP; part no. 13100-141)
6	4	Fan; speed-controlled; for ventilation of boards
7	1	Fan control module (FCM) for fan monitoring/regulating (part no. 23207-021)
8	1	Front panel, perforated, 5 U
9	1	Module to accommodate a 5.25" DVD drive unit
10	1	Display module; mains switch
11	1	Front panel 3 U, 8 HP; for fitting a further plug-in power supply
12	1	AC mains input (IEC 320-C14 plug), mains filter, mains fuse
13	2	Front panel 3 U, 4 HP;
14	1	Cable harness to connect all system components

ORDER INFORMATION

Height mm	Width mm	Depth mm	Number of slots	Part no.
496.25	221.45	300	7	10836-060

Accessories

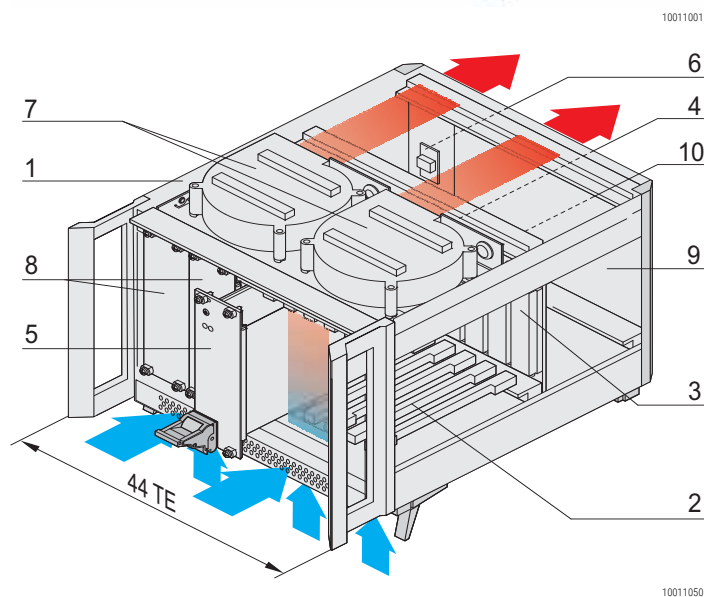
19" compatible power supply, 250 W, 3 U, 8 HP 1 piece, technical data page 9.22	13100-141
Air filter kit 1 piece	20836-235
Equipment cables	Page 3.38
Front panels	Page 7.5
Modules to mount drive units	Page 8.110
Front panels with handle	Page 7.18

Note

- Modified systems available on request
- System in accordance with IEC 60297-3-101, -102, -103; IEEE 1101.1, 1101.10/11;
- Backplane, conforms to VITA 41.0, -41.1, -41.10, -41.11

Systems – VPX case systems

VPX CASE SYSTEM, 4 U, 5 SLOTS, WITH/WITHOUT REAR I/O



- System for vertical board mounting with board format 3 U, 160 mm deep
- VPX backplane, in accordance with VITA 46, 5 slot, 3 U, 0.8" pitch, full mesh topology
- 19" PSU, 250 W, 3 U, 8 HP (further PSU optional)
- Heat dissipation by 2 radial fans, from front to rear

DELIVERY COMPRISES (completely assembled, wired and tested)

Item	Qty	Description
1	1	ratiopacPRO-air case, RAL 9006, shielded, perforated air inlet/exhaust openings front and rear; front handles RAL 7016
2	5	Front slot; IEEE guide rails, incl. ESD clips (ESD clips fitted to bottom front), for vertical board mounting (3 U, 160 mm deep)
2a	5	Slot at rear (only with rear I/O version): IEEE guide rails, incl. ESD clips (ESD clips assembled at bottom), for vertical rear I/O boards (3 U, 80 mm deep)
3	1	Backplane for 3 U boards; 5 slot VPX, full mesh topology
4	1	Power backplane, 3 U, 8 HP with 2 x P47 connector
5	1	19" compatible power supply, 250 W (3 U, 8 HP; part no. 13100-141)
6	1	AC input module, rear, 3 U, 8 HP 110 ... 250 V _{AC} , 50 ... 60 HZ, max. current 10 A; AC line filter, switch, fuse
7	2	Radial fan, 36 m ³ /h each, free blowing
8	2	Front panel, front, 3 U, 8 HP
9	1	Front panel, rear, 3 U, 36 HP
10	1	Cable harness to connect all system components

ORDER INFORMATION

Height	Width	Depth	Number	Version	Part no.
U	mm	HP	mm	of slots	
4	177	44	275	5	Without rear I/O
4	177	44	275	5	With rear I/O

Accessories

Equipment cables	Page 3.38
Front panels	Page 7.5
Modules to mount drive units	Page 8.108
Front panels with handle	Page 7.18
Fan control modules (FCM)	Page 8.106

Note

- Modified systems available on request

Systems – VPX case systems

Systems – embedded COM systems

EMBEDDED TEST SYSTEMS FOR COME TYPE 6



13017006

- Embedded system with x86 COM Express type 6 module
- A variety of interfaces, such as PCIe, mPCIe, USB, DisplayPort and XMC slot
- Internal interfaces for additional boards to enhance functionality, e.g. for fieldbus interfaces or TFT connector
- Slot for an XMC module
- With the prototype module available as an accessory, you have access to various signals such as GPI/O, I²C, etc.
- Power logic designed as plug-in module, 18 to 26.4 V_{DC} input, can be replaced easily
- Excellent modular cooling solution, can be easily adapted to different processor performance levels and environmental conditions

DELIVERY INCLUDES (completely assembled, cabled and tested)

Item	Qty.	Description
1	1	Shielded enclosure, St, powder-coated, black, RAL 9005
2	1	Heat sinks, cooling without fans
3	1	COM carrier
4	1	Type 6 Basic module with Intel® Core™ i7-6820EQ quad core processor; 8 GB DDR4-SODIMM-2400
5	1	120 GB SSD hard drive
6	1	Conversion kit for the installation of Compact, Basic or Mini COM Express modules
7	1	XMC cover
8	1	Fan for XMC module

ORDER INFORMATION

Description	Part no.
Embedded COM System with congatec conga-TS170/i7-6820EQ (045900) COM Express Type 6 Basic module with Intel® Core™ i7-6820EQ quad core processor with 2.8 GHz up to 3.5 GHz, 8 MB L2 cache, GT2 graphics and 2133 MT/s dual channel DDR4 memory interface, Chipset QM170	21265-030

Accessories

Table power supply, 120 W, 100 to 240 V _{AC} , 20 V _{DC} /6 A, 1 piece	
Table power supply, 90 W, 100 to 240 V _{AC} , 19 V _{DC} /4.74 A, 1 piece	
Mains cable, SCHUKO/UTE SCHUKO/UTE plug, IEC 60320 socket, 2.5 m, 1 piece	62150-191
Mains cable, BS British Standard plug, IEC 60320 C13 socket, 2.5 m, 1 piece	60103-137
Equipment cable USA USA connector, IEC 60320 female connector, 2 m, 1 piece	60103-141
Mains cable, IEC IEC 60320 C14 plug, IEC 60320 C13 socket, 2.5 m, 1 piece	60197-053
Table stand for embedded COM system 1 piece	
Wall mount set for embedded COM system 1 piece	
Vesa mount for embedded COM system 1 piece	
Postcode module 1 piece	
Prototype module 1 piece	
Ethernet module 1 x GbE, 1 piece	
LVDS module 1 piece	

Systems – embedded COM systems

EMBEDDED TEST SYSTEMS FOR COME TYPE 6

TECHNICAL DATA

Enclosure: Width x height x depth	375.5 mm x 44.45 mm (without heat sink) x 250 mm
Cooling	Fanless (COM module), 40 mm fan (XMC), heat sink - large
Input voltage	18 to 26.4 V _{DC}
Hard-drive mount	1 x 2.5"
Hard drive	120 GB S-ATA SSD
COM module	Type 6 Basic module with Intel® Core™ i7-6820EQ quad core processor; 8 GB DDR4-SODIMM-2400
Internal interfaces	PCIe x4 slots: 1 (PCIe Gen 3) mPCIe slots: 1 (PCIe Gen 3) mPCIe / mSATA slots: 1 (PCIe Gen 3, S-ATA 3.0) S-ATA connector: 3 (S-ATA 3.0) Memory card slot: 1 (MicroSD) SIMM slot: 2 (Micro SIMM) Serial port: 2 Parallel port: 1 PS/2 mouse and keyboard connector: 1 Speaker: 1 LVDS module adapter: 1 Fieldbus module connector: 1 Interface for POST code display: 1 Prototype board interface: 1 XMC module slots: 1 XMC I/O signal header: 1
External interfaces	Front: DisplayPort: 2 (DP 1.1 and DP 1.2) DVI: 1 (DVI-D) USB: 4 (USB 3.0) Audio: 1 (HD Audio, S/PDIF Optical) Ethernet: 1 (10/100/1000 Mbps) Rear side: VGA: 1 Serial port: 1 (DSUB9) Power supply: 1 (18 to 26.4 V _{DC})

NOTE

- Other configurations available on request

Systems – embedded COM systems

EMBEDDED SYSTEMS, COME TYPE 6



Frontansicht (21265-010)

13017002



Frontansicht (21265-020)

13017005

- Embedded system with x86 COM Express type 6 module
- A variety of interfaces, such as PCIe, mPCIe, USB, DisplayPort
- Internal interfaces for additional boards to enhance functionality, e.g. for fieldbus interfaces or TFT connector
- Power logic designed as plug-in module, 18 to 26.4 V_{DC} input, can be replaced easily
- Excellent modular cooling solution, can be easily adapted to different processor performance levels and environmental conditions

DELIVERY INCLUDES (completely assembled, cabled and tested)

Item	Qty.	Description
1	1	Shielded enclosure, St, powder-coated, black, RAL 9005
2	1	Heat sinks, cooling without fans
3	1	COM carrier
4a	1	<u>21265-010</u> : Type 6 Compact module with Intel® Celeron® 3955U quad core processor; 4 GB DDR4-SODIMM-2400
4b	1	<u>21265-020</u> : Type 6 Basic module with Intel® Core™ i7-6820EQ quad core processor; 8 GB DDR4-SODIMM-2400
5	1	120 GB SSD hard drive
6	1	Conversion kit for the installation of Compact, Basic or Mini COM Express modules

ORDER INFORMATION

Description	Part no.
Embedded COM System with congatec conga-TC170/3955U (045203) COM Express Type 6 Compact module with Intel® Celeron® 3955U dual core processor with 2.0 GHz, 2 MB L2 cache and 2133 MT/s dual channel DDR4 memory interface	21265-010
Embedded COM System with congatec conga-TS170/i7-6820EQ (045900) COM Express Type 6 Basic module with Intel® Core™ i7-6820EQ quad core processor with 2.8 GHz up to 3.5 GHz, 8 MB L2 cache, GT2 graphics and 2133 MT/s dual channel DDR4 memory interface, Chipset QM170	21265-020
Accessories	
Table power supply, 120 W, 100 to 240 V _{AC} , 20 V _{DC} /6 A, 1 piece	
Table power supply, 90 W, 100 to 240 V _{AC} , 19 V _{DC} /4.74 A, 1 piece	
Mains cable, SCHUKO/UTE SCHUKO/UTE plug, IEC 60320 socket, 2.5 m, 1 piece	62150-191
Mains cable, BS British Standard plug, IEC 60320 C13 socket, 2.5 m, 1 piece	60103-137
Equipment cable USA USA connector, IEC 60320 female connector, 2 m, 1 piece	60103-141
Mains cable, IEC IEC 60320 C14 plug, IEC 60320 C13 socket, 2.5 m, 1 piece	60197-053
Table stand for embedded COM system 1 piece	
Wall mount set for embedded COM system 1 piece	
Vesa mount for embedded COM system 1 piece	
Postcode module 1 piece	
Prototype module 1 piece	
Ethernet module 1 x GbE, 1 piece	
LVDS module 1 piece	

Systems – embedded COM systems

EMBEDDED SYSTEMS, COME TYPE 6

TECHNICAL DATA

Order No.	21265-010	21265-020
Enclosure: Width x height x depth	250 mm x 44.45 mm (without heat sink) x 250 mm	250 mm x 44.45 mm (without heat sink) x 250 mm
Cooling	Fanless, heat sink - mid size	Fanless, heat sink - large
Input voltage	18 to 26.4 V _{DC}	18 to 26.4 V _{DC}
Hard-drive mount	1 x 2.5"	1 x 2.5"
Hard drive	120 GB S-ATA SSD	120 GB S-ATA SSD
COM module	Type 6 Compact module with Intel® Celeron® 3955U dual core processor; 4 GB DDR4-SODIMM-2400	Type 6 Basic module with Intel® Core™ i7-6820EQ quad core processor; 8 GB DDR4-SODIMM-24000
Internal interfaces	PCIe x4 slots: 1 (PCIe Gen 3) mPCIe slots: 1 (PCIe Gen 3) mPCIe / mSATA slots: 1 (PCIe Gen 3, S-ATA 3.0) S-ATA connector: 3 (S-ATA 3.0) Memory card slot: 1 (MicroSD) SIMM slot: 2 (Micro SIMM) Serial port: 2 Parallel port: 1 PS/2 mouse and keyboard connector: 1 Speaker: 1 LVDS module adapter: 1 Fieldbus module connector: 1 Interface for POST code display: 1 Prototype board interface: 0 XMC module slots: 0 XMC I/O signal header: 0	PCIe x4 slots: 1 (PCIe Gen 3) mPCIe slots: 1 (PCIe Gen 3) mPCIe / mSATA slots: 1 (PCIe Gen 3, S-ATA 3.0) S-ATA connector: 3 (S-ATA 3.0) Memory card slot: 1 (MicroSD) SIMM slot: 2 (Micro SIMM) Serial port: 2 Parallel port: 1 PS/2 mouse and keyboard connector: 1 Speaker: 1 LVDS module adapter: 1 Fieldbus module connector: 1 Interface for POST code display: 1 Prototype board interface: 0 XMC module slots: 0 XMC I/O signal header: 0
External interfaces	Front: DisplayPort: 2 (DP 1.1 and DP 1.2) DVI: 1 (DVI-D) USB: 4 (USB 3.0) Audio: 1 (HD Audio, S/PDIF Optical) Ethernet: 1 (10/100/1000 Mbps) Rear side: VGA: 1 Serial port: 1 (DSUB9) Power supply: 1 (18 to 26.4 V _{DC})	Front: DisplayPort: 2 (DP 1.1 and DP 1.2) DVI: 1 (DVI-D) USB: 4 (USB 3.0) Audio: 1 (HD Audio, S/PDIF Optical) Ethernet: 1 (10/100/1000 Mbps) Rear side: VGA: 1 Serial port: 1 (DSUB9) Power supply: 1 (18 to 26.4 V _{DC})

NOTE

- Other configurations available on request

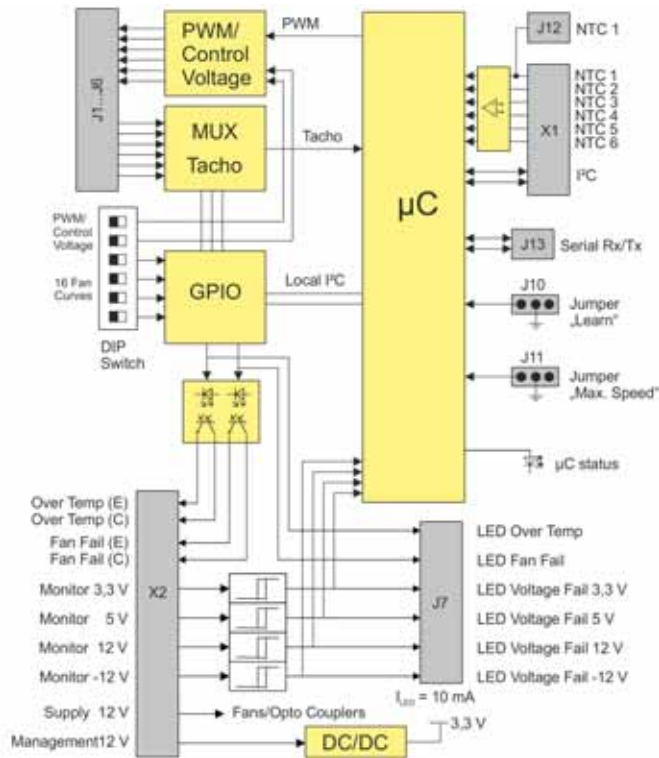
Systems – Accessories

FAN CONTROL MODULE (FCM2)



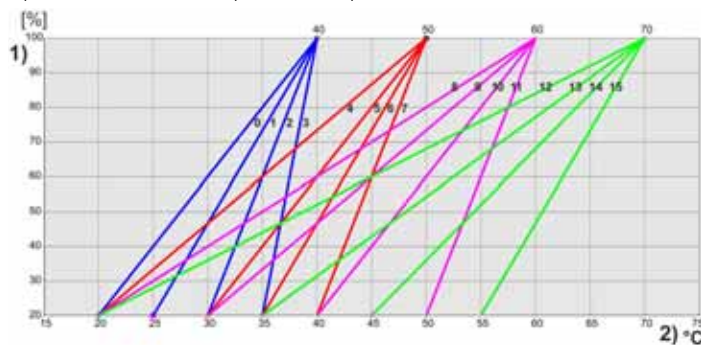
FCM with straight connector 12102002 FCM with angled connector 12109001

Block diagram inputs and outputs



09802052

Speed characteristics inputs and outputs



09802053

- 1) Pulse-width modulation;
 - 2) temperature;
- 0 ... 15 Setting with 4 bit DIP switches

- The fan control module (FCM2) is a standalone fan controller for 12 V fans
- Up to 6 fans can be monitored and controlled
- Signal monitoring of up to 6 temperature sensors
- Monitoring of 3.3 V, 5 V, 12 V and -12 V voltages
- FCM2 supply voltage: 12 V
- Can control status LEDs for Over Temp, Fan Fail, 3.3 V, 5 V, 12 V and -12 V
- In case of overheating or the failure of a fan, the other fans can be set to full speed
- Status information can be queried via a I²C interface
- Suitable for a 4 wire fan with PWM or control voltage input
- With straight or angled connector plug

DELIVERY INCLUDES

Item	Qty.	Description
1	1	Fan control module (FCM2), width 40 mm, depth 119 mm, height 15 mm

ORDER INFORMATION

Description	Height mm	Width mm	Depth mm	Part no.
Connector plug, straight	15	40	119	23207-160
Connector plug, angled (90°), for mounting on pull-out Schroff fan unit	15	40	119	23207-162

Accessories

Temperature sensor for FCM2 Cable length 400 mm, with insulation displacement connector suitable for J12 on FCM2, 1 piece	23204-882
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Systems – Accessories

CHASSIS MONITORING MODULE (CMM)



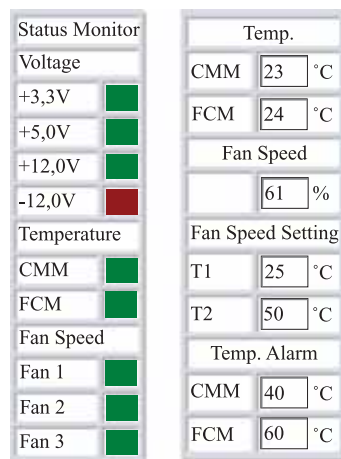
- Monitoring of voltages, temperatures and digital inputs
- Communication and remote control via RS 232 or Ethernet interface (10BaseT)
- Inputs and outputs for VME specific and CPCI specific signals, further digital and LED outputs
- Data bus for communication with the Schroff Fan Control Module (FCM)
- Pluggable in 3 U euroboard format

DELIVERY COMPRISES

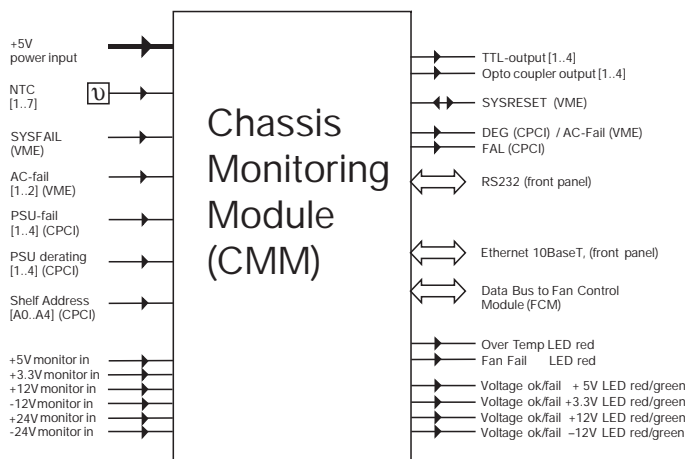
Item	Qty	Description
1	1	Chassis monitoring module (CMM), height 3 U, depth 160 mm, width 4 HP, front panel fitted

ORDER INFORMATION

Description	Height U	Depth mm	Part no.
Chassis monitoring module (CMM)	3	160	23207-022



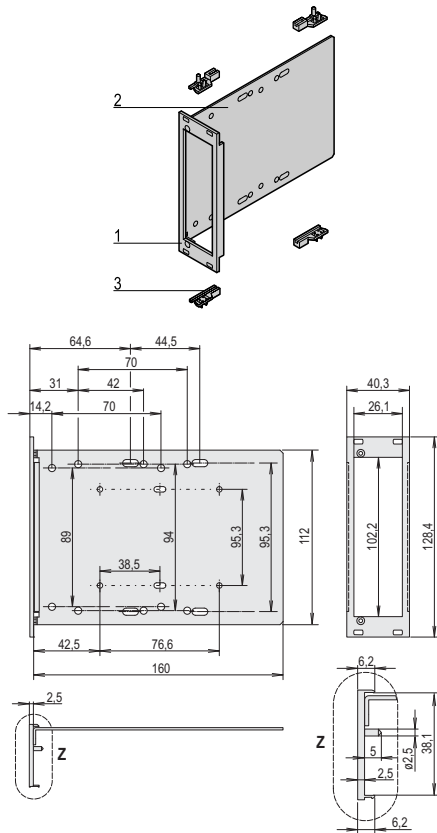
Status display via web browser



Block diagram inputs and outputs

Systems – Accessories

MODULE TO MOUNT DRIVE UNIT, WITH FRONT PANEL, U PROFILE, SHIELDED 1 × 3 1/2", 3 U VERTICAL



04902051

KAA44883

DELIVERY COMPRISES (kit)

Item	Qty	Description
1	1	U profile front panel with drive unit cut-out, Al, 2.5 mm, front anodised, rear colourless chromated, 2 alignment pins, stainless steel, pressed-in
2	1	Side panel, plug-in version, Al, 1.5 mm, chromated
3	4	Guide rail, PBT UL 94 V-0, red
4	1	Assembly kit

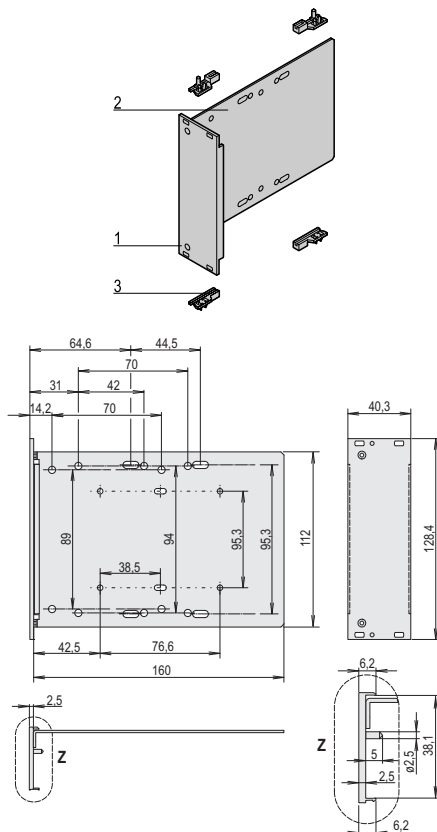
ORDER INFORMATION

Front panel dimensions	Part no.
Height	Width
U	HP
3	8
	24579-042

NOTE

- Suitable for europacPRO, ratiopacPRO, CompactPCI, VMEbus and VME64xbus only
- Covers for drive unit cut-outs see page 8.110

MODULE TO MOUNT DRIVE UNIT, WITH FRONT PANEL, U PROFILE, SHIELDED HD 1 × 3 1/2", 3 U VERTICAL



04902052

KAA44897

DELIVERY COMPRISES (kit)

Item	Qty	Description
1	1	U profile front panel, Al, 2.5 mm, front anodised, rear iridescent green chromated; 2 alignment pins, stainless steel, pressed-in
2	1	Side panel, plug-in version, Al, 1.5 mm, chromated
3	4	Guide rail, PBT UL 94 V-0, red
4	1	Assembly kit

ORDER INFORMATION

Front panel dimensions	Part no.
Height H	Width B
U	HP
3	8
	24579-043

NOTE

- Suitable for europacPRO, ratiopacPRO, CompactPCI, VMEbus and VME64xbus only
- Covers for drive unit cut-outs see page 8.110

MODULE TO MOUNT DRIVE UNIT, WITH FRONT PANEL, U PROFILE, SHIELDED, 1 X 5 1/4", HD 1 X 2.5", 6 U VERTICAL



Item	Qty	Description
1	1	U profile front panel with drive unit cut-out, Al, 2.5 mm, front anodised, rear iridescent green chromated
2	1	Side panel, plug-in version, Al, 1.5 mm, passivated
3	4	Guide rail, PBT, UL 94 V-0, red
4	1	Assembly kit

Front panel dimensions		Part no.
Height U	Width HP	
6	12	24579-074

- Suitable for europacPRO, ratiopacPRO, CompactPCI, VMEbus and VME64xbus only
- Covers for drive unit cut-outs see page 8.110

04906050

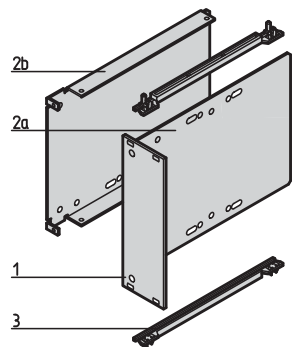
Item	Qty	Description
1	1	U profile front panel, 6 U, 4 HP, with drive unit cut-out, Al, 2.5 mm, front anodised, rear iridescent green chromated
2	1	Side panel, plug-in version, Al, 1.5 mm, passivated
3	4	Guide rail, PBT, UL 94 V-0, red
4	1	Assembly kit

Front panel dimensions		Part no.
Height U	Width HP	
6	4	24579-230

- Suitable for europacPRO, ratiopacPRO, CompactPCI, VMEbus and VME64xbus only
- Covers for drive unit cut-outs see page 8.110

Systems – Accessories

MODULE TO MOUNT DRIVE UNIT HD 1 X 3 1/2", 3 U VERTICAL



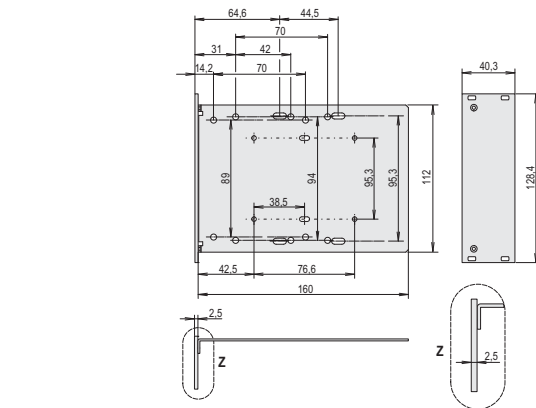
DELIVERY COMPRISES (kit)

Item	Qty	Description
1	1	Front panel, Al, 2.5 mm, front anodised, rear iridescent green chromated
2a	2	Side panel, plug-in version, Al, 1.5 mm, passivated
2b	2	Side panel, screw-fixed version, Al, 2.0 mm, passivated
3	2	Guide rail, PPE, UL 94 V-0, black; only for plug-in version
4	1	Assembly kit

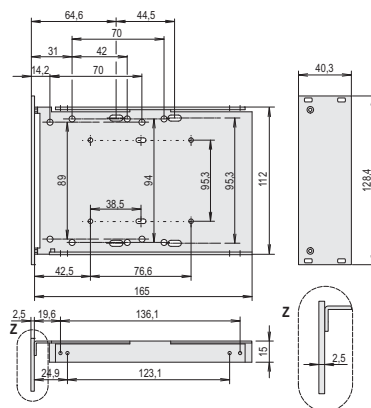
ORDER INFORMATION

Front panel dimensions		Plug-in version	Screw-fixed version
Height	Width		
U	HP	Part no.	Part no.
3	8	20810-611	20810-605

- Please order assembly parts for drive units and guide rails for europacPRO and ratiopacPRO separately, see chapter Subracks - europacPRO
- Covers for drive unit cut-outs see page 8.110

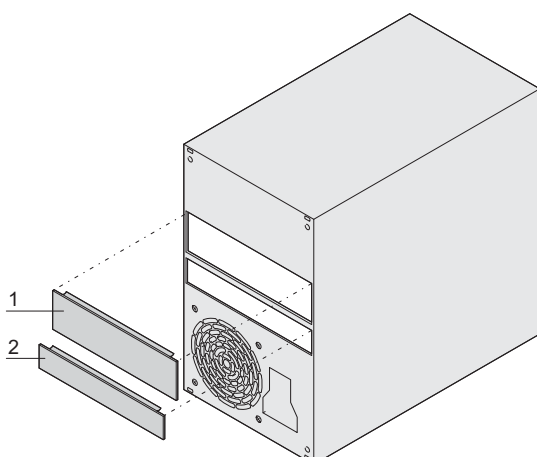


Plug-in version



Screw-fixed version

COVERS FOR DRIVE UNIT CUT-OUTS



- Front panel is clipped into drive unit cut-out with clamping device

DELIVERY COMPRISES (assembled)

Item	Qty	Description
1	1	Front panel, Al, 2 mm, anodised
2	1	Clamping device to clip-on, stainless steel

ORDER INFORMATION

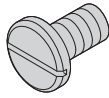
Item	Description	Part no.
1	Cover for 5.25" (CD/DVD)	24496-120
2	Cover for Slim Line drive (CD/DVD)	24496-122

NOTE

- Covers for 3.5" drive units available on request

Systems – Accessories

SCREWS FOR DRIVE UNITS

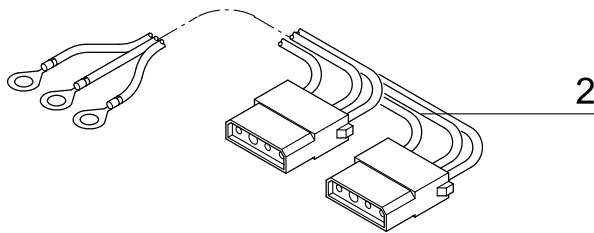


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ORDER INFORMATION

Description	Qty/PU	Part no.
Slotted flathead screws, M 3 x 6	100	21100-711
Pozidrive flathead screws, M 4 x 6	100	21100-574
Slotted flathead screw, 6-32 UNC x 6	100	21100-712

CABLE FOR DRIVE UNIT



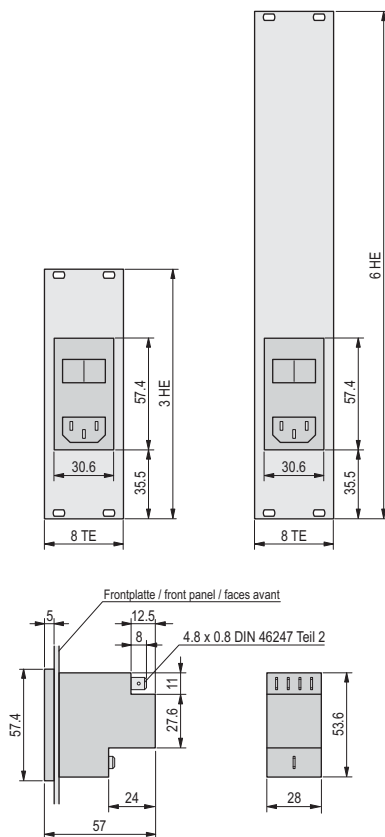
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- The cable connects commercially available drive units with the power supply

ORDER INFORMATION

Item	Description	Qty/PU	Part no.
2	Drive unit cable for 2 x 5 1/4", ring tag Ø M4, length 560 mm, connector AMP/Tyco 1-171822-4	1	20835-188

AC INPUT MODULE WITH FILTER



12303050

- Front panel (U front panel) for shielding with EMC textile gasket
- Voltage 110 V_{AC} ... 250 V_{AC}, 50 Hz ... 60 Hz
- Max. current 10 A at 40°C

DELIVERY COMPRISES

Item	Qty	Description
1	1	U front panel, 2.5 mm, front anodised, rear colourless chromated

ORDER INFORMATION

Height H	Width B	Part no.
U	HP	
3	8	24579-058
6	8	24579-059
Textile EMC seals 3 U, PU 10 pieces		21101-853
Textile EMC seals 3 U, PU 100 pieces		21101-854
Textile EMC seals 6 U, PU 10 pieces		21101-855
Textile EMC seals 6 U, PU 100 pieces		21101-856

NOTE

- EMC profile seals are required to shield the front panels

Systems – ServicePLUS

APPLICATION EXAMPLES



- Hybrid system, modification of a MicroTCA single-module board cage into a 3 U chassis to DIN EN 60297 ¹²⁹⁰⁸⁰⁰⁷



- MicroTCA system, 1 U for 6 single mid-size AMC modules; power supply, increased air inlet and exhaust area with inwardly curved side panels ¹²⁹⁰⁸⁰⁰⁵



- MicroTCA chassis with hot-swap fan unit and power supply ¹²⁹⁰⁹⁰⁰¹



- CompactPCI chassis with hot-swap fan unit and custom finishing ¹²³⁰⁹⁰⁰²



- CompactPCI chassis with 48 V_{DC} power supply ¹²³⁰⁹⁰⁰¹



- 2 slot, 2 U AdvancedTCA chassis with custom colour ¹²⁷⁰⁹⁰⁰³

Systems – ServicePLUS