



CONNECT AND PROTECT

AdvancedTCA

  
nvent

SCHROFF

# Systems – AdvancedTCA

## OVERVIEW

### MAIN KATALOG

- Cabinets . . . . . 1
- Wall mounted cases . . . . . 2
- Accessories for cabinets and wall mounted cases . . . . . 3
- Climate control . . . . . 4
- Electronics cases . . . . . 5
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12707010

### EVERYTHING A SYSTEM NEEDS

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

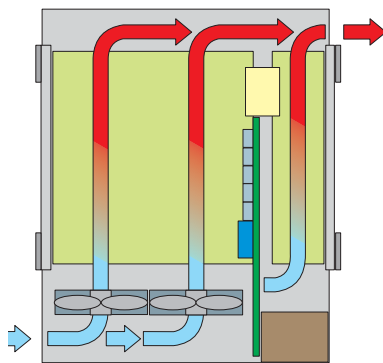
We offer everything on the basis of the AdvancedTCA specification that you have come to expect from a Schroff complete system

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:

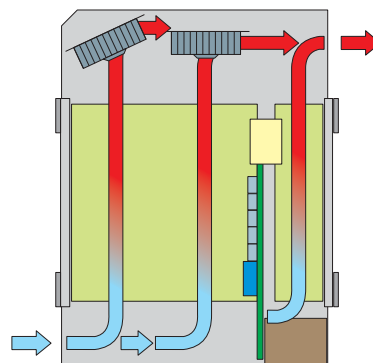
- Dimensions from 2 to 14 U
- 2 to 16 slot installations
- Cooling concepts (push, pull, push-pull)
- Backplane topologies (dual star, full mesh)
- Shelf manager based on Pigeon Point technology



12706053

### PUSH COOLING

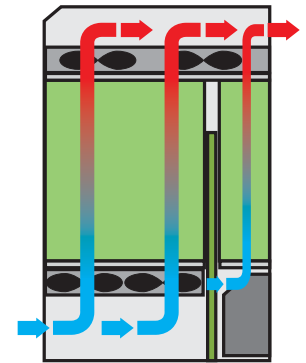
The fans are situated near the air inlet and push the air through the system.



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
13 U, 14 slot	8.5
3 U, 2 slot, 84 HP	8.8
14 U, 14 slot, next generation	8.7
14 U, 14 slot, ECO, 84 HP	8.8

Accessories .... 8.10

Field replaceable units (FRUs) .... 8.19

# Systems – AdvancedTCA

## ADVANCEDTCA 300/40 SERIES, 6 SLOT, DC

- 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<sub>DC</sub>/ -60 V<sub>DC</sub> 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



Front view

12710001



### 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 <sub>DC</sub> / -60 V <sub>DC</sub> 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)



Accessories: optional shelf manager

12708006



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

#### 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)	<b>21596-077</b>
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<sub>DC</sub>/ -60 V<sub>DC</sub> 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 <sub>DC</sub> / -60 V <sub>DC</sub> , 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 <sup>3</sup> /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	<b>21596-300</b>
Shelf manager (radial) 1 piece - page 8.19	<b>21596-301</b>
Cable RJ 45 Cat 5 plug - D-Sub plug, 9-pin, length 2 m, 1 piece; page 8.19	<b>23204-187</b>
Mounting bracket 13 U RAL 9005, from 19" to 23", PU 1 kit	21596-278
Front panels and handles	Page 8.11
AdvancedMC carriers	<b>Page 8.26</b>

#### 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

- 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<sub>DC</sub>/-60 V<sub>DC</sub>, 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



Front view

12715001



Rear view

12715002

Power connection

12715003

### 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 <sub>DC</sub>	2	3	15x connected fabric interface with node/node configuration, bussed IPMB	<b>11990-800</b>
450 W/slot	from front to rear	40 Gbps	- 48/-60 V <sub>DC</sub>	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 <sub>DC</sub>	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 <sub>DC</sub>	2	3	15x connected fabric interface with hub/hub configuration, radial IPMB	11990-803

### Accessories

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

### 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

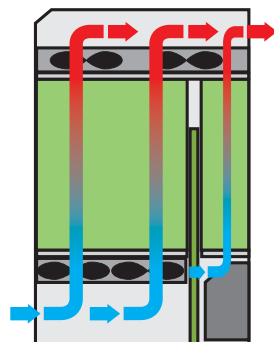
## ADVANCEDTCA 450/40 SERIES CHASSIS, 14 SLOT, DC



Front view



Accessories: optional shelf manager



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12711001

12712050

- 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<sub>DC</sub>/-60 V<sub>DC</sub> 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 <sub>DC</sub> , inserted at rear, with 2 pairs of lines per input
4	1	Fan tray at top with 6 fans, each 565 m <sup>3</sup> /h (336 cfm)
5	1	Fan tray at bottom with 6 fans, each 565 m <sup>3</sup> /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	<b>11990-100</b>
	Dual star, 40 Gbps, radial IPMB	11990-101

#### Accessories

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

#### 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 <sub>DC</sub> /-60 V <sub>DC</sub> , at the rear, with 1 pair of power terminals (2 fuses, 50 A each)
3b	1	450 W/slot: Redundant power connection, -48 V <sub>DC</sub> /-60 V <sub>DC</sub> , 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

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Accessories: optional shelf manager



Open Modular  
Computing Specifications

### 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 <sub>DC</sub>	14	14	Dual star, bussed IPMB	<b>11990-900</b>
450 W/slot	450 W/slot, redundant	from front to rear	40 Gbps	-48/-60 V <sub>DC</sub>	14	14	Dual-dual star, bussed IPMB	<b>11990-903</b>

### Accessories

Shelf manager, ACB-VI, bussed 1 piece	<b>21990-404</b>
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### NOTE

- Modified systems available on request



# Systems – AdvancedTCA

## ADVANCEDTCA 450/40 FC SERIES, 14 SLOT, DC



Picture shows 11990-190

12718001

- 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<sub>DC</sub>/ -60 V<sub>DC</sub> 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 <sub>DC</sub> , inserted at rear, with 2 pairs of lines per input
4	1	Fan tray at top with 6 fans, each 565 m <sup>3</sup> /h (336 cfm)
5	1	Fan tray at bottom with 6 fans, each 565 m <sup>3</sup> /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



Accessories: optional shelf manager

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### 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 <sub>DC</sub>	14	84	<b>11990-190</b>
From front to rear	383	14	Dual star, 40 Gbps, bussed IPMB	40 Gbps	450 W / slot	- 48/-60 V <sub>DC</sub>	14	84	<b>11990-192</b>

#### Accessories

Shelf manager, ACB-VI, bussed 1 piece									<b>21990-404</b>
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									<b>21591-099</b>
AdvancedTCA air deflector Front panel, 8 U, 6 HP, stainless steel, incl. air baffle (280 mm deep) with mesh gasketing, 1 piece									<b>21591-079</b>
AdvancedTCA air deflector Front panel, 8 U, 6 HP, Al extrusion, incl. air baffle (280 mm deep) with mesh gasketing, 1 piece									<b>21596-008</b>
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									<b>21591-107</b>
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									<b>23204-187</b>

### NOTE

- Modified systems available on request

# Systems – AdvancedTCA

## ACCESSORIES OVERVIEW

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- 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

- 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)	<b>20818-160</b>
8	6	Stainless steel, with AdvancedTCA IEA handle (lever type)	<b>20818-161</b>
8	6	Al extrusion, 1 mm, with AdvancedTCA IEA handle (plunger style)	<b>20818-169</b>
8	6	Al extrusion, 1 mm, with AdvancedTCA IEA handle (lever style)	<b>20818-170</b>

### 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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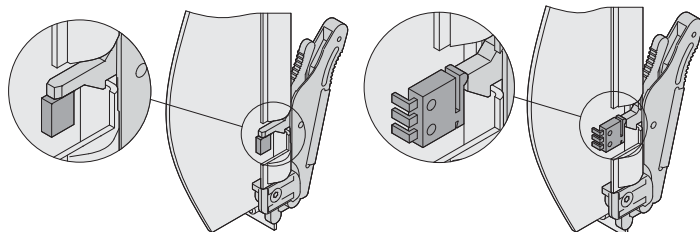


AdvancedTCA spring-loaded IEA handle

12707017

### 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	<b>20818-163</b>	–	<b>31596-791</b>	<b>31596-899</b>	21596-376	20818-140
Lever style	–	<b>20818-164</b>	<b>31596-792</b>	<b>31596-900</b>	21596-376	20818-140

#### NOTE

- Intuitive Ergonomic Aesthetic = 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))

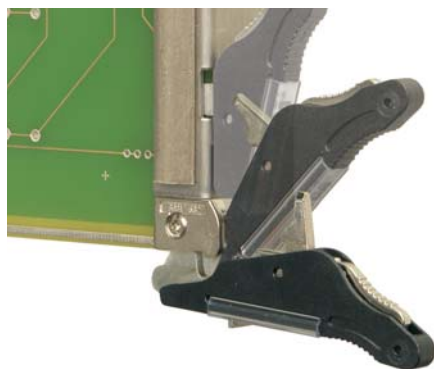
Item	Qty	Description
1	1	Stainless steel or Al extrusion front panel incl. alignment pin and M3 knurled screws
2	1	Lower handle incl. bearing
3	1	Upper handle incl. bearing
4	1	EMC mesh gasket
5	1	Fixing material kit (M2.5 screws incl. thread locking compound)

### 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)	<b>21596-324</b>
8	6	Stainless steel, with AdvancedTCA IEA handle (lever type)	<b>21596-325</b>

### Accessories

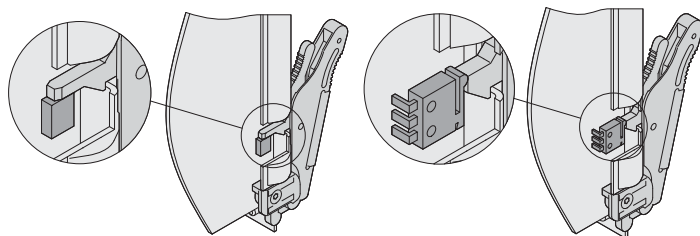
AdvancedTCA handle (IEA) design element Plastic, transparent, to clip on, for customers' logos, UL 94 V-0, PU 10 pcs	20818-140
--	-----------



AdvancedTCA IEA handle

### NOTE

- All 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



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		
 <p>12909002</p>	 <p>12707017</p> <p>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</p>	 <p>12707017</p> <p>Pre-fitted handle with microswitch activation; when open, the handle must be held in open position</p>	 <p>12705059</p> <p>Stainless steel, 1 mm, 8 U, 6 HP</p>	 <p>12708050</p> <p>Al extrusion, 2.5 mm, 8 U, 6 HP</p>	 <p>12712051</p> <p>PET triangular gasket, height 2.3 mm, conductive coating CuNi, UL 94 V-0, self-adhesive</p>	 <p>12706024</p> <p>Plastic, transparent, clips in, UL 94 V-0</p>
	PU 10 pieces	PU 10 pieces	1 piece	1 piece	PU 10 pieces	PU 10 pieces
Plunger style, upper	<b>20818-145</b>	<b>20818-121</b>	<b>31591-422</b>	<b>31596-575</b>	21596-376	20818-140
Plunger style, lower	<b>20818-146</b>	<b>20818-122</b>	<b>31591-422</b>	<b>31596-575</b>	21596-376	20818-140
Lever style, upper	<b>20818-147</b>	<b>20818-123</b>	<b>31596-423</b>	<b>31596-576</b>	21596-376	20818-140
Lever style, lower	<b>20818-148</b>	<b>20818-124</b>	<b>31596-423</b>	<b>31596-576</b>	21596-376	20818-140

### NOTE

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

# Systems – AdvancedTCA

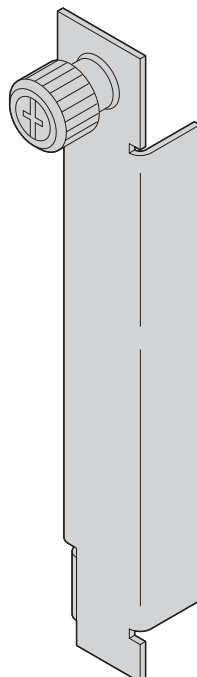
## FRONT PANEL WITH INTEGRATED SIDE TWO COVER



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

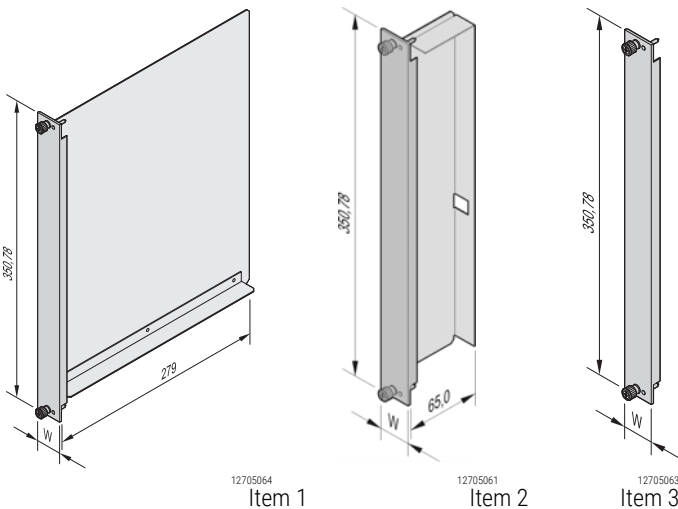
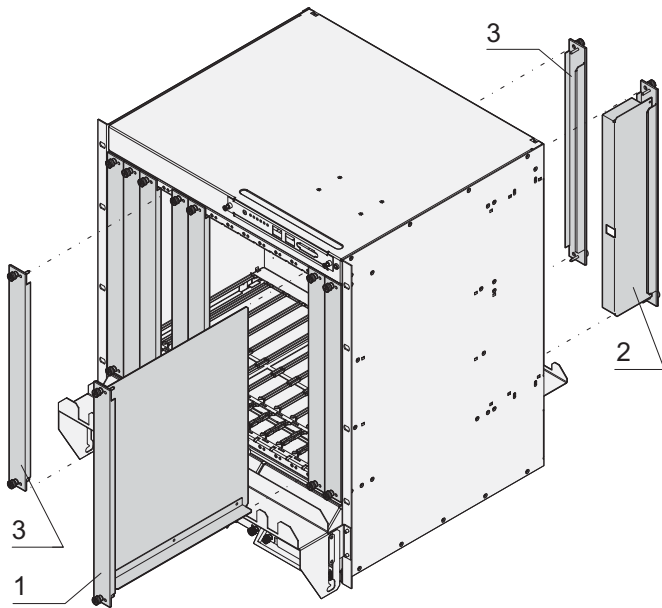
Item	Qty	Description
1	1	Front panel, St, stainless, height 99.32 mm, width 15.22 mm, including EMC sealing
2	1	Knurled screw

### 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	<b>21596-008</b>
1	8	6	280	28.95	Front panel, stainless steel, incl. air baffle with mesh gasket	<b>21591-079</b>
2	8	6	70	30.14	Front panel, Al extrusion, for rear I/O area, incl. air baffle, with mesh gasket	<b>21591-107</b>
2	8	6	70	28.95	Front panel, stainless steel, for rear I/O area, incl. air baffle with mesh gasket	<b>21591-099</b>

#### AdvancedTCA filler panel

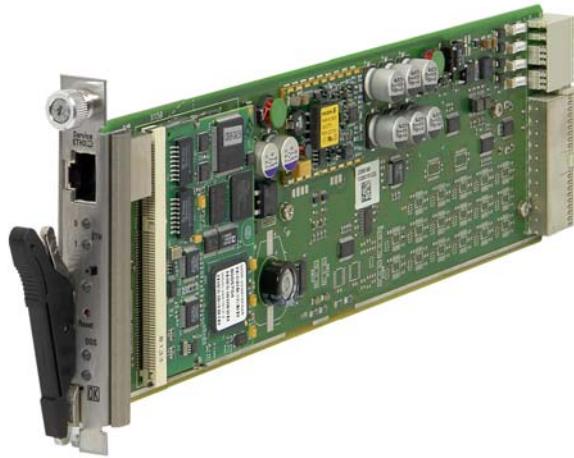
Item	Height U	Width HP	Depth mm	W mm	Description	Part no.
3	8	6	-	30.14	Al extrusion, front panel with mesh gasket	<b>21591-104</b>
3	8	6	-	28.95	Front panel, stainless steel, with mesh gasket	<b>21591-097</b>

### NOTE

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

# Systems – AdvancedTCA

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



12708006

- 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	<b>21596-300</b>
ACB-V	500	radial	<b>21596-301</b>
ACB-VI	700	bussed	<b>21990-404</b>
ACB-VI	700	radial	<b>21990-405</b>

### 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	<b>23204-187</b>
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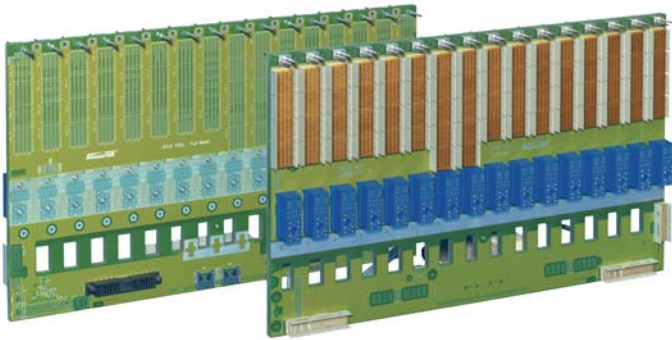


12706021

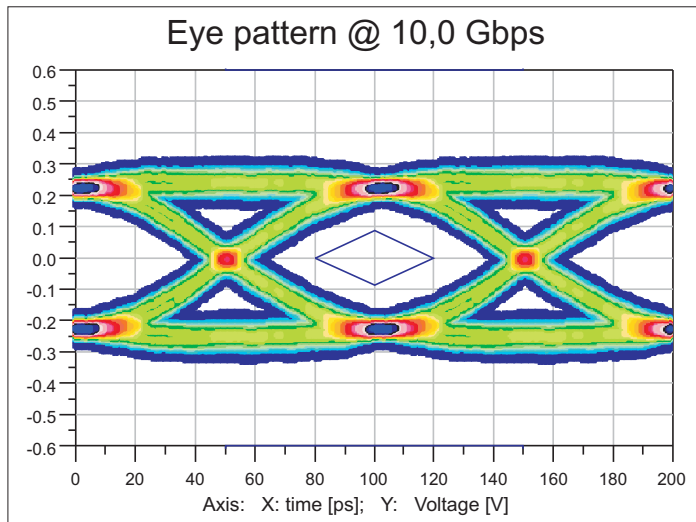
Cable for the serial console of the shelf manager via the SAP

# Systems – AdvancedTCA

## BACKPLANE



12606003



12707058

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
  - I<sup>2</sup>C bus for internal monitoring
  - Outstanding eye pattern of up to 10 Gbps per differential pair (40G backplane)



# 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<sub>DC</sub>/60 V<sub>DC</sub>
- Plugged-in at rear of chassis
- For 2 pairs of lines each (RTN and -48 V<sub>DC</sub>/-60 V<sub>DC</sub>) 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<sub>DC</sub>/60 V<sub>DC</sub>
- Plugged-in at rear of chassis
- For 4 pairs of lines each (RTN and -48 V<sub>DC</sub>/-60 V<sub>DC</sub>) 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<sub>DC</sub>/60 V<sub>DC</sub>
- Plugged-in at rear of chassis
- For 4 pairs of lines each (RTN and -48 V<sub>DC</sub>/60 V<sub>DC</sub>) 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<sub>DC</sub>/60 V<sub>DC</sub>
- Plugged-in at rear of chassis
- For 2 pairs of lines each (RTN and -48 V<sub>DC</sub>/60 V<sub>DC</sub>) 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
<b>Accessories</b>		
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 m<sup>3</sup>/h = 195 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 m<sup>3</sup>/h = 175 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 m<sup>3</sup>/h = 64,4 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 m<sup>3</sup>/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 m<sup>3</sup>/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

Photo shows air filter of 14 slot system

- 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

# 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



Illustration shows chassis data module 21596-023

12706014

- SEEPROM 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

# Systems – ServicePLUS

## APPLICATION EXAMPLES

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



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



- MicroTCA chassis with hot-swap fan unit and power supply <sup>12909001</sup>



- CompactPCI chassis with hot-swap fan unit and custom finishing <sup>12309002</sup>



- CompactPCI chassis with 48 V<sub>DC</sub> power supply <sup>12309001</sup>



- 2 slot, 2 U AdvancedTCA chassis with custom colour <sup>12709003</sup>

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