

CONNECT AND PROTECT

MicroTCA



SCHROFF

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

- 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

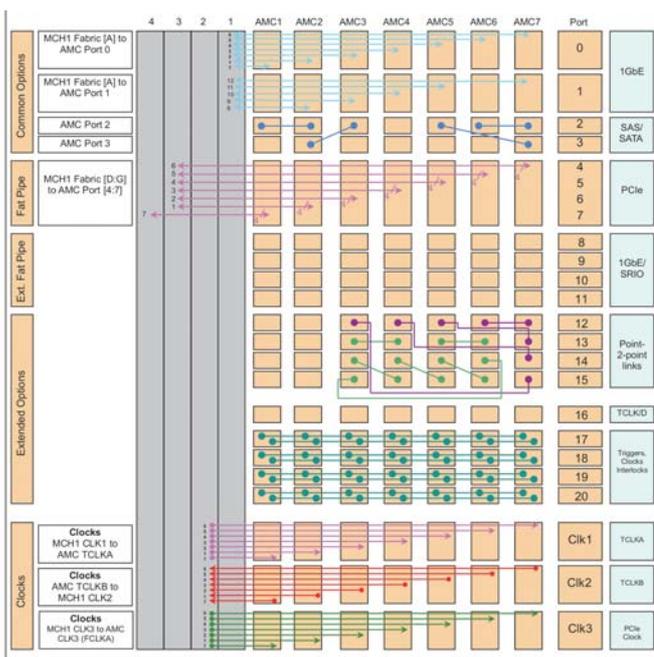
AC/DC, double full-size, with power management (PM EMMC) 550 W, 1 piece	11098-547
Splitting kit PU 5 pieces	20849-115
PFM, single full-size 12 V _{DC} input, 40 A, with PM EMMC, non-redundant, with reverse polarity and overvoltage protection, 1 piece	21596-571
PFM, single full-size 12 V _{DC} input, 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



Backplane topology

12912052

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 topology, 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

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)

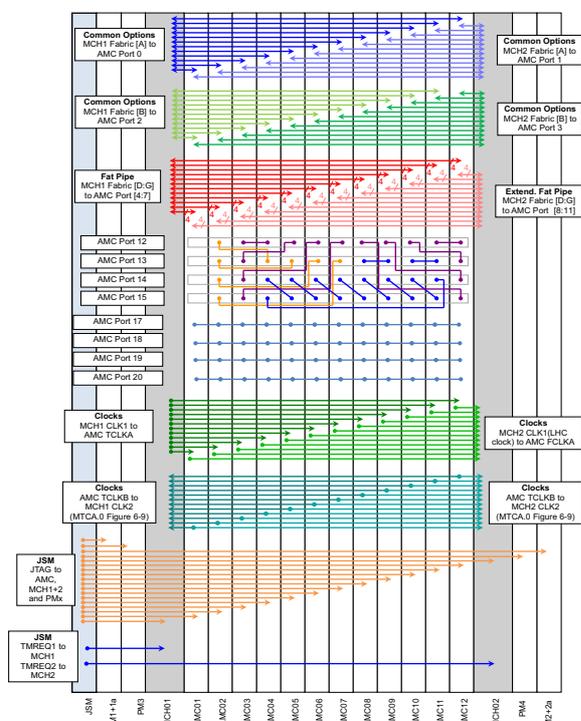
Item	Qty	Description
1	1	MicroTCA system, 7 and/or 9 U, 84 HP, 373.3 mm deep, zinc-plated
2	12	AdvancedMC module slots, double full-size, with guide rail, for vertical board mounting
3	6	RTM module slots, double full-size, with guide rail, for vertical board mounting
4	4/2	Power module slots, single 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



12916050

CMS backplane topology



Systems – MicroTCA

MICROTCA.1 SYSTEMS, CUBE, 5 U, 42 HP, FOR 6 DOUBLE ADVANCEDMC MODULES

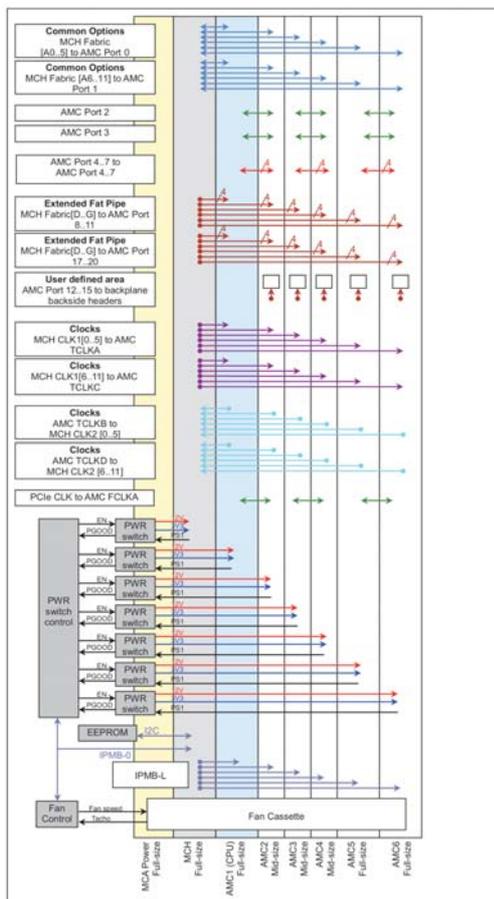


- In accordance with PICMG MTCA.1 R1.0 specification
- 5 U, 42 HP cube system for 3 double mid-size, 3 double full-size AdvancedMC modules, 1 double full-size MCH and 1 double full-size PSU slot
- Backplane with star topology, direct connections for S-ATA/SAS
- Clock topology to PICMG AMC.0 R2.0
- Hot-swap fan module with cooling unit manager (CU EMMC), airflow from bottom to top
- Air filter, exchangeable from front
- Pluggable 300 W PSU with AC mains input in double full-size format, MicroTCA power management (PM EMMC) on backplane

DELIVERY COMPRISES

Item	Qty	Description
1	1	MicroTCA cube, 5 U, 42 HP, 216.5 mm deep, zinc-plated
2	6	AdvancedMC module slot, with guide rail, for vertical board mounting
3	1	Backplane with star topology for 6 AdvancedMC modules, 1 MCH and 1 PSU
4	1	Hot-swap fan module with cooling unit manager (CU EMMC) and 4 fans
5	1	Air filter, exchangeable from front
6	1	Pluggable PSU, 300 W, double full-size format

12912005



Backplane topology

12912051

ORDER INFORMATION

Height mm	Height U	Width HP	Depth mm	Number of slots	Part no.
222.35	5	42	373	6	11850-020

Accessories

Power module MicroTCA, AC/DC, double full-size, without management 300 W, 1 piece - page 8.51	11098-392
Splitting kit PU 5 pieces	20849-115
AdvancedMC front panels	Page 8.60
AdvancedMC filler panels	Page 8.64
Equipment cables	Page 3.38

Replacement parts (FRUs)

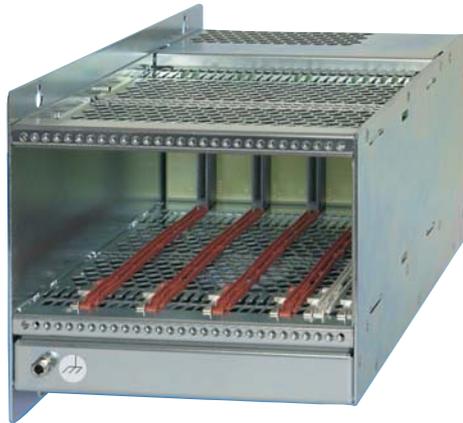
Fan tray (21850-114)	Page 8.57
Air filter (21850-120)	Page 8.53

NOTE

- Modified systems available on request

Systems – MicroTCA

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

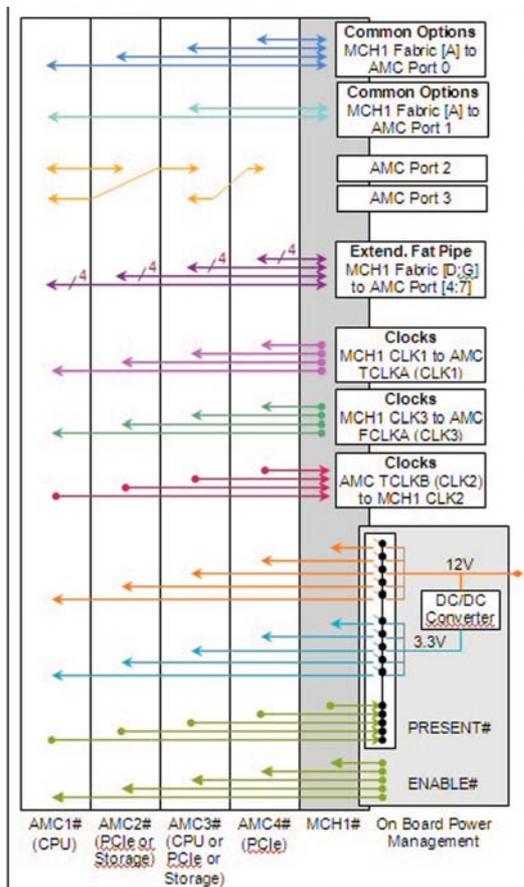


- In accordance with PICMG MTCA.0 R1.0 specification
- Cube systems for wall mounting
4 single full-size AdvancedMC modules and 1 single full-size MCH
- Backplane with star topology, direct connections for S-ATA/SAS
- Clock topology to PICMG AMC.0 R2.0
- Power supply via 250 W open-frame PSU, mains supply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

12907009



12907053

Backplane topology

ORDER INFORMATION

Height	Width	Depth	Number of slots	Part no.
U	HP	mm		
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

Systems – MicroTCA

ADVANCEDMC MINI SYSTEM FOR 2 SINGLE ADVANCEDMC MODULES



- 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)

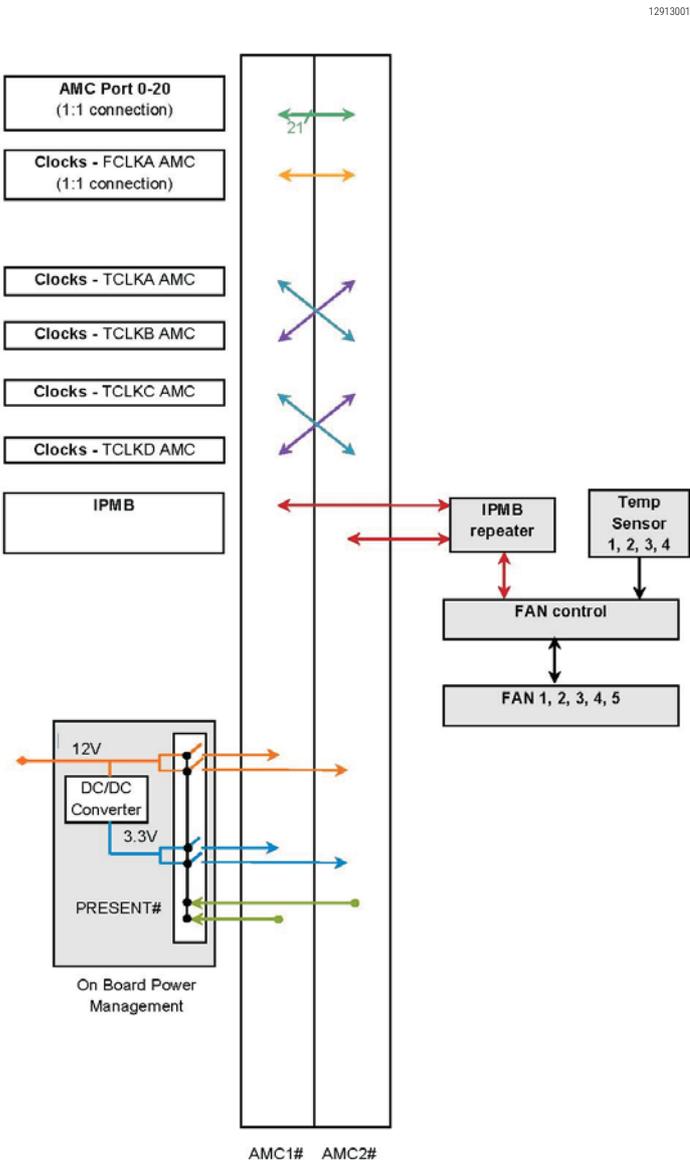
Item	Qty	Description
1	1	Shielded case, St, black RAL 9005, 1 U, 252 mm wide, 302 mm deep, with 2 horizontal slots for single full-size AdvancedMC modules
2	1	Backplane, 2 slot, with fan control and AdvancedMC slot power activation
3	1	AC mains input via 1 IEC 320-C20 AC mains plug, 150 W open frame 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

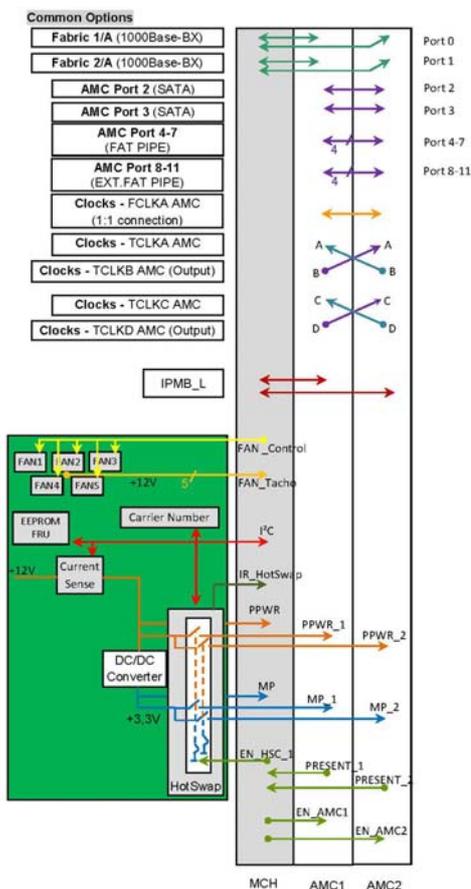
Item	Qty	Description
1	1	Shielded case, St, black RAL 9005, 1 U, 265 mm wide, 302 mm deep, with 2 horizontal slots for single full-size AdvancedMC modules
2	1	Embedded MCH, installed permanently
3	1	Backplane, 2 slot, with fan control and AdvancedMC slot power activation
4	1	AC mains input via 1 IEC 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)



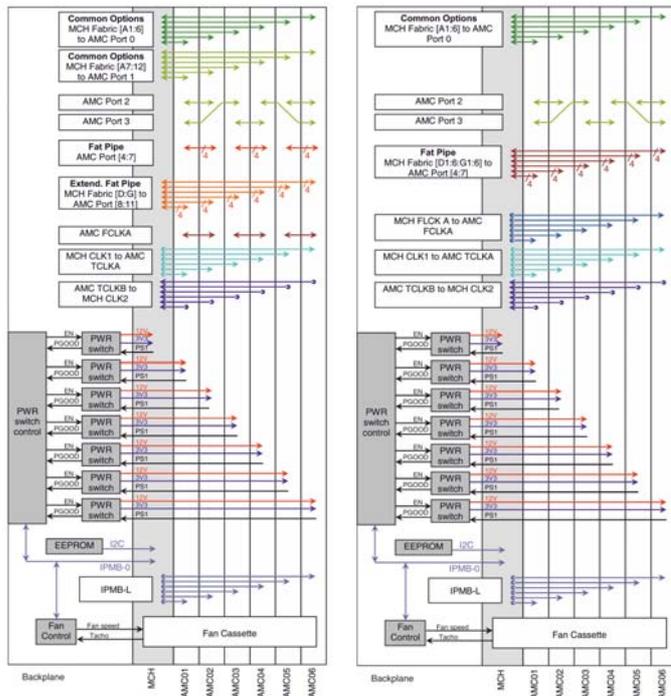
Front view (11850-025)

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-mission 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



Open Modular Computing Specifications

Systems – MicroTCA

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



12908003

- 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

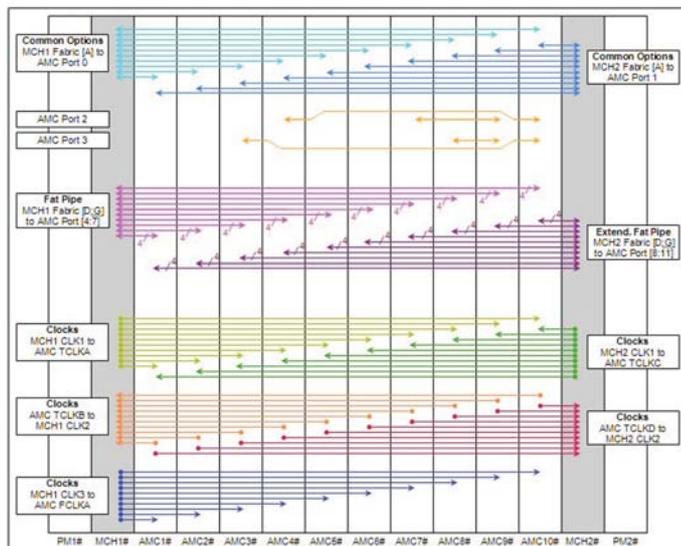
DELIVERY COMPRISES

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



12907050

Slot allocation



12907051

Backplane topology

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

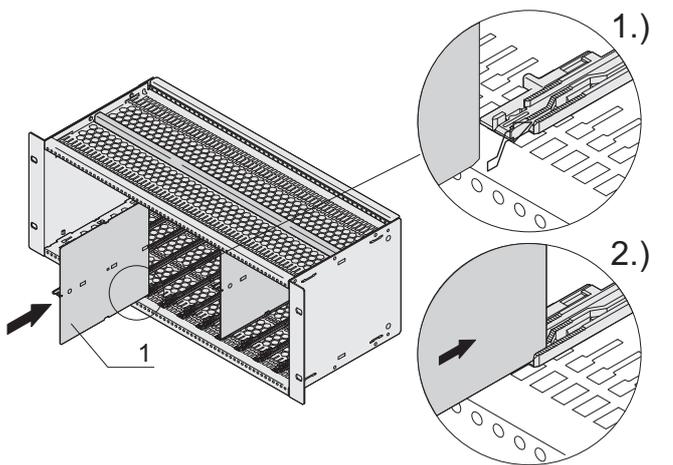
Systems – MicroTCA

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

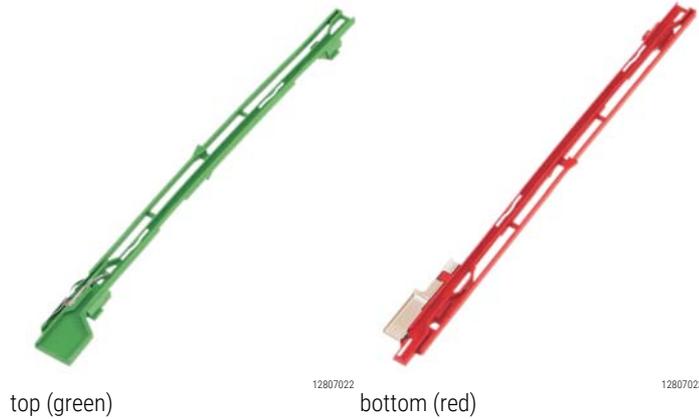
Item	Qty	Description
1	1	Stainless steel, chassis to accommodate a guide rail
2	1	Guide rail, AdvancedMC
3	1	Splitting extrusion, centre
4	1	ESD contact spring
5	1	Fixing material kit, user manual

ORDER INFORMATION

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

Systems – MicroTCA

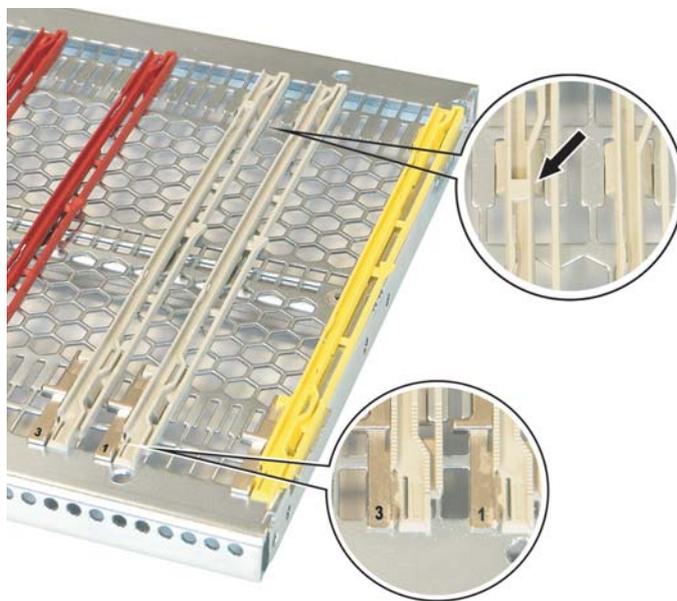
MICROTCA GUIDE RAILS



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

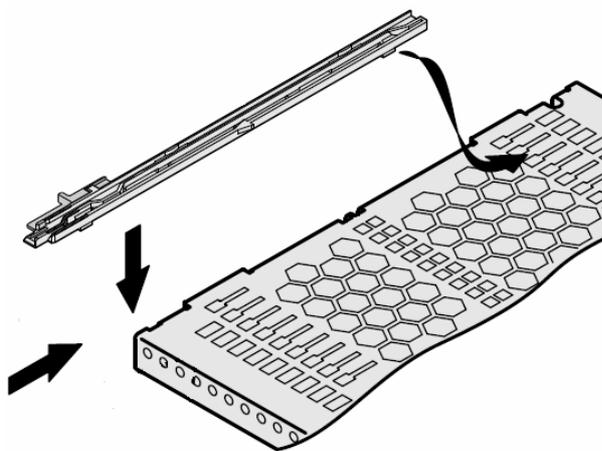
ORDER INFORMATION

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



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

12807011



12807059

Systems – MicroTCA

MICROTCA POWER FEEDER MODULES, SINGLE FULL-SIZE

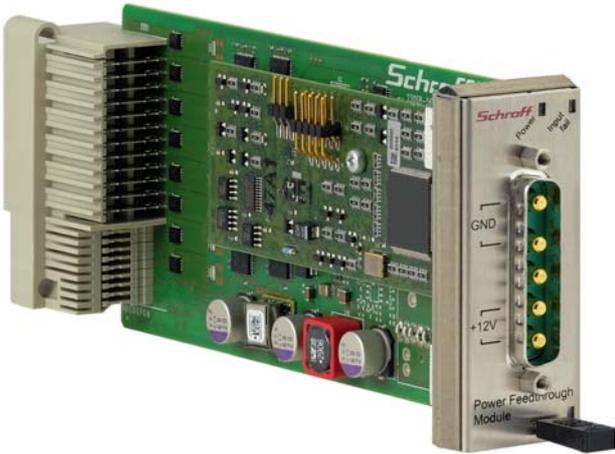


Photo shows 21596-571

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
---	-----------

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	I ₁ : 6.8 I ₂ : 0.18	600	MTCA PSU 600	11098-547

Systems – MicroTCA

AC/DC, DOUBLE FULL-SIZE, WITHOUT MANAGEMENT



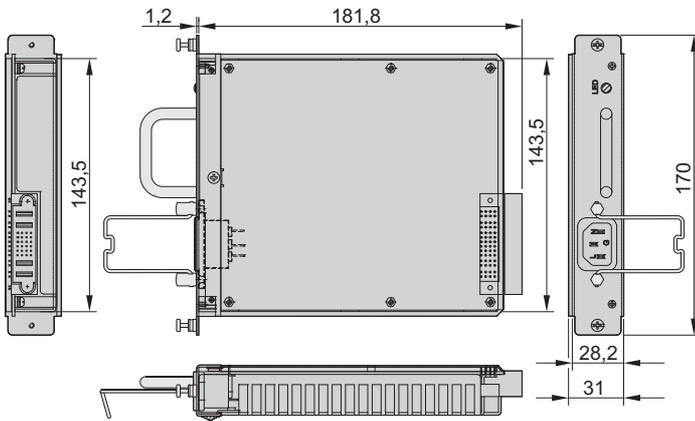
Photo shows 11098-392

11309004

- 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)



11312050

ORDER INFORMATION

Voltage V	Current A	Power W	Description	Part no.
V ₁ : 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

- 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

Photo shows air filter 21850-033

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

North America

Warwick, RI, USA

Tel +1.800.525.4682

San Diego, CA, USA

Tel +1.800.854.7086

Europe, Middle East & India

Straubenhardt, Germany

Tel +49 7082 794 0

Betschdorf, France

Tel +33 3 88 90 64 90

Warsaw, Poland

Tel +48 22 209 98 35

Hemel Hempstead,

Great Britain

Tel +44 1442 24 04 71

Lainate, Italy

Tel +39 02 932 714 1

Dubai, United Arab Emirates

Tel +971 4 37 81 700

Bangalore, India

Tel +91 80 67152000

Istanbul, Turkey

Tel +90 216 250 7374

Asia Pacific

Shanghai, China

Tel +86 21 2412 6943

Singapore

Tel +65 6768 5800

Shin-Yokohama, Japan

Tel +81 45 476 0271

Our powerful portfolio of brands:

CADDY ERICO HOFFMAN RAYCHEM SCHROFF TRACER



[nVent.com/SCHROFF](https://www.nvent.com/SCHROFF)