RackPak/M4-2

2U 19" 6 Slot MicroTCA.4 compliant Chassis

The RackPak/M4-2 MicroTCA® chassis is a 2U 19" rack offering up to 6 AdvancedMC™ double mid-size slots, and up to 4 MTCA.4 compliant RTMs. The RackPak/M4-2 system is the perfect base for small and low cost computer platforms in medical, industrial automation, transportation, military, and telecommunication. It supports high-end computing applications with up to 6 CPU modules as well as I/O intensive configurations. Based on the MicroTCA® and AdvancedMC™ PICMG® standards it is the best solution for long life cycle applications.

The RackPak/SM2 includes an exchangeable cooling unit, which provides air flow either from front-to-right or from left-to-right. For lab environment the left-to-right cooling is recommended, this method allows low noise but high efficient cooling of all precious MTCA cards. The cooling units are field replaceable, depending on the environmental needs.

The system can be equipped with a double full-size 600W AC power supply. Cooling system and PSU are designed for a maximum of 80W power dissipation per slot. The dust filter and the fan cartridge are hot-swappable. An optional DC input power supply is also available.

Features

- 19" rack-mount chassis, 2U height
- 6 AdvancedMC double mid-size slots, up to 4 double mid-size RTM slots
- 1 MCH slot double full-size
- 1 PM slot (rear) double full-size
- MTCA.4 R1.0, AMC.0, AMC.1, AMC.2, AMC.3 compliant
- Full hot-swap support
- Size: 440,0 x 378,0 x 88,9 (mm)
- Rear-I/O for slot 3 to 6 (MTCA.4 compliant)
- Single 600W or 1.000W AC power supply from rear
  DC power supply on request
- Front-to-rear or left-to-right air flow
- Low cost platform

powerBridge
C o m p u t e r

Mechanics

The chassis is made from steel and is self contained, the inner rails are made from V2a steel. The outer chassis is RAL9005 (black) painted, other colours are available upon request (might need NRE or MOQ). The chassis offers a field replaceable cooling unit. Two different cooling concepts are available:
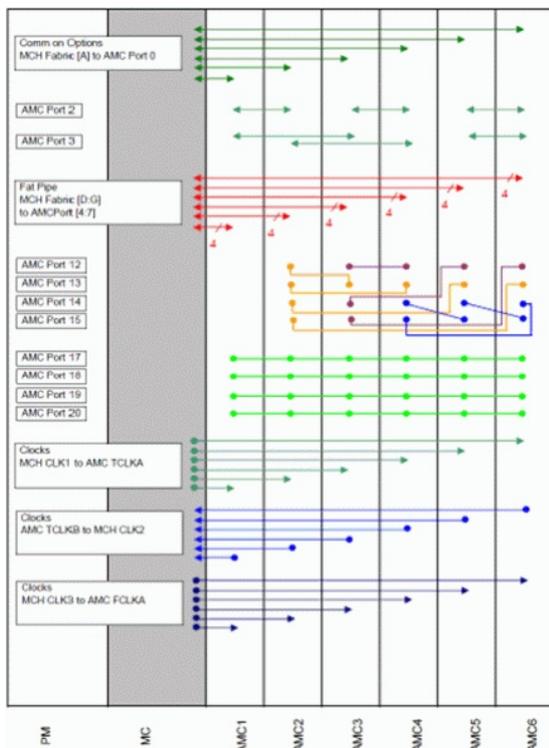
RackPak/M4-2F: Air-In from Front, Air-Out left side.
RackPak/M4-2R: Air-In right side, Air-Out left side

Backplane Diagram

The backplane is fully compliant to MTCA.0 standard. On AMC port 12 to 15, there are local slot-to-slot interconnects, to enable fast direct board to board communication. AMC port 17 to 20 are offering a chain connection between each AMC slot.
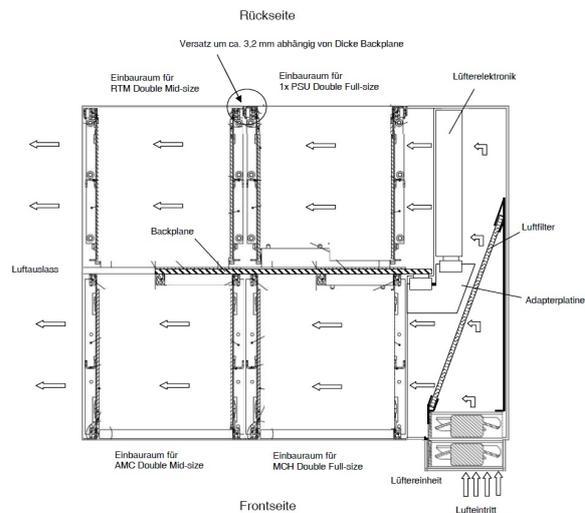
RackPak/M4-2 backplane interconnect

The clock signals of each AMC slot connect to the MCH slot: The backplane do support TCLKA, TCLKB and FCLKA.
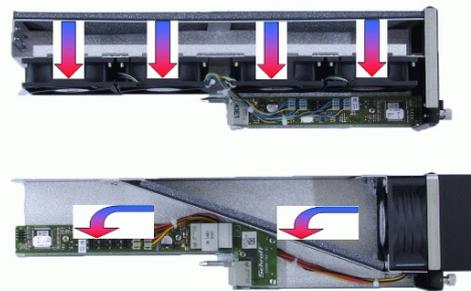
Cooling concept and Air-flow

Two different cooling units enable deployment in different cooling scenarios. The chassis can be used in a front-to-right cooling configuration, while it can be easily converted to left-to-right cooling. Please refer to the ordering information.
Cooling units can also be ordered separately.

RackPak/M4-2 front-to-right air flow.
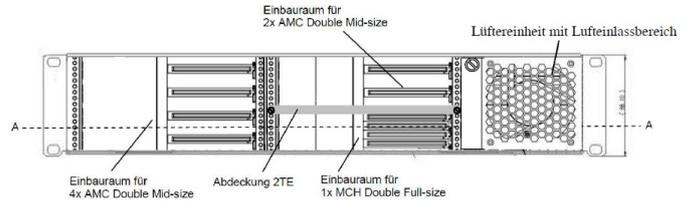The system allows a max. of 80W power dissipation in each slot.
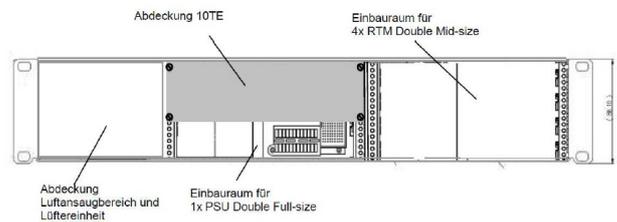

Cooling units

Specifications

Construction	19" rack-mount, 2U height, self-contained top and bottom cover, RAL 9005 painted
Shelf Manager	MTCA compliant MCH module, double full size
Cooling System	1 hot-swap fan cartridge with 2 fans total (front to right) or 3 fans total (right-to-left) air flow, supports up to 80W power dissipation in each slot (50W+30W), dust filter compliant to UL 94HF-1
Backplane	14 layer backplane with integrated power and fan tray connectors, thickness 3,2mm
Power Supply	MTCA compliant power module slot, Power module, AC or DC input, double full-size, 16x 12VDC PP, 16x 3,3VDC MP
Weight	8.0 kg without filler panels
Operating Temp.	-5°C … +50°C
Storage Temp.	-25°C … +85°C
Humidity	up to 95% RH non-condensing
Electromagnetic Compability	System configurations conforming to EN55022 class B
Dimensions	19" x 2U x 378 mm (WxHxD) 440,0 x 88,9 x 378,0 (mm)
Compliance	MicroTCA PIGMG MTCA.0 R1.0, MTCA.4 R1.0, AdvancedMC PIGMG AMC.0 R2.0, AdvancedMC PIGMG AMC.1 R1.0

System Views

Front View

Rear View

Ordering Information

RackPak/M4-2F 2U 19" MTCA.4 chassis, 6 DMS Slots, cooling from front-to-left

RackPak/M4-2R 2U 19" MTCA.4 chassis, 6 DMS Slots, cooling from right-to-left

Starter Kits

MTCA-6P-PH2a 2U 19" MTCA.4 Starter Kit, with cooling from front-to-left consisting of:
NAT-MCH-PHYS, MCH
AM 902/411-52, AMC CPU
NAT-PM-AC600D, 600W PM
Linux installation on 256GB SSD fully integrated and tested

MTCA-6P-PH4d 2U 19" MTCA.4 Starter Kit, with cooling from right-to-left consisting of:
NAT-MCH-PHYS, MCH
AM 902/411-52, AMC CPU
NAT-PM-AC600D, 600W PM
Linux installation on 256GB SSD fully integrated and tested