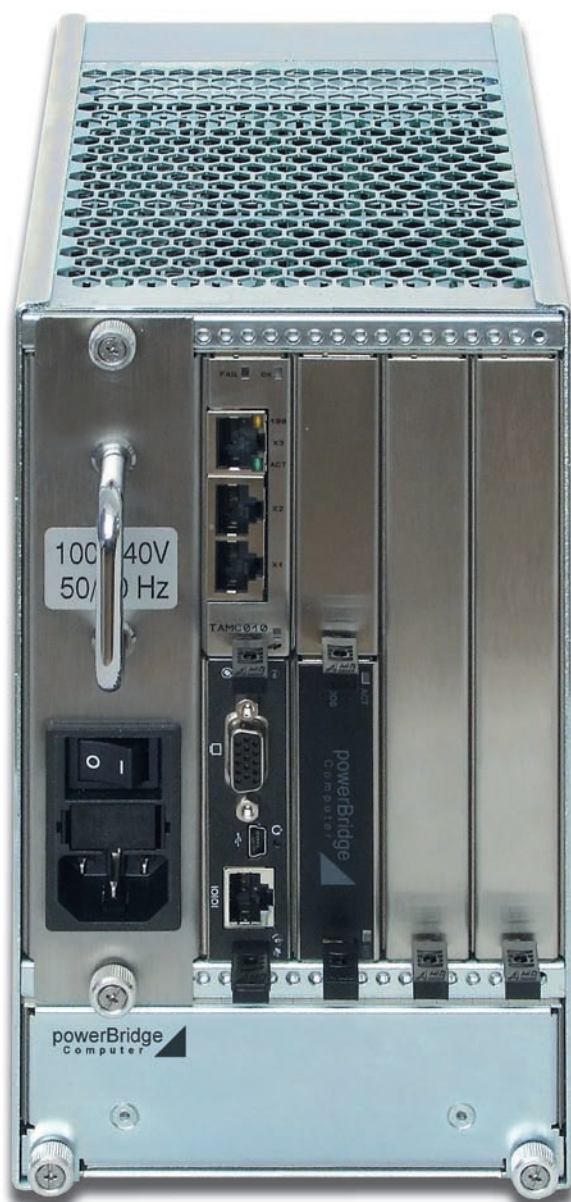


The MicroPak/7 Simple MicroTCA® chassis is a small size cube offering 7 AdvancedMC™ mid-size slots, and optional up to 3 double mid-size slots. It is intended for bottom or wall mounting in control cabinets. The MicroPak/7 system is the perfect solution for low cost computer platforms in medical, industrial automation, transportation, military, and tele-communication. It supports high-end computing applications with up to 7 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 MicroPak/7 includes a Simple MicroTCA Support Module (SSM) which provides carrier management functions, PCIe switching, PCIe clock generation, power control, and monitoring of temperatures, voltages, and fans. The front panel offers two Gigabit Ethernet ports and the systems management interface through a Fast Ethernet port.

PCI Express™ is the MicroPak/7 systems basic communication protocol. For intermodule communication SATA, GbE, 10GbE, Serial RapidIO® protocols can be used. A switch slot provides GbE connections to all slots. The backplane provides rear I/O, and all slots fully support hot-swap.

The system has a 250W AC plug-in power supply unit. The cooling system and PSU are designed for a maximum of 30 W power dissipation per slot. The dust filter and fan cartridge is hot-swappable. A wide-range DC input power supply or a 12V DC input are optional available.



Features

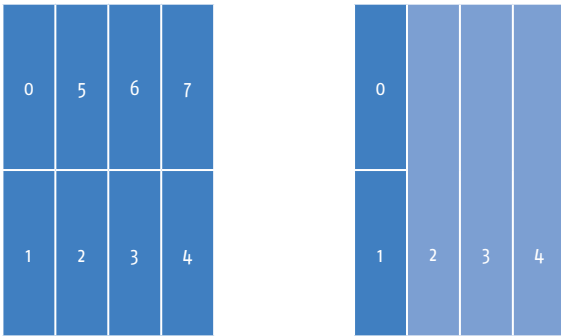
- Small size wall-mount cube
- 7 AdvancedMC mid-size slots, up to 3 double mid-size slots
- AMC.0, AMC.1, AMC.2, AMC.3 compliant
- Full hot-swap support
- Simple MicroTCA® Support Module
- GbE Switch optional
- Rear-I/O
- 250W AC power supply
- Bottom to top air flow
- Low cost platform

MicroPak/7

7 Slot Simple MicroTCA Wall-mount Chassis

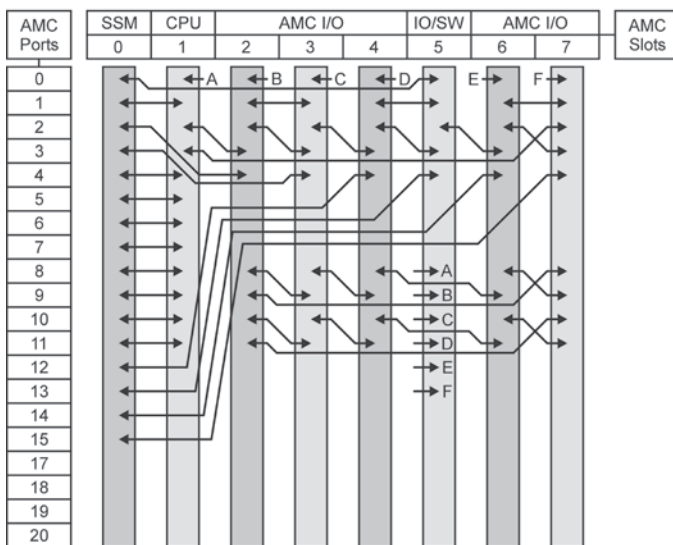
System Configuration

AMC slot 1 is the CPU slot, and should carry an AMC module with AMC.1 type 4 or 8 interface. Any processor or I/O AMC module may be used in AMC slots 2-7.



MicroPak/7 with different slot configurations: Slot 0 carries the Simple MicroTCA support module, slot 1 is the CPU slot, slots 2 to 7 may carry CPU or I/O modules, slot 5 also a GbE Switch AMC module. The user can combine groups of two mid-size slots to form up to 3 double slots.

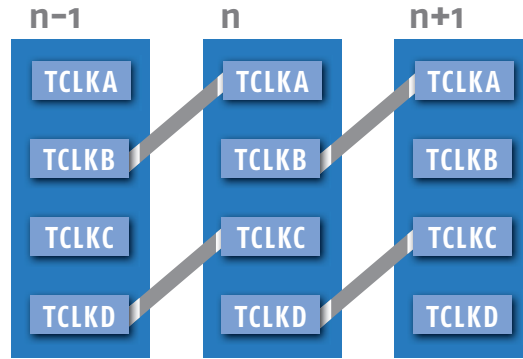
The CPU slot ports 4-11 are routed to the SSM PCIe switch, and further distributed as PCIe x1 lanes to each port 4 of all other AMC slots (AMC.1 type 1). The backplane supports slot-to-slot connections for the (telecom) clock signals. Fixed interconnections are available for the AMC ports 1-3, and 5-11. These connections support PCIe, SATA, GbE, and Serial RapidIO®. The AMC ports 0 of all slots are routed to slot 5 and allow the optional use of a GbE AMC switch (e.g. TEWS TAMC890-10R). The backplane has rear I/O connectors for each slot.



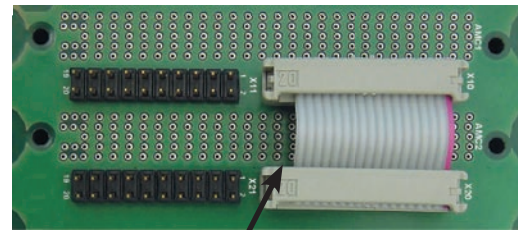
MicroPak/7A backplane interconnect

The telecom clock signals of each AMC slot connect to their neighbour slots: Slot 1 TCLKB to slot 2 TCKLA, slot 2 TCLKB to

slot 3 TCLKA, and so on. TCLKC and TCLKD are routed as TCLKA and TCLKB. Slot 7 connects back to slot 2.



MicroPak7 telecom clock interconnect



Wires 19/20 removed

Backplane rear I/O header. The figure shows a ribbon cable connection between two slots connecting ports 12 to 15.

The AMC ports #12 to #15 and #17 to #20 of AMC slots #1 to #7 are routed to two separate 20-pin headers located on the backplane rear side of each AMC slot. Each header provides logic ground, the local management (MP) and payload power (PP). These connectors support rear I/O, or user supplied ribbon cable connections between two or more AMC slots.

Xn0				Xn1			
Pin No.	Signal	Pin No.	Signal	Pin No.	Signal	Pin No.	Signal
1	Rx12+	11	Tx14+	1	Rx17+	11	Tx19+
2	Rx12-	12	Tx14-	2	Rx17-	12	Tx19-
3	Tx12+	13	Rx15+	3	Tx17+	13	Rx20+
4	Tx12-	14	Rx15-	4	Tx17-	14	Rx20-
5	Rx13+	15	Tx15+	5	Rx18+	15	Tx20+
6	Rx13-	16	Tx15-	6	Rx18-	16	Tx20-
7	Tx13+	17	GND	7	Tx18+	17	GND
8	Tx13-	18	GND	8	Tx18-	18	GND
9	Rx14+	19	MP	9	Rx19+	19	MP
10	Rx14-	20	PPWR	10	Rx19-	20	PPWR

Rear I/O header pinning

MicroPak/7

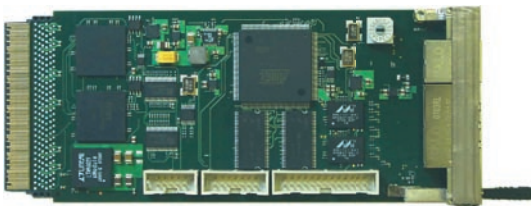
7 Slot Simple MicroTCA Wall-mount Chassis

Simple μ TCA Support Module

Nr.	Slot-Name	AMC Vendor	AMC-Name	Management-Power	Payload-Power
0	AMC Slot 0	TEWS TECHNOLOGIES GmbH	TAMC010 (SSM)	ON	ON
1	AMC Slot 1 [M1]	--	--	On Off	On Off
2	AMC Slot 2 [M1]	--	--	On Off	On Off
3	AMC Slot 3 [M1]	--	--	On Off	On Off
4	AMC Slot 4 [M1]	--	--	On Off	On Off
5	AMC Slot 5 [M1]	--	--	On Off	On Off
6	AMC Slot 6 [M1]	--	--	On Off	On Off
7	AMC Slot 7 [M1]	--	--	On Off	On Off
8	AMC Slot 8 [M1]	--	--	On Off	On Off

SSM screen shot

The Simple MicroTCA support module (SSM) provides basic system functions and system management. It contains a PCIe x8-to-8x1 switch, the PCIe clock generation, and the Simple MicroTCA carrier management controller (SCMC) with a front panel Fast Ethernet interface.



Simple MicroTCA Support Module acts as a shelf manager and provides basic system functions

The SCMC offers the user management interface, handles the AMC module set-up and full power control, supervises fan operation and system voltages, and controls the fans. A DC/DC converter generates the management power supply from the systems single 12V power supply. Additionally it provides on its front panel two Gigabit Ethernet Ports which connect to AMC ports in the system.

With its AMC mid-size form factor the SSM can easily be serviced. Nevertheless it is not an AMC module, it operates only in slot 0. The SSM may be plugged into any system slot without damaging the system or the module. This is also valid for every other type of AMC module.



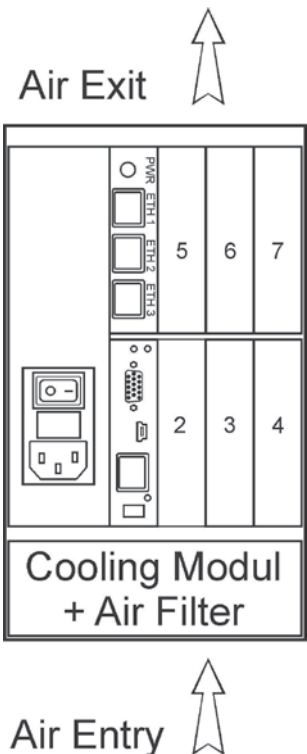
Side wall mount bracket



Rear wall mount bracket



Cable support



MicroPak/7 bottom to top air flow. The system allows a max. of 30W power dissipation in each slot.

MicroPak/7

7 Slot Simple MicroTCA Wall-mount Chassis

Specifications

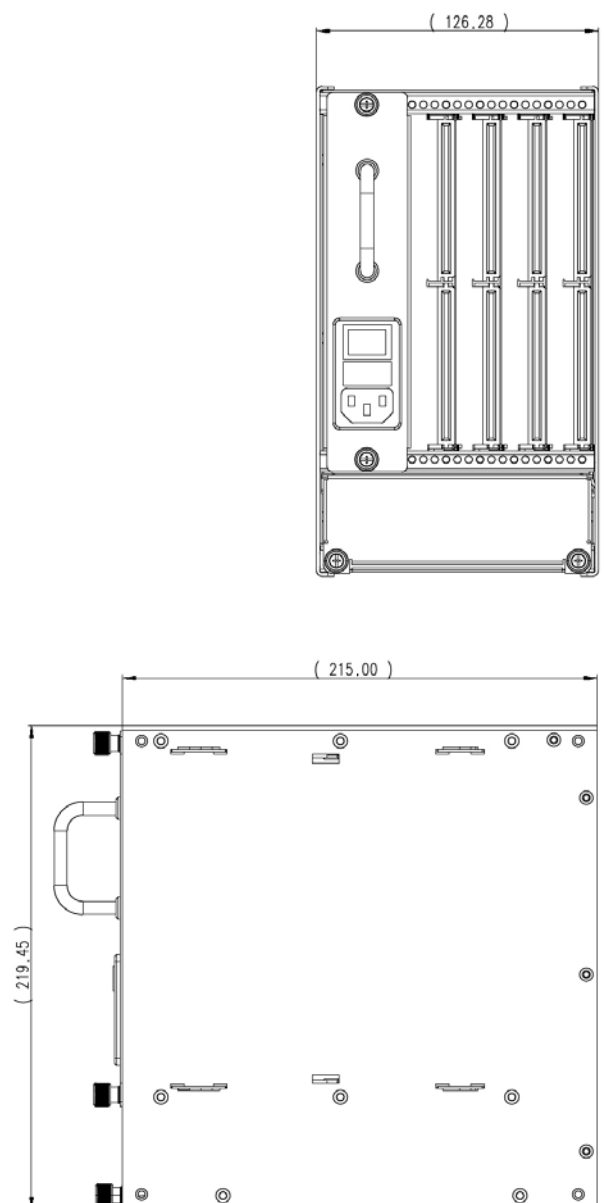
Construction	Small size wall-mount cube, shelf-contained top and bottom cover, zinc-plated steel sheet metal
Shelf Manager	Simple MicroTCA Support Module including carrier management, PCIe switching, PCIe clock generation, power control, monitoring of temperatures, voltages, and fans, SNMP support
Cooling System	Hot-swap fan cartridge with one fan, bottom to top air flow, supports up to 30W power dissipation in each slot, dust filter compliant to UL 94HF-1
Backplane	12 layer backplane with integrated power and fan connectors
Power Supply	250W AC power module, MTBF > 200.000h @ 40°C, 18.5 A available to AMC slots 1 to 7
Weight	4.7 kg incl. SSM module
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 and EN61000-4-3 supported
Safety	EN-60950
Dimensions	126.3 x 219.5 x 215 mm (WxHxD)
Compliance	MicroTCA PICMG MTCA.o R1.o, AdvancedMC PICMG AMC.o R2.o, AdvancedMC PICMG AMC.1 R1.o, Simple MicroTCA SMTCA.o R2.o

Ordering Information

MicroPak/7A	Wall-mount SMTCA chassis, 7 MS slots, SSM
FP-MS	Filler panel, mid-size
FP-DMS	Filler panel, double mid-size
MP7-RMT-KIT	Rear wall mount bracket kit
MP7-SMT-KIT	Side wall mount bracket kit
MP7-CS-KIT	Cable support kit

The MicroPak/7 is available with different AMC CPU modules, e.g. Adlinks AMC-1000 or Emersons PrAMC-6210 and PrAMC-7211.

Dimensions



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