

CP-RAPID3



HIGH-SPEED 6U CompactPCI® IN A SILENT RACK

- ▶ Ready for 10 GbE, PCIe, SATA 6GB/s
- ▶ 3U high 19" chassis with 4 horizontal slots
- ▶ Silent cooling front to rear
- ▶ Redundant power supplies

POSSIBILITIES START HERE



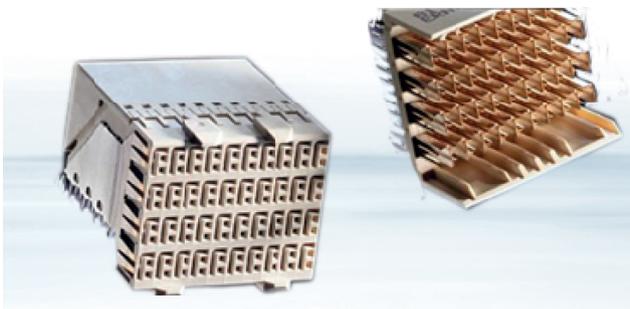
CP-RAPID3

HIGH SPEED 6U CompactPCI® IN A SILENT RACK

With CP-RAPID3, serial high speed interconnects become true for 6U CompactPCI®. The 3U card cage, EMI protected, for 19 inch mounting, provides 4 horizontal 6U CompactPCI® slots with Rear-I/O at J5.

Signal definition of PICMG®2.20 suits well

The two basic features of PICMG®2.20 define everything to provide fast serial backplane interconnects: A high speed backplane connector at J4, and the right signal definition. Kontron uses the multivendor ZD plus connector for enhanced signal integrity which is compatible with PICMG®2.20 but which has better shielding than the standard ZD connector. The PICMG®2.20 signal definition is used to enable 10 Gigabit Ethernet, PCI Express® 3.0, and SATA 6Gb/s via backplane. For Ethernet, the 10GBase-KR standard is supported with the advantage of reduced power consumption.



// Multivendor high speed ZD Plus connector

CP-RAPID3 backplane: flexible assembly options

The PICMG®2.20 based CP-RAPID3 backplane provides a serial mesh 10GbE topology for the system slots. The 1GbE mesh for the system slots via J3, as defined in PICMG®2.16, is still available, too. Two device slots are connected with related system slots via SATA and PCIe. One of the device slots can alternatively be used for a 3rd CPU blade. The slot order is made in a way that, in case of a 8HP device, the two main system slots remain available. This results in three typical assembly options as shown in the table.

OPTION 1	OPTION 2	OPTION 3
CPU #1	CPU #1	CPU #1
CPU #2	CPU #2	CPU #2
CPU #3	Device #2	Empty
Device #1	Device #1	Dv#1 8HP

Backward compatible

And the way of using PICMG®2.20 in order to get high speed serial links is perplexing close to the popular previously defined and widely used specifications:

- ▶ PICMG®2.0 (CPCI 32bit) via J1
- ▶ PICMG® (CPCI 64bit) via J2
- ▶ PICMG® 2.16 (1GbE) via J3
- ▶ Rear I/O via J3, J5

Everything keeps valid and can be used furtheron within the same system! A standard PICMG®2.0/2.16 CPU blade can be used in a PICMG®2.20 system, and a CPU blade for PICMG®2.20 can be used in existing systems – it just needs assembly variants of the CPU blades where the J4 connector is omitted.

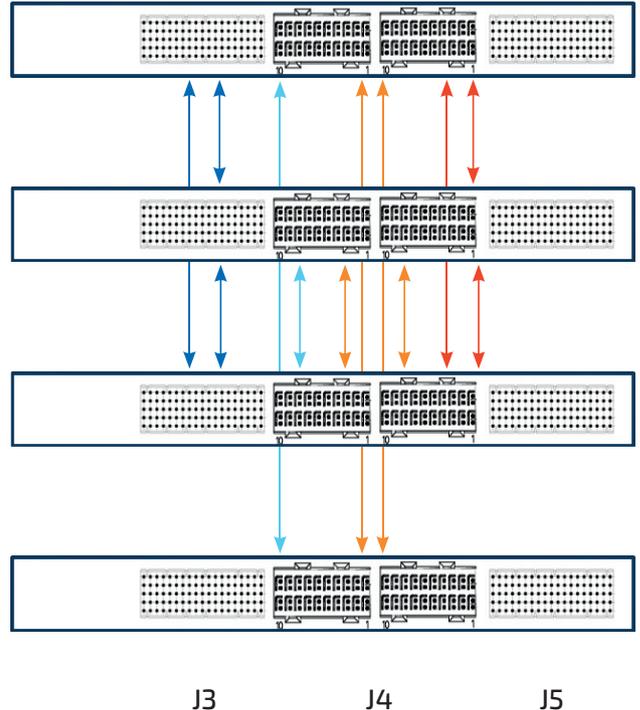
Power supplies optionally redundant

CP-RAPID3 is equipped with two optionally redundant 200W power supplies for 120/230 VAC input, pluggable with a P47 rear connector. Mains plug is at the rear panel.

Silent cooling

The cooling concept is specifically designed for low noise, with exchangeable fans and airflow from front left to rear right.

PICMG 2.16 PCIe 2x SATA 10GBASE-KR or
 1GBASE-T 3.0 x8 6Gb/s 40GBASE-KR4



Multi-CPU and GPGPU: Platform designs for highest computing power

CP-RAPID3 is the perfect basis to gain a computing platform with extremely high performance. Up to three slots can be populated with powerful CPU blades – say – with three Quad Core™ i7 3rd generation 2.3 GHz with a 3x80 GFLOPS measured peak performance. Alternatively, for science, gaming, or video applications, CP-RAPID3 can be equipped with a market-available GPGPU on an MXM carrier, placed as a 8 HP device into the bottom slot, leaving both upper system slots free for high performance CPU blades.

The result: a formidable computing power packed in only 3U height.

Prepared for high performance storage applications

The backplane of CP-RAPID3 provides a dual SATA 6Gb/s Option,

routed from each system slot to its related device slot (J4). By special assembly options, efficient platforms for storage applications can be provided.

The Benefits at a Glance

- ▶ High speed options 10GbE, PCIe, SATA, USB
- ▶ Formidable computing power in only 3U height
- ▶ Silent cooling
- ▶ Reduced power consumption due to 10GBase-KR standard
- ▶ Based on existing specification PICMG®2.20
- ▶ Compatible with previous standard specifications
- ▶ Multivendor high speed connector
- ▶ Protecting system know-how by re-using today's chassis and cooling concepts
- ▶ CompactPCI®: open, modular, robust, proven, long-lasting

▶ TECHNICAL INFORMATION

POWER SUPPLY	CP3-SVE-P200AC - Wattage: 200W - Input: 85-264 VAC - Max Output: 5V/40A, 3.3V/40A, +12V/5.5A, -12V/1.5A. - Dimension: 3U, 8HP - Cooling: Forced airflow mandatory - Characteristics: P47 style, hot pluggable, redundant
BACKPLANE	4 slots 6U 4HP from top down: node slot #1, node slot #2, device slot related to node slot #2 or alternatively node slot #3, device slot related to node slot #1. Via P4 high speed connector: serial mesh 10GBase-KR Ethernet for node slots #1,#2,#3; PCIe 3 x8 and 2x SATA 6Gb/s from node slots #1, #2 to related device slots. Alternative slot orders on project request
DIMENSIONS	445 x 132 x 275 mm
AMBIENT TEMPERATURE	0 °C to +50 °C
HUMIDITY	Up to 93 % RH at 40 °C, non-condensing (acc. To IEC 60068-2-78)
PROTECTION	IP20
EMI	EN55022 / EN55024
SAFETY	EN60950-1

▶ ORDERING INFORMATION

ARTICLE	DESCRIPTION
CP-RAPID3R-H6F-2P200AC-B0400-STD-SMB	CP-RAPID silent rack with serial high speed interconnects for 6U CompactPCI. 3U card cage, EMI protected for 19 inch mounting, depth 275 mm. 4 horizontal 6U CPCI slots with Rear-I/O for P5. Serial Mesh Backplane for the system slots, pinning according to PICMG2.20, enabling 10/40 GbE and PCIe. PICMG2.16 compatible. 2 system slots with 1 device slot each usable for SATA 6Gb/s and PCIe, 1 device slot alternatively usable as 3rd system slot. Exchangeable silent fans, airflow from front left to rear right. Two P47 power supplies 3U 200 Watt 120/230 VAC. Mains plug at rear panel. Completely wired and tested

The titel photo shows the CP-RAIPD3 chassis as displayed in the Ordering Information, additionally equipped with three CPU blades CP6004X.

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