

# CP-RAPID3

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## 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



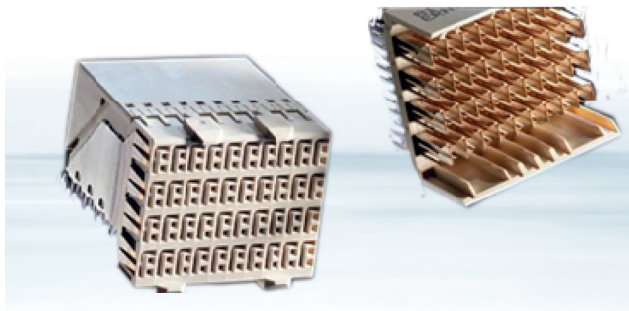
## CP-RAPID3

### 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.

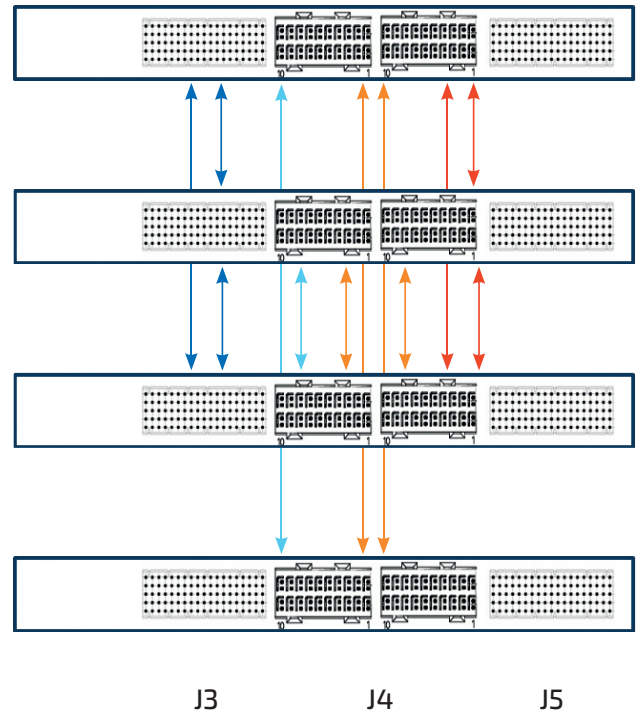
#### Power supplies optionally redundant

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-RAPID3 chassis as displayed in the Ordering Information, additionally equipped with three CPU blades CP6004X.

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