

# CPS-ASM4

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## INTEGRATED CARD CAGES FOR 3U CompactPCI® SERIAL

- ▶ Rich portfolio 84/42HP, backplanes, fans, PSU
- ▶ Simple migration path from classic CPCI
- ▶ Rear-I/O option also for system slot
- ▶ EMI protected and CE compliant

POSSIBILITIES START HERE



## CPS-ASM4

### INTEGRATED CARD CAGES FOR 3U CompactPCI® SERIAL

#### The complete portfolio

Kontron's initial portfolio offer for CompactPCI® Serial system infrastructure already enables most system platform solutions. Card cages 84HP and 42HP rack-/wallmount and 44HP tabletop, with AC or DC Power Supplies, backplanes of different slot count, with system slot right or left, with rear-I/O options for peripheral slots and for the system slot.

#### Saving the investments into CompactPCI®:

##### No change for housing, cooling, installation

The mechanical design of the serial CPS-ASM4 portfolio is backward compatible with Kontron's classic 3U CompactPCI® system portfolio. It retains the proven 19" mechanics of the IEC 60297 and IEEE 1101.x. This means that housing and cooling all stay the same. The option of using rear transition modules remains as well, so that the environment like cabling for rackmount installations can be re-used when the next generation application will be based on CompactPCI® Serial systems.

#### Saving the investments into CompactPCI®:

##### CompactPCI® periphery can be re-used

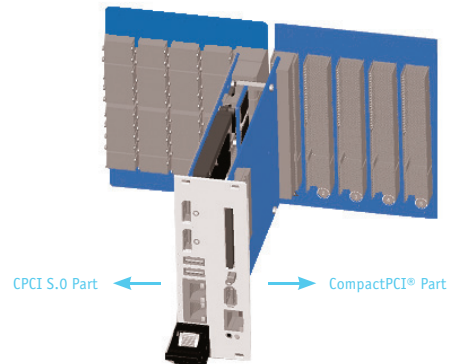
The OEM may have invested in his own very specific peripheral CompactPCI® board. Vendors being experts in I/O technology or fieldbusses may have a portfolio of several form factors but not yet CompactPCI® Serial. Kontron offers a direct migration path to save these investments.



#### "Hybrid" chassis:

##### Migration from classic CompactPCI® cannot be simpler

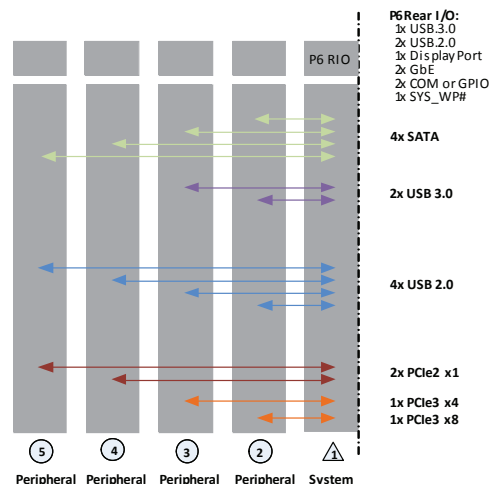
Migrating from CompactPCI® to CompactPCI® Serial is easy: The so-called "Hybrid" card cage is equipped with two usual backplanes, one which carries classic CPCI boards and the other CompactPCI® Serial boards. The only additionally needed building block is a PCIe-to-PCI bridge from CompactPCI® Serial to CompactPCI® as an optional feature (variant) of the processor board's I/O extension card, as shown in the figure. The PCIe-to-PCI bridge realizes a classic CPCI interface and routes all signals via the J1 and J2 connectors to the CPCI backplane of the system. This makes it possible to control up to four 32-bit/66MHz classic CompactPCI® peripheral boards in one fully-fledged CompactPCI® Serial system. With all the mechanics remaining compatible with IEEE 1101, engineers can choose this flexible layout option as a very convenient migration path to serial system designs.



// With the help of a CompactPCI® Serial to CompactPCI® bridge, engineers can simply use two backplanes which carry both classic CompactPCI® boards as well as serialCompactPCI® boards.

#### Rear-I/O option for peripheral and system slots

Kontron card cages are available which either only have Rear-I/O support (RIO) for peripheral slots or for both the peripheral slots as well as for the system slot. In order to have RIO for the system slot as well, the J6/P6 area – which is usually used for designs of fully meshed Ethernet configurations – has been opened up to an alternative rear I/O use. A backplane variant with five slots for instance supports the P6 RIO option at the system slot. The system slot is at the right side, so the backplane can optionally be used for "hybrid" solutions. The legend of the graphics below describes the rear pinout for the CPS3003 CPU blade, for which a respective rear transition module is available. The picture also shows the entire backplane routing as used with CPS3003. The first two peripheral slots, so-called fat-pipes, are prepared to support a higher bandwidth PCI-Express 3.0 as well as USB3.0. All peripheral slots support SATA and USB2.0, the last two slots PCI-Express 2.1.



// Backplane CPS-BP5-SR-RIO5:  
PinOut use with CPS3003 CPU blade

## ► CompactPCI® SERIAL – THE ADVANTAGES

### The natural upgrade of CompactPCI®

- 1 and 10 Gigabit Ethernet, PCI-Express® 3.0, USB3.0, SATA 6Gb/s via backplane
- Protecting CPCI system know-how
- Enabling CPCI for another decade
- Will co-exist with classic CompactPCI
- Migration paths save investments into proven legacy periphery

### CompactPCI® Serial and CompactPCI®

- Open
- Modular
- Robust
- Proven
- Long-lasting

## ► CPS-ASM4 PLATFORMS – THE ADVANTAGES

### A rich portfolio

- Card cages rack/wall mount and table-top, PSUs, backplanes, entire platforms
- Simple bridge option to classic CompactPCI® slots for market-available CompactPCI® peripherals like I/O, fieldbus
- Related products: newest CPU Blades and a set of peripheral boards which open up the High Speed capabilities

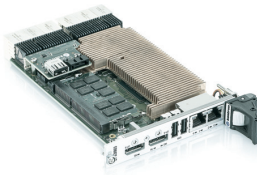
### A direct migration path

- Simply by use of a bridge option CPCI-S to CompactPCI®
- No additional bridge boards needed besides the CPU-Extension
- No need for intermediate standards like CPCI-PlusIO
- No special backplane needed

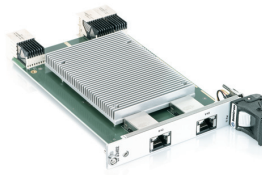
### Rear-I/O option for peripheral and system slots

- Connector P6 is alternatively used for RIO signals

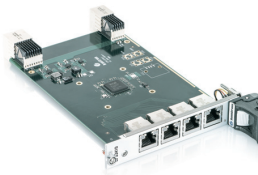
## ► RELATED PRODUCTS (PLEASE SEE SEPARATE DATASHEETS)



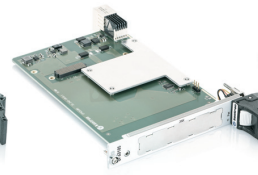
**CPS3003-5A**  
3rd Gen Intel® Core™ i7  
CPU board



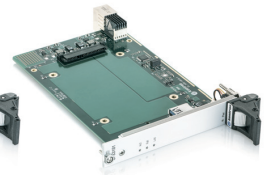
**CPS3402**  
Dual 10BASE-T Controller



**CPS3410**  
Quad GbE Controller



**CPS3105**  
XMC Carrier



**CPS3101**  
HDD / SSD Carrier

## ► DEDICATED PROJECT MANAGEMENT

Ask for a customized platform: A Kontron project manager is assigned for you. As a global company, Kontron has knowledgeable teams to support you in your region. Through your local project manager you have worldwide access to immense specialist know-how. Your project manager guides you securely through the entire design-in process to productionready product by means of a precise gate project plan. This allows you to concentrate on your core business and still retain an overview and full control of development, documentation, and production, including unique test processes, systems and procedures.



## TECHNICAL INFORMATION

|                           |  |   |
|---------------------------|--|---|
| <b>DIMENSIONS</b>         | <b>84HP CARD CAGE<br/>42HP CARD CAGE<br/>44HP TABLETOP CARD CAGE</b>   | 483 x 177 x 282 mm / 84HP, 4U, 275 mm, including 1U fan tray<br>220 x 133 x 242 mm / 42HP, 4U, 235 mm, including 1U fan tray<br>190 x 245 x 297 mm / 44HP, 4U, including two 12VDC radial ventilators   |
| <b>POWER SUPPLY</b>       | <b>300W AC</b><br><br><br><br><br><br><br><br><br><br><b>250W AC</b><br><br><br><br><br><br><br><br><br><br><b>200W AC, FOR HYBRID SYSTEMS</b> | CPS3-SVE-S300 AC (more details: separate datasheet)<br>- Input: 90-264 VAC<br>- Max Output: 12 V/24.0 A, 5 VSB/2.5 A<br>- Dimension: 3U, 8HP<br>- Cooling: Forced airflow mandatory<br>- Operating temperature: -40 °C to +70 °C full rating<br>- Hold-Up Time: 20 msec minimum<br>- Characteristics: full featured CPCI-S.0 recommended<br>CPS3-SVE-250 AC (more details: separate datasheet)<br>- Input: 85-264 VAC<br>- Max Output: 12 V/21 A, 5 V/0.3 A<br>- Dimension LxWxH: 225 x 122 x 128.7 mm (3U 24HP)<br>- Cooling: Convection<br>- Operating temperature: -25 °C to +70 °C (derating)<br>- Hold-Up Time: 16 ms<br>- Characteristics: non-pluggable<br>CP3-SVE-200 AC (more details: separate documentation)<br>- Input: 85-264 VAC<br>- Max Output: 5 V/40 A, 3.3 V/40 A, 12 V/5.5 A, -12 V/1.5 A<br>- Dimension 3U, 8HP<br>- Cooling: Forced airflow mandatory<br>- Operating temperature: up to 55 °C full load, above: derating<br>- Hold-Up Time: 20 msec minimum<br>- Characteristics: redundant, hot pluggable, P47 connector |
| <b>CPCI-S.0 BACKPLANE</b> | <b>5 SLOT, RIO ON ALL SLOTS<br/>5 SLOT, RIO ON SYSTEM SLOT<br/>9 SLOT, NO RIO, ETH SINGLE STAR<br/>POWER BACKPLANE</b>                         | CPS3-BP5-SR-RIOPS: System slot: right, P6 with RIO<br>CPS3-BP5-SR-RIOS: System slot: right, P6 with RIO<br>CPS3-BP9-SL-ESS: System slot: left, P6 for ETH single star<br>CPS3-BPP: One slot, power connector as recommended for CPCI-S.0  |
| <b>FAN TRAY</b>           | <b>84HP / 1U-275 mm / 3.6 W</b><br><br><b>84HP / 1U-275 mm / 10 W</b><br><br><b>42HP / 1U-235 mm / 1.2 W</b>                                   | CP-MKIT-FAN-84-3: Power consumption: 12 VDC / 3x 1.2 Watt fans<br>Airflow: 3x 95m³/h (56cfm) / average of 1.25 m/s (250lfm)<br>CP-MKIT-FAN-84-10: Power consumption: 12 VDC / 2x 5 Watt fans<br>Airflow: 2x 170m³/h (100cfm) / average of 2.5 m/s (500lfm)<br>CP-MKIT-FAN-42-1: Power consumption: 12 VDC / 1x 1.2 Watt fan<br>Airflow: 1x 95m³/h (56cfm) / average of 0.8 m/s (160lfm)   |
| <b>GENERAL *</b>          | <b>AMBIENT TEMPERATURE<br/>HUMIDITY<br/>PROTECTION<br/>OVER VOLTAGE CATEGORY<br/>PROTECTION CLASS<br/>EMI<br/>SAFETY</b>                       | 0 °C to +50 °C<br>Up to 93 % RH at 40 °C, non-condensing (acc. to IEC 60068-2-78)<br>IP20<br>2<br>1<br>EN55022 / EN55024<br>EN60950-1   |

\* All systems described in the ordering list are conform to or better than.

## ORDERING INFORMATION

| ARTICLE                                  | DESCRIPTION  |
|--|--|
| <b>CPS-ASM4R-84F-200AC-B0500-STD</b>     | 84HP chassis, AC PSU min. 200 W, 5 slot backplane, system slot right, rear-I/O on all slots.<br>Included: CPS3-SVE-250AC, CPS3-BP5-SR-RIOPS, CP-MKIT-FAN-84-3                    |
| <b>CPS-ASM4-42F-S300AC-B0500-STD</b>     | 42HP, AC PSU 300 W pluggable, 5 slot backplane, system slot right, no rear-I/O.<br>Included: CPS3-SVE-S300AC, CPS3-BP5-SR-RIOS, CP-MKIT-FAN-42-1                                 |
| <b>CPS-ASM4R-44F-S300AC-B0500-STD-TT</b> | 44HP Tabletop chassis, AC PSU 300 W pluggable, 5 slot backplane, system slot right, rear-I/O on all slots.<br>Included: CPS3-SVE-S300AC, CPS3-BP5-SR-RIOPS                       |
| <b>CPS-CP-ASM4R-84F-200AC-2B0500-STD</b> | 84HP Hybrid chassis, AC PSU 200 W, for CPU with bridge option, rear-I/O on all slots, and 4x serial and 4x classic peripheral slots. Included: CP3-SVE-P200AC, CPS3-BP5-SR-RIOPS |
| <b>CPS-ASM4-84F-300AC-B0900-STD</b>      | 84HP chassis, AC PSU 300 W, 9 slot backplane, system slot left, no rear-I/O.<br>ATX PSU only for this article, with EMI Emission Class A. Included: CPS3-BP9-SL-ESS              |

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