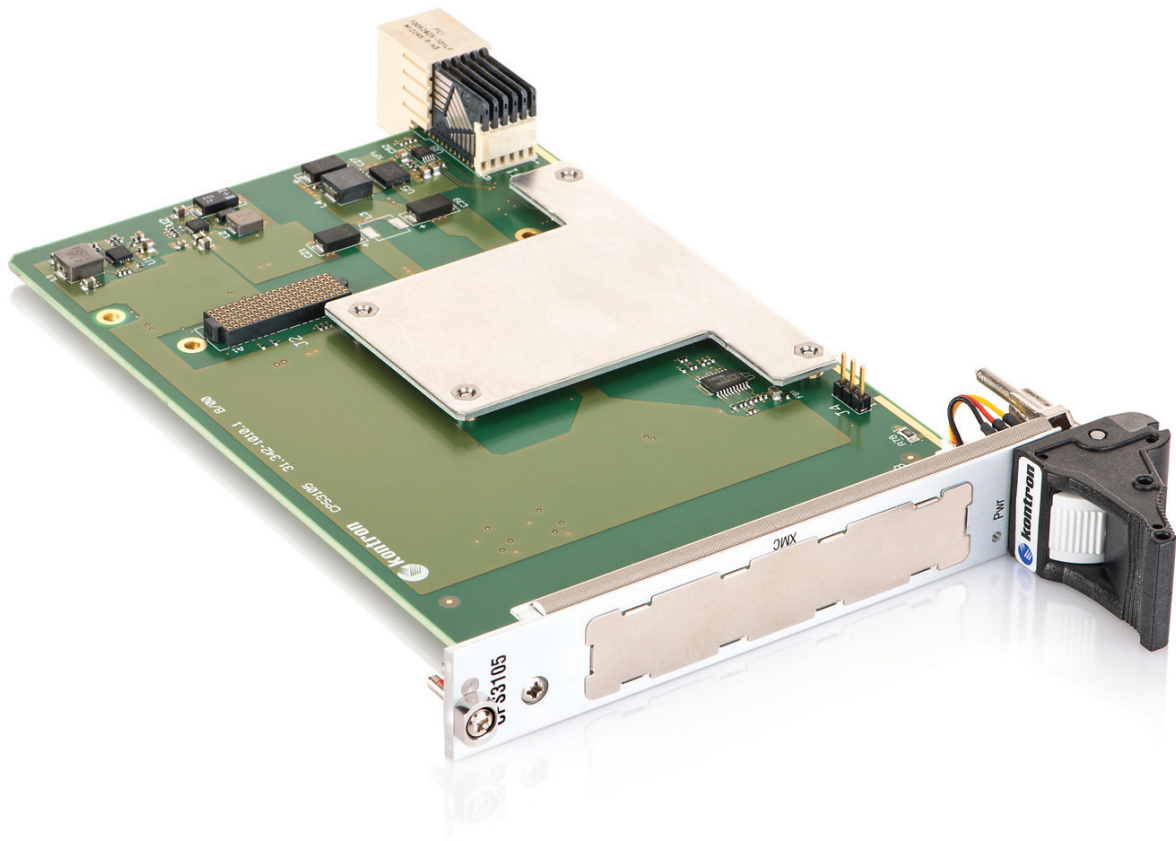


» User Guide «



CPS3105

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Warranty

This Kontron product is warranted against defects in material and workmanship for the warranty period from the date of shipment. During the warranty period, Kontron will at its discretion decide to repair or replace defective products.

Within the warranty period, the repair of products is free of charge as long as warranty conditions are observed.

The warranty does not apply to defects resulting from improper or inadequate maintenance or handling by the buyer, unauthorized modification or misuse, operation outside of the product's environmental specifications or improper installation or maintenance.

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Environmental Protection Statement

This product has been manufactured to satisfy environmental protection requirements where possible. Many of the components used (structural parts, printed circuit boards, connectors, etc.) are capable of being recycled.

Final disposition of this product after its service life must be accomplished in accordance with applicable country, state, or local laws or regulations.

1 Introduction

1.1 Board Overview

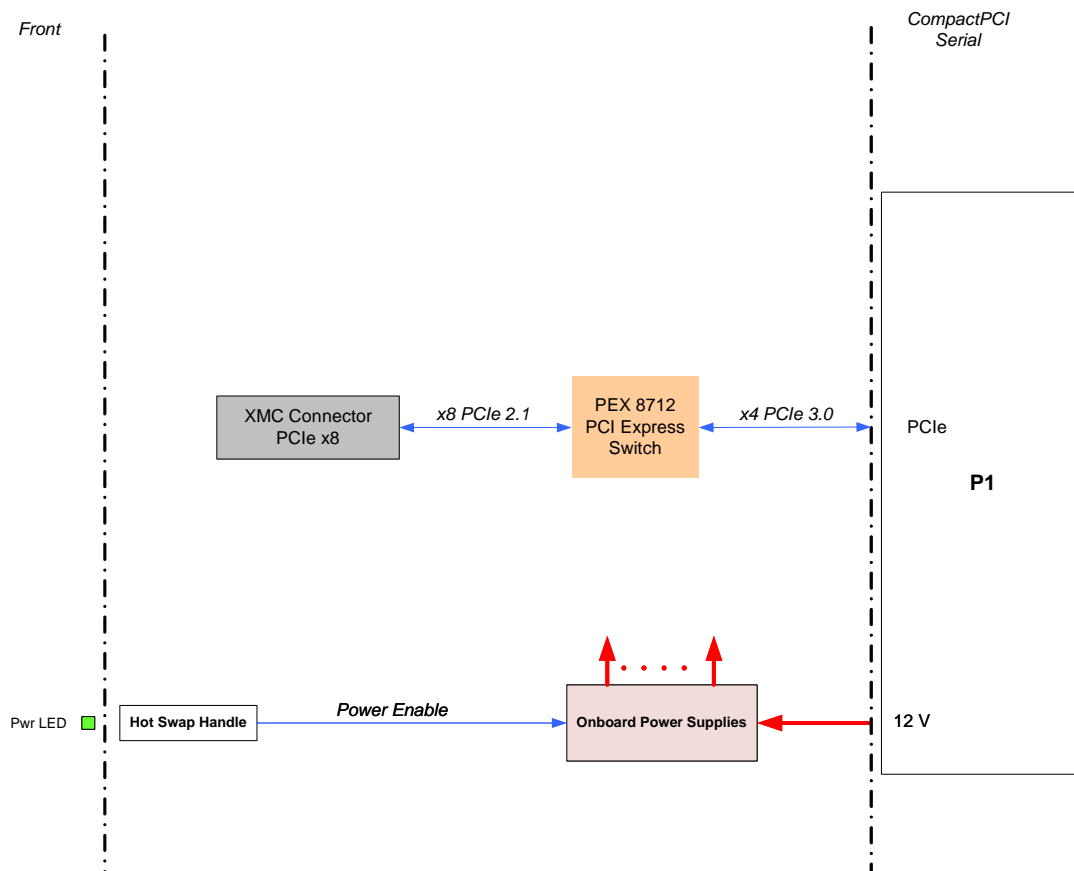
The CPS3105 is a 3U CompactPCI® Serial carrier board that provides support for one XMC module. The carrier board is intended to offer system designers a cost-effective solution to expand the systems I/O capability using a wide range of XMCs available on the market. The CPS3105 is equipped with a dedicated PCI Express switch between the onboard XMC connector and the CPCI-S.0 system connector providing two advantages. First, it decouples and buffers the PCI Express signals and restores signal integrity. Second, it is able to convert one x4 PCI Express 3.0 data stream from the system side into one x8 PCI Express 2.1 data stream to the XMC side. Thus, maximum data bandwidth can be provided to commonly available XMC modules based on PCI Express 2.1.

1.2 Board Diagrams

The following diagrams provide additional information concerning board functionality and component layout.

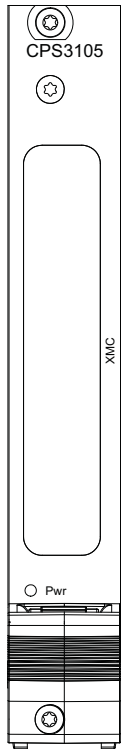
1.2.1 Functional Block Diagram

Figure 1: CPS3105 Functional Block Diagram



1.2.2 Front Panel

Figure 2: 4 HP CPS3105 Front Panel



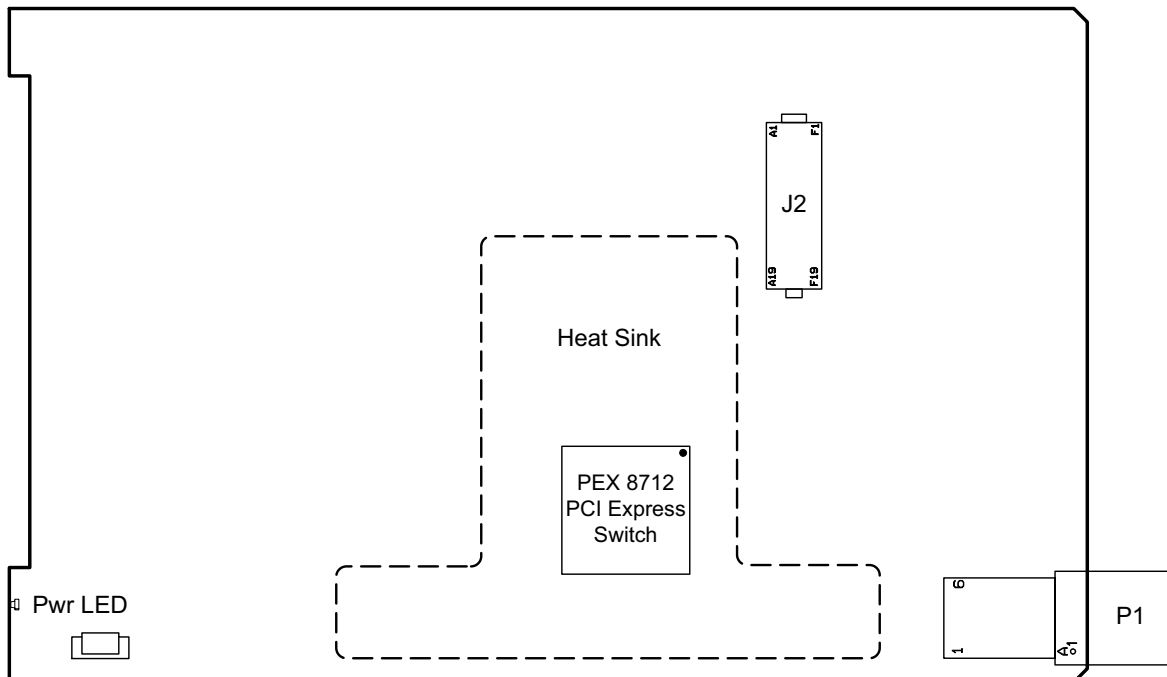
Power Status LED

Pwr (green):

Power Status of the CPS3105

1.2.3 Board Layout

Figure 3: 4 HP CPS3105 Board Layout (Top View)



1.3 Technical Specification

Table 1: CPS3105 Main Specifications

FEATURES		SPECIFICATIONS
Switch	PCI Express Switch	ExpressLane™ PEX 8712 PCI Express 3.0 switch from PLX Technology used to provide maximum performance to an XMC module by spitting down the x4 PCI Express 3.0 interface to a x8 PCI Express 2.1/1.0 interface
Connectors	XMC	XMC connector, J2 (P15), for connecting an XMC module to the CPS3105
	CompactPCI Serial	CompactPCI Serial interface on connector P1: <ul style="list-style-type: none"> » Compliant with PICMG® CPCI-S.0 R 1.0 CompactPCI® Serial Specification » Support for one x4 PCI Express 3.0 interface
Hot Swap	Hot Swap	Hot swap handle with integrated hot swap switch for shutting down the power supplies in order to safely remove the CPS3105 from the system
LED	Front Panel LED	Power Status LED: <ul style="list-style-type: none"> » Pwr (green): Power Status of the CPS3105
General	Mechanical	3U, 4 HP, CompactPCI Serial-compliant form factor
	Power Consumption	approx. 4.7 W (without XMC module)
	Power Supply	+12V DC in accordance with the CompactPCI® Serial Specification
	Temperature Range	Operational: 0°C to +60°C Standard -40°C to +85°C Extended Storage: -40°C to +85°C Without XMC module
	Recommended Airflow	Volumetric Flow Rate: > 10 cfm Sufficient airflow must be provided to ensure optimal operation and long-term reliability of the CPS3105.
	Climatic Humidity	93% RH at 40 °C, non-condensing (acc. to IEC 60068-2-78)
	Dimensions	100 mm x 160 mm
	Board Weight	140 grams

1.4 Standards

This product complies with the requirements of the following standards.

Table 2: Standards

TYPE	ASPECT	STANDARD
CE	Emission	EN55022, EN50121-3-2, EN61000-6-3
	Immission	EN55024, EN50121-3-2, EN61000-6-2
	Electrical Safety	EN60950-1
Mechanical	Mechanical Dimensions	IEEE 1101.10
Environmental	Climatic Humidity	IEC60068-2-78
	WEEE	Directive 2002/96/EC Waste electrical and electronic equipment
	RoHS 2	Directive 2011/65/EU Restriction of the use of certain hazardous substances in electrical and electronic equipment

In addition, boards ordered with the ruggedized service comply with the following standards as well.

Table 3: Additional Standards for Boards Ordered with Ruggedized Service

TYPE	ASPECT	STANDARD	REMARKS
Environmental	Vibration (Sinusoidal)	IEC60068-2-6 IEC61131-2	Ruggedized version test parameters: 9-150 (Hz) frequency range 1 (g) acceleration 1 (oct/min) sweep rate 10 cycles/axis 3 axis
	Single Shock	IEC60068-2-27 IEC61131-2	Ruggedized version test parameters: 15 (g) acceleration 11 (ms) shock duration half sine 3 number of shocks per direction (total: 18) 6 directions 5 (s) recovery time

Note: Customers desiring to perform further environmental testing of the CPS3105 must contact Kontron for assistance prior to performing any such testing.

Boards **without conformal coating** must not be exposed to a change of temperature which can lead to condensation, as it may cause irreversible damage especially when the board is powered up again.

Kontron does not accept any responsibility for damage to products resulting from destructive environmental testing.

1.5 Related Publications

The following publications contain information relating to this product.

Table 4: Related Publications

PRODUCT	PUBLICATION
CompactPCI Serial Systems	PICMG® CPCI-S.0 R 1.0 CompactPCI® Serial Specification
All Kontron products	Product Safety and Implementation Guide, ID 1021-9142
XMC	ANSI/VITA 42.0-200x XMC Switched Mezzanine Card Auxiliary Standard ANSI/VITA 42.3-2006 XMC PCI Express Protocol Layer Standard