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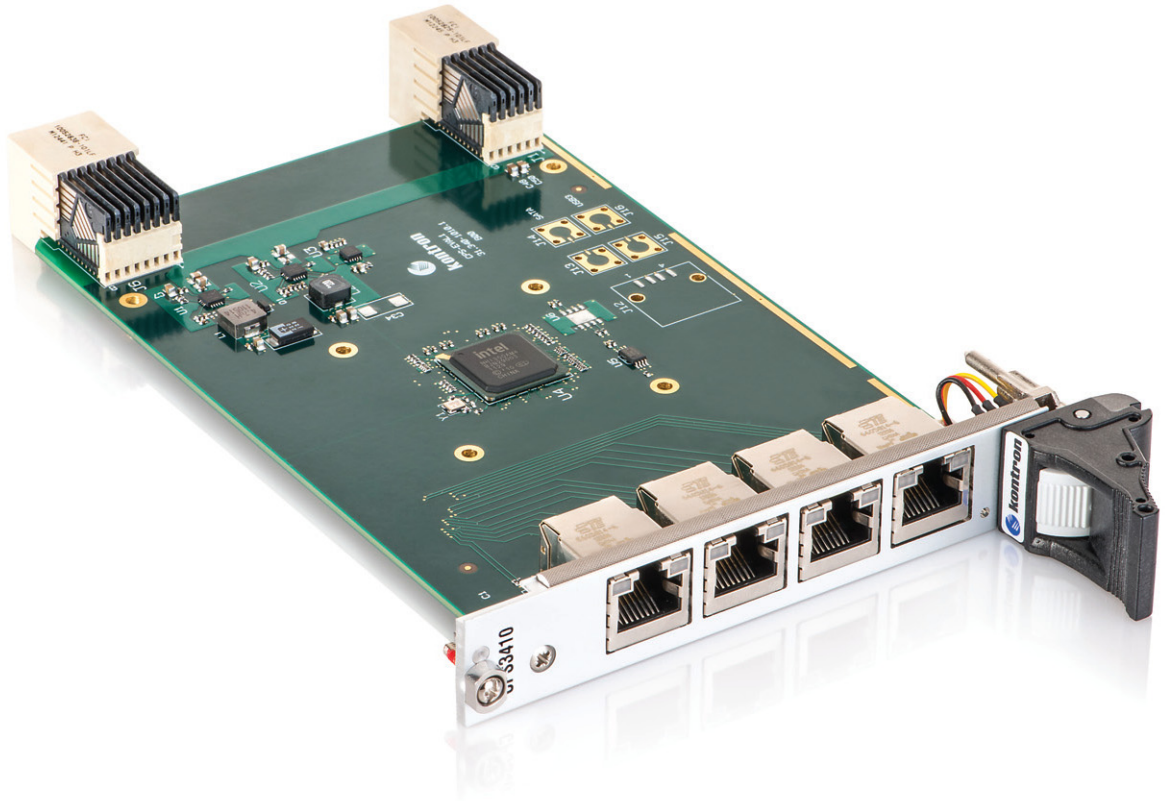
» User Guide «



CPS3410

Doc. ID: 1055-0547, Rev. 1.0

Date: July 3, 2013

Revision History

Publication Title:	CPS3410 User Guide	
Doc. ID:	1055-0547	
Rev.	**Brief Description of Changes**	**Date of Issue**
1.0	Initial issue	3-Jul-2013

Imprint

Kontron Europe GmbH may be contacted via the following:

MAILING ADDRESS

Kontron Europe GmbH
Sudetenstraße 7
D - 87600 Kaufbeuren Germany

TELEPHONE AND E-MAIL

+49 (0) 800-SALESKONTRON
sales@kontron.com

For further information concerning other Kontron products, please visit our Internet website: www.kontron.com.

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

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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

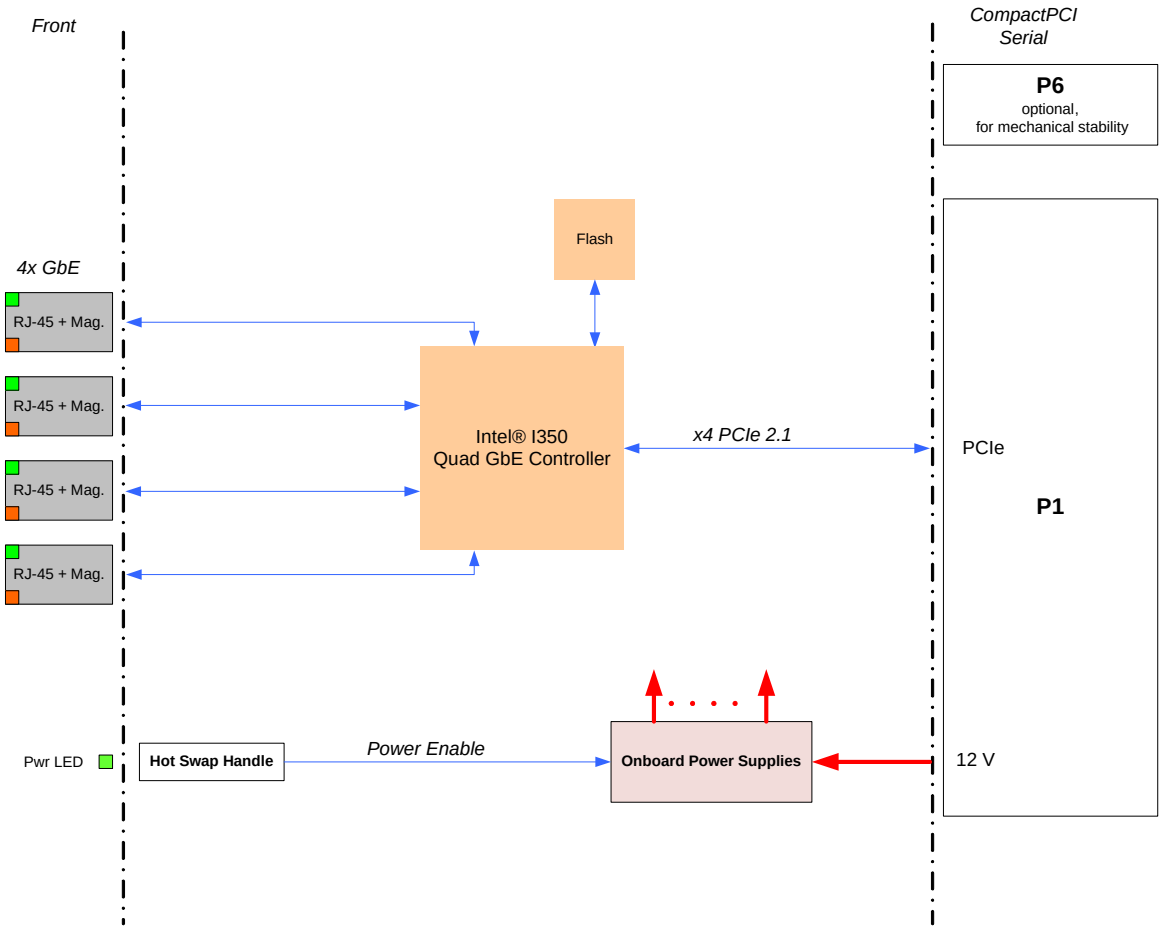
The CPS3410 is a 3U CompactPCI® Serial board providing four Gigabit Ethernet interfaces via RJ-45 connectors on the front panel. All four interfaces are controlled by the Intel® I350 Ethernet controller, which is connected to the backplane via one x4 PCI Express® 2.1 link. The Intel® I350 Ethernet controller provides a powerful set of features that include I/O virtualization and QoS features, Energy Efficient Ethernet (EEE), as well as support for Jumbo Frames (up to 9.5 KB) and PXE boot option. On top of that, the Intel® Advanced Network Services (ANS) software package adds support for Adapter Teaming, Load Balancing or 802.1q VLANs.

1.2 Board Diagrams

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

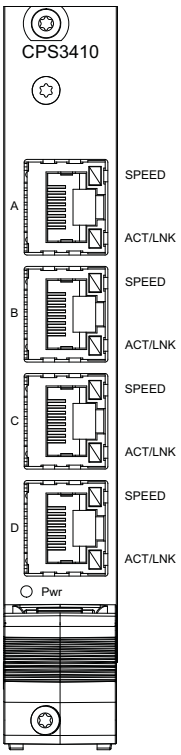
1.2.1 Functional Block Diagram

Figure 1: CPS3410 Functional Block Diagram



1.2.2 Front Panel

Figure 2: 4 HP CPS3410 Front Panel



Integral Ethernet LEDs

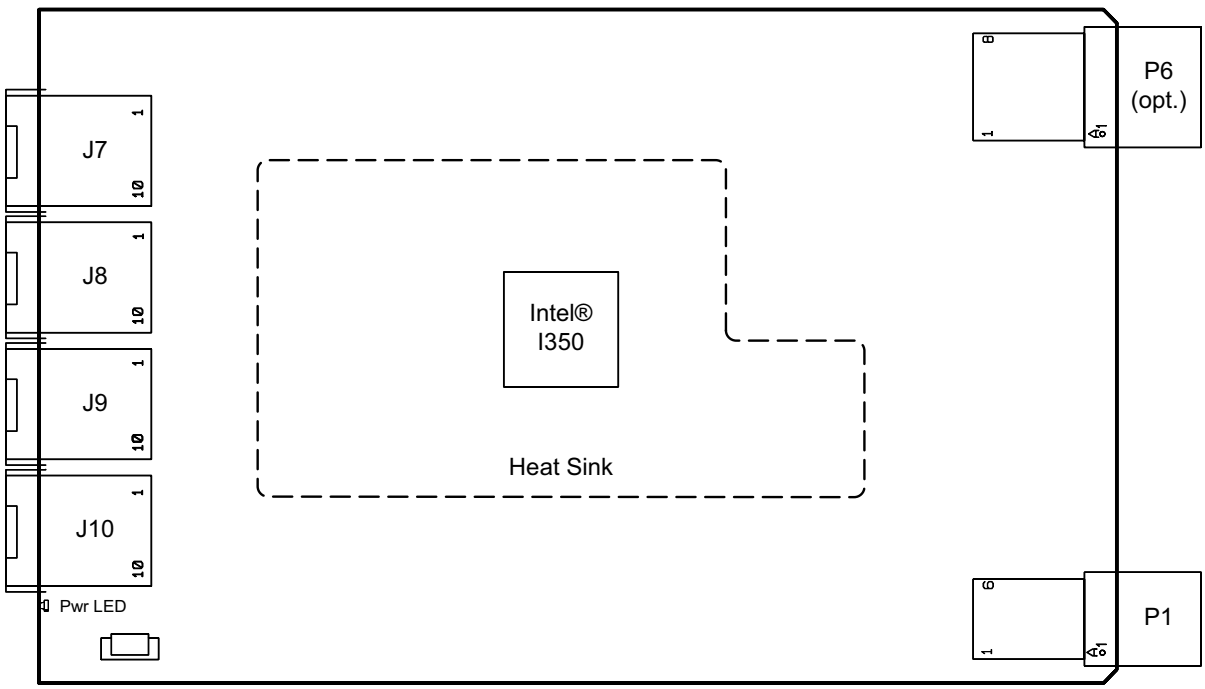
ACT/LNK (green):	Ethernet Link/Activity
SPEED (orange):	1000Base-T Ethernet Speed
SPEED (green):	100Base-Tx Ethernet Speed
SPEED (off) + ACT on:	10Base-T Ethernet Speed

Power Status LED

Pwr (green):	Power Status of the CPS3410

1.2.3 Board Layout

Figure 3: 4 HP CPS3410 Board Layout (Top View)



1.3 Technical Specification

Table 1: CPS3410 Main Specifications

FEATURES		SPECIFICATIONS
Connectors	Gigabit Ethernet	Four 10 Base-T/100 Base-TX/1000 Base-T Gigabit Ethernet interfaces based on the Intel® I350 Ethernet controller. The interfaces are implemented as four front panel RJ-45 connectors with status LEDs, J7, J8, J9, and J10.
	CompactPCI Serial	CompactPCI Serial interface on connectors P1: » Compliant with PICMG® CPCI-S.0 R 1.0 CompactPCI® Serial Specification » Support for one x4 PCI Express 2.1 interface One optional CompactPCI Serial connector P6 for increased mechanical stability
Hot Swap	Hot Swap	Hot swap handle with integrated hot swap switch for shutting down the power supplies in order to safely remove the CPS3410 from the system
LEDs	Front Panel LEDs	Integral Ethernet LEDs: » ACT /LNK(green): Ethernet Link/Activity » SPEED (orange): 1000Base-T » SPEED (green): 100Base-Tx » SPEED (off) + ACT (on): 10Base-T Power Status LEDs: » Pwr (green): Power Status of the CPS3410
General	Mechanical	3U, 4 HP, CompactPCI Serial-compliant form factor
	Power Consumption	CPS3410 with no Ethernet port connected: approx. 2.5 W Additionally per 1000 MB/s Ethernet port connected: approx. 0.5 W
	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
	Recommended Airflow	Volumetric Flow Rate: > 5 cfm Sufficient airflow must be provided to ensure optimal operation and long-term reliability of the CPS3410.
	Climatic Humidity	93% RH at 40 °C, non-condensing (acc. to IEC 60068-2-78)
	Dimensions	100 mm x 160 mm
	Board Weight	170 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 CPS3410 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