

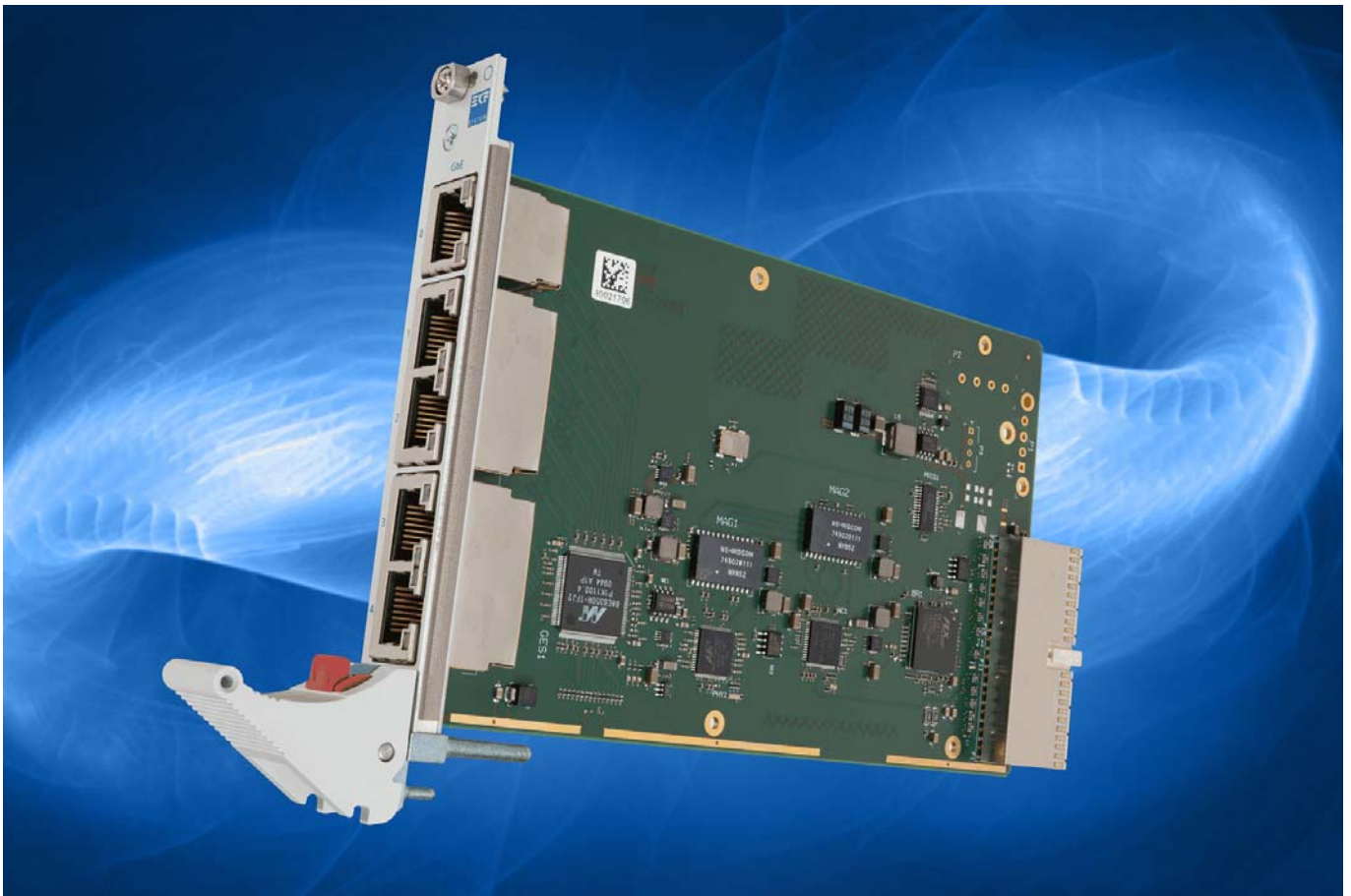


Product Information

CL1-COMBO • *CompactPCI*® Gigabit Ethernet Switch

Industrial 5+1 Port Switch w. or w/o CompactPCI® Backplane I/O

Document No. 5600 • 16 April 2014



CL1-COMBO

General

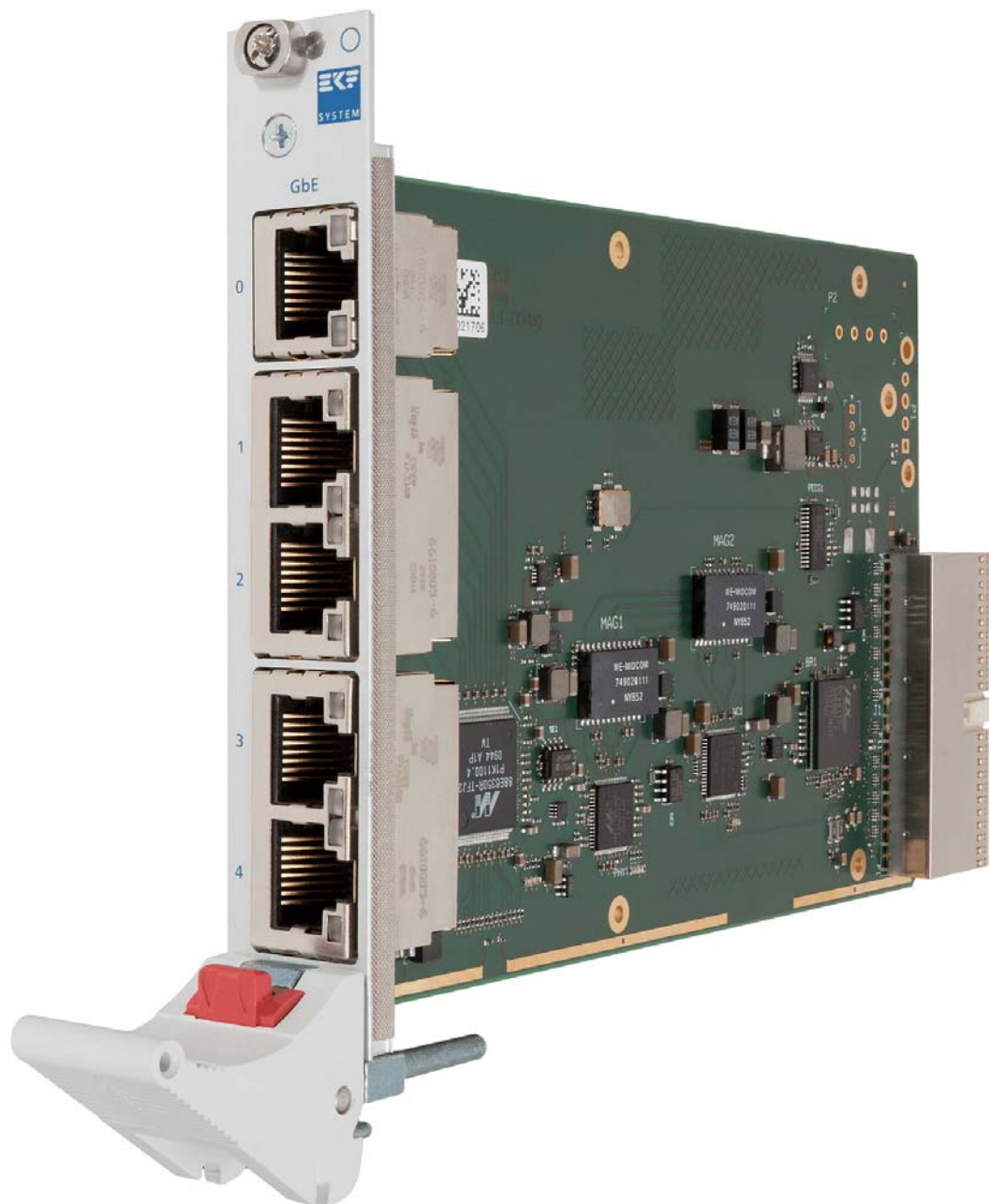
Available as 3U CompactPCI® peripheral board, the **CL1-COMBO** is a powerful Gigabit Ethernet switch. Its front panel is provided with five Gigabit Ethernet jacks. As an option, a sixth GbE channel is reserved for CompactPCI® backplane communication. The CL1-COMBO is equipped with the Marvell® 88E6350R switch, which is self-managed and comprises a rich feature set.

The CL1-COMBO may be operated either as stand-alone card, powered from a single +5V external supply, or as a CompactPCI® peripheral board. For optional communication with the host CPU across the CompactPCI® backplane, an on-board Gigabit Ethernet controller is internally connected to the switch. The CL1-COMBO is suitable for a broad range of industrial applications.

Feature Summary

- ▶ Single Size Eurocard 100x160mm² (3U/4HP)
- ▶ CompactPCI® peripheral card 32-bit 33/66MHz
- ▶ Ready for usage within PXI® systems
- ▶ Stand-Alone operation as 5-port Gigabit Ethernet switch
- ▶ 5 x front panel jacks RJ-45
- ▶ Option internal 6th port Gigabit Ethernet RJ-45 jack
- ▶ Marvell® 88E6350R switch fabric - high performance, non-blocking, Gigabit Ethernet
- ▶ Support for up to 1K MAC addresses, 10KByte Jumbo Frames
- ▶ Unmanaged solution (external management option via SMI port, by means of Marvell® USB-2-SMI adapter module)
- ▶ Option on-board Gigabit Ethernet controller Intel® 82574IT
- ▶ Long term availability
- ▶ Coating, sealing, underfilling on request
- ▶ RoHS compliant 2002/95/EC
- ▶ Operating temperature: 0°C to +70°C (industrial temperature range on request)
- ▶ Storage temperature: -40°C to +85°C, max. gradient 5°C/min
- ▶ Humidity 5% ... 95% RH non condensing
- ▶ Altitude -300m ... +3000m
- ▶ Shock 15g 0.33ms, 6g 6ms
- ▶ Vibration 1g 5-2000Hz
- ▶ MTBF 37years
- ▶ EC Regulations EN55022, EN55024, EN60950-1 (UL60950-1/IEC60950-1)

subject to changes



CL1-COMBO • Option CompactPCI®

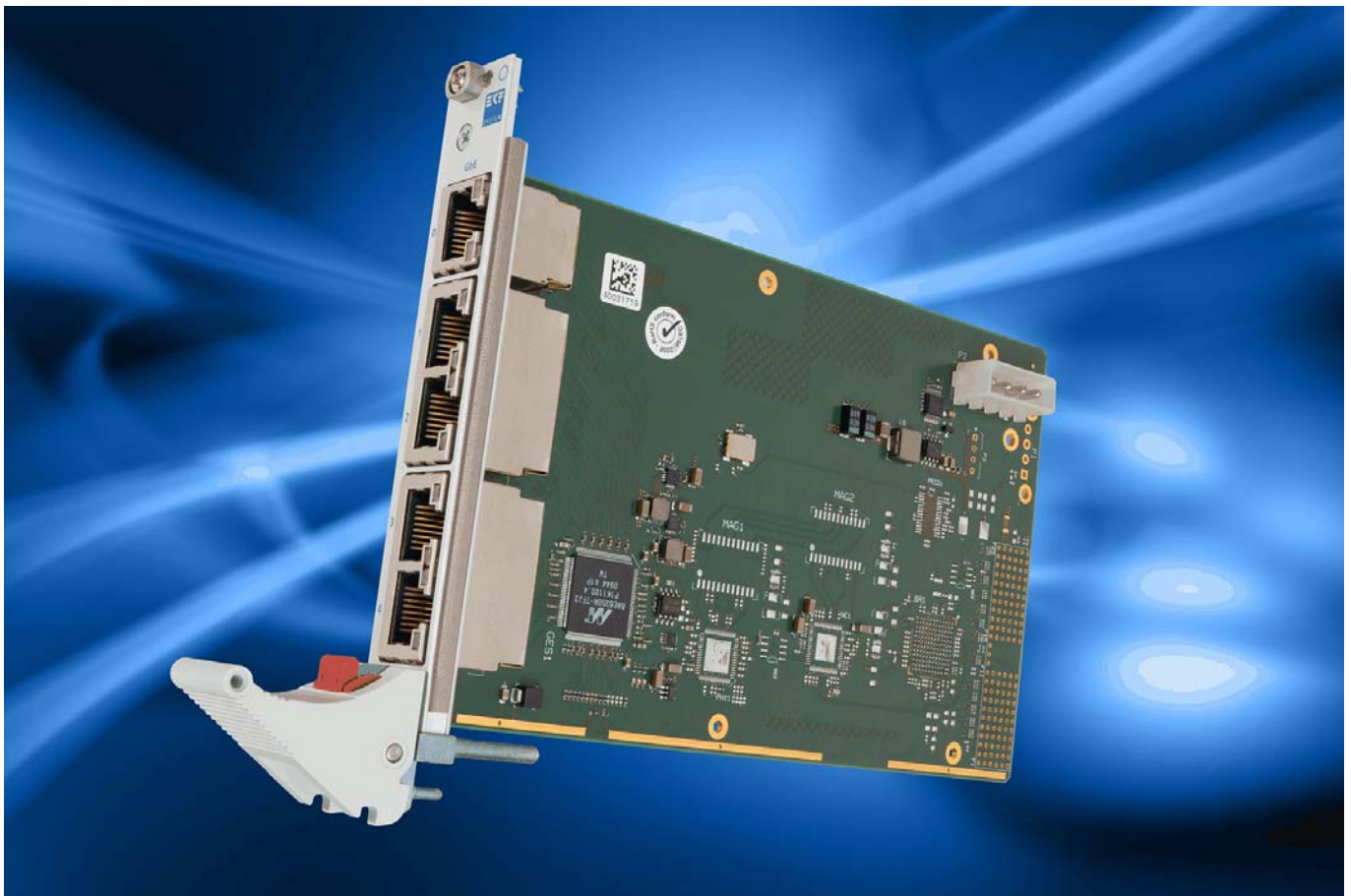
Theory of Operation

The CL1-COMBO is merely a single chip solution, built around the Marvell® 88E6350R Gigabit Ethernet switch, which provides many built-in network and security features. Advanced (external) management would require the optional RJ-11 SMI (Serial Management Interface) connector to be stuffed, for attachment of the Marvell® USB-2-SMI adapter module. The Windows® based Marvell® SOHO-GUI then can be used to access the device internal registers and tables. Modifications made to the configuration of the switch are stored permanently in an EEPROM on the CL1-COMBO.

A sixth internal RJ-45 GbE jack is available as an option, on an exclusive base to the CompactPCI® backplane port option.

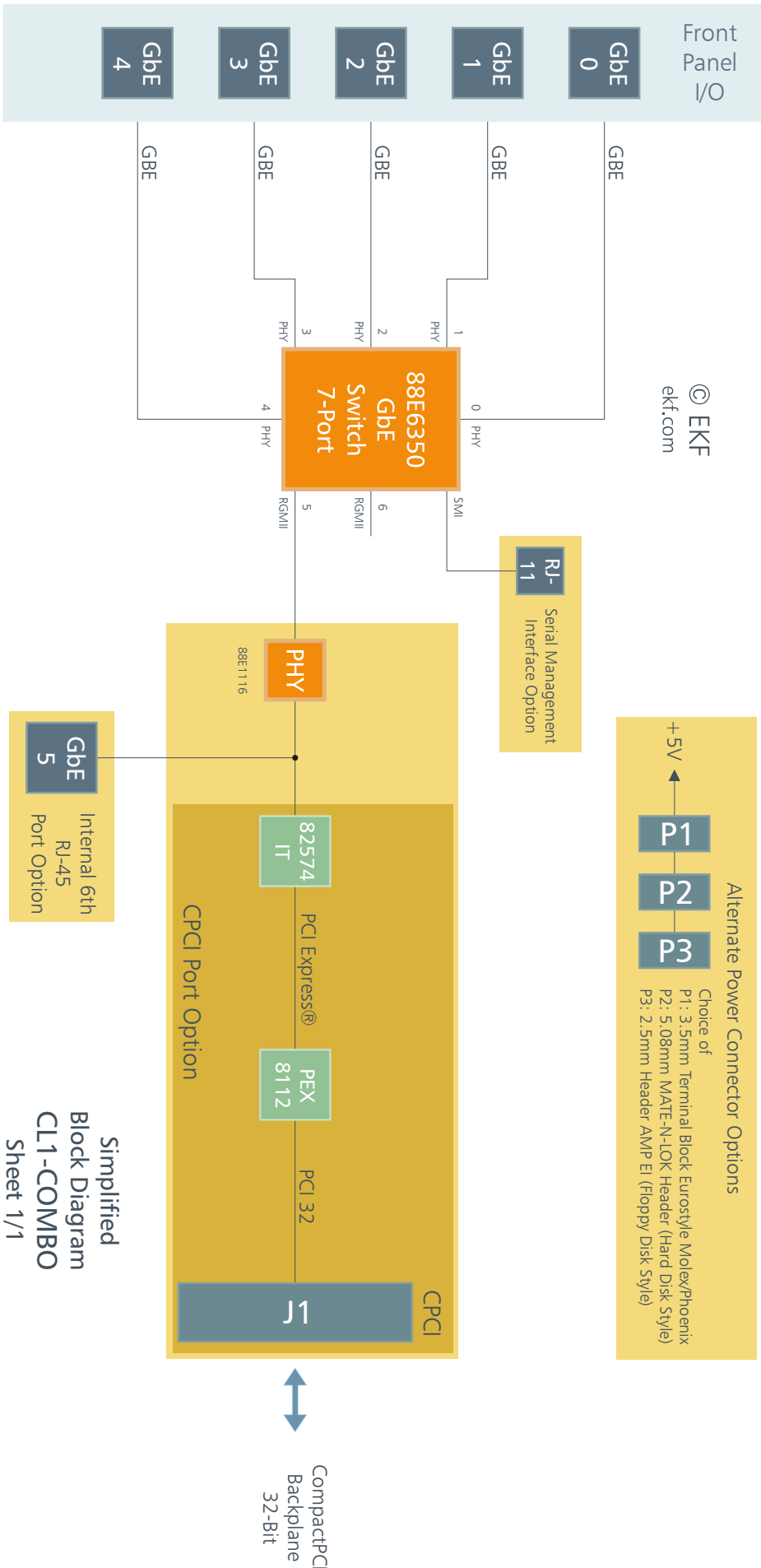
For stand-alone operation of the CL1-COMBO, other +5V power supply connector options are available as an alternate to the CPCI connector J1, e.g. the popular hard disk style MATE-N-LOK header (suitable e.g. for ATX power supplies).

The GbE switch circuitry will be reset at power-up, but can be also manually reset by depressing the red ejector lever button (CPCI reset pass-through available as an option).



CL1-COMBO • Stand-Alone (MATE-N-LOK Power Connector)

Block Diagram



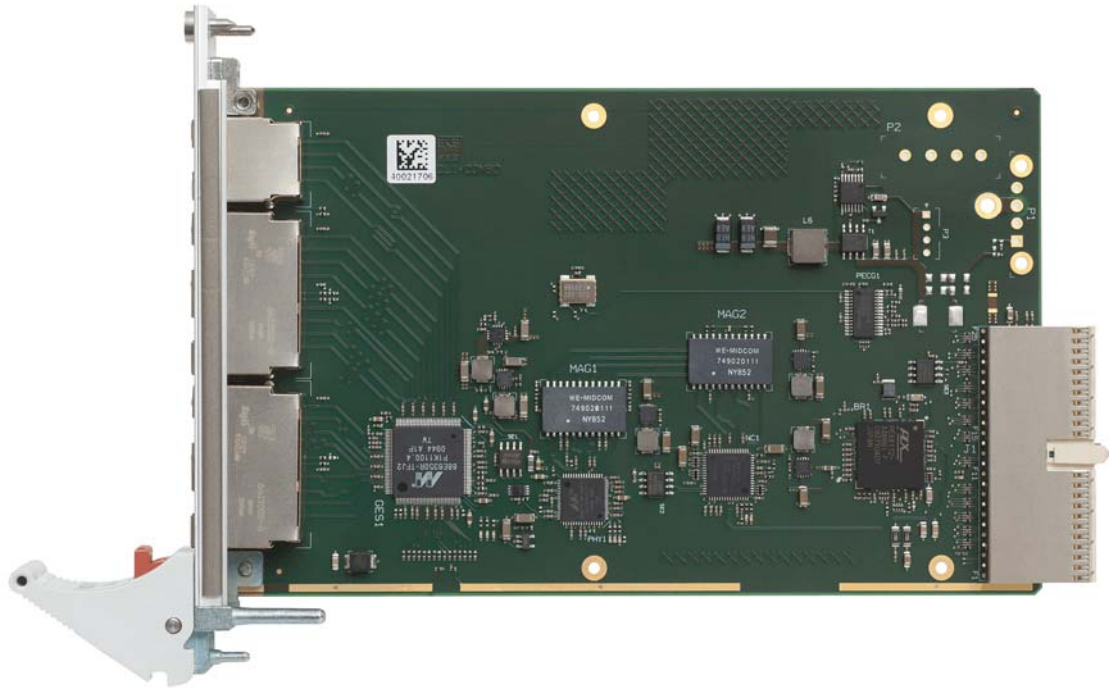
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Front Panel Options

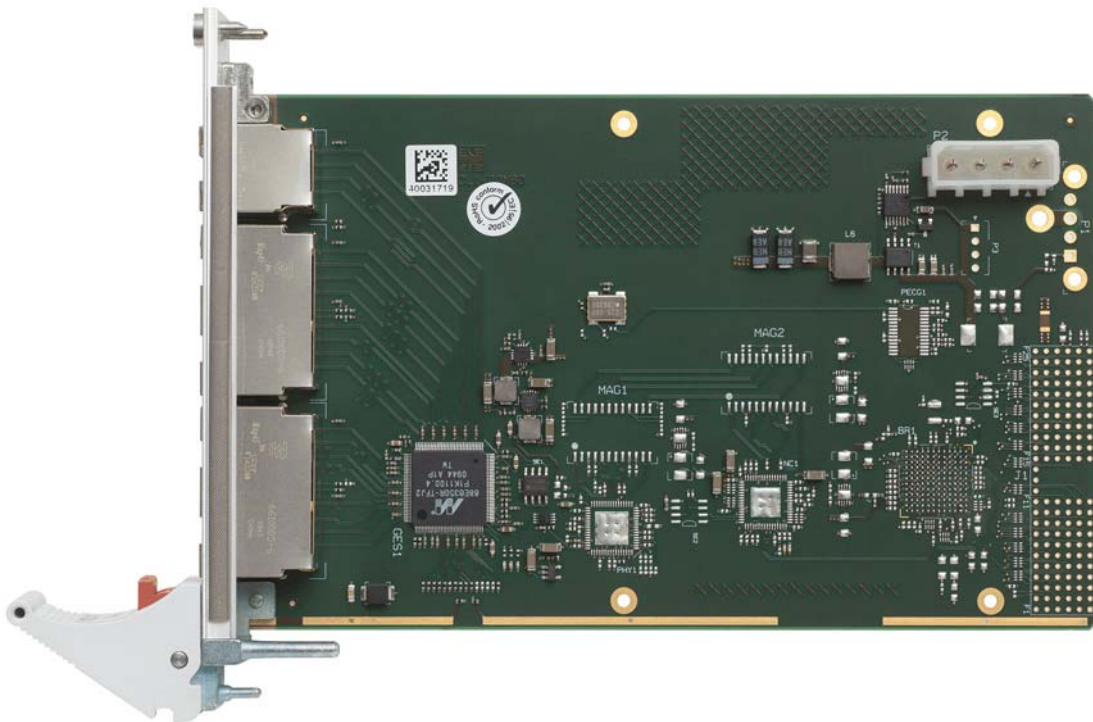


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CL1-COMBO



CL1-COMBO Top View • Option CompactPCI®

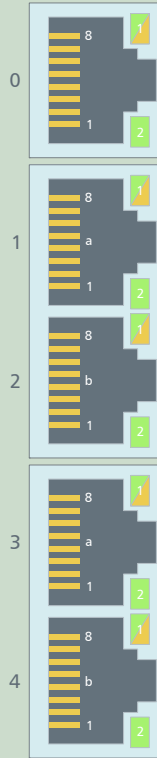


CL1-COMBO Top View • Stand-Alone Version



CL1-COMBO • Stand-Alone Version

Gigabit Ethernet • 270.01.08.05 Single RJ45 Jack • 270.02.08.5 2 x Dual RJ45 Jacks



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Upper LEDs (1):
yellow=1Gbit/s green=100Mbit/s off=10Mbit/s

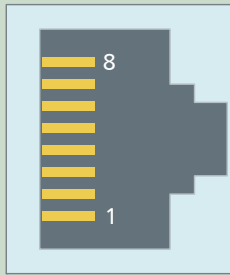
Lower green LEDs (2):
on=link established blinking=activity (data)

Ports
0-4

1	MDX0+
2	MDX0-
3	MDX1+
4	MDX2+
5	MDX2-
6	MDX1-
7	MDX3+
8	MDX3-

Option Gigabit Ethernet • 270.01.08.06 • Single RJ-45 Jack

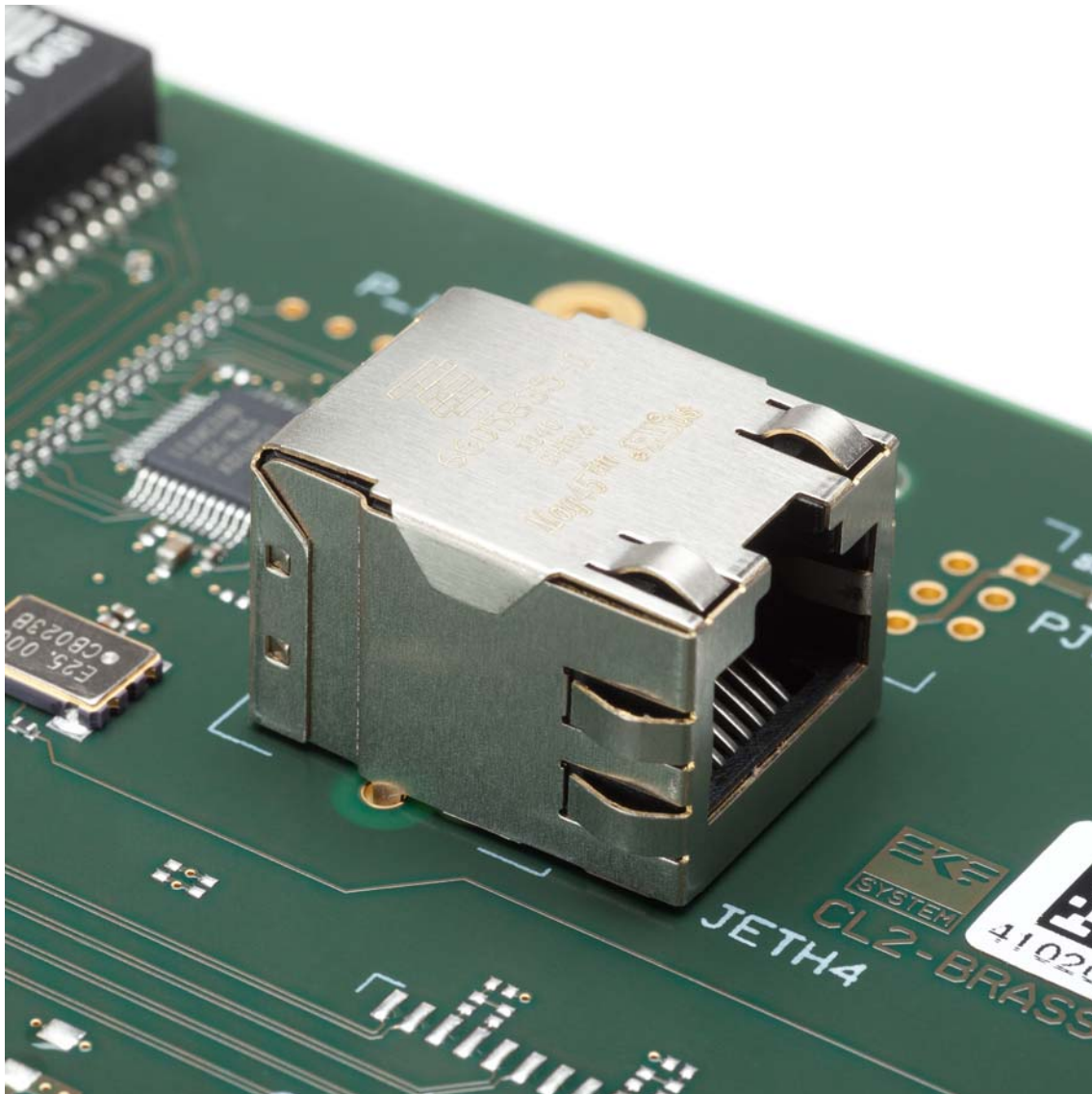
270.01.08.06



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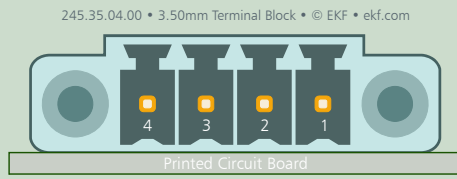
Port 5

1	MDX0+
2	MDX0-
3	MDX1+
4	MDX2+
5	MDX2-
6	MDX1-
7	MDX3+
8	MDX3-



Option on-Board RJ-45 Gigabit Ethernet Port 5 (Picture Similar)

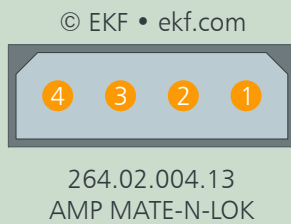
P1 (Option) +5V Power Stand-Alone • 245.35.04.00 • 3.50mm Terminal Block



1	+5V
2	GND
3	Reserved/Shield
4	NC

The CL1-COMBO can be optionally provided with a 3.50mm terminal block for attachment of external +5V power to the board. The terminal block header is a Phoenix Contact #1843813 or Molex #39506-1004 or equivalent, which mates with a Phoenix Contact #1847071 or Molex #39504-0004 plug. The plug can be fixed by two M2 screws.

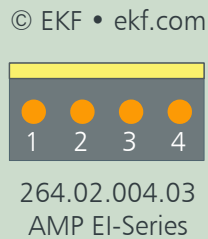
P2 (Option) +5V Power Stand-Alone • 264.02.004.13 • MATE-N-LOK



1	NC
2	GND
3	GND
4	+5V

The CL1-COMBO can be optionally provided with a MATE-N-LOK header for attachment of +5V power on pin 4. This header is suitable for most ATX style power supplies (also in use on hard disk drives).

P3 (Option) +5V Power Stand-Alone • 264.02.004.03 • EI-Series Header



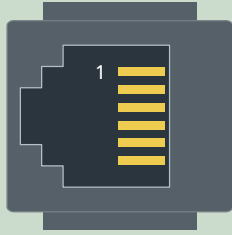
1	+5V
2	GND
3	GND
4	NC

The CL1-COMBO can be optionally provided with an AMP EI-Series header for attachment of +5V power on pin 1. This header is suitable for some ATX style power supplies (also in use on floppy disk drives).

Warning:

Assembly may not be protected against misalignment with respect to +5V and GND
Confusing pins may cause permanent damage to the board

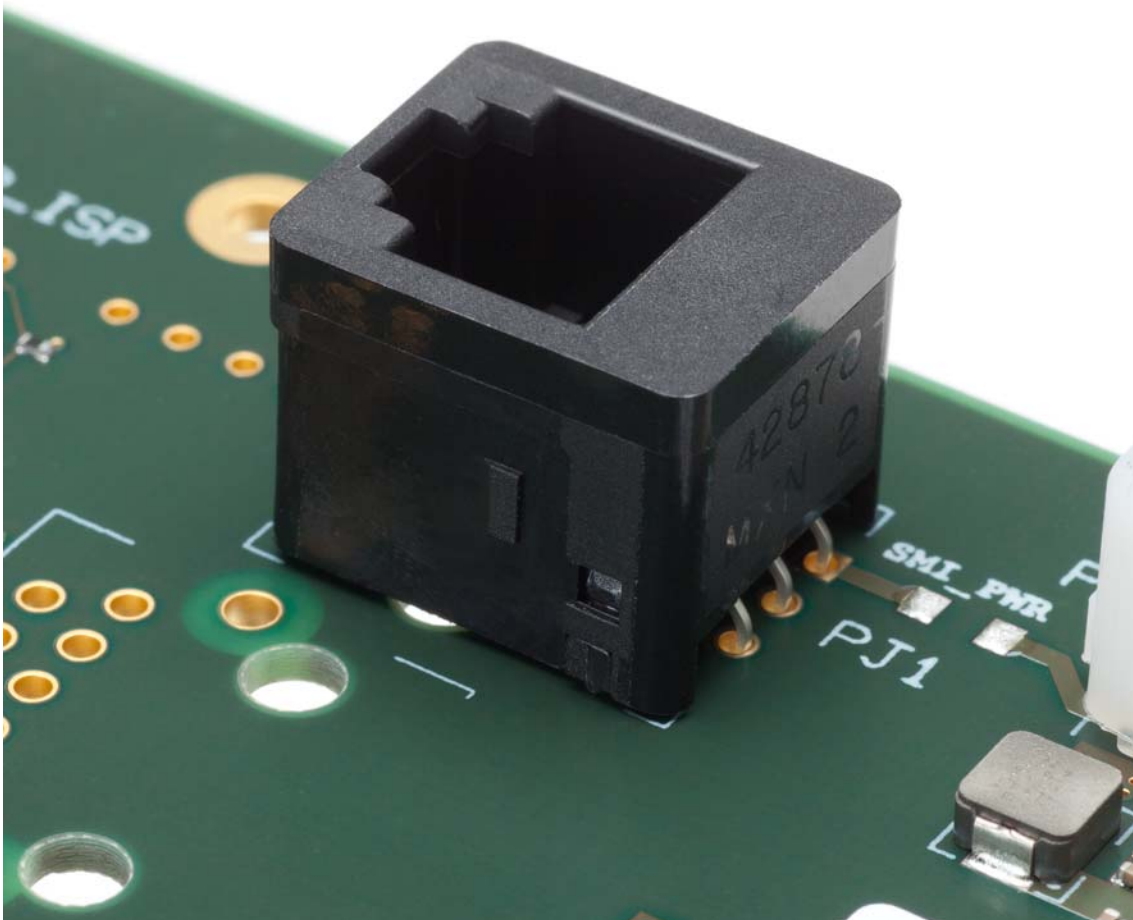
Option Serial Management Interface • 270.10.06.00 • RJ-11 Modular Jack



270.10.06.00
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1	+5V
2	SMI DATA
3	GND
4	GND
5	SMI CLOCK
6	+5V

The CL1-COMBO may be optionally provided with an RJ-11 jack for attachment of the Marvell® USB-2-SMI adapter module. The Windows® based Marvell® SOHO-GUI then can be used to access the switch internal registers and tables. The USB-2-SMI is connected to the CL1-COMBO by means of a four lead cable (only pins 2 - 5 from the table above in use). The USB-2-SMI adapter module must be ordered directly from Marvell®. Signing of a Marvell® non-disclosure agreement (NDA) may be required. Please contact your nearest Marvell® sales office or distributor in your area, which can be located at <http://extranet.marvell.com/sales/>.



Management Interface Option (Picture Similar)

Related Information

CL1-COMBO Home: www.ekf.com/c/cnic/cl1/cl1.html

CL2-BRASS Home: www.ekf.com/c/cnic/cl2/cl2.html
(similar to CL1-COMBO but 5 x M12 F/P Circular Connectors)

Marvell® 88E6350R Product Brief (Marvell® Website)
http://www.marvell.com/switching/assets/marvell_linkstreet_88E6350r_product_brief.pdf

Ordering Information

For popular CL1-COMBO SKUs please refer to
www.ekf.com/liste/liste_20.html#CL1



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