

Users guide

Rev. 1.6 (06/06/2016)

CompactPCI Serial power backplane and power adapter boards



Front view



Rear view

63972-334 (User Guide CPCI Serial PowerBP Rev 1.6)

information about producer

Pentair Technical Solutions GmbH
D-75334 Straubenhardt

The details in this manual have been carefully compiled and checked - supported by certified Quality Management System to EN ISO 9001/2000.

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CompactPCI Serial is a new standard that supports the fast serial protocols PCI Express, Serial ATA, USB and Ethernet. The payload power is +12 V. For wake-up events an additional +5 V Standby voltage is defined.



About CompactPCI Serial

The Schroff CompactPCI Serial power backplane accepts a pluggable power supply with FCI PwrBlade connector and the pinout is specified in this user guide. Pentair offers a range of Schroff pluggable power supplies for CompactPCI Serial applications with AC and DC input and different output power which fit to the power backplanes. Please refer to www.pentairprotect.com for further information.

The Schroff pluggable CompactPCI Serial power supplies and the Schroff CompactPCI Serial power backplane is developed in accordance to the power definition within the CompactPCI Serial Specification PICMG CPCI-S.0.

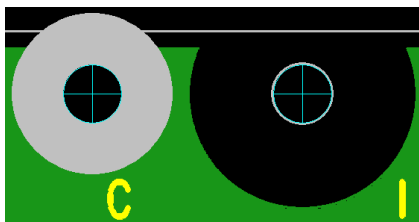
Assembly instructions & general information

Mounting

Attach the power backplane using every non-plated mounting hole at the top and the bottom to fix the backplane to the system / subrack with M2.5 screws.

Chassis GND

If only the non-plated mounting holes are used the backplane GND will be isolated from the chassis GND. On the top and bottom mounting hole rows there are 2 mounting holes near each other, one plated, marked with a "C" and one non-plated, marked with an "I".



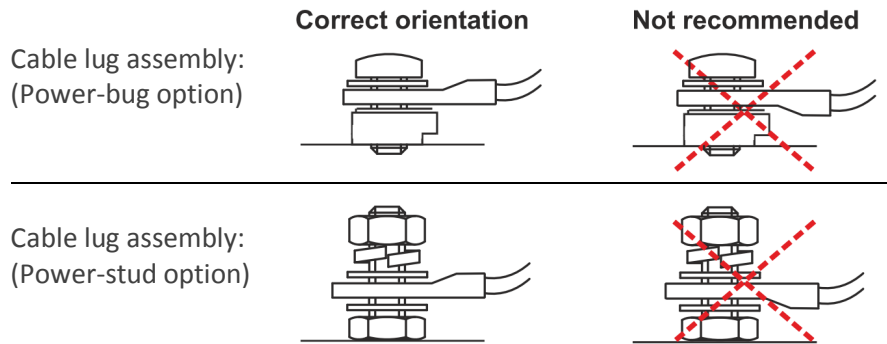
*Mounting holes for „I“
isolated or „C“ connected
mounting of backplane
GND to Chassis GND*

If connected mounting of the backplane is required, please assemble screws in each plated mounting hole of the backplane. Spring washers are recommended instead of flat washers.

If both grounds are isolated, creepage and clearance between screw and digital GND are in accordance with EN60950.

Power output

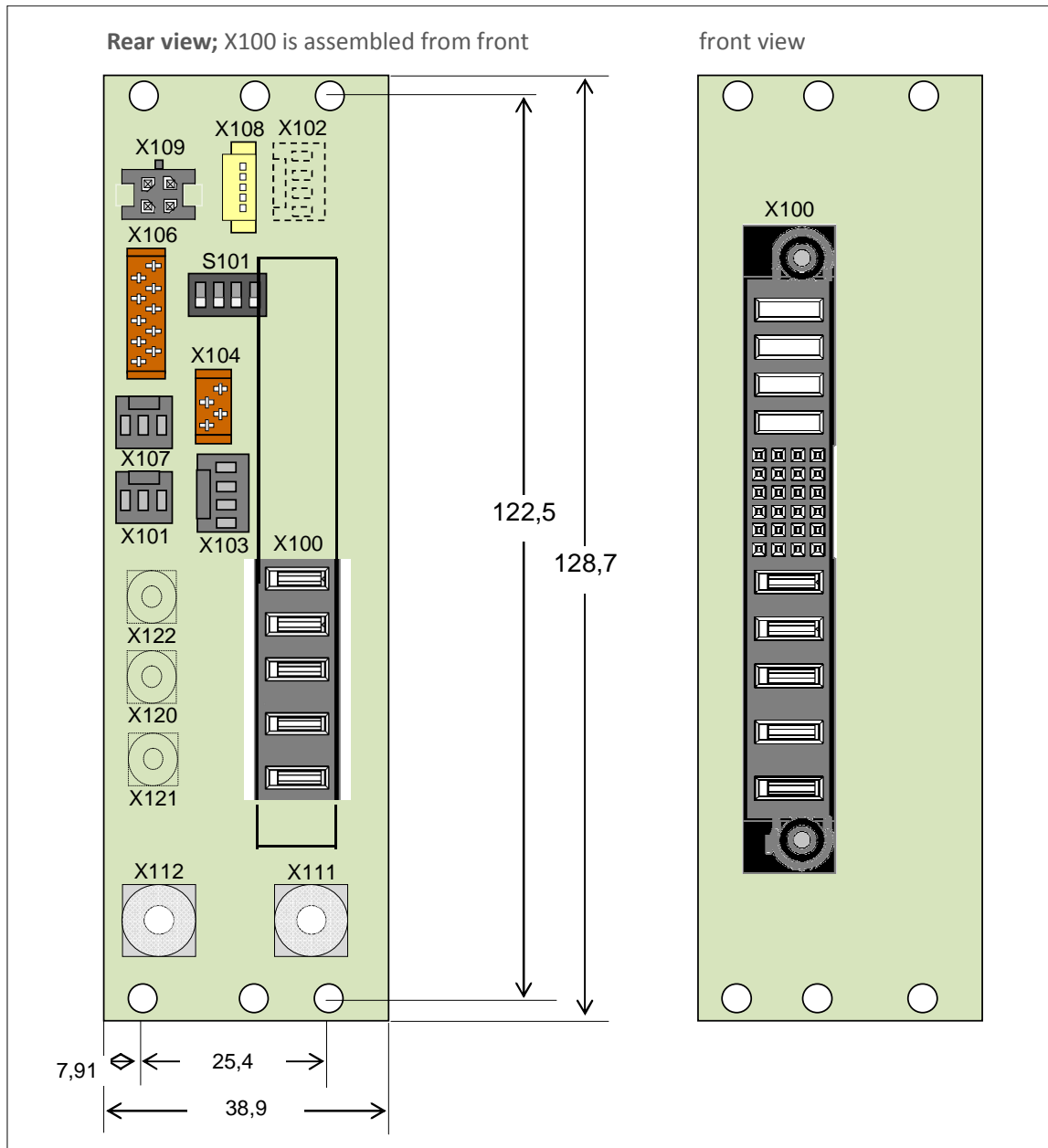
The backplane provides power terminals with M4 thread power bugs to connect power cables for +12 V and GND. M4 cable lugs should be used to connect the power cables to the power bugs. A maximum of 2 cable lugs are recommended per power bug. Please assemble the cable lugs with the flat side to the power bug to ensure the correct isolation distance between the not insulated part of the power cable and not insulated parts of the backplane.




For harsh environments with very high shock and vibration values a power stud with nuts is recommended. Schroff CompactPCI Serial backplanes are already prepared to accept a power stud instead of the power bugs assembled as standard option. Please ask your Schroff sales contact for a configured version with M4 power studs assembled or send an inquiry to backplanes@pentair.com. The power stud accepts a maximum of 2 cable lugs.



Power backplane connectors



 not assembled by default



Utility connector (X106)	
Tyco 8-338069-0	
Pin	Signal
1	RTN_Sense
2	STNDBY / IPMB_PWR
3	+12 V Sense
4	INH/PS_ON#
5	PWRBTN#
6	PWR_FAIL#
7	WAKE_IN#
8	PRST#
9	IPMB_SDA
10	IPMB_SCL

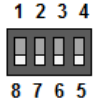
+5 V standby (X109)	
Molex: 44914-0401	
Pin	Signal
1	GND
2	STNDBY / IPMB_PWR
3	GND
4	STNDBY / IPMB_PWR (+5 V)
Max. 8.55 Amp per contact	


IPMB connector (optional) (X108)	
Molex: 53398-0571	
* = not assembled by default	
Pin	Signal
1	IPMB_SCL
2	GND
3	IPMB_SDA
4	STNDBY / IPMB_PWR
5	n.c.


UPS connector (X101)	
Pin	Signal
1	UPS_TX
2	GND
3	UPS_RX


Power connector (X100)					
FCI: 51940-473ULLH					
Pin	Signal	Pin	Signal	Pin	Signal
P1	L	D6	STNDBY/IPM_PWR	B6	GND
P2	N	D5	DEG#	B5	IPMB_SCL
P3	PE	D4	GND	B4	A1
P4	DC_IN	D3	PSPRESENT	B3	INH/OS_ON#
P5	DC_RTN	D2	PWR_FAIL#	B2	+12 V_SHARAE
P6	GND	D1	DIO1	B1	DIO3
P7	GND	C6	STNDBY/IPMB_PWR	A6	EM#
P8	+12 V	C5	VAUX	A5	IPMB_SDA
P9	+12 V	C4	A0	A4	A2
		C3	UPS_TX	A3	+12 V_Sense
		C2	UPS_RX	A2	RTN_Sense
		C1	DIO2	A1	DIO4

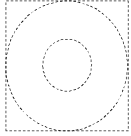
Power button (X107)	
Pin	Signal
1	PWRBTN#
2	GND
3	PRST#

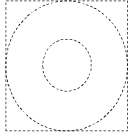
PSU address (S101)	
	
Pin	Signal
1	RTN_Sense
2	STNDBY / IPMB_PWR
3	+12 V Sense
4	INH/PS_ON#
5	PWRBTN#
6	PWR_FAIL#
7	WAKE_IN#
8	PRST#
9	IPMB_SDA
10	IPMB_SCL

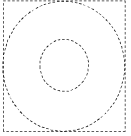
+12 V Current share (X104)	
	
Pin	Signal
1	GND
2	STNDBY / IPMB_PWR
3	GND
4	STNDBY / IPMB_PWR (+5 V)

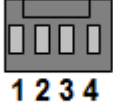
+12 V connector (X112)	
	
Pin	Signal
1	+12 V
max. 120 Amp	

GND connector (X111)	
	
Pin	Signal
1	GND
max. 120 Amp	

+12 V connector (X120)	
	
Pin	Signal
1	+12 V

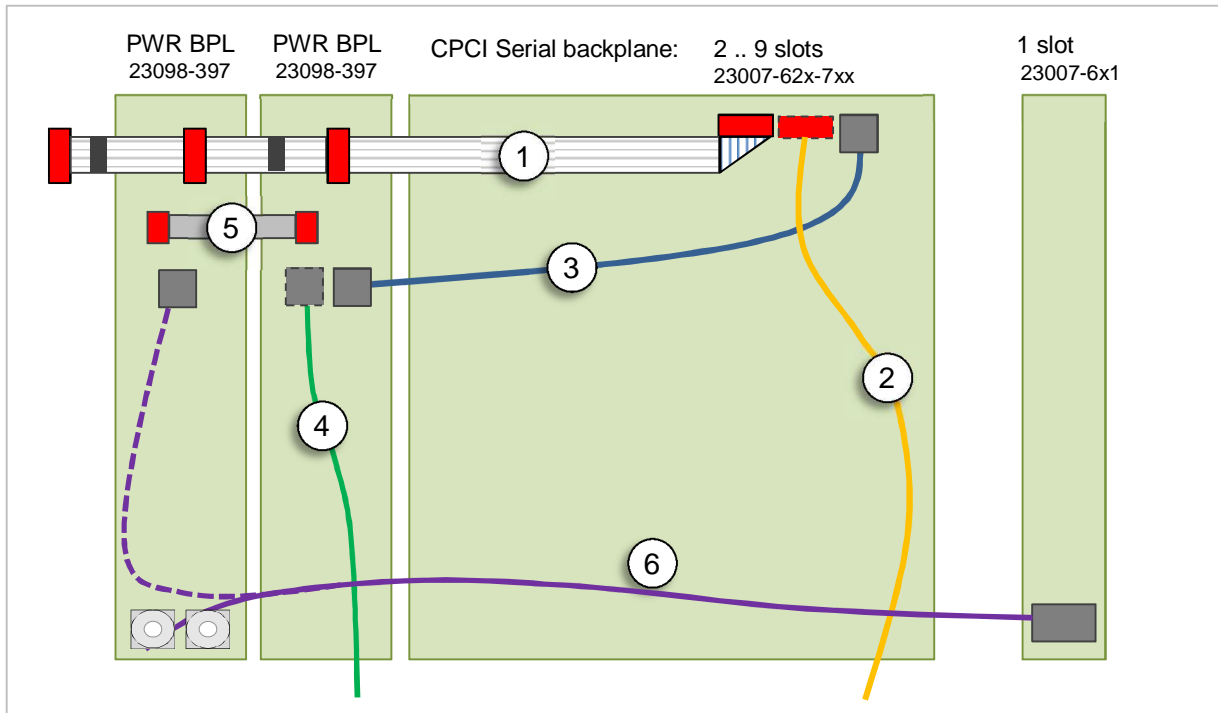
GND connector (X121)	
	
Pin	Signal
1	GND

STNDBY connector (X122)	
	
Pin	Signal
1	STNDBY / IPMB_PWR (+5 V)

PWR status connector (X103)	
	
Pin	Signal
1	DEG#
2	PSPRESENT
3	VAUX
4	PWR_FAIL#

Accessories

Pos	Item number	Description	Connector 1	Connector 2	Connector 3	Connector 4	Cable type	Length mm
1	23204-852	Utility cable	10 pin Micromatch	Open end	-	-	Discrete wire	600
2	23204-875	Utility cable	10 pin Micromatch	10 pin Micromatch	10 pin Micromatch	10 pin Micromatch	Ribbon cable	650
3	23204-866	Standby cable	4 pin Microfit	4 pin Microfit	4 pin Microfit	-	Discrete wire	400
4	23204-853	Standby cable	4 pin Microfit	2x loop terminal	-	-	Discrete wire	600
5	23204-867	Current share cable	4 pin Micromatch	4 pin Micromatch	-	-	Ribbon cable	150
6	23204-869	1 slot power cable	6 pin Microfit	2x loop terminal	4 pin Microfit	-	Discrete wire	600

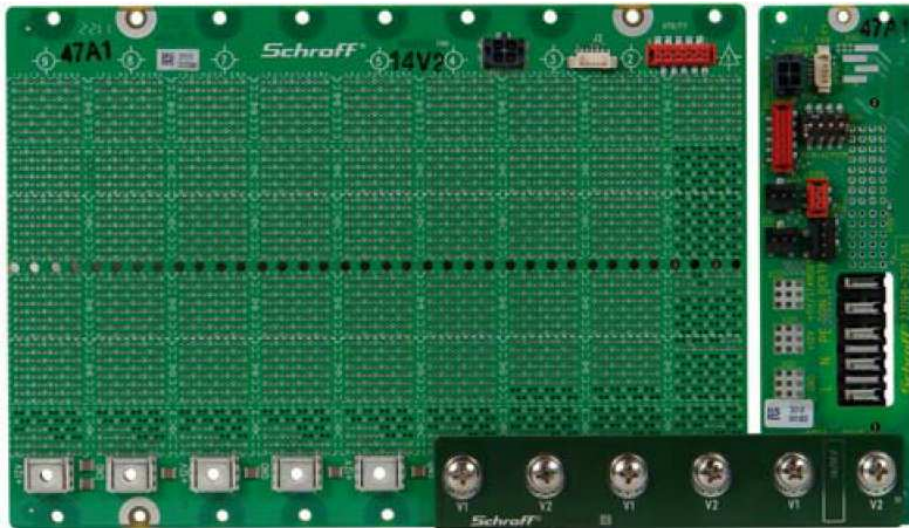


Cable connectors on the backplane rear side



Power adapter boards

The easiest way to connect the 12 V payload power between the CompactPCI Serial backplanes and the corresponding power backplane is the use of the Schroff power adapter boards. Those PCBs have voltage rails for 2 voltages inside (12 V and GND). They are mounted on the power bugs of the backplane and power backplane.



3U CompactPCI Serial backplane with power backplane connected by power adapter board, rear view

Description	Item number
Power adapter board, 3x V1, 3x V2, 121212	23098-399
Power adapter board, 2x V1, 2x V2, 1212	23098-400
Power adapter board, 3x V1, 3x V2, 122121	23098-401
Power adapter board, 2x V1, 2x V2, 1221	23098-402
Power adapter board, 4x V1, 4x V2, 12121212	23098-405
Power adapter board, 4x V1, 4x V2, 12122121	23098-406

Current carrying capacity

Power adapter boards: 60 Amp with < 25 K temperature rise, 70 Amp with < 32 K temperature rise

Power backplane power bug (X111, X112): 120 Amp

CompactPCI Serial backplane power bug: 30 Amp



<p>3 slot backplane system slot right, power backplane on left-hand side</p> <table border="1"> <tr> <td>GND</td><td>12V</td><td>GND</td><td>12V</td><td>GND</td> </tr> <tr> <td>V1</td><td>V2</td><td>V1</td><td>V2</td><td></td> </tr> </table>	GND	12V	GND	12V	GND	V1	V2	V1	V2		PAB orientation	Item number						
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12V	GND	GND	12V	GND	12V	GND	12V	GND	12V															
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9 slot backplane system slot right, power backplane on left-hand side	PAB orientation	Item number																						
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Configurations with two power backplanes

2 slot backplane system slot right, power backplanes on right-hand side	PAB orientation	Item number																
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V1	V2	V1	V2	V2	V1													
2 slot backplane system slot right, power backplanes on left-hand side	PAB orientation	Item number																
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3 slot backplane system slot right, power backplanes on right-hand side	PAB orientation	Item number																
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GND	12V	GND	12V	GND	12V	GND												
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4 slot backplane system slot right, power backplanes on right-hand side	PAB orientation	Item number																
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