

3U Open VPX BACKPLANE BKP3-CEN09-15.2.17-3

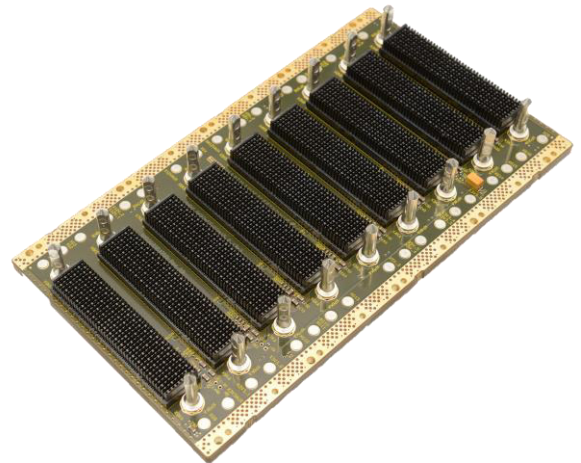
VITA 46
VITA 65



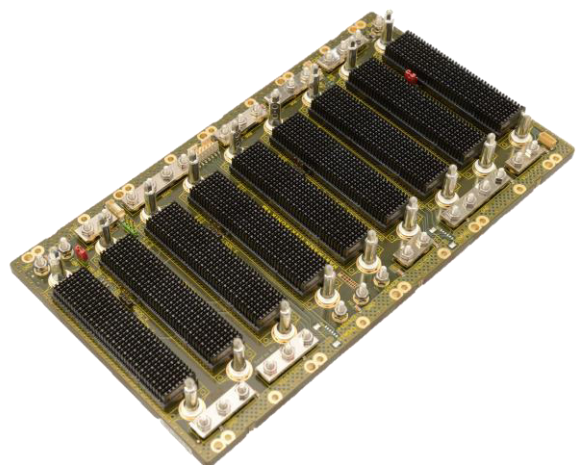
Key figures:

- Compliant to VITA 46.0 baseline specification 
- Compliant to VITA 65 Open VPX
- 9 Slots VPX, 8 Payload Slots , 1 Switch Slots
- M3 studs and ATX connector for power entry
- PCB size 128.5mm x 228.16mm x 5.4 mm
- 5 HP from slot to slot (25.40 mm)
- Flexible keying and alignment mechanism
- with geographical address pins
- Reference clock
- Battery backup option setting by Jumper X5. Vbat external or connected to 3.3 AUX
- System Management Interface on the backplane (I2C1, I2C2)
- Non-Volatile Memory Read Only signal set by Jumper BR1
- Power Consumption: VS1:VS2:VS3 = 126A : 126A : 135A
- System Reset
- Operating temperature: -40° - +85°C
- Storage temperature: -55°C - +85°C
- Flammability rating: UL94-V0
- Optional with: +5V termination
- Other configurations on request
- **Order number: B193811760**

Front side



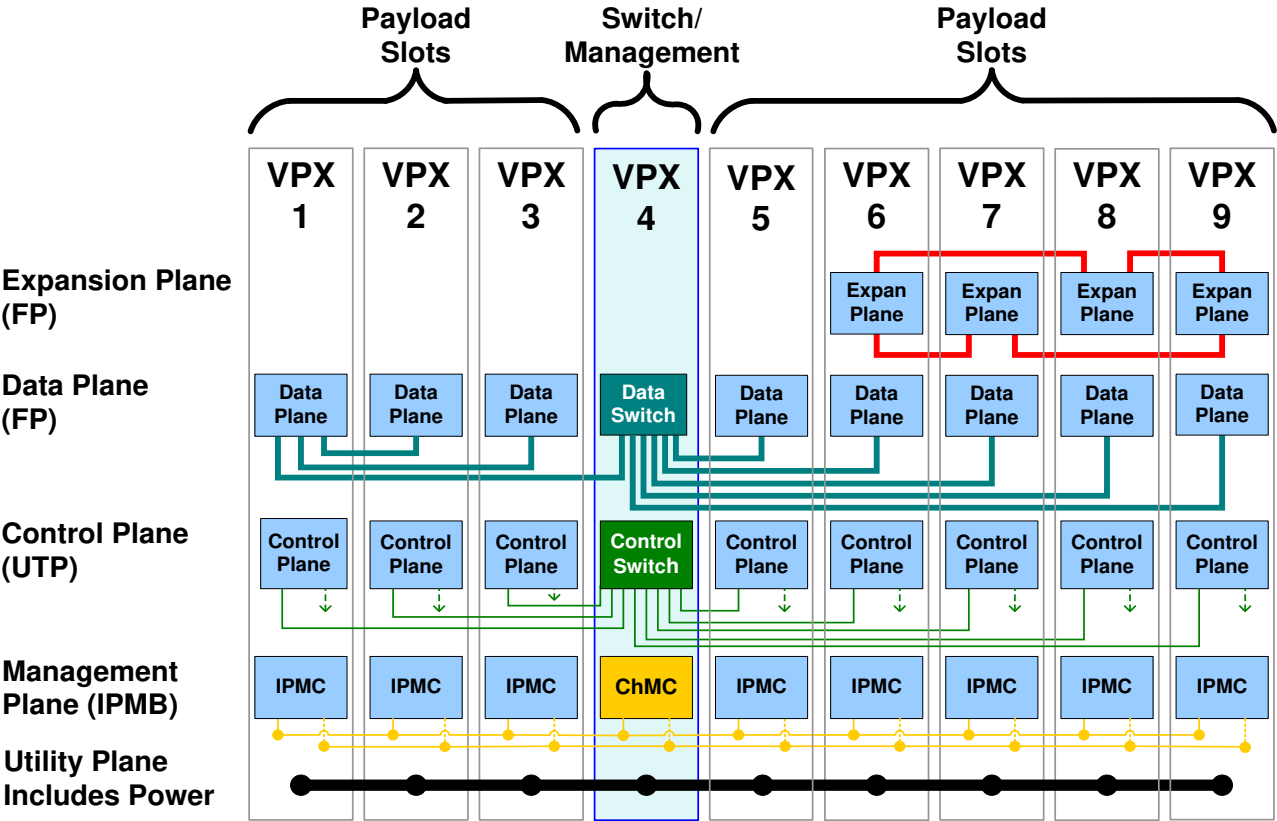
Rear side





1) Topology: BKP3-CEN09-15.2.17-n, (8 Payloads + 1 Switch)

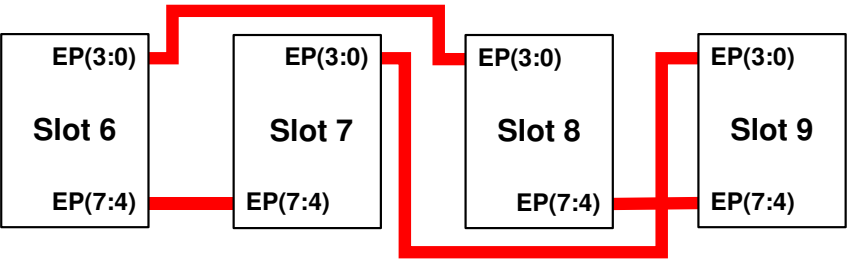
Profil Switch slot 4: SLT3-SWH-6F8U-14.4.9
Profil Payload slot 1: SLT3-PAY-3F2U-14.2.13
Profil Payload slots 2, 3, 5: SLT3-PAY-1F2U-14.2.12
Profil Payload slots 6-9: SLT3-PAY-1F2F2U-14.2.2



3U Open VPX BACKPLANE BKP3-CEN09-15.2.17-3	VITA 46 VITA 65	
--	--------------------	--

Expansion Plane Lanes of BKP3-CEN09-15.2.17-n

Expansion Plane lanes
Payload
slots 6-9 of 9-slot
backplane
(FP = 4 lanes)



Data Plane Port connections BKP3-CEN08-15.2.15-n

Logical Payload Slot	Payload Data Plane Port	Switch Data Plane Port
1	DP01	DP01
5	DP01	DP02
6	DP01	DP03
7	DP01	DP04
8	DP01	DP05
9	DP01	DS01

Logical Payload Slot	Payload Data Plane Port	Logical Payload Slot 1
2	DP01	DP03
3	DP01	DP02

3U Open VPX BACKPLANE BKP3-CEN09-15.2.17-3	VITA 46 VITA 65	

Control Plane Port connections BKP3-CEN09-15.2.17-n

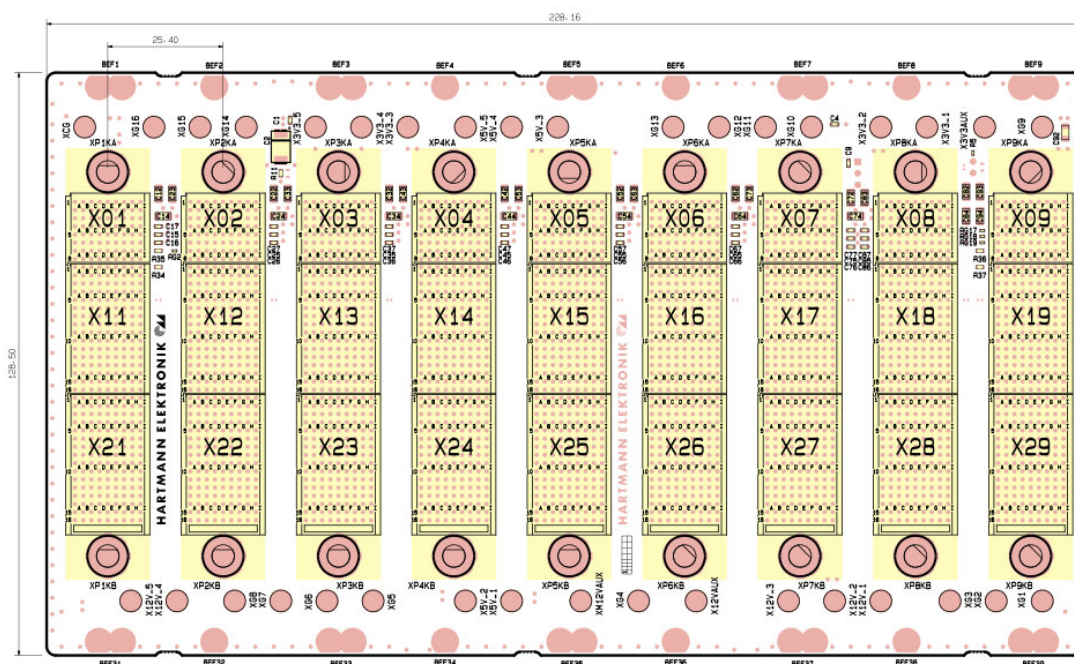
Logical Payload Slot	Payload Control Plane Port	Switch Control Plane Port
1	CPutp01	CPutp01
1	CPutp02	No Connect, can go to RTM
2	CPutp01	CPutp02
2	CPutp02	No Connect, can go to RTM
3	CPutp01	CPutp03
3	Cputp02	No Connect, can go to RTM
5	CPutp01	CPutp04
5	CPutp02	No Connect, can go to RTM
6	CPutp01	CPutp05
6	CPutp02	No Connect, can go to RTM
7	CPutp01	CPutp06
7	CPutp02	No Connect, can go to RTM
8	CPutp01	CPutp07
8	CPutp02	No Connect, can go to RTM
9	CPutp01	CSutp01
9	CPutp02	No Connect, can go to RTM

VITA 46
VITA 65

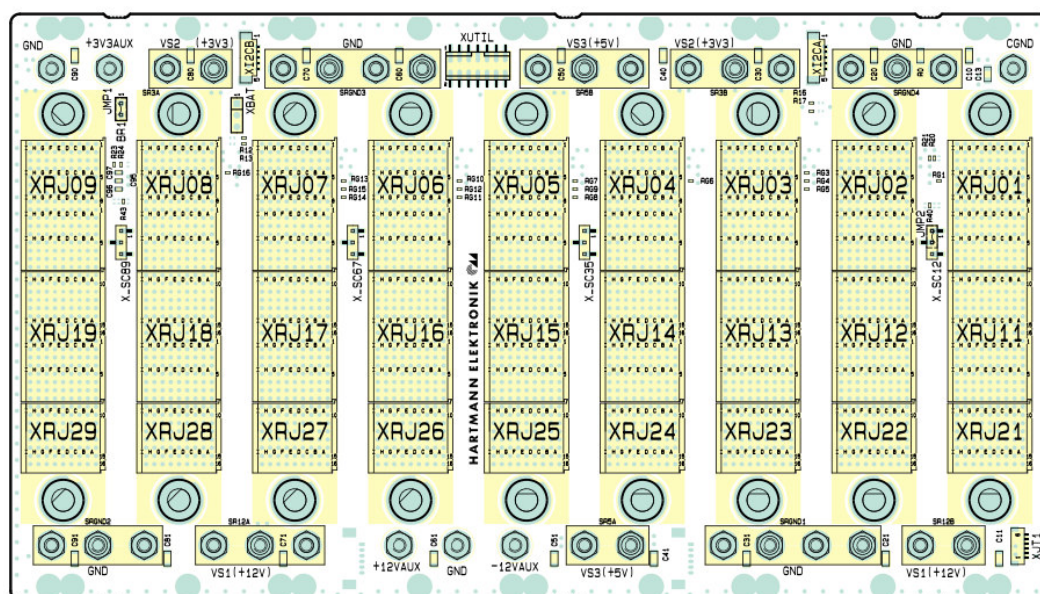


2) Drawings

Front side



Rear side



3U Open VPX
BACKPLANE
BKP3-CEN09-15.2.17-3

VITA 46
VITA 65



3) Pin Assignment

Utility Plane Signals on P0

	Row G	Row F	Row E	Row D	Row C	Row B	Row A
1	Vs1	Vs1	Vs1	No Pad*	Vs2	Vs2	Vs2
2	Vs1	Vs1	Vs1	No Pad*	Vs2	Vs2	Vs2
3	Vs3	Vs3	Vs3	No Pad*	Vs3	Vs3	Vs3
4	SM2	SM3	GND	-12V_Aux	GND	SYSRESET*	NVMRO
5	GAP*	GA4*	GND	3.3V_Aux	GND	SM0	SM1
6	GA3*	GA2*	GND	+12V_Aux	GND	GA1*	GA0*
7	TCK	GND	TDO	TDI	GND	TMS	TRST*
8	GND	REF_CLK-	REF_CLK+	GND	AUX_CLK-	AUX_CLK+	GND

Utility Plane Signals on J0

	Row i	Row h	Row g	Row f	Row e	Row d	Row c	Row b	Row a
1	Vs1	Vs1	Vs1	Vs1	No Pad*	Vs2	Vs2	Vs2	Vs2
2	Vs1	Vs1	Vs1	Vs1	No Pad*	Vs2	Vs2	Vs2	Vs2
3	Vs3	Vs3	Vs3	Vs3	No Pad*	Vs3	Vs3	Vs3	Vs3
4	GND	SM2	SM3	GND	-12V_Aux	GND	SYSRESET*	NVMRO	GND
5	GND	GAP*	GA4*	GND	3.3V_Aux	GND	SM0	SM1	GND
6	GND	GA3*	GA2*	GND	+12V_Aux	GND	GA1*	GA0*	GND
7	TCK	GND	GND	TDO	TDI	GND	GND	TMS	TRST*
8	GND	REF_CLK-	REF_CLK+	GND	GND	AUX_CLK-	AUX_CLK+	GND	GND

3U Open VPX
BACKPLANE
BKP3-CEN09-15.2.17-3

VITA 46
VITA 65



Payload Slot-1 Profile SLT3-PAY-3F2U 14.2.13 — P1 & J1

Plug-in module P1	Row G	Row F	Row E		Row D	Row C	Row B		Row A
Bplane J1	Row i	Row h	Even	Odd	Row e	Row d	Even	Odd	Row a
1	GDiscrete1	GND	GND-J1	DP01-TD0-	DP01-TD0+	GND	GND-J1	DP01-RD0-	DP01-RD0+
2	GND	DP01-TD1-	DP01-TD1+	GND-J1	GND	DP01-RD1-	DP01-RD1+	GND-J1	GND
3	P1-VBAT	GND	GND-J1	DP01-TD2-	DP01-TD2+	GND	GND-J1	DP01-RD2-	DP01-RD2+
4	GND	DP01-TD3-	DP01-TD3+	GND-J1	GND	DP01-RD3-	DP01-RD3+	GND-J1	GND
5	SYS_CON*	GND	GND-J1	DP02-TD0-	DP02-TD0+	GND	GND-J1	DP02-RD0-	DP02-RD0+
6	GND	DP02-TD1-	DP02-TD1+	GND-J1	GND	DP02-RD1-	DP02-RD1+	GND-J1	GND
7	Reserved	GND	GND-J1	DP02-TD2-	DP02-TD2+	GND	GND-J1	DP02-RD2-	DP02-RD2+
8	GND	DP02-TD3-	DP02-TD3+	GND-J1	GND	DP02-RD3-	DP02-RD3+	GND-J1	GND
9	UD	GND	GND-J1	DP03-TD0-	DP03-TD0+	GND	GND-J1	DP03-RD0-	DP03-RD0+
10	GND	DP03-TD1-	DP03-TD1+	GND-J1	GND	DP03-RD1-	DP03-RD1+	GND-J1	GND
11	UD	GND	GND-J1	DP03-TD2-	DP03-TD2+	GND	GND-J1	DP03-RD2-	DP03-RD2+
12	GND	DP03-TD3-	DP03-TD3+	GND-J1	GND	DP03-RD3-	DP03-RD3+	GND-J1	GND
13	UD	GND	GND-J1	UD	UD	GND	GND-J1	UD	UD
14	GND	UD	UD	GND-J1	GND	UD	UD	GND-J1	GND
15	Maskable Reset*	GND	GND-J1	CPutp02-TD-	CPutp02-TD+	GND	GND-J1	CPutp02-RD-	CPutp02-RD+
16	GND	CPutp01-TD-	CPutp01-TD+	GND-J1	GND	CPutp01-RD-	CPutp01-RD+	GND-J1	GND

Payload Slot-1 Profile SLT3-PAY-3F2U 14.2.13 — P2 & J2

Plug-in mod P2	Row G	Row F	Row E		Row D	Row C	Row B		Row A
Bplane J2	Row i	Row h	Even	Odd	Row e	Row d	Even	Odd	Row a

This connector is all User Defined pins.

3U Open VPX
BACKPLANE
BKP3-CEN09-15.2.17-3

VITA 46
VITA 65



Payload Slot-2, 3, 5 Profile SLT3-PAY-3F2U 14.2.13 — P1 & J1

Plug-in		Row G	Row F	Row E		Row D	Row C	Row B		Row A
module P1				Even	Odd			Even	Odd	
Bplane J1		Row i	Row h	Row g	Row f	Row e	Row d	Row c	Row b	Row a
1	Data Plane Port 1 1x4 / 2x2 / 4x1	GDiscrete1	GND	GND-J1	DP01-TD0-	DP01-TD0+	GND	GND-J1	DP01-RD0-	DP01-RD0+
2		GND	DP01-TD1-	DP01-TD1+	GND-J1	GND	DP01-RD1-	DP01-RD1+	GND-J1	GND
3		P1-VBAT	GND	GND-J1	DP01-TD2-	DP01-TD2+	GND	GND-J1	DP01-RD2-	DP01-RD2+
4		GND	DP01-TD3-	DP01-TD3+	GND-J1	GND	DP01-RD3-	DP01-RD3+	GND-J1	GND
5	User Defined	SYS_CON*	GND	GND-J1	UD	UD	GND	GND-J1	UD	UD
6		GND	UD	UD	GND-J1	GND	UD	UD	GND-J1	GND
7		Reserved	GND	GND-J1	UD	UD	GND	GND-J1	UD	UD
8		GND	UD	DU	GND-J1	GND	UD	UD	GND-J1	GND
9		UD	GND	GND-J1	UD	UD	GND	GND-J1	UD	UD
10		GND	UD	UD	GND-J1	GND	UD	UD	GND-J1	GND
11		UD	GND	GND-J1	UD	UD	GND	GND-J1	UD	UD
12		GND	UD	UD	GND-J1	GND	UD	UD	GND-J1	GND
13	Control Plane	UD	GND	GND-J1	UD	UD	GND	GND-J1	UD	UD
14		GND	UD	UD	GND-J1	GND	UD	UD	GND-J1	GND
15		Maskable Reset*	GND	GND-J1	CP utp02-TD-	CP utp02-TD+	GND	GND-J1	CP utp02-RD-	CP utp02-RD+
16		GND	CP utp01-TD-	CP utp01-TD+	GND-J1	GND	CP utp01-RD-	CP utp01-RD+	GND-J1	GND

Payload Slot-2, 3, 5 Profile SLT3-PAY-3F2U 14.2.13 — P2 & J2

Plug-in	Row G	Row F	Row E		Row D	Row C	Row B		Row A
mod P2			Even	Odd			Even	Odd	
Bplane J2	Row i	Row h	Row g	Row f	Row e	Row d	Row c	Row b	Row a

This connector is all User Defined pins.

3U Open VPX
BACKPLANE
BKP3-CEN09-15.2.17-3

VITA 46
VITA 65



Payload Slot-6-9 Profile SLT3-PAY-1F2F2U 14.2.2 — P1 & J1

Plug-In Module P1		Row G	Row F	Row E		Row D	Row C	Row B		Row A
				Even	Odd			Even	Odd	
Bplane J1		Row i	Row h	Row g	Row f	Row e	Row d	Row c	Row b	Row a
1	Data Plane Port 1 x4 / 2x2 / 4x1	GDiscrete1	GND	GND-J1	DP01-TD0-	DP01-TD0+	GND	GND-J1	DP01-RD0-	DP01-RD0+
2		GND	DP01-TD1-	DP01-TD1+	GND-J1	GND	DP01-RD1-	DP01-RD1+	GND-J1	GND
3		P1-VBAT	GND	GND-J1	DP01-TD2-	DP01-TD2+	GND	GND-J1	DP01-RD2-	DP01-RD2+
4		GND	DP01-TD3-	DP01-TD3+	GND-J1	GND	DP01-RD3-	DP01-RD3+	GND-J1	GND
5	Expan. Plane Port 1 x8 x4 / 2x2 / 4x1	SYS_CON*	GND	GND-J1	EP00-TD-	EP00-TD+	GND	GND-J1	EP00-RD-	EP00-RD+
6		GND	EP01-TD-	EP01-TD+	GND-J1	GND	EP01-RD-	EP01-RD+	GND-J1	GND
7		Reserved	GND	GND-J1	EP02-TD-	EP02-TD+	GND	GND-J1	EP02-RD-	EP02-RD+
8		GND	EP03-TD-	EP03-TD+	GND-J1	GND	EP03-RD-	EP03-RD+	GND-J1	GND
9	Expan. Plane Port 2 x8 x4 / 2x2 / 4x1	UD	GND	GND-J1	EP04-TD-	EP04-TD+	GND	GND-J1	EP04-RD-	EP04-RD+
10		GND	EP05-TD-	EP05-TD+	GND-J1	GND	EP05-RD-	EP05-RD+	GND-J1	GND
11		UD	GND	GND-J1	EP06-TD-	EP06-TD+	GND	GND-J1	EP06-RD-	EP06-RD+
12		GND	EP07-TD-	EP07-TD+	GND-J1	GND	EP07-RD-	EP07-RD+	GND-J1	GND
13	User Defined	UD	GND	GND-J1	UD	UD	GND	GND-J1	UD	UD
14		GND	UD	UD	GND-J1	GND	UD	UD	GND-J1	GND
15	Control Plane	Maskable Reset*	GND	GND-J1	CPutp02- TD-	CPutp02- TD+	GND	GND-J1	CPutp02- RD-	CPutp02- RD+
16		GND	CPutp01- TD-	CPutp01- TD+	GND-J1	GND	CPutp01- RD-	CPutp01- RD+	GND-J1	GND

Payload Slot-6-9 Profile SLT3-PAY-1F2F2U 14.2.2 — P2 & J2

Plug-in mod P2	Row G	Row F	Row E		Row D	Row C	Row B		Row A
			Even	Odd			Even	Odd	
Bplane J2	Row i	Row h	Row g	Row f	Row e	Row d	Row c	Row b	Row a

This connector is all User Defined pins.

3U Open VPX BACKPLANE BKP3-CEN09-15.2.17-3

VITA 46
VITA 65



Switch Slot Profile SLT3-SWH-6F8U 14.4.9 — P1 & J1

Plug-In Module P1		Row G	Row F	Row E		Row D	Row C	Row B		Row A
Bplane J1		Row i	Row h	Even	Odd	Row e	Row d	Even	Odd	Row a
1	Data Plane Port 1	GDiscrete1	GND	GND-J1	DP01-TD0-	DP01-TD0+	GND	GND-J1	DP01-RD0-	DP01-RD0+
2		GND	DP01-TD1-	DP01-TD1+	GND-J1	GND	DP01-RD1-	DP01-RD1+	GND-J1	GND
3		P1-VBAT	GND	GND-J1	DP01-TD2-	DP01-TD2+	GND	GND-J1	DP01-RD2-	DP01-RD2+
4		GND	DP01-TD3-	DP01-TD3+	GND-J1	GND	DP01-RD3-	DP01-RD3+	GND-J1	GND
5	Data Plane Port 2	SYS_CON*	GND	GND-J1	DP02-TD0-	DP02-TD0+	GND	GND-J1	DP02-RD0-	DP02-RD0+
6		GND	DP02-TD1-	DP02-TD1+	GND-J1	GND	DP02-RD1-	DP02-RD1+	GND-J1	GND
7		Reserved	GND	GND-J1	DP02-TD2-	DP02-TD2+	GND	GND-J1	DP02-RD2-	DP02-RD2+
8		GND	DP02-TD3-	DP02-TD3+	GND-J1	GND	DP02-RD3-	DP02-RD3+	GND-J1	GND
9	Data Plane Port 3	UD	GND	GND-J1	DP03-TD0-	DP03-TD0+	GND	GND-J1	DP03-RD0-	DP03-RD0+
10		GND	DP03-TD1-	DP03-TD1+	GND-J1	GND	DP03-RD1-	DP03-RD1+	GND-J1	GND
11		UD	GND	GND-J1	DP03-TD2-	DP03-TD2+	GND	GND-J1	DP03-RD2-	DP03-RD2+
12		GND	DP03-TD3-	DP03-TD3+	GND-J1	GND	DP03-RD3-	DP03-RD3+	GND-J1	GND
13	Data Plane Port 4	UD	GND	GND-J1	DP04-TD0-	DP04-TD0+	GND	GND-J1	DP04-RD0-	DP04-RD0+
14		GND	DP04-TD1-	DP04-TD1+	GND-J1	GND	DP04-RD1-	DP04-RD1+	GND-J1	GND
15		Maskable Reset*	GND	GND-J1	DP04-TD2-	DP04-TD2+	GND	GND-J1	DP04-RD2-	DP04-RD2+
16		GND	DP04-TD3-	DP04-TD3+	GND-J1	GND	DP04-RD3-	DP04-RD3+	GND-J1	GND

Switch Slot Profile SLT3-SWH-6F8U 14.4.9 — P2 & J2

Plug-In Module P2		Row G	Row F	Row E		Row D	Row C	Row B		Row A
Bplane J2		Row i	Row h	Even	Odd	Row e	Row d	Even	Odd	Row a
1	Data Plane Port 5	UD	GND	GND-J2	DP05-TD0-	DP05-TD0+	GND	GND-J2	DP05-RD0-	DP05-RD0+
2		GND	DP05-TD1-	DP05-TD1+	GND-J2	GND	DP05-RD1-	DP05-RD1+	GND-J2	GND
3		UD	GND	GND-J2	DP05-TD2-	DP05-TD2+	GND	GND-J2	DP05-RD2-	DP05-RD2+
4		GND	DP05-TD3-	DP05-TD3+	GND-J2	GND	DP05-RD3-	DP05-RD3+	GND-J2	GND
5	Data Plane Port 6	UD	GND	GND-J2	DS01-TD0-	DS01-TD0+	GND	GND-J2	DS01-RD0-	DS01-RD0+
6		GND	DS01-TD1-	DS01-TD1+	GND-J2	GND	DS01-RD1-	DS01-RD1+	GND-J2	GND
7		UD	GND	GND-J2	DS01-TD2-	DS01-TD2+	GND	GND-J2	DS01-RD2-	DS01-RD2+
8		GND	DS01-TD3-	DS01-TD3+	GND-J2	GND	DS01-RD3-	DS06-RD3+	GND-J2	GND
9	Control Plane Ports 1 - 8	UD	GND	GND-J2	CSutp01-TD-	CSutp01-TD+	GND	GND-J2	CSutp01-RD-	CSutp01-RD+
10		GND	CPutp05-TD-	CPutp05-TD+	GND-J2	GND	CPutp05-RD-	CPutp05-RD+	GND-J2	GND
11		UD	GND	GND-J2	CPutp04-TD-	CPutp04-TD+	GND	GND-J2	CPutp04-RD-	CPutp04-RD+
12		GND	CPutp03-TD-	CPutp03-TD+	GND-J2	GND	CPutp03-RD-	CPutp03-RD+	GND-J2	GND
13		UD	GND	GND-J2	CPutp02-TD-	CPutp02-TD+	GND	GND-J2	CPutp02-RD-	CPutp02-RD+
14		GND	CPutp01-TD-	CPutp01-TD+	GND-J2	GND	CPutp01-RD-	CPutp01-RD+	GND-J2	GND
15		UD	GND	GND-J2	Cputp07-TD-	Cputp07-TD+	GND	GND-J2	Cputp07-RD-	Cputp07-RD+
16		GND	CPutp06-TD-	CPutp06-TD+	GND-J2	GND	CPutp06-RD-	CPutp06-RD+	GND-J2	GND

3U Open VPX
BACKPLANE
BKP3-CEN09-15.2.17-3

VITA 46
VITA 65



4) I2C connector

There are 2 connectors for system- management XI2CA and XI2CB.

Part.Nb: X-MOL-53398-0510

For customer specific board assembly are Zero-Ohm resistors available.

Usable voltages for I2C are 3.3V-AUX

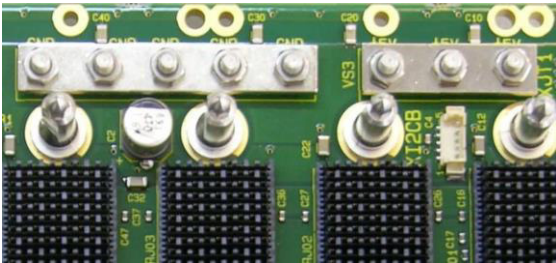
XI2CA / B

1	IPMB_SCL
2	GND
3	IPMBSDA
4	IPMB_PWR
5	NC

5) Power Studs M3

The main operating voltages (+12V, +3.3V, +5V) and GND are supplied with M3 screw terminals. The auxiliary operating voltages are supplied via M3 screw terminals.

Optimal daughter board supply and trouble-free operation are ensured by the arrangement of the feed modules on the backplane.



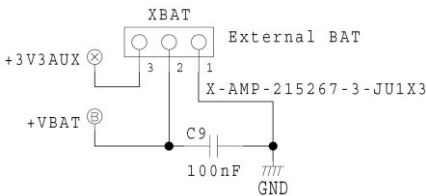
6) VBAT

Normally a battery voltage with approximately 3V is available at Pin VBAT of connector VPX-J1.

The voltage is externally accessible with connector X5 or internally using 3.3V_AUX by closing Jumper BR1.

VBAT

1	GND
2	+VBAT
2	+3.3V_AUX



7) NVMRO

If Jumper BR1 is closed NVRMO is set to memory writeable.

BR1

1	NVMRO
2	GND

**3U Open VPX
BACKPLANE
BKP3-CEN09-15.2.17-3**

**VITA 46
VITA 65**



8) SYSCON

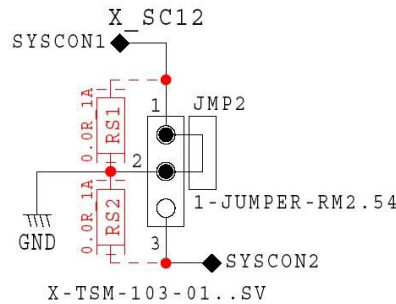
By setting the signal Syscon to GND the system slot is defined. In general the system slot is slot 1.

We offer 2 options for setting:

- Jumper (standard)
- 0 Ohm Resistor for rugged applications

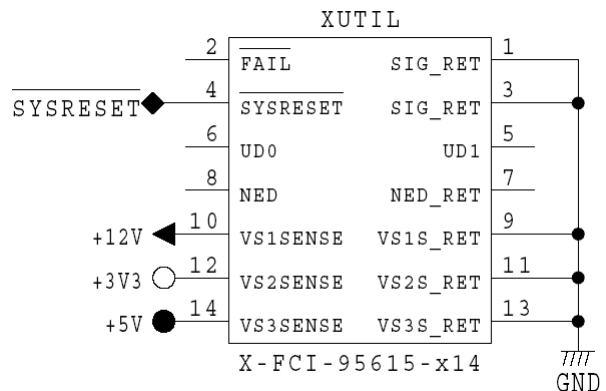
JMP2

1	SYSCON1
2	GND
3	SYSCON2



9) Utility

Special signals like sense signals for connection to the power supply are at the connector XUTIL.



Germany

Hartmann Electronic GmbH
Phone: +49 711 13 98 90
Fax: +49 711 8 66 11 91
vertrieb.he@kontron.com
www.hartmann-electronic.com

USA

Kontron
Fabian Hemmann
Phone: +1 937-324-2420
Mobile: +1 937 346 7878
fabian.hemmann@us.kontron.com
www.hartmann-electronic.com

France

Kontron Modular Computers S.A.S.
Serge Pichat
Phone: +33 (0)9 66 44 03 15
Mobile: +33 (0)6 82 62 16 00
Serge.pichat@kontron.com
www.hartmann-electronic.com

India

Hartmann Electronic GmbH
Vivek Deshpande
Phone: +1 91 20 66 74 51 23
Vivek.Deshpande@kontron.com
www.hartmann-electronic.com