

3U OpenVPX BACKPLANE
BKP3-CEN14-15.2.18-3

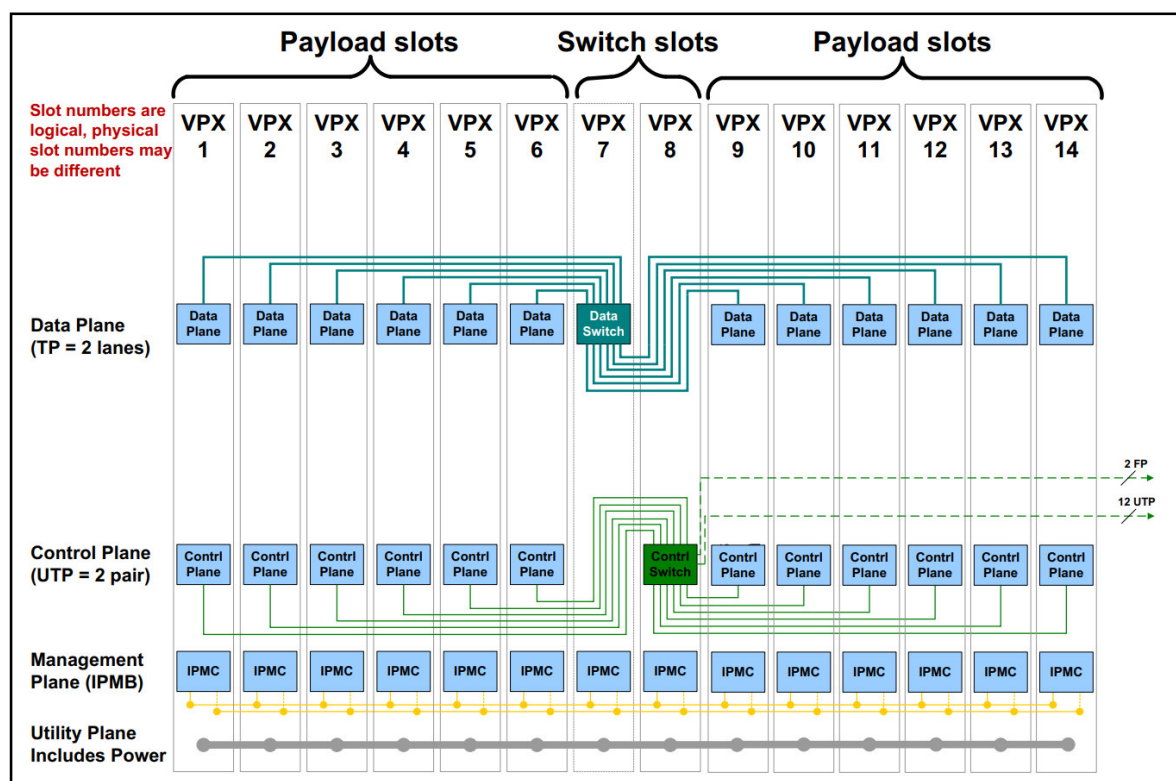
VITA 46
VITA 65



1) Topology: 14-Slot — BKP3-CEN14-15.2.18-3 (12 Payloads + 2 segregated Switches)

Profile Payload slots: SLT3-PAY-2F2U-14.2.3

Profile Switch slots: SLT3-SWH-6F6U-14.4.1, SLT3-SWH-2F24U-14.4.3



2) Data Plane Port connections

Logical Payload Slot	Payload Slot Data Plane Port	Slot 7 Switch Data Plane Port
1	DP01, D0-D1	DP01, D0-D1
2	DP01, D0-D1	DS01, D0-D1
3	DP01, D0-D1	DP05, D0-D1
4	DP01, D0-D1	DP04, D0-D1
5	DP01, D0-D1	DP03, D0-D1
6	DP01, D0-D1	DP02, D0-D1
9	DP01, D0-D1	DP02, D2-D3
10	DP01, D0-D1	DP03, D2-D3
11	DP01, D0-D1	DP04, D2-D3
12	DP01, D0-D1	DP05, D2-D3
13	DP01, D0-D1	DS01, D2-D3
14	DP01, D0-D1	DP01, D2-D3

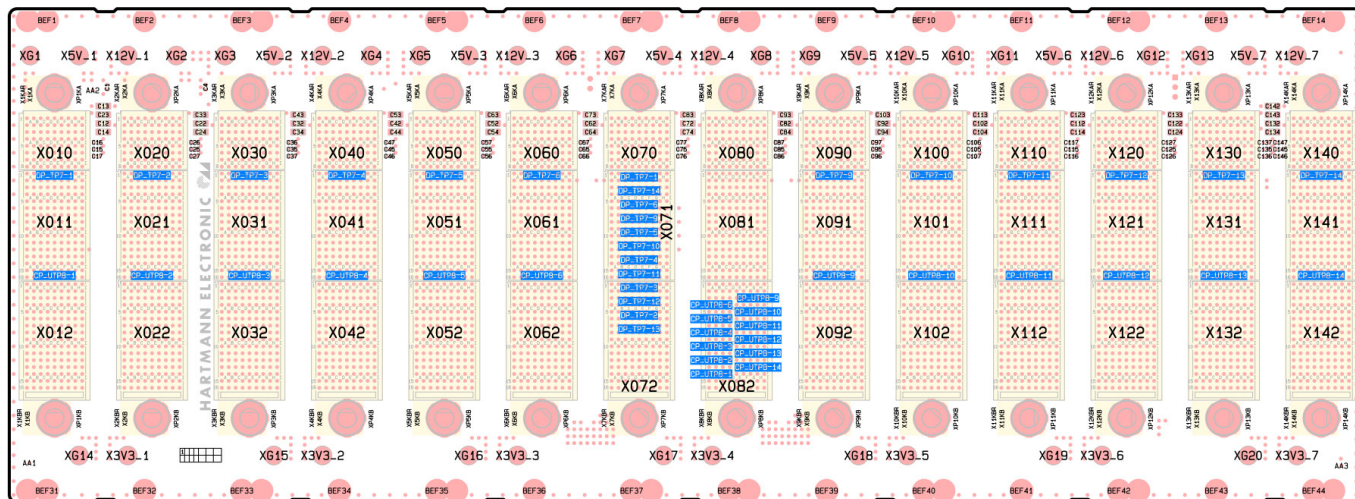
3U OpenVPX BACKPLANE
BKP3-CEN14-15.2.18-3

VITA 46
VITA 65

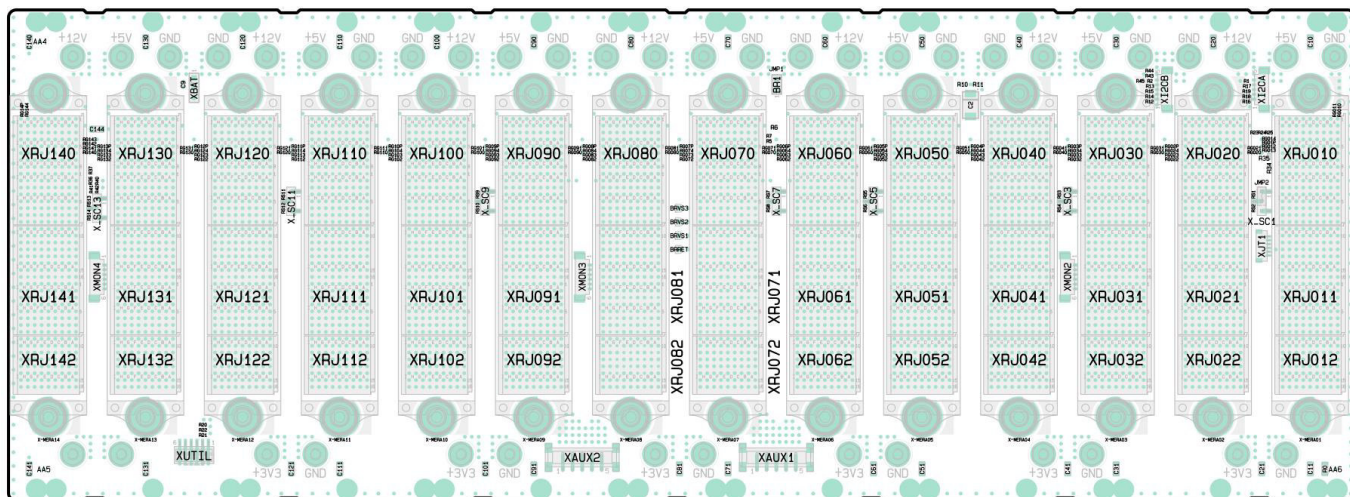


3) Drawings

Front side



Back side



3U OpenVPX BACKPLANE BKP3-CEN14-15.2.18-3

VITA 46
VITA 65



4) Pin Assignment

Pin Assignment VPX J0 (Utility Connector)

	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

VS1=12V , VS2=3.3V , VS3=5V

Payload Slot Profile SLT3-PAY-2F2U-14.2.3— 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	Row g	Row f	Row e	Row d	Row c	Row b	Row a
1	Data Plane Port 1 X8	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 X8	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	User Defined	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		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

3U OpenVPX BACKPLANE

BKP3-CEN14-15.2.18-3

VITA 46
VITA 65



Payload Slot Profile SLT3-PAY-2F2U-14.2.3— P2 & J2

This connector is all User Defined pins. See Section 6.3.3 for requirements and pin assignments concerning connectors that are all User Defined.

Connector Example Combined Plug-In Module & Backplane - Differential

Backplane Jn	Row i	Row h	Row g	Row f	Row e	Row d	Row c	Row b	Row a
1	UD	UD	UD	UD	UD	GND	UD	UD	UD
2	GND	UD	UD	GND	UD	UD	UD	UD	GND
3	UD	UD	UD	UD	UD	GND	UD	UD	UD
4	GND	UD	UD	GND	UD	UD	UD	UD	GND
5	UD	UD	UD	UD	UD	GND	UD	UD	UD
6	GND	UD	UD	GND	UD	UD	UD	UD	GND
7	UD	UD	UD	UD	UD	GND	UD	UD	UD
8	GND	UD	UD	GND	UD	UD	UD	UD	GND
9	UD	UD	UD	UD	UD	GND	UD	UD	UD
10	GND	UD	UD	GND	UD	UD	UD	UD	GND
11	UD	UD	UD	UD	UD	GND	UD	UD	UD
12	GND	UD	UD	GND	UD	UD	UD	UD	GND
13	UD	UD	UD	UD	UD	GND	UD	UD	UD
14	GND	UD	UD	GND	UD	UD	UD	UD	GND
15	UD	UD	UD	UD	UD	GND	UD	UD	UD
16	GND	UD	UD	GND	UD	UD	UD	UD	GND

Switch Slot 7 Profile SLT3-SWH-6F6U-14.4.1— 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	Row g	Row f	Row e	Row d	Row c	Row b	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	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

3U OpenVPX BACKPLANE

BKP3-CEN14-15.2.18-3

VITA 46
VITA 65



Switch Slot 7 Profile SLT3-SWH-6F6U-14.4.1— 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	Row g	Row f	Row e	Row d	Row c	Row b	Row a
1	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	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-	DS01-RD3+	GND-J2	GND
9	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	UD	UD	GND	GND-J2	UD	UD
16	GND	UD	UD	GND-J2	GND	UD	UD	GND-J2	GND

Switch Slot 8 Profile SLT3-SWH-2F24U-14.4.3— 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	Row g	Row f	Row e	Row d	Row c	Row b	Row a
1	GDiscrete1	GND	GND-J1	CP01-T0-	CP01-T0+	GND	GND-J1	CP01-R0-	CP01-R0+
2	GND	CP01-T1-	CP01-T1+	GND-J1	GND	CP01-R1-	CP01-R1+	GND-J1	GND
3	P1-VBAT	GND	GND-J1	CP01-T2-	CP01-T2+	GND	GND-J1	CP01-R2-	CP01-R2+
4	GND	CP01-T3-	CP01-T3+	GND-J1	GND	CP01-R3-	CP01-R3+	GND-J1	GND
5	SYS_CON*	GND	GND-J1	CP02-T0-	CP02-T0+	GND	GND-J1	CP02-R0-	CP02-R0+
6	GND	CP02-T1-	CP02-T1+	GND-J1	GND	CP02-R1-	CP02-R1+	GND-J1	GND
7	Reserved	GND	GND-J1	CP02-T2-	CP02-T2+	GND	GND-J1	CP02-R2-	CP02-R2+
8	GND	CP02-T3-	CP02-T3+	GND-J1	GND	CP02-R3-	CP02-R3+	GND-J1	GND
9	UD	GND	GND-J1	CPutp01-TD-	CPutp01-TD+	GND	GND-J1	CPutp01-RD-	CPutp01-RD+
10	GND	CPutp02-TD-	CPutp02-TD+	GND-J1	GND	CPutp02-RD-	CPutp02-RD+	GND-J1	GND
11	UD	GND	GND-J1	CPutp03-TD-	CPutp03-TD+	GND	GND-J1	CPutp03-RD-	CPutp03-RD+
12	GND	CPutp04-TD-	CPutp04-TD+	GND-J1	GND	CPutp04-RD-	CPutp04-RD+	GND-J1	GND
13	UD	GND	GND-J1	CPutp05-TD-	CPutp05-TD+	GND	GND-J1	CPutp05-RD-	CPutp05-RD+
14	GND	CPutp06-TD-	CPutp06-TD+	GND-J1	GND	CPutp06-RD-	CPutp06-RD+	GND-J1	GND
15	Maskable Reset*	GND	GND-J1	CPutp07-TD-	CPutp07-TD+	GND	GND-J1	CPutp07-RD-	CPutp07-RD+
16	GND	CPutp08-TD-	CPutp08-TD+	GND-J1	GND	CPutp08-RD-	CPutp08-RD+	GND-J1	GND

3U OpenVPX BACKPLANE
BKP3-CEN14-15.2.18-3

VITA 46
VITA 65



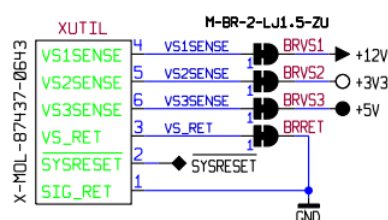
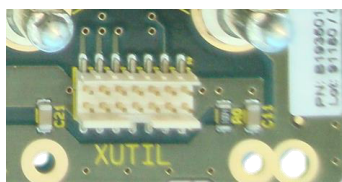
Switch Slot 8 Profile SLT3-SWH-2F24U-14.4.3— P2 & J2

Plug-In Module P2	Row G	Row F	Row E		Row D	Row C	Row B		Row A
Bplane J2	Row i	Row h	Row g	Row f	Row e	Row d	Row c	Row b	Row a
1	UD	GND	GND-J2	CPutp09-TD-	CPutp09-TD+	GND	GND-J2	CPutp09-RD-	CPutp09-RD+
2	GND	CPutp10-TD-	CPutp10-TD+	GND-J2	GND	CPutp10-RD-	CPutp10-RD+	GND-J2	GND
3	UD	GND	GND-J2	CPutp11-TD-	CPutp11-TD+	GND	GND-J2	CPutp11-RD-	CPutp11-RD+
4	GND	CPutp12-TD-	CPutp12-TD+	GND-J2	GND	CPutp12-RD-	CPutp12-RD+	GND-J2	GND
5	UD	GND	GND-J2	CPutp13-TD-	CPutp13-TD+	GND	GND-J2	CPutp13-RD-	CPutp13-RD+
6	GND	CPutp14-TD-	CPutp14-TD+	GND-J2	GND	CPutp14-RD-	CPutp14-RD+	GND-J2	GND
7	UD	GND	GND-J2	CPutp15-TD-	CPutp15-TD+	GND	GND-J2	CPutp15-RD-	CPutp15-RD+
8	GND	CPutp16-TD-	CPutp16-TD+	GND-J2	GND	CPutp16-RD-	CPutp16-RD+	GND-J2	GND
9	UD	GND	GND-J2	CPutp17-TD-	CPutp17-TD+	GND	GND-J2	CPutp17-RD-	CPutp17-RD+
10	GND	CPutp18-TD-	CPutp18-TD+	GND-J2	GND	CPutp18-RD-	CPutp18-RD+	GND-J2	GND
11	UD	GND	GND-J2	CPutp19-TD-	CPutp19-TD+	GND	GND-J2	CPutp19-RD-	CPutp19-RD+
12	GND	CPutp20-TD-	CPutp20-TD+	GND-J2	GND	CPutp20-RD-	CPutp20-RD+	GND-J2	GND
13	UD	GND	GND-J2	CPutp21-TD-	CPutp21-TD+	GND	GND-J2	CPutp21-RD-	CPutp21-RD+
14	GND	CPutp22-TD-	CPutp22-TD+	GND-J2	GND	CPutp22-RD-	CPutp22-RD+	GND-J2	GND
15	UD	GND	GND-J2	CPutp23-TD-	CPutp23-TD+	GND	GND-J2	CPutp23-RD-	CPutp23-RD+
16	GND	CPutp24-TD-	CPutp24-TD+	GND-J2	GND	CPutp24-RD-	CPutp24-RD+	GND-J2	GND

5) Current Capability:

■ +12V	210 A
■ +3.3V	210 A
■ +5V	210 A
■ -12V AUX	14 A
■ +12V AUX	14 A
■ +3.3V AUX	14 A

6) UTILITY (Connector XUTIL)



Connector Molex 87437-0643

3U OpenVPX BACKPLANE BKP3-CEN14-15.2.18-3

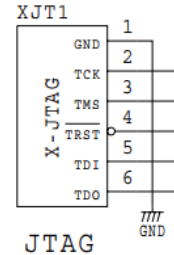
VITA 46
VITA 65



7) JTAG (Connector XJT1)



Consider: JTAG only at Slot 1



JTAG

Connector JST BM06B-SRSS-TB(LF)(SN)

8) SYSCON

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

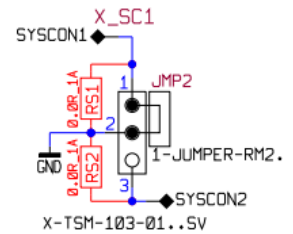
There are additional connectors X_SC3, X_SC5, X_SC7, X_SC9, X_SC11 and X_SC13 so as you can select any slot as system slot.

We offer 2 options for setting:

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

X_SC1

1	SYSCON1
2	GND
3	SYSCON2



9) I2C Connector

There are 2 connectors for system-management I2CA and I2CB.

For customer specific board assembly Zero-Ohm resistors available.

Usable voltages for I2C are 3.3V-AUX

I2CA

1	I2CA_SCL
2	GND
3	I2CA_SDA
4	I2CA_PWR
5	NC

I2CB

1	I2CB_SCL
2	GND
3	I2CB_SDA
4	I2CB_PWR
5	NC

3U OpenVPX BACKPLANE BKP3-CEN14-15.2.18-3

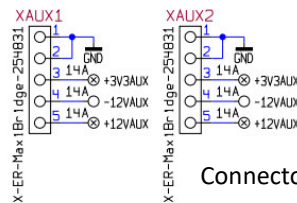
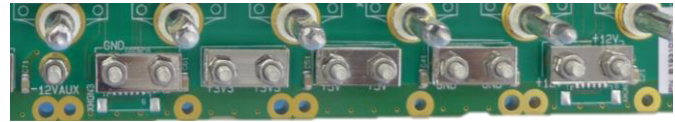
VITA 46
VITA 65



10) Power Studs M3 / AUX

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

The auxiliary operating voltages are supplied via single row terminals. Optimal daughter board supply and trouble-free operation are ensured by the arrangement of the feed modules on the backplane.



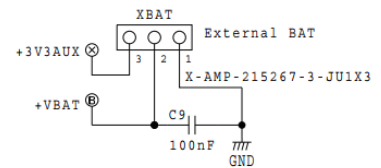
Connector Erni 254831

11) XBAT

Normally a battery voltage with approximately 3V is available at Pin VBAT of connector VPX-J1. The voltage is externally accessible with connector XBAT, Pin2 or internally using 3.3V_AUX by setting a Jumper between Pin2 and Pin3.

XBAT

1	GND
2	+VBAT
3	+3.3V_AUX

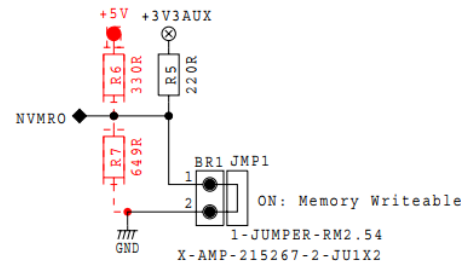


12) NVMRO

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

BR1

1	NVMRO
2	GND



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