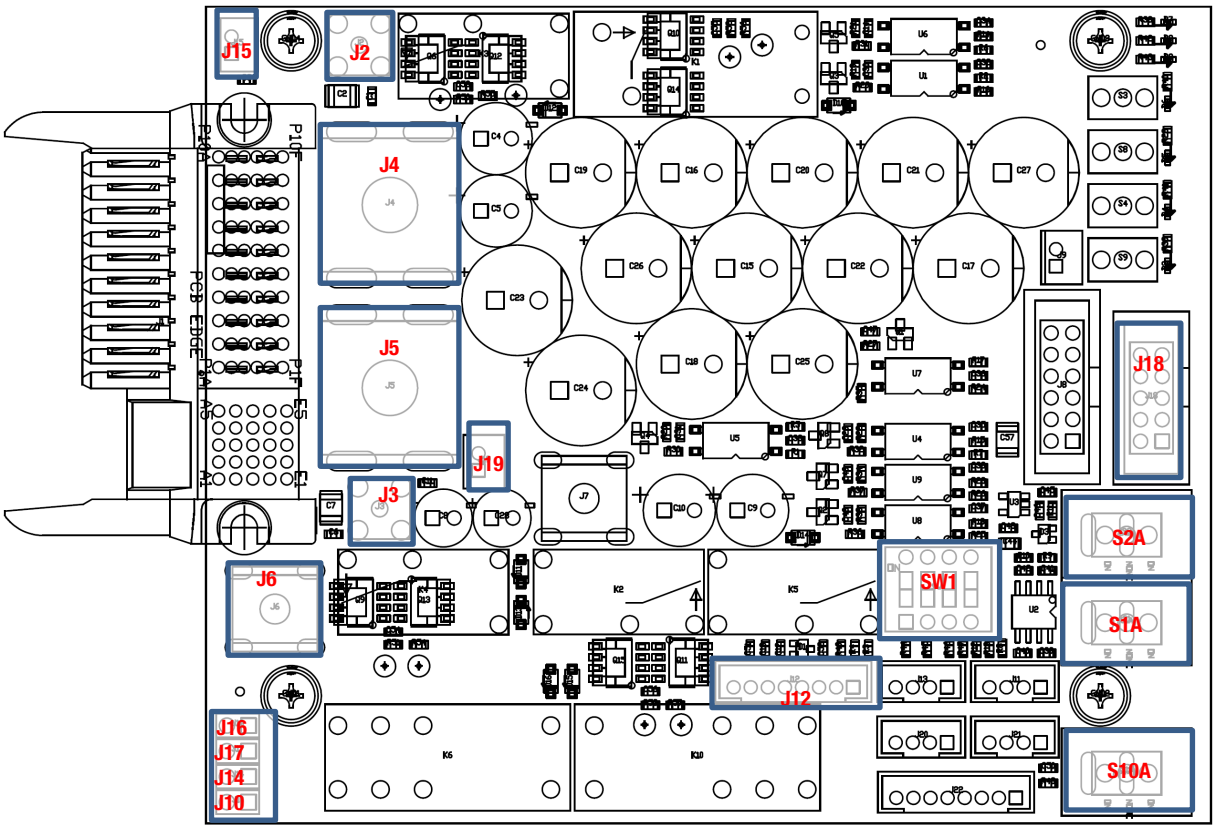
OVERVIEW

D1U74T-12-CONC is a connector card that provides a convenient method of connection of Murata power supply D1U54T-x-1500-12-HxxxC-xx for bench evaluation. Convenient access points are provided for the digital and hardware signals and is also suitable for continuous operation as an interposer or mid-plane function in a system. Additionally, digital PMBus™ communications is supported with Murata PMBob™ USB to I2C Interface.

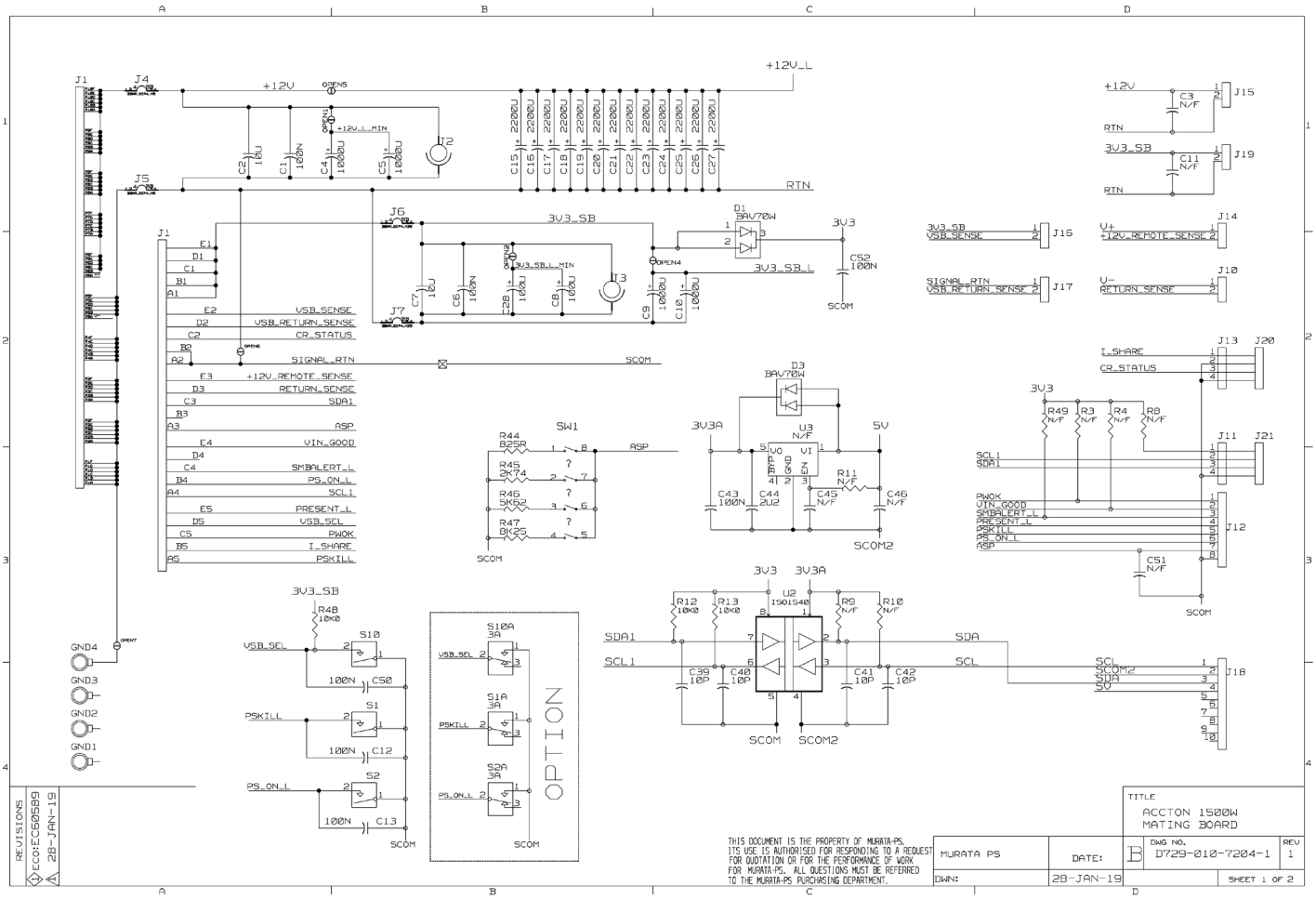
SAFETY PRECAUTION

⚠ The D1U54T-12-CONC(5803) output connector card is intended to facilitate the connection of the output supply rails of the power module, as such a high energy source exposed on the output connector card. Follow the necessary safety precautions during the use of this connector card for power supply. Refer to the associated referenced documents for additional details.

MECHANICAL OUTLINE



SCHEMATIC


+12V_L
RTN
3V3_SB
3V3
SCOM
SCOM2
VSB_SENSE
VSB_RETURN_SENSE
CR_STATUS
SIGNAL_RTN
+12V_REMOTE_SENSE
RETURN_SENSE
SDA1
SCL1
VIN_GOOD
SMBALERT_L
PS_ON_L
PRESENT_L
VSB_SEL
PWOK
I_SHARE
PSKILL
ASP
OPTION
V+
V-
SDA
SCL
ACCTON 1500W
MATING BOARD
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CONNECTIONS

The following is a function description of the connection points and configuration switches outlined in the mechanical drawing (page 1) and schematic (page 2).

Output Connections, Main 12V and Standby (VSB)

- 12V Main output: **J4** (+12V) and **J5** 12V_GND M5 studs provided for load connection.
- VSB Output: **J6** (+) and **J7** RTN M3.5 studs provided for load connection.

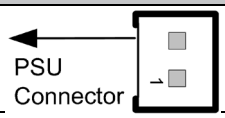
NOTE: Both outputs share a common return "RTN"

Toggle Switches

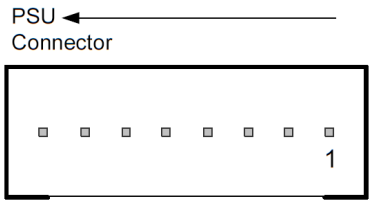
- PSKILL: **S1** replicates PSKILL function by operating as a short-to-RTN in the "ON" positon thereby forcing the main output "ON" and an open circuit-to-RTN in the "*OFF*" position, forcing the main output off. The PSU utilizes this signal state for output processing during hotplug insertion and extraction in such a way as to minimize glitches. The system/host backplane typically place a permanent short to RTN.
- PS_ON_L: **S2** set to "*ON*" to force main output on, "*OFF*" to force the main output off.
- VSB_SEL: **S10A** set VSB output voltage to either 3.3VDC or 5.0VDC.

Test Points and Connectors:

- Remote Sense: **J14** (+12V remote sense) and **J10** (+12V_RTN remote sense) **J16** (VSB remote sense) and **J17** (VSB_RTN remote sense) can be left open for local sensing (PSU side of the connector) or tied to the load point for compensation of up to 0.12VDC output and return connection and lead voltage drop.
- Output Voltage Test Points: **J15** provides a convenient connection for monitoring the 12V output; **J19** provides a convenient connection for monitoring the VSB (standby) output. Both with respect to RTN.

Pin#	Pin Function	PIN Identification J15 / J19
1	+ Main/VSB Output	
2	RTN	
Connector Board header: JST B4B-PH-K-S(LF)(SN)		

- **J12** is an 8 position header (JST PH series) for access to the following PSU signals:

Pin#	Pin Function	PIN Identification "J12"
1	PWOK	
2	VIN_GOOD	
3	SMBALERT	
4	PRESENT	
5	PSKILL	
6	PS_ON_L	
7	ASP	
8	RTN	
Connector Board header: JST B8B-PH-K-S(LF)(SN)		

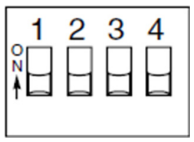
CONNECTIONS (continued)

- **J2, J3** are TE connectivity PN 1-1337482-0 male coaxial SMB type connectors for ripple & noise measurements of 12VSTBY (J3) and 12V Main Output (J2) and are intended for direct connection to an oscilloscope (ensure the scope's 20Mhz bandwidth limit is enabled). This measurement node is filtered with a parallel connected 10µF and 100nF ceramic capacitors, across tip to ground points as shown in schematic.

- **J18** PMBob™ connector connects Murata's PMBob™, a fully featured I2C bus master and USB to I2C Interface for a convenient method to communication via PMBus™ with the slave devices (PSU Secondary controller and FRU EEPROM). The control panel GUI provides further convenience when status monitoring and specific PMBus read/write command tasks are required, contact Murata Power Solutions for further details for latest GUI.

ADDRESS SELECTION

DIP switch SW1 is provided for ADDRESS selection of the PSU slave devices (Secondary controller and EEPROM).
The following table illustrates the address options:

Slave Address (hex) PSU Microcontroller / PSU external EEPROM	Position				SW1 settings
	1	2	3	4	
B0h / A0h	ON	OFF	OFF	OFF	
B2h / A2h	OFF	ON	OFF	OFF	
B4h / A4h	OFF	OFF	ON	OFF	
B6h / A6h	OFF	OFF	OFF	ON	

OPTIONAL ACCESSORIES

Description	Part Number
PMBob™ USB to I²C interface	MS-PMBob (contact Murata Power Solutions for availability)

REFERENCE DOCUMENT LINKS

Document Number	Link to Document
D1U54T-x-1500-12-HxxxC (product datasheet)	https://power.murata.com/datasheet?/data/acdcsupplies/d1u54t-w-1500-12-huxtc.pdf
MW-PMBob (I²C to USB adapter)	https://power.murata.com/datasheet?/data/acdcsupplies/MW-PMBob.pdf
ACAN-102 (PMBus application note)	https://power.murata.com/datasheet?/data/apnotes/acan-102.pdf

Link Back to front page

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