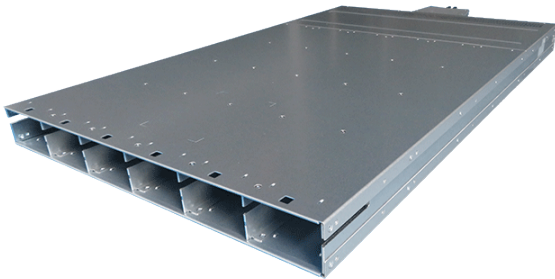


**3-PHASE WYE (Y) or DELTA (Δ),
or SINGLE PHASE or HVDC INPUT**

28 kW, 48~58 VDC OUTPUT

**AC-DC POWER SHELF
SPSTET4V3-02**



The SPSTET4V3-02 power shelf solution provides rectification, system management, and power distribution functions while maintaining high reliability and offering flexibility for future expansion.

The power shelf can be configured with up to six hot-swap capable TET4000-48-069RAS510 / TET4000-48-069RAH Series or TET4800-48-069RA Series AC/DC-DC power modules that convert AC or HVDC input to 48~58 VDC output for powering IT racks, OCP racks and data centers.

FEATURES

- Two inputs, each input supports 3 power modules
- Input configurations: 3-phase WYE (Y) or Delta (Δ) or single phase or HVDC input
- Power modules are hot-swap capable
- Power shelf and power modules support CAN bus communication for control, programming & monitoring
- The main output with programmable voltage set point of 48-58 VDC, with a default output of 54.5 V
- Parallel operation with active digital current sharing through CAN bus
- Power modules implement the following protections: over temperature, output over voltage & output over current
- Dimensions (L x W x H): 786.2 x 440.0 x 46.5 mm (30.95 x 17.32 x 1.83 in)



APPLICATIONS

- IT racks
- OCP racks
- Data centers

1. POWER SHELF REFERENCE TABLE

		INPUT			
		AC (Y) 200-277 / 346-480 VAC	AC (Δ) 200-277 VAC	Single Phase 200-277 VAC	HVDC 240-380 VDC
OUTPUT	+48 - 58 VDC	Open Rack V3 connector ¹		SPSTET4V3-02	

¹ Mates with V3 rack

NOTE: For data sheets with alternative shelf configurations, check factory for availability.

2. ORDERING INFORMATION

MODEL	DC OUTPUT	OUTPUT CONNECTOR	CONTROLLER
SPSTET4V3-02	48-58 VDC	Open Rack V3 connector	No

NOTE: The SPSTET4V3-02's default output voltage is 54.5 V each time it is powered on. The output voltage can be set within the range of 48V-58V through CANBus. The changed voltage is only valid when SHELF's power supply is maintained. After power on again, the output voltage will return to the default value.

3. TECHNICAL SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITIONS
Input	3-Phase four wire Delta (200-277 VAC) or 3-Phase five wire Wye (200-277/ 346-480 VAC) or Single-Phase (200-277 VAC) or HVDC input (240-380 VDC)
Inlet Configuration	2 Inlets (J1107 and J1108) (Table 1)
Redundant Configuration	6+0 / 5+1 / 3+3 configuration
Rated Output Power	24060 W ² 28848 W ³ When T _A : +45 °C to +55 °C, the output load current must be linearly derating from full load to 75% full load.
Output Connection	Open Rack V3 Power Shelf Output Connector for +48 ~ 58 VDC output (Default output 54.5 V)
Standby Output	60 W (Standby output 12 V / 5 A) ⁴ 48 W (Standby output 12 V / 4 A) ⁵ Protected by POLY-FUSE® Resettable PPTC 9 A/16 V Trip Current 15.3 A /23 °C (serviceable)
Communication	CANBus

² Max total power with 6 PSU on shelf at 45°C, rated power is reduced as per current share accuracy characteristic. See TET4000-48-069RAH/ S510 datasheet.

³ Max total power with 6 PSU on shelf at 45°C, rated power is as per current share accuracy characteristic. See TET4800-48-069RA datasheet.

⁴ The Standby output rated power of a single TET4000-48-069RAH / S510 is 60 W.

⁵ The Standby output rated power of a single TET4800-48-069RA is 48 W.

WYE Input			Delta Input			Single Input			HVDC Input		
J1107 and J1108			J1107 and J1108			J1107 and J1108			J1107 and J1108		
PIN No	Signal	Function	PIN No	Signal	Function	PIN No	Signal	Function	PIN No	Signal	Function
1	L1	AC line 1	1	L1	AC line 1	1	L	AC live	1	(+ HVDC)	DC positive
2	N	Neutral	2	L2	AC line 2	2	N	Neutral	2	(- HVDC)	DC return
3	L2	AC line 2	3	L2	AC line 2	3	L	AC live	3	(+ HVDC)	DC positive
4	PE	Protective earth	4	PE	Protective earth	4	PE	Protective earth	4	PE	Protective earth
5	N	Neutral	5	L3	AC line 3	5	N	Neutral	5	(- HVDC)	DC return
6	L3	AC line 3	6	L3	AC line 3	6	L	AC live	6	(+ HVDC)	DC positive
7	N	Neutral	7	L1	AC line 1	7	N	Neutral	7	(- HVDC)	DC return

Table 1. Connection Options

4. SAFETY WARNING

Please refer to the installation instructions for detailed safety warnings.

The user assumes all responsibility and liability for proper and safe handling of the goods. Further, the user indemnifies Bel Power Solutions Inc. from all claims arising from the handling or use of the goods. Persons handling the product(s) must have electronics training and observe good engineering practice standards.

CAUTION: Power shelf with installed PSU modules has high leakage current. Protective Earthing connection is essential.

- Multiple power source. Disconnect all power cords before servicing.
- Double pole/ neutral fusing. Disconnect mains before servicing.
- Connect to earth, before connecting to supply.
- Heavy Power Shelf equipped with PSUs, do not lift or move alone.

5. REFERENCE DOCUMENTS

PARAMETER	DESCRIPTION / CONDITIONS
BCD.01051	TET4000-48-069RAH Datasheet
BCM.00498	TET4000-48-069RAH Installation Instruction
BCA.00231.0	TET4000-48-069RAH CAN Communication Manual
BCA.00257.0	SPSTET4-0x CAN Communication Manual
BCD.20170	TET4800-48-069RA Datasheet
BCM.20054	TET4800-48-069RA Installation Instruction
BCM.20125	SPSTET4V3-02 Installation Instruction



6. OVERVIEW

The SPSTET4V3-02 is a 10U high power shelf. It can be configured with up to six hot-swap capable TET4000-48-069RAS510 / TET4000-48-069RAH Series or TET4800-48-069RA Series AC/DC-DC power modules that convert standard AC input to DC output. The power shelf and power module support CANBus communication for control, programming, and monitoring. The power shelf and power module are connected to the same CANBus interface. Refer to the respective CAN Communication Manual for additional information.

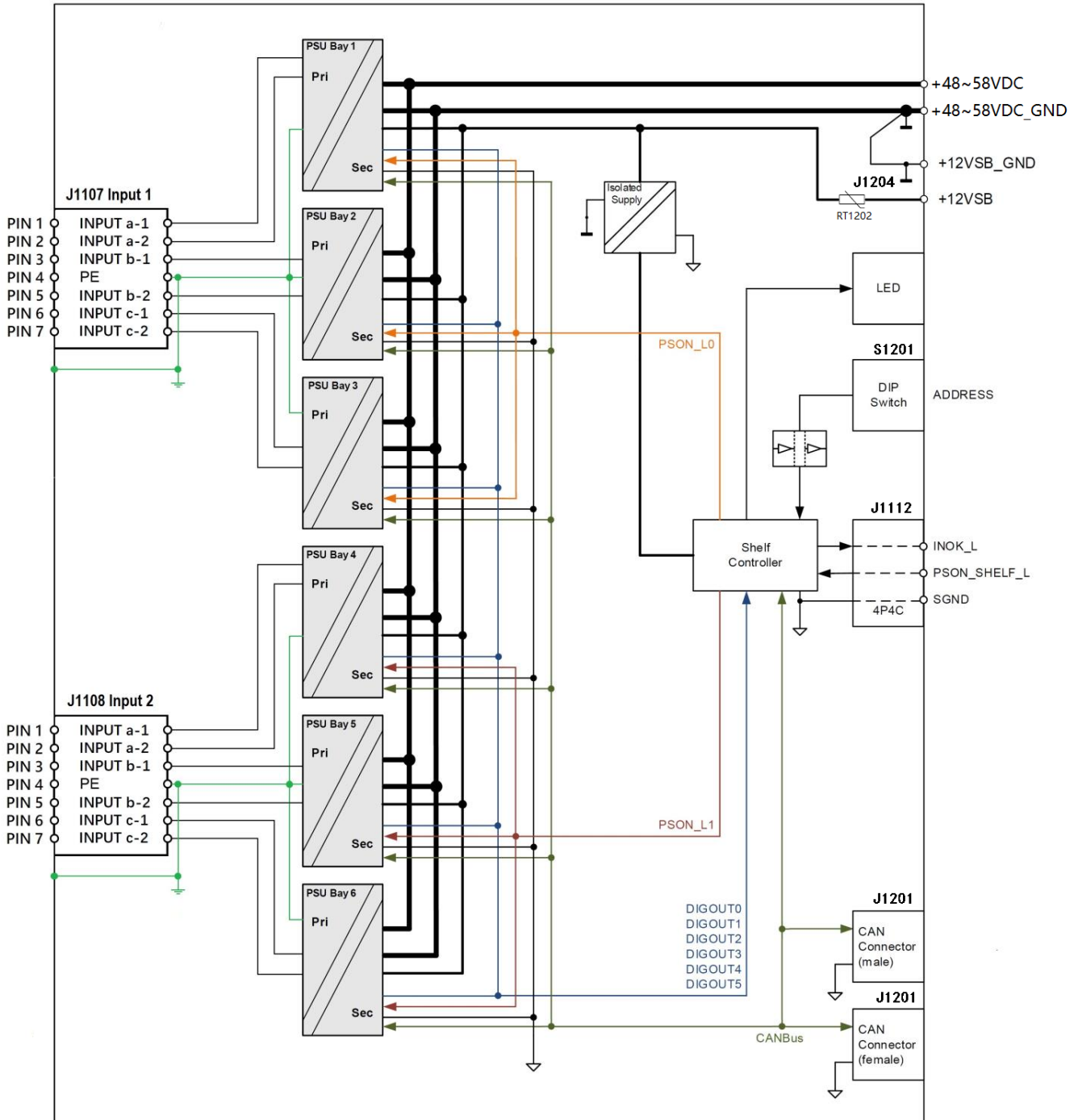
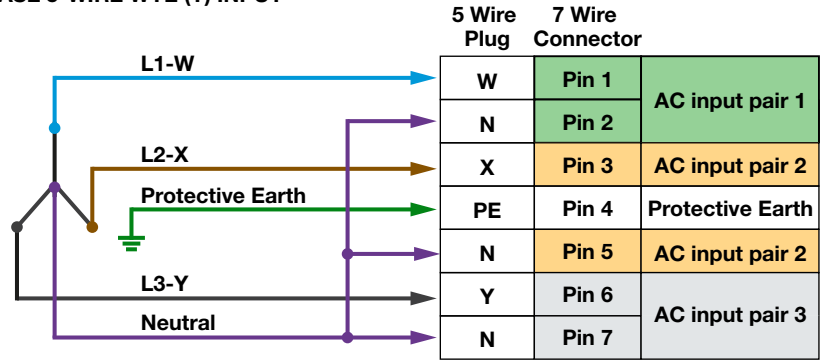
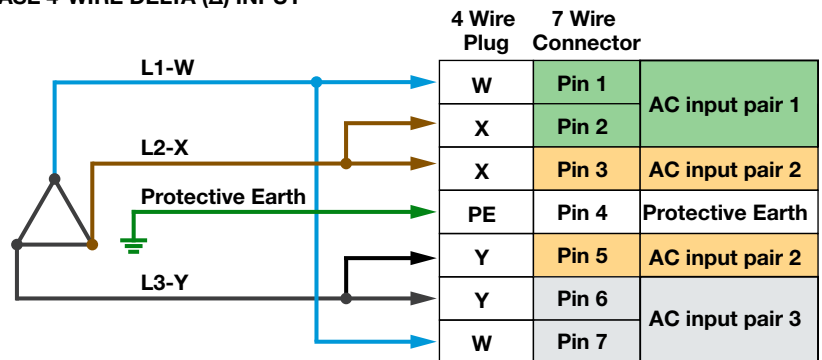


Figure 1. SPSTET4V3-02 Block Diagram

3-PHASE 5-WIRE WYE (Y) INPUT



3-PHASE 4-WIRE DELTA (Δ) INPUT



SINGLE PHASE OR HVDC INPUT

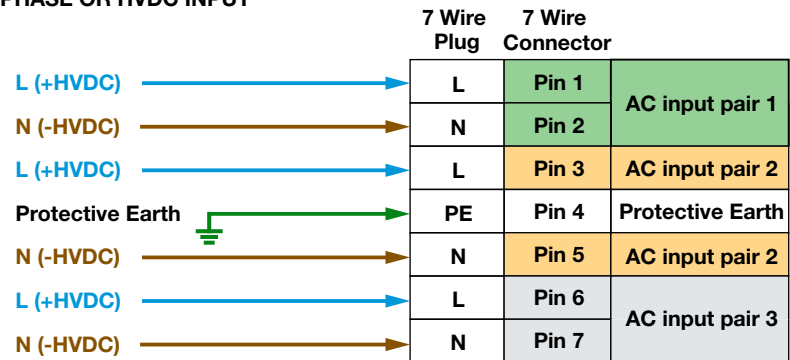


Figure 2. Input Connection Diagram

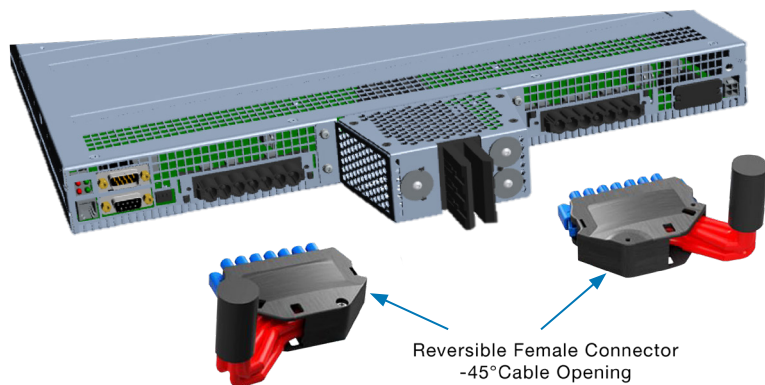


Figure 3. Input Connection 3D Diagram (Rear view)

7. INPUT SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITIONS	MIN	NOM	MAX	UNIT
<i>Input Connector (J1107, J1108)</i>					
AC Input Voltage Ranges	Line to Line input (Delta source)	180	200~277	305	VAC
	Line to Line input (WYE source with neutral connection)	312	346~480	528	VAC
	Single-Phase input	180	200~277	305	VAC
	HVDC input	192	240~380	400	VDC
Max Input Current	Per Line			52	Arms
Input Frequency		47	50 / 60	63	Hz

8. OUTPUT SPECIFICATIONS

TET4000-48-069RAH / S510

PARAMETER	DESCRIPTION / CONDITION	MIN	NOM	MAX	UNIT
<i>Main Output V1 (Output Bus Bar)</i>					
Nominal Output Voltage	The default main output voltage of PSU is 54.5 V, and the output voltage can be modified through CANBus.		48~58		VDC
Voltage Regulation	Programmable PSU module	-2		+2	% Vout nom
Nominal Output Power	6+0 / 5+1 / 3+3 configuration, T _A ≤ 45°C			24000	W
Derated Output Power	6+0 / 5+1 / 3+3 configuration, T _A = 55 °C			18000	W
Nominal Output Current	6+0 / 5+1 / 3+3 configuration, T _A ≤ 45°C			500	ADC
Derated Output Current	6+0 / 5+1 / 3+3 configuration, T _A = 55 °C			375	ADC
<i>Standby Output VSB (J1204)</i>					
Output Voltage			12		VDC
Voltage Regulation		-5		+5	% Vout nom
Output Power				60	W
Output Current				5	ADC

TET4800-48-069RA

PARAMETER	DESCRIPTION / CONDITION	MIN	NOM	MAX	UNIT
<i>Main Output V1 (Output Bus Bar)</i>					
Nominal Output Voltage	The default main output voltage of PSU is 54.5V, and the output voltage can be modified through CANBus.		48~58		VDC
Voltage Regulation	Programmable PSU module	-2		+2	% Vout nom
Nominal Output Power	6+0 / 5+1 / 3+3 configuration, T _A ≤ 45°C			28800	W
Derated Output Power	6+0 / 5+1 / 3+3 configuration, T _A = 55 °C			21600	W
Nominal Output Current	6+0 / 5+1 / 3+3 configuration, T _A ≤ 45°C			600	ADC
Derated Output Current	6+0 / 5+1 / 3+3 configuration, T _A = 55 °C			450	ADC
<i>Standby Output VSB (J1204)</i>					
Output Voltage			12		VDC
Voltage Regulation		-5		+5	% Vout nom
Output Power				48	W
Output Current				4	ADC

NOTE: When T_A: +45 °C to +55 °C, the output load current must be linearly derating from full load to 75% full load.



8.1 PROTECTION (PER POWER MODULE)

TET4000-48-069RAH / S510

PARAMETER	DESCRIPTION / CONDITION	MIN	NOM	MAX	UNIT
Input Fuses (L+N)	Fast-acting 30 A input fuses (6.3 × 32 mm) in series with both the L- and N-line inside the power supply protect against severe defects.		30		A
OV Threshold V_1	Hardware protection	64	66	68	VDC
OV Latch Off Time V_1				1	ms
Nominal Power Limitation	$V_{in} > 180 \text{ VAC}$, $T_A \leq 45^\circ\text{C}$, $V_1 \geq 48 \text{ VDC}$	4000	4100		W
	$V_{in} > 180 \text{ VAC}$, $T_A = 55^\circ\text{C}$, $V_1 \geq 48 \text{ VDC}$	3000	3100		
Nominal Current Limitation	$V_{in} > 180 \text{ VAC}$, $T_A \leq 45^\circ\text{C}$, $V_1 = 54.5 \text{ VDC}$	83	76		A
	$V_{in} > 180 \text{ VAC}$, $T_A \leq 45^\circ\text{C}$, $V_1 = 42 \dots 48 \text{ VDC}$		86		
	$V_{in} > 180 \text{ VAC}$, $T_A = 55^\circ\text{C}$, $V_1 = 54.5 \text{ VDC}$		57		
Power Limit Blanking Time	Time until power limit is reduced to nominal value	10			ms
Power Limit during Over Subscription V_1	$V_{in} \geq 180 \text{ VAC}$, $T_A \leq 45^\circ\text{C}$, $V_1 \geq 48 \text{ V}$. Max. duration 5 ms	4400	4500		W
Current Limit during Over Subscription V_1	$V_{in} \geq 180 \text{ VAC}$, $T_A \leq 45^\circ\text{C}$, $V_1 = 54.5 \text{ V}$. Max. duration 5 ms	81	83		A
Max Short Circuit Current V_1	$V_1 < 10 \text{ VDC}$, excluding output capacitor discharging current			83	A
Short Circuit Latch Off Time	Time to latch off when in short circuit or output under voltage ($V_1 < V_{1 \text{ UV}}$)		100		ms
Output Under Voltage Protection	$V_1 \text{ UV}$	39	40	41	VDC
Output Under Voltage Protection Delay Time V_1	$V_1 < V_{1 \text{ UV}}$		250		ms
Over Temperature on Critical Points	Inlet Ambient Temperature		60		°C
	PFC Primary Heatsink Temperature		90		
	DC/DC Primary Heatsink Temperature		90		
	Secondary Sync Mosfet Temperature		100		
OV Threshold V_{SB}	Output under voltage protection standby	13.0	13.6	14.4	VDC
UV Threshold V_{SB}	Output under voltage protection standby	9.9	10.0	10.1	VDC
Current Limitation V_{SB}	Standby over current limit	5.0	5.5		A

TET4800-48-069RA

PARAMETER	DESCRIPTION / CONDITION	MIN	NOM	MAX	UNIT
Input Fuses (L)	Fast-acting 60 A (parallel 2× 30 A) input fuses (6.3 × 32 mm) in series the L- line inside each the PSU protect against severe defects.		60		A
OV Threshold V_1	Hardware protection	64	66	68	VDC
OV Latch Off Time V_1				1	ms
Nominal Power Limitation	$V_{in} \geq 180 \text{ VAC}$, $T_A \leq 45^\circ\text{C}$, $V_1 \geq 48 \text{ V}$	4800	4909		W
	$V_{in} \geq 180 \text{ VAC}$, $T_A = 55^\circ\text{C}$, $V_1 \geq 48 \text{ V}$	4000	4349		
Nominal Current Limitation	$V_{in} \geq 180 \text{ VAC}$, $T_A \leq 45^\circ\text{C}$, $V_1 = 54.5 \text{ V}$	100	90		ADC
	$V_{in} \geq 180 \text{ VAC}$, $T_A \leq 45^\circ\text{C}$, $V_1 = 42 \dots 48 \text{ V}$		102		
	$V_{in} \geq 180 \text{ VAC}$, $T_A = 55^\circ\text{C}$, $V_1 = 54.5 \text{ V}$		77.8		
Power Limit Blanking Time	Time until power limit is reduced to nominal value	10			ms
Power Limit during Over Subscription V_1	$V_{in} \geq 180 \text{ VAC}$, $T_A \leq 45^\circ\text{C}$, $V_1 \geq 48 \text{ V}$. Max. duration 5 ms	5340	5450		W
Current Limit during Over Subscription V_1	$V_{in} \geq 180 \text{ VAC}$, $T_A \leq 45^\circ\text{C}$, $V_1 = 54.5 \text{ V}$. Max. duration 5 ms	98	100		A
Max Short Circuit Current V_1	$V_1 < 10 \text{ VDC}$, excluding output capacitor discharging current			100	ADC
Short Circuit Latch off Time	Time to latch off when in short circuit or output under voltage ($V_1 < V_{1 \text{ UV}}$)		100		ms
Output Under Voltage Protection	$V_1 \text{ UV}$	39	40	41	VDC
Output Under Voltage Protection Delay Time	$V_1 < V_{1 \text{ UV}}$		250		ms
Over Temperature on Critical Points	Inlet Ambient Temperature		60		°C
	PFC Primary Heatsink Temperature		95		
	DC/DC Primary Heatsink Temperature		95		
	Secondary Sync MOSFET Temperature		115		
Output Over Voltage Protection Standby		13.0	13.6	14.4	VDC
Output Under Voltage Protection Standby		9.9	10.0	10.1	VDC
Standby Over Current Limit			4.7		ADC



8.2 MAIN OUTPUT CONNECTOR (V₁)

The main output uses an Open Rack V3 Power Shelf Output Connector SPSTET4V3-02 default output voltage of 54.5 V each time they are powered on. The output voltage can be set within the range of 48 ~58 V through CANBus.

The changed voltage is only valid when SHELF's power supply is maintained. After power on again, the output voltage will return to the default value.

PIN OUTS (V ₁)	FUNCTION	DESCRIPTION
1 (Left)	Main output _GND	+48 ~ 58 V return
2 (Right)	Main output	+48 ~ 58 V output

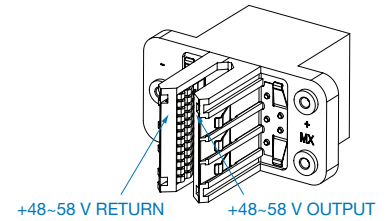


Figure 4. Main Output Connector V₁

8.3 +12 V_{SB} CONNECTOR (J1204)

The Standby output rated power of a single TET4000-48-069RAH / S510 is 60 W (12 V/5 A) while the standby output rated power of a single TET4800-48-069RA is 48 W (12 V/4 A).

Protected by POLY-FUSE (RT1202)® Resettable PPTC 9 A/16 V Trip Current 15.3 A / 23 °C (serviceable)

PIN OUTS (J1204)	FUNCTION	DESCRIPTION
1, 3	V _{SB_GND}	+12 V _{SB} return
2, 4	V _{SB}	+12 V _{SB} output

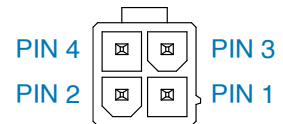


Figure 5. +12 V_{SB} Connector (J1204)

8.4 LOGIC SIGNALS

J1112 PINOUT

PIN	FUNCTION	DESCRIPTION
1	DNC	Do Not Connect
2	INOK_L	Active-low output Low = At least 1 power module has input in range High = Otherwise
3	PSON_SHELF_L	Active-low input Low = Turn-on main output V ₁ of power modules High = Turn-off main output V ₁ of power modules
4	SGND	Signal ground

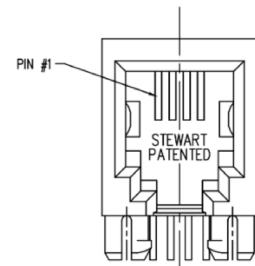


Figure 6. Signal Connector Pin Out (4P4C Modular Jack)

MAXIMUM RATINGS

SYMBOL	DESCRIPTION	MIN	NOM	MAX	UNIT
V _{I/O}	I/O Voltage	0		24	V
I _{I/O}	I/O Sink Current			20	mA

I/O CHARACTERISTICS

SYMBOL	DESCRIPTION	MIN	NOM	MAX	UNIT
V _{IL}	High-level input voltage	1.5			V
V _{IH}	Low-level input voltage			0.8	V
V _{OL}	High-level output voltage		3.1 ⁷		V
V _{OH}	Low-level output voltage, @ 10 mA Sink Current	0.2			V
V _{OH}	Low-level output voltage, @ 20 mA Sink Current	0.4			V

⁷ Without external pull-up.

SHELF I/O CIRCUITRY

All I/O are implemented as open collector with a weak pull-up. The I/O are internally pulled up to 3.3 V via a 10 kΩ resistor. The schematic drawing represents the internal circuit of the shelf. External pullup resistors to higher voltages may be added. When selecting external pullups, please consider the maximum ratings.

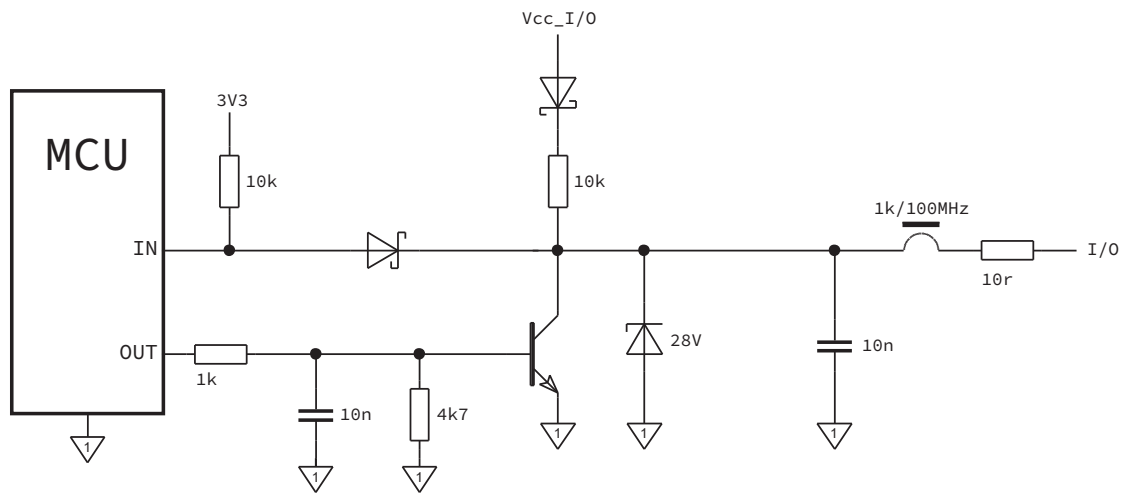


Figure 7. I/O Circuitry



9. COMMUNICATION

Communication to the power shelf and the power modules is via CANBus. The power modules also use CANBus for its active current-share function. For further information please refer to the CAN Communication Manual documents (BCA.00257.0 and BCA.00231.0).

9.1 J1201 PINOUT

D-Sub 9 PIN OUTS (J1201)	FUNCTION	DESCRIPTION
1	NC	NC
2	CAN_L	Dominant Low
3	CAN_GROUND	Ground
4	NC	NC
5	CAN_SHIELD	Shield, Optional
6	CAN_GROUND	Ground, Optional
7	CAN_H	Dominant High
8	NC	NC
9	NC	NC

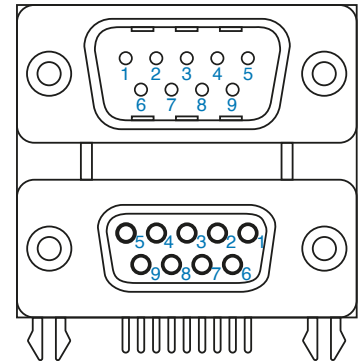
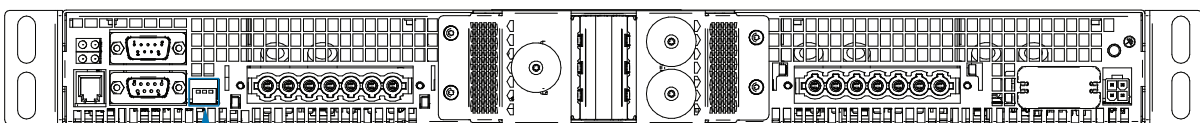


Figure 8. J1201 Pinout

9.2 ADDRESSING

The power shelf and the power modules are individually addressed. The individual addresses are configured via DIP Switch (S1201) according to the table below.

DIP SWITCH			ADDRESS			
POSITION 1	POSITION 2	POSITION 3	PSU1	PSU2	PSU6	Backplane
OFF	OFF	OFF	0x01	0x02	0x06	0x0F
OFF	OFF	ON	0x11	0x12	0x16	0x1F
OFF	ON	OFF	0x21	0x22	0x26	0x2F
OFF	ON	ON	0x31	0x32	0x36	0x3F
ON	OFF	OFF	0x41	0x42	0x46	0x4F
ON	OFF	ON	0x51	0x52	0x56	0x5F
ON	ON	OFF	0x61	0x62	0x66	0x6F
ON	ON	ON	0x71	0x72	0x76	0x7F



S1201

Figure 9. DIP Switch Connector S1201 (Rear view)

10. PARALLEL OPERATION

Up to 8 SPSTET4V3-0x power-shelves can be configured for parallel operation.

For parallel operation:

- Connect the following:
 - V₁ Main Output
 - V_{SB} Standby Output
 - CANBus
- CANBus connection and termination
 - Use CANBus cables (see Accessories) to connect the CAN ports between shelves.
 - Connect a CAN Terminator (see Accessories) to the top-shelf and bottom-shelf.
 - Set the power-shelf address via the DIP Switches

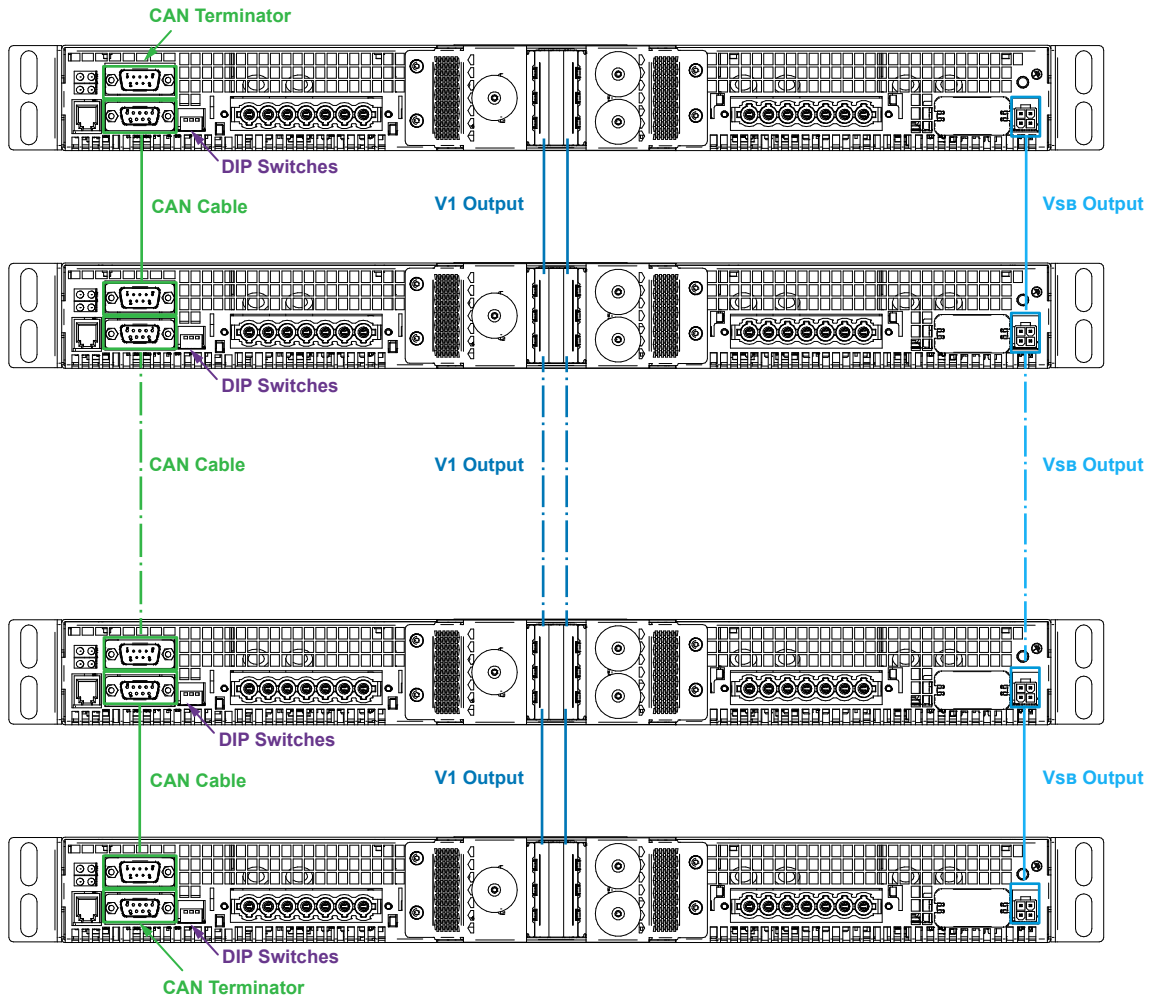


Figure 10. Parallel Operation

11. LEDs

11.1 POWER MODULE LEDs (FRONT SIDE)

Each power module has 2 LEDs to indicate status condition. LED number one is green and indicates AC power is on or off, while LED number two is bi-colored: green and yellow to indicate DC power presence or fault conditions.

OPERATING CONDITION	LED SIGNALING
AC LED	
AC Line within range	Solid Green
AC Line out of range	Off
DC LED ⁸	
V ₁ or V _{SB} out of regulation	
Over temperature shutdown	
Output over voltage shutdown (V ₁ or V _{SB})	Solid Yellow
Output under voltage shutdown (V ₁ or V _{SB})	
Output over current shutdown (V ₁ or V _{SB})	
Invalid CANBus Node-Id	Blinking Yellow
Main output V ₁ is turned off	Blinking Green
Normal Operation	Solid Green
Power module is back supplied and AC Line out of range	Blinking Yellow
Otherwise	Off

⁸ The order of the criteria in the table corresponds to the testing precedence in the controller. LEDs are only available if sufficient input voltage is applied for operation of the internal supply circuits.

11.2 POWER SHELF LEDs (REAR SIDE)

LED	FUNCTION	DESCRIPTION
LED 1	INOK_L	On if INOK_L is low. See "Logic Signals"
LED 2	PSON_SHELF_L	On if PSON_SHELF_L is low. See "Logic Signals"
LED 3	-	Reserved
LED 4	WATCHDOG	Blink 1 Hz if the Shelf Controller is alive.

NOTE: All 4 LEDs will blink during the FW bootstrap.

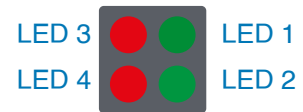


Figure 11. LEDs Layout

12. SAFETY, REGULATORY AND EMC SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	CRITERION
Agency Approvals	Approved to the latest revisions / amendments of the following standards: UL/CSA 62368-1, EN 62368-1 and IEC 62368-1	Approved
Insulation	Input (L/N) to case (PE) Input (L/N) to output Output to case (PE)	Basic Reinforced Functional
Electrical Strength Test	Input to case Input to output (tested by manufacturer only)	Min. 2500 VDC Min. 5000 VDC
Conducted Emission	EN 55032 / CISPR 22: 0.15 ... 30 MHz, QP and AVG	Class A
Radiated Emission	EN 55032 / CISPR 22: 30 MHz ... 1 GHz, QP	Class A
Harmonic Emissions (per module)	IEC 61000-3-2, $V_{in} = 230$ VAC, 50 Hz, 100% Load (per module)	Class A
AC Flicker	IEC / EN 61000-3-3, $d_{max} < 3.3\%$	PASS
ESD Contact Discharge	IEC / EN 61000-4-2, ± 8 kV, 25+25 discharges per test point (metallic case, LEDs, connector body)	A
ESD Air Discharge	IEC / EN 61000-4-2, ± 15 kV, 25+25 discharges per test point (non-metallic user accessible surfaces)	A
Radiated Electromagnetic Field	IEC / EN 61000-4-3, 10 V/m	A
Burst	IEC / EN 61000-4-4, level 3 AC port ± 2 kV, 1 minute DC port ± 1 kV, 1 minute	A
Surge	IEC / EN 61000-4-5 Line to earth: level 3, ± 2 kV Line to line: level 2, ± 1 kV	A
RF Conducted Immunity	IEC/EN 61000-4-6, Level 3, 10 Vrms	A
Voltage Dips and Interruptions (per module)	IEC/EN 61000-4-11 (per module) 1: V_i 230 VAC, 100% Load, Dip 100%, Duration 12 ms 2: V_i 230 VAC, 100% Load, Dip 100%, Duration < 150 ms 3: V_i 230 VAC, 100% Load, Dip 100%, Duration > 150 ms	A V_i : B, V_{SB} : A B

13. ENVIRONMENTAL SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	MIN	NOM	MAX	UNIT
Operating Temperature	@ full load, up to 4000 m:	0		+35	°C
	@ full load, up to 1800 m:	0		+45	
	@ 75% load, up to 1800 m:	0		+55	
Non-Operating Temperature		-40		+70	°C
Humidity	Operating: @ at 40 °C, non-condensing	7		93	%RH
	Non-Operating: non-condensing	5		95	
Altitude	Operating:			4000	m
	Non-Operating:			13000	
Shock	Operating: 11 ms half-sine shocks in 6 axis 5 per each direction		6		g
	Non-Operating: 11 ms half-sine shocks in 6 axis 10 per each direction		12		
Vibration	Operating: 0.5 g Sinusoidal in 3 axis (x, y, z) 10 sweep cycles for each direction (2 hours 13 minutes)	5		500	Hz
	Non-Operating: 1 g Sinusoidal in 3 axis (x, y, z) 10 sweep cycles for each direction (2 hours 13 minutes)	5		500	
Cooling	When equipped with operating PSUs			50	Pa



14. CONNECTORS

DESCRIPTION	REFERENCE DESIGNATOR	TYPE	MANUFACTURER	MPN
Input Connector	J1107 J1108	/	Positronic Industries Positronic Industries BIZLINK	SP10RSSH48RM220A1/AA-2269 SP10RSSH48M220A1/AA-2269 747-G3-07B
Logic Signal Connector	/	J1112	4P4C Modular Jack	Bel Fuse Inc.
+12 V _{SB} Output Connector	J1204	/	Amtek	5W4200L1-202T0BAUK01
CAN Connector	J1201	Dual port D-SUB 9	Norcomp	189-009-413R571
V _I Output Connector	/	Open Rack V3 Power Shelf Output Connector	BIZLINK	747-BL01B

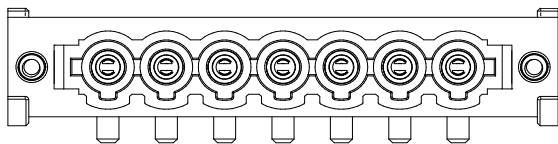
NOTE: Equivalent connectors might be used without notice.

14.1 CONNECTOR PIN ASSIGNMENT

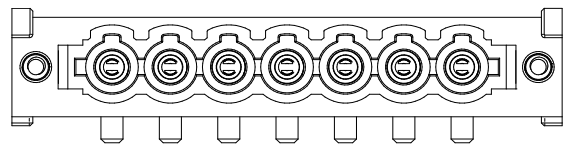
Input Connector (J1107, J1108)

J1107: Positronic: SP10RSSH48RM220A1/AA-2269 or equivalent
 J1108: Positronic: SP10RSSH48M220A1/AA-2269 or equivalent

Mating Part for J1107 and J1108:
 Connector: Positronic: SP10RSSH1F0W01/AA-2268 or equivalent
 Terminal: Positronic: FC4008DS/AA-2272 or equivalent



J1107 PINs: 71



J1108 PINs: 17

Figure 12. 3-Phase Input Connectors (J1107, J1108)

15. MECHANICAL SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITIONS	MIN	TYP	MAX	UNIT
Dimensions	(W x H x D)	440.0	46.5	786.2	mm
		17.32	1.83	30.95	in
Weight	Shelf only		8.5		kg
	6 PSU installed		25		kg

SPSTET4-02 MECHANICAL DATA

NOTE: Finished good may look different from images.

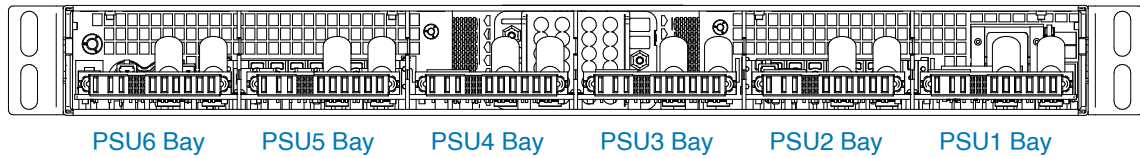


Figure 13. SPSTET4V3-02 Front View

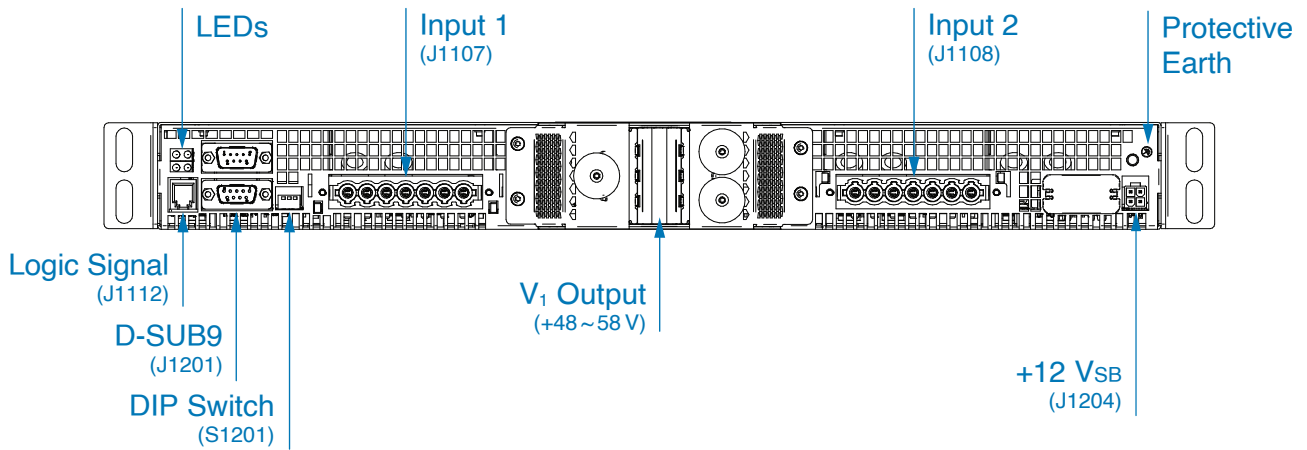


Figure 14. SPSTET4V3-02 Rear View

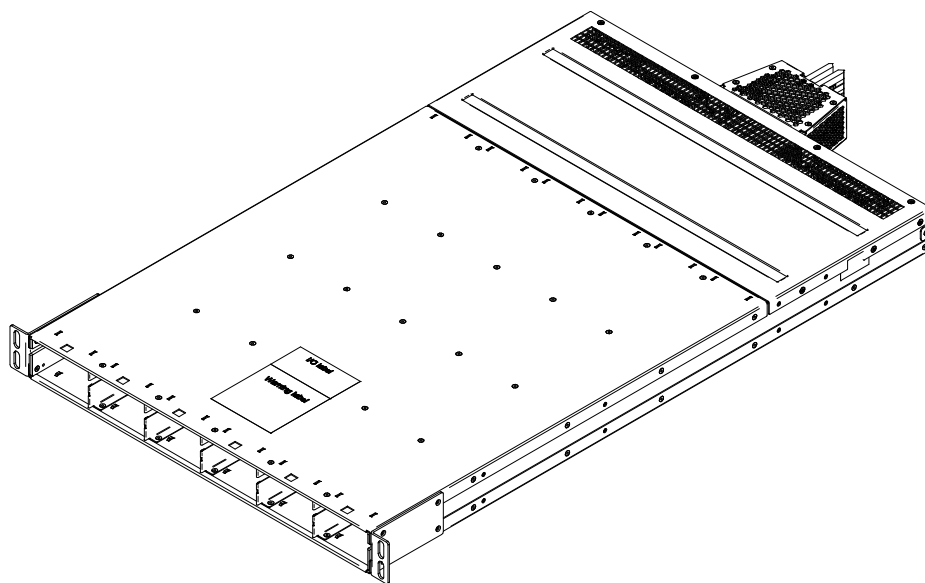


Figure 15. SPSTET4V3-02 Isometric View



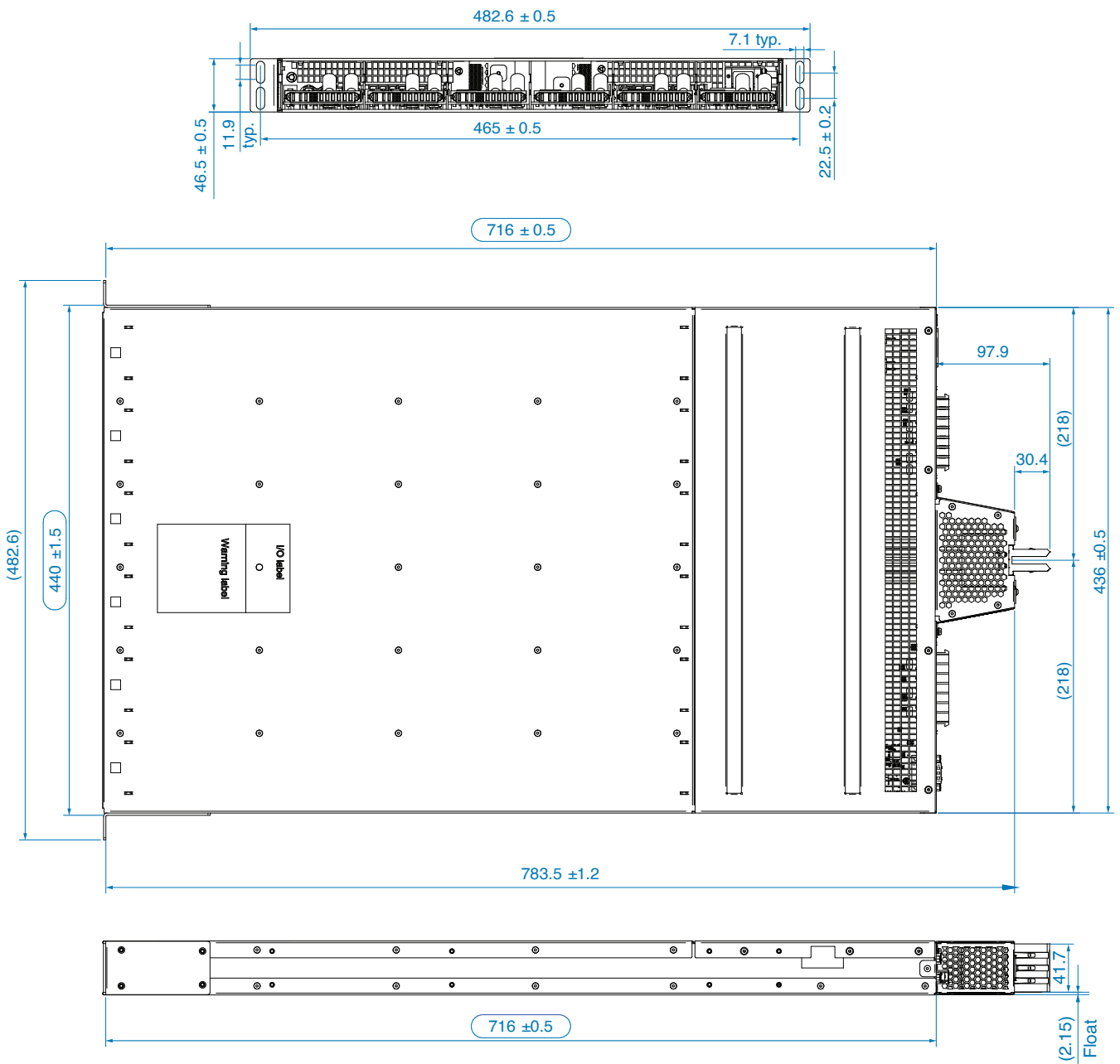


Figure 16. SPSTET4V3-02 Mechanical Drawing with Dimensions (Front, Top, Side View)

16. ACCESSORIES

ITEM	DESCRIPTION	ORDERING PN
Blanking Panel	Power Rack Blanking Panel	SPSPFE3-BP01G
CANBus Terminator (female)	D-SUB 9; Pinout the same as J1201; 120 Ohm resistor between CAN_H and CAN_L	
CANBus Terminator (male)	D-SUB 9; Pinout the same as J1201; 120 Ohm resistor between CAN_H and CAN_L	SPSTET4-CAN-KIT
CANBus Cable	D-SUB 9; Pinout the same as J1201; Cable length = 110 mm	

17. REVISION HISTORY

REV	DESCRIPTION	PRODUCT VERSION	DATE	AUTHOR
1	Initial Draft	V001	08-04-2023	Xiao Xue
A	<ol style="list-style-type: none"> Delete all descriptions about Network Attached Controller. “3-PHASE WYE (Y) OR DELTA (Δ) CONNECTION 277/480 VAC INPUT” change to “3-PHASE WYE (Y) OR DELTA (Δ) OR SINGLE PHASE OR HVDC INPUT” Update 1. POWER SHELF REFERENCE TABLE Update the DC OUTPUT and NOTE in the 2. ORDERING INFORMATION Update the main output voltage range to 48~58V, with a default output of 54.5V. The output voltage can be changed through CANBus Update 3. TECHNICAL SPECIFICATIONS list Update Auxiliary Outlet fuse from 15A/500V to 15A/420V Update 4. SAFETY WARNING’s CAUTION Update Figure 1. SPSTET4V3-01 Block Diagram Update Figure 2. Input Connection Diagram Update 7. INPUT SPECIFICATIONS Update 8. OUTPUT SPECIFICATIONS Update 8.1 PROTECTION (PER POWER MODULE) Add 8.2 Main output Connector (V1) +12VSB CONNECTOR (J1204) moved from 11.3 to 8.3, and added description content. Correct the arrangement order of LEDs. Update 12. AUXILIARY OUTLET description content. Delete Creepage / Clearance (dC) from 13 SAFETY, REGULATORY AND EMC SPECIFICATIONS The Conducted Emission and Radiated Emission standards have been updated from EN 55022 to EN 55032 Update the specifications on Vibration and Shock in point 13. Update all exterior mechanical structure images Update 14. CONNECTORS: MPN of the Main output connector and +12VSB Output Connector 	V002	03-15-2024	Eisen Xu

NUCLEAR AND MEDICAL APPLICATIONS - Products are not designed or intended for use as critical components in life support systems, equipment used in hazardous environments, or nuclear control systems.

TECHNICAL REVISIONS - The appearance of products, including safety agency certifications pictured on labels, may change depending on the date manufactured. Specifications are subject to change without notice.

