

2500W 1U Front End Power Supplies

<https://product.tdk.com/en/power/hfe>
www.emea.lambda.tdk.com/uk/products/hfe



The HFE2500 AC-DC industrial power supplies can be operated in a hot-swap redundant configuration, or used to provide up to 9,500W of bulk power. Up to four power supplies can be fitted in a variety of 19" 1U high racks, for configuration as a single output. The HFE supplies have internal ORing MOSFETs and current share for automatic parallel operation. Communication is possible with the power supplies using the optional isolated PMBus™ (I²C) interface or a plug-in LAN module. AC fail, DC good, remote output adjust, remote on/off and a 12V auxiliary output are fitted as standard.

Features	Benefits
• Internal ORing MOSFET and Current Share	• Suitable For N+1 Redundancy
• Up to 9500W in 1U Rack	• Utilizes Less System Space
• Full Array of Signals Available	• Easy Remote Monitoring
• PMBus™ (I ² C) and LAN options	• Industry Standard Communication Interfaces
• Analog Output Adjustment	• Simple External Resistance or Voltage Connection

Model Selector						
Model	Output Voltage (V)	Adjustment Range (V) ⁽¹⁾	Max Current (A) (Vin>180Vac)	Max Power (W) (Vin>180Vac)	Max Current (A) (100<Vin<170Vac) ⁽²⁾	Max Power (W) (100<Vin<170Vac) ⁽²⁾
HFE2500-12	12	9.6 - 13.2	200	2400	125	1500
HFE2500-24	24	19.2 - 29	104	2496	62.5	1500
HFE2500-48	48	38.4V - 58	52	2496	31.25	1500

HFE2500-	12	/	S
	Output voltage 12, 24, 48		blank No PMBus™ / I ² C S PMBus™ / I ² C interface

Model Selector (Racks and LAN)		
Model	Description	Maximum Rack Current
HFE2500-S1U	Four slot 19" rack, IEC320-C20 input connectors (4)	320A each side (640A total)
HFE2500-S1U-TB	Four slot 19" rack, Terminal Block input connectors (4)	320A each side (640A total)
HFE2500/BP	One slot blanking panel, three panels come with each rack	
HFE/C19-U-O	AC Power cord, 2.0m long, one per supply required	
HFE2500-LAN	Plug in LAN Module. Takes up one rack slot. For use with /S power supplies only.	

Specifications				
Model		HFE2500-12	HFE2500-24	HFE2500-48
Input				
Input Voltage range (2)	Vac	85 - 265, See model selector for power derating		
Input Frequency	Hz	47 - 63		
Input Current (Max) 100/230Vac	A	15 / 12		
Inrush Current	A	<50		
Leakage Current 100/230Vac, 60Hz	mA	<0.75 / 1.5		
Power Factor Correction	-	Meets EN61000-3-2, PF > 0.98 at full load		
Harmonic Compliance	-	Meets IEC61000-3-2		
Hold-Up Time 115/230Vac, 60Hz	ms	>10, 80% loading		
Efficiency (3)	%	90 / 92	90 / 92	91 / 93
Conducted EMI	-	Designed to meet EN55022-B, FCC Class B, VCCI-B		
Radiated EMI	-	Designed to meet EN55022-A, FCC Class A, VCCI-A		
Immunity	-	See immunity section		
Safety Agency Certifications	-	IEC/UL/CSA/EN62368-1, 60950-1, CE Mark		

Immunity				
Test	Standard	Test Level	Criteria	Notes
ESD	EN61000-4-2	2,3	B	-
Radiated Susceptibility	EN61000-4-3	2	A	-
Electrical Fast Transient Burst	EN61000-4-4	2	B	-
Surge	EN61000-4-5	3,4	B	-
Conducted Susceptibility	EN61000-4-6	2	A	-
Magnetic fields	EN61000-4-8	4	A	-
Voltage Dips and Input Interruptions	EN61000-4-11	>95% for 0.5 cycles	B	-
		30% for 25/30 cycles	C	-
		>95% for 250/300 cycles	C	-

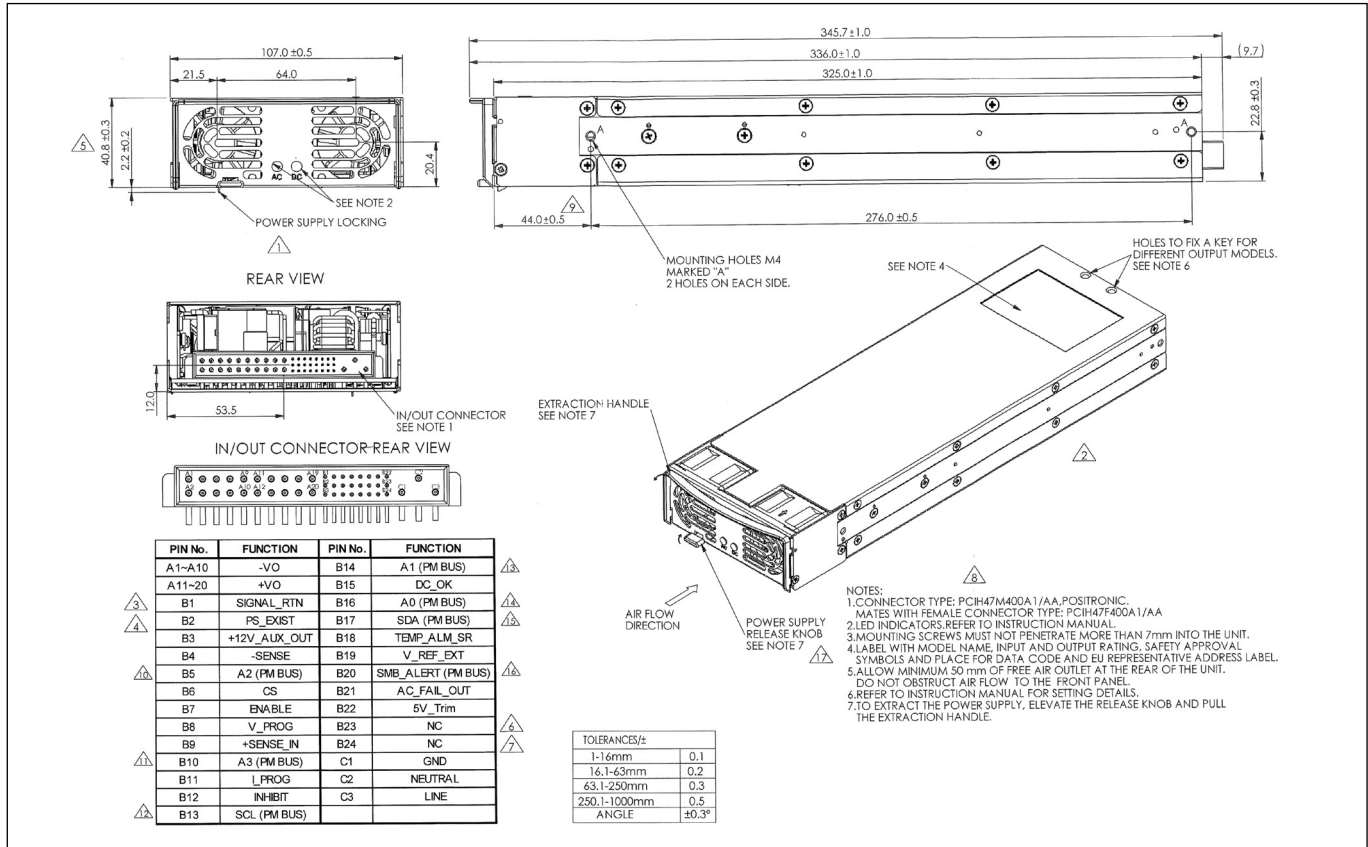
Specifications				
Model		HFE2500-12	HFE2500-24	HFE2500-48
Output				
Line Regulation	mV	30	60	120
Load Regulation	mV	60	120	240
External Load Capacitance	uF	1000/A		
Ripple & Noise (1)	mV	240	240	480
Temperature Coefficient	%/°C	<0.02		
Minimum Load	-	No minimum load required		
Overcurrent Protection	%	105-115		
Overvoltage Protection (1)	%	110% (Tracking). Cycle AC to reset or utilize Remote On/Off		
Overtemperature Protection (1)	-	Shutdown with automatic reset. Warning signal provided		
Remote Sense Compensation	V/wire	0.25	0.5	1.0
Remote On/Off	-	Unit ON: 0-0.6V or short, OFF: 2-15V or open circuit		
Remote Adjust (1)	-	By either external 0-5V signal or 1k potentiometer		
AC Fail Signal	-	Open Collector, ON when AC is within 85-270Vac		
DC Good Signal	-	Open Collector, ON when output is above 85 to 95% of setpoint (tracking)		
Auxiliary Output	-	11.2 - 12.5V, 0.5A, 240mV ripple and noise		
Communication	-	Optional isolated PMbus™ (I ² C) interface (/S suffix) or plug-in LAN module. See model selectors		
Indicators	-	AC OK: Green LED, DC OK / Fail: Green / Red LED		
Parallel Operation (1)	-	Yes, single wire current share, up to 95% accuracy (load dependent), up to 8 units		
Series Operation (1)	-	Two racks maximum (external diodes required)		

Specifications		
Model		HFE2500-12 HFE2500-24 HFE2500-48
Output		
Operating Temperature	°C	10 to +50: 100% load; +50 to +60 derate: 2%/°C of load; +60 to +70 derate: 2.5%/°C of load. For models with reverse air contact factory.
Storage Temperature	°C	-30 to +85
Humidity (non condensing)	%RH	Operating: 10 - 90, Storage: 10 - 95
Cooling	-	Internal variable speed fans. Airflow enters from the front. (4)
Altitude	m	3000 max. Derate output current 2%/100m above 2000m.
Withstand Voltage	-	I/P to O/P 3kVac, I/P to GND 2kVac. O/P to GND: HFE2500-12, -24V 500Vac, HFE2500-48 2250Vdc 1 min, (POE)
Isolation Resistance	MΩ	>100 at 25°C & 70%RH, Output to Ground 500Vdc
Vibration (Non-operating)	-	Meets IEC60068-2-64 (Basic Transportation)
Shock (Non-operating)	-	Meets IEC60068-2-27 (Basic Transportation)
Other		
Weight (Typ)	g	Power Supply: 2100, Rack: 5000
Size (LxWxH)	mm	Power supply: 325 x 107 x 40.1; Rack: 477.5 x 444.5 x 43.7
Size (LxWxH)	Inches	Power Supply: 12.8 x 4.21 x 1.61; Rack: 15.8 x 17.5 x 1.72
PMBus™ / I ² C Interface (1)	-	Isolated from output, Add suffix /S, PMBus™ compatible
MTBF - Telcordia	Hours	219,557
Warranty	yrs	Three

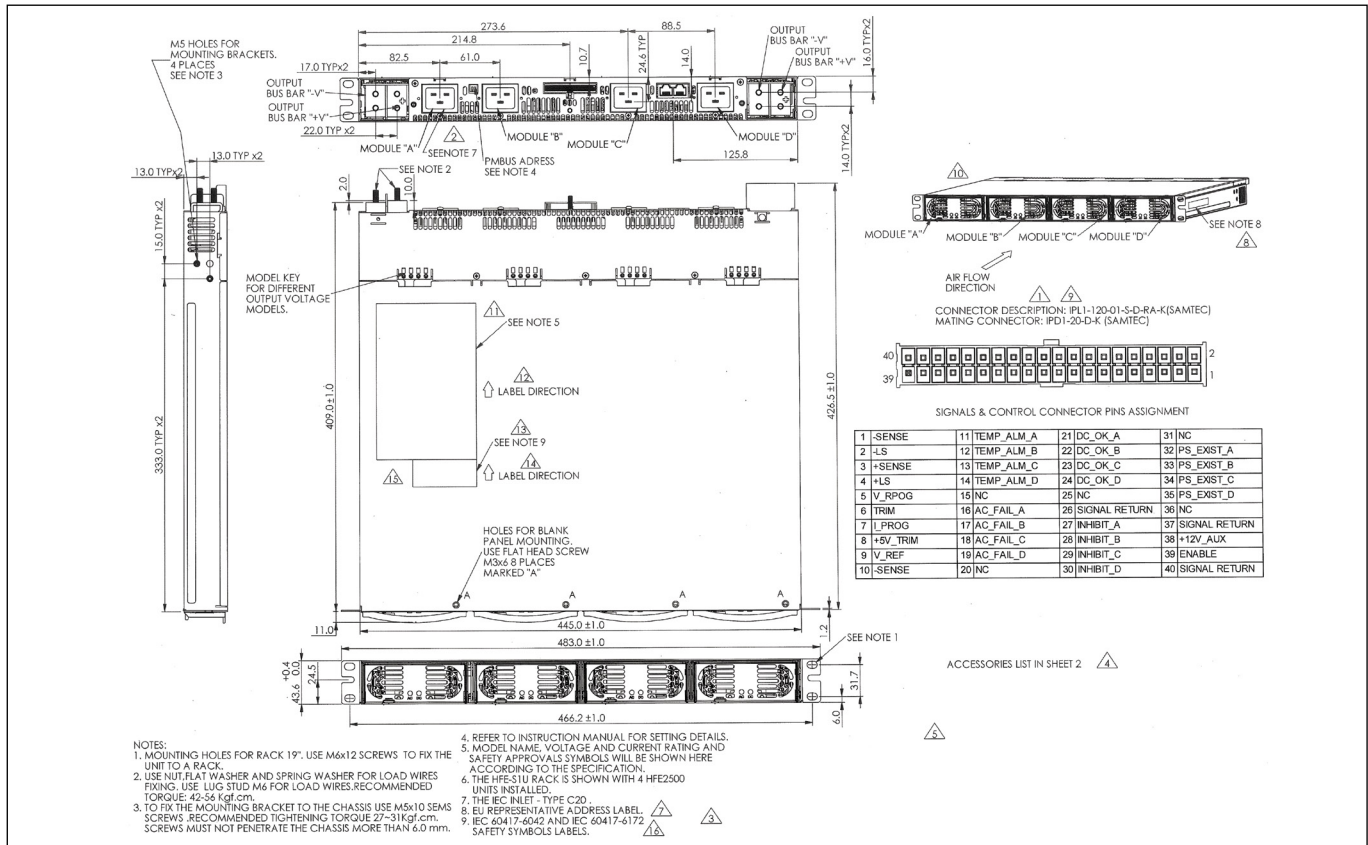
Notes

- (1) See installation manual for detailed specifications & test methods
- (2) Derate linearly 1.3%/V from 100Vac to 85Vac input
- (3) At 75% load, 100 / 230Vac input
- (4) Reverse air - contact factory

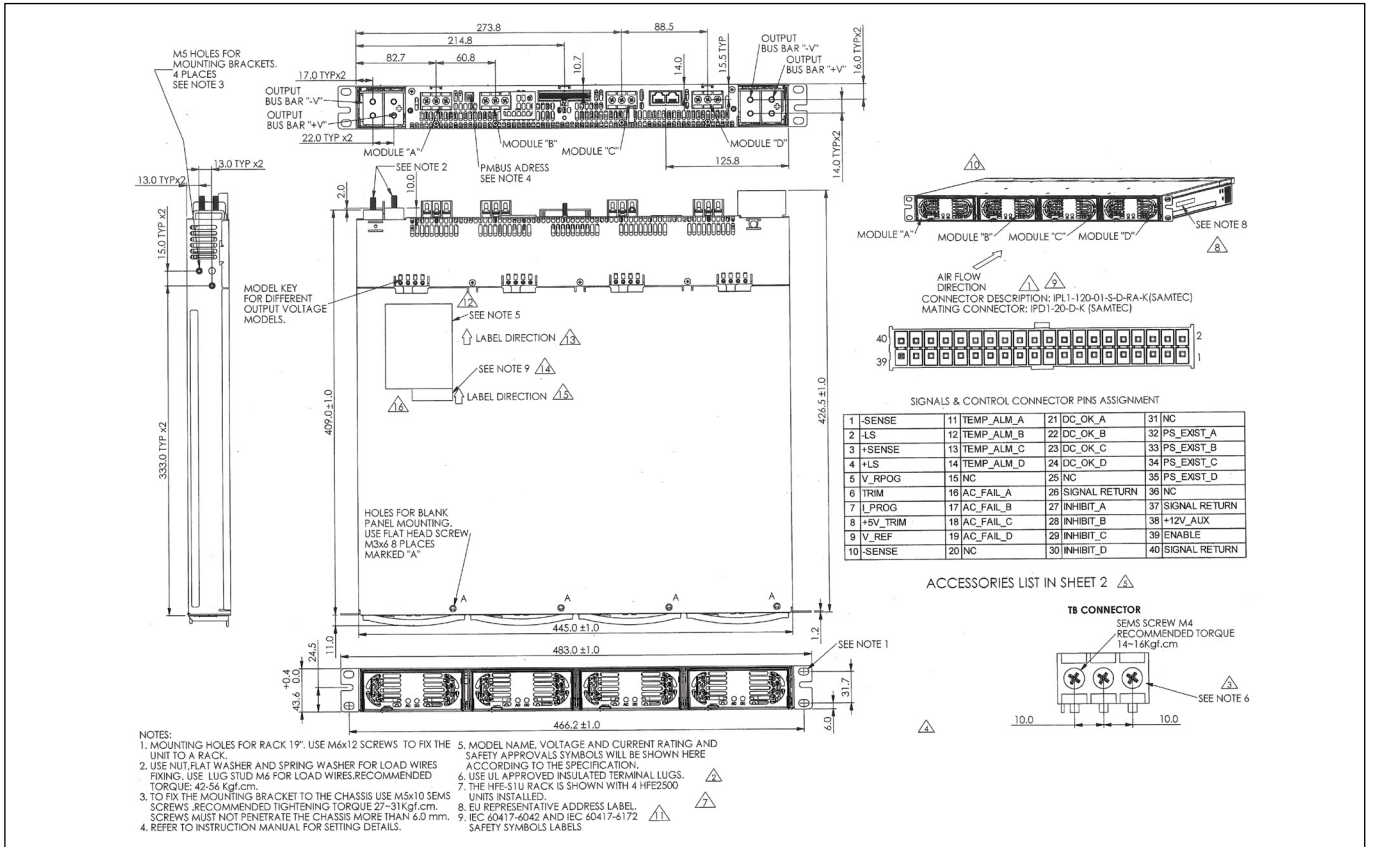
Outline Drawing HFE2500



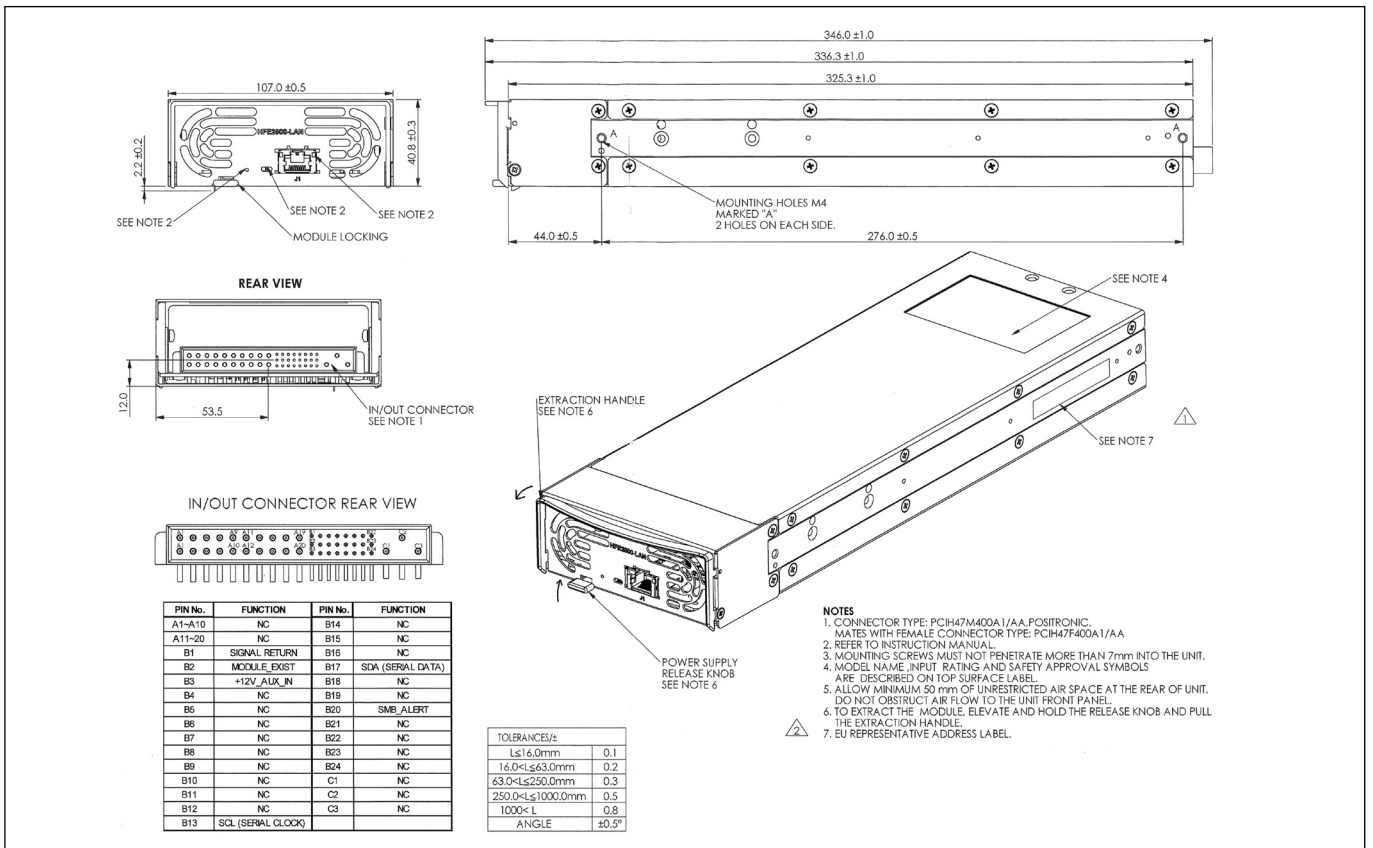
Outline Drawing HFE2500-S1U



Outline Drawing HFE2500-S1U-TB



Outline Drawing HFE2500-LAN





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