

1600W 1U Front End Power Supplies

Features

- ◆ 1U rackmount containing up to 5 units
- ◆ Internal ORing MOSFET & Current Share
- ◆ High Efficiency
- ◆ Up to 7600W in 1U rack
- ◆ Full array of signals available
- ◆ PMBus™(I²C) and LAN options



Key Market Segments & Applications



Specifications

Model		
Input Voltage Range (2)	VAC	85 - 265VAC, 47 - 63Hz. See model selector for power derating
Input Current (Max) 115/230VAC	A	14.2 / 8.1A
Inrush Current	A	<35A
Power Factor Correction	-	Meets EN61000-3-2, PF > 0.98 at full load
Temperature Coefficient	%/°C	<0.02%/°C
Overcurrent Protection	%	105 - 120%
Overvoltage Protection (1)	%	110% (Tracking). Cycle AC to reset or utilize Remote On/Off
Overtemperature Protection (1)	-	Shutdown with automatic reset. Warning signal provided
Hold up time	ms	>10ms, 115/230VAC Input, 80% loading
Leakage Current	mA	< 0.75 / 1.5mA 100/230VAC, 60Hz
Remote Sense Compensation	-	HFE1600-12: 0.25V/wire, HFE1600-24: 0.5V/wire, HFE1600-32: 0.75V/wire, HFE1600-48: 1.0V/wire
Indicators	-	AC OK: Green LED, DC OK / Fail: Green / Red LED
Remote On/Off	-	Unit ON: 0 - 0.6V or short, OFF: 2 - 15V or open circuit
Parallel Operation (1)	-	Yes, single wire current share, up to 90% accuracy (load dependant), up to 10 units
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)
Remote Adjust (1)	-	By either external 0 - 5V signal or 1k potentiometer
I ² C Interface (1)	-	Isolated from output, Add suffix /S, PMBus compatible
Auxiliary Output	-	11.2 - 12.5V, 0.5A, 240mV ripple and noise
Operating Temp. (-TB Rack)	°C	-10 to +70°C, derate 2%/°C from 50 to 60°C, 2.5%/°C from 60 to 70°C
Operating Temp. (-IEC320 Rack)	°C	-10 to +60°C, derate 2%/°C from 50 to 60°C
Storage Temperature	°C	-30 to +85°C
Humidity (Non condensing)	%RH	Operating: 10 - 90%RH, Storage: 10 - 95%RH
Cooling	-	Two variable speed internal fans, airflow exits across input/output connector (3)
Withstand Voltage	-	I/P to O/P 3kVAC, I/P to GND 2kVAC, O/P to GND: HFE1600-12,-24V 500VAC, HFE1600-48 2250VDC 1 min, (POE)
Isolation Resistance	MΩ	>100MΩ at 25°C & 70%RH, Output to Ground 500VDC
Vibration (Basic transportation)	-	Meets IEC60068-2-64
Shock (Basic transportation)	-	Meets IEC60068-2-27
Safety Agency Certifications	-	UL60950-1, EN60950-1, CE Mark
Line Dip	-	Complies with SEMI F47 (200VAC line only)
Conducted and Radiated EMI	-	EN55032 & FCC part 15; Conducted class B, Radiated class A
Immunity	-	IEC61000-4-2 (lv 2,3), -3 (lv 2), -4 (lv2), -5 (lv3,4), -6 (lv2), -8 (lv 4), -11
Size (LxWxH)	mm	Power Supply: 300 x 85 x 41mm; Rack: 365 x 445 x 43.6mm
Size (LxWxH)	in	Power Supply: 11.8 x 3.35 x 1.61"; Rack: 14.4 x 17.5 x 1.72"
Weight	g	Power Supply: 1550g, Rack: 4800g
Warranty	yrs	Three Years

(1) See installation manual for detailed specifications & test methods

(2) Derate output power linearly 1%/V from 100VAC to 85VAC input

(3) Reverse air - contact factory

Model Selector

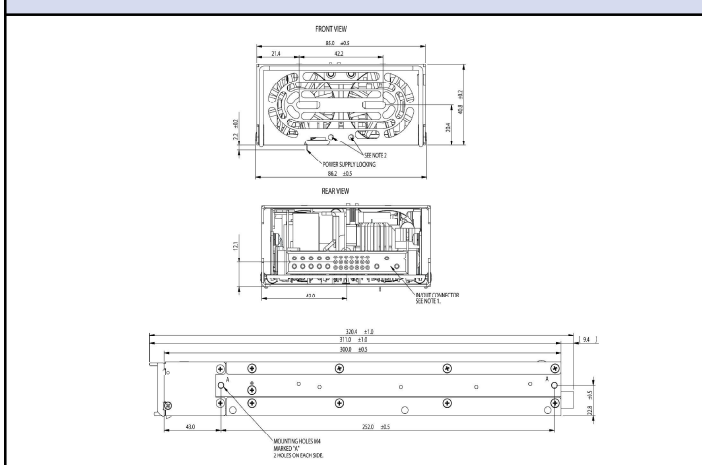
Model	Output Voltage	Adjust Range ⁽¹⁾	Max Current (Vin>170VAC)	Max Power (Vin>170VAC)	Max Current (100<Vin<170VAC) ⁽²⁾	Max Power (100<Vin<170VAC) ⁽²⁾
HFE1600-12	12V	9.6 - 13.2V	133A	1596W	100A	1200W
HFE1600-12/S	12V	9.6 - 13.2V	133A	1596W	100A	1200W
HFE1600-24	24V	19.2 - 29V	67A	1608W	50A	1200W
HFE1600-24/S	24V	19.2 - 29V	67A	1608W	50A	1200W
HFE1600-32	32V	25.6 - 38.4V	47A	1500W	37.5A	1200W
HFE1600-32/S	32V	25.6 - 38.4V	47A	1500W	37.5A	1200W
HFE1600-48	48V	38.4 - 58V	33A	1584W	25A	1200W
HFE1600-48/S	48V	38.4 - 58V	33A	1584W	25A	1200W
Model	Load Reg	Line Reg	Ripple & Noise ⁽¹⁾	Efficiency (%) ⁽⁴⁾	PMBus/ I ² C	
HFE1600-12	60mV	30mV	240mV	87 / 90%	-	
HFE1600-12/S	60mV	30mV	240mV	87 / 90%	Yes	
HFE1600-24	120mV	60mV	240mV	88 / 90%	-	
HFE1600-24/S	120mV	60mV	240mV	88 / 90%	Yes	
HFE1600-32	160mV	80mV	320mV	88 / 90%	-	
HFE1600-32/S	160mV	80mV	320mV	88 / 90%	Yes	
HFE1600-48	240mV	120mV	480mV	89 / 92%	-	
HFE1600-48/S	240mV	120mV	480mV	89 / 92%	Yes	

(4) At 75% load, 115 / 230VAC input

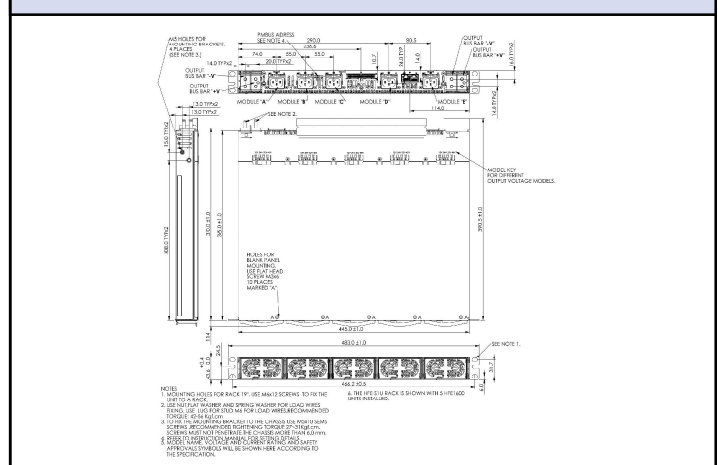
Accessories

Model	Description	Maximum Rack Current
HFE1600-S1U	Five slot 19" rack, IEC320-C16 input connectors (5)	266A each side (532A total)
HFE1600-S1U-TB	Five slot 19" rack, Terminal Block input connectors (5)	266A each side (532A total)
HFE1600/BP	One slot blanking panel, four provided with each rack	-
HFE/C15U	AC Power cord, 2.0m long, one per power supply required	-
HFE1600-D1U	Four slot (two isolated pairs), dual output 19" rack, IEC320 input	266A each side (532A total)
HFE1600-D1U-TB	Four slot (two isolated pairs), dual output 19" rack, terminal block input	266A each side (532A total)
HFE1600-LAN	Plug in LAN module. Takes up one rack slot. For use with /S models only.	-

Outline HFE1600



Outline HFE1600S1U



For Additional Information, please visit
<https://product.tdk.com/info/en/products/power/index.html>



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