

HFE1600 SERIES

AC / DC Single Output: 1600 ~ 7600 Watts



Specifications

Input Voltage	85 ~ 265VAC
Input Frequency	47 ~ 63Hz
Input Current	14.2A / 8.1A (110 / 230VAC)
Leakage Current	0.75mA / 1.5mA (110 / 230VAC)
Inrush Current	35A maximum
Power Factor	Typically 0.98 at full load
Harmonics	EN61000-3-2
Output Voltage	12V, 24V & 48V nominal
Output Power	1600 ~ 8000 watts per rack at 230VAC
Efficiency	Typically 90% (Model dependent)
Hold up time	>10ms at nominal input 110 / 230VAC
Line Regulation	± 0.25%
Load Regulation	± 0.50%
Output Ripple & Noise	240mV for 12/24V outputs 480mV for 48V output
Temperature Coefficient	< 0.02% per °C
Remote Sensing	Yes (refer to manual for complete details)
Parallel Operation	Yes. Single wire current share, 10% accuracy of rated output, up to 10 units max, refer to manual
Series Operation	Yes, refer to manual
Over current Protection	105 ~ 120% of rated output
Over voltage Protection	Yes. Inverter shut down method. Reset by recycle AC voltage, or by On/Off control.
Over temp. Protection	Inverter shut down, automatic restart.
Remote ON/OFF	Two complementary inputs. By electrical signal or dry contact. Refer to instruction manual.
DC OK Signal	Tracking, On when $V_{out} > 90 \pm 5\%$ of set output voltage.
Over Temp Signal	Open collector signal. Maximum sink current: 10mA, maximum voltage 15V.
AC Fail Signal	On when $85V_{ac} < V_{in} < 270V_{ac}$.
Auxiliary output	12V, 0.5A. 240mVp-p ripple and noise
Vout Programming	By external 0~5V, & 1Kohm Resistor, refer to manual for details.

Features

- Universal input 85 - 265VAC
 - 1600W 1U Hot Swap Rectifier Modules
 - Up to 7600W power in 1U x 19in Rack
 - Isolation diodes for **N+1 Redundancy**
 - Current share between modules
 - Status monitoring signals
 - Harmonic correction EN61000-3-2 ,Power Factor 0.95
 - EMC EN55022-B, Immunity to EN61000-4
 - International safety approvals EN60950, UL60950
 - Suitable for use in Battery Charging appl. (>220Vac input)
 - PMBus option
- **Instruction manual and further details available from our website.**

Description

The **HFE1600 series** power supply is a new generation “High Power Density” design, aimed at key projects, where performance and reliability is paramount.

One 19in x 1U rack, can hold up to five 1600W rectifier modules, with up to ten modules in parallel to provide 14.5kw of power with N+1 Redundancy.

There are a number of programming and status signals, allowing end users to configure a system that suits their application.

Specifications Cont.

Front Panel LED	AC OK and DC OK / FAIL
I²c Interface	Optional, PMBus compatible. Refer to Instruction Manual.
Operating Temp.	-10°C to +70°C. Refer to manual for derating
Operating Humidity	10~90% RH, no condensation.
Cooling	By internal Fans. Variable speed control based on ambient temperature and power level.
Shock & Vibration	Built to meet IEC60068-2-64 (Basic Transportation)
Conducted Emission	Built to meet EN55022 Class B, FCC part 15 Class-B, VCCI Class-B
Radiated Emission	Built to meet EN55022 Class A, FCC part 15 Class-A, VCCI Class-A
Immunity	Built to meet IEC61000-4-2 (Level 2,3), -3 (Level 2), -4 (Level 2), -5 (Level 3,4), -6 (Level 2), -8 (Level 4), -11
Safety	UL60950-1 Second Edition, EN60950-1 Second Edition
Isolation	Input – Output: 3000VAC,
Dimensions (Modules)	85 x 41 x 300mm Refer to outline drawing. (1.6Kg)
Rack	1U x 19in , refer to outline drawing

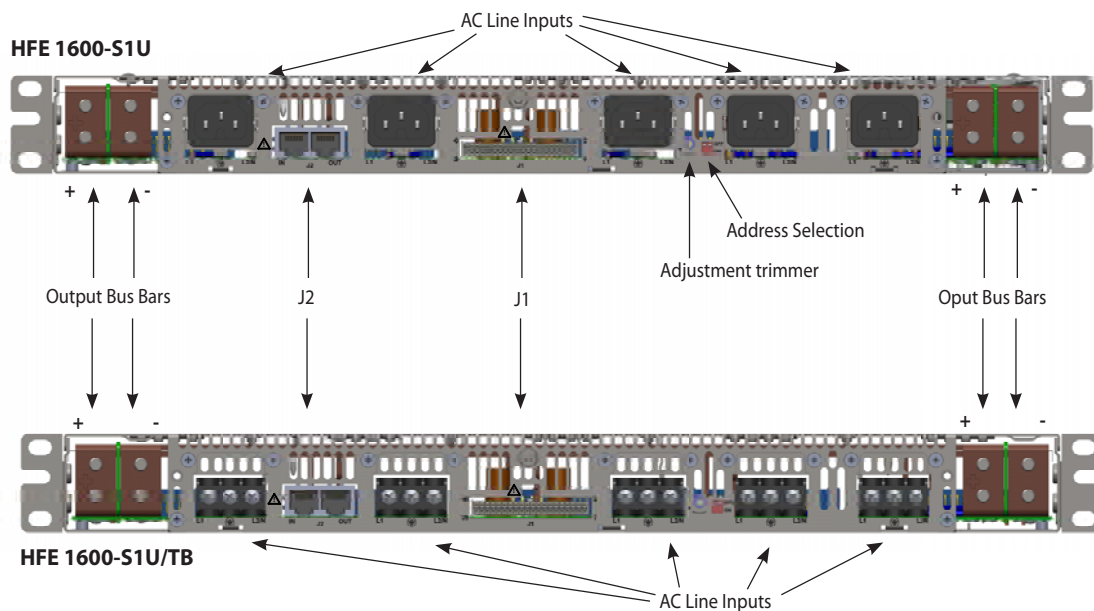
HFE1600 SERIES

AC / DC Single Output: 1600 ~ 8000 Watts

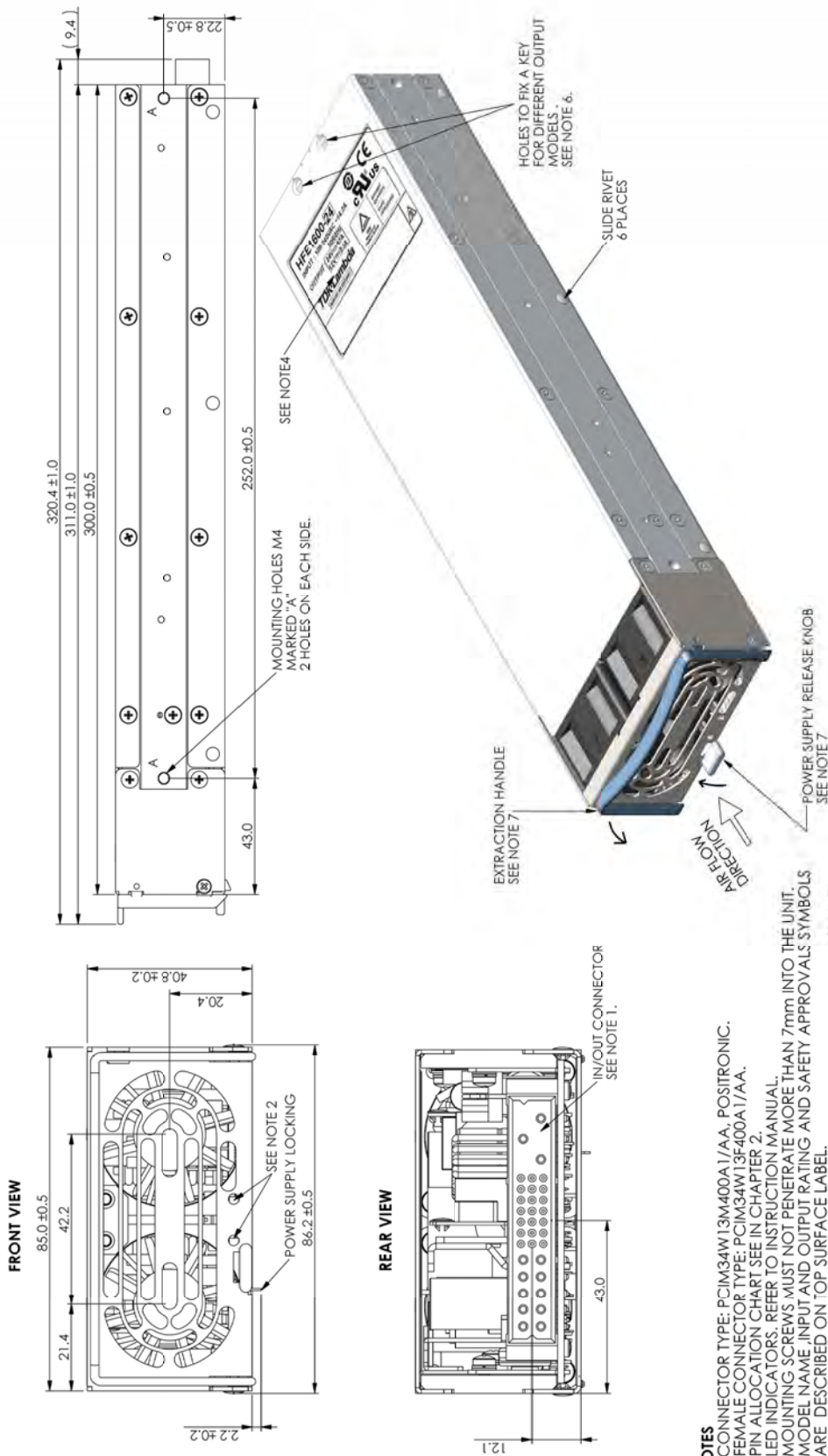
Model Power Supply	Output		V Range	Power	
	V	A		<170VAC	>170VAC
HFE1600-12	12V	133A	9.6~13.2V	1200W	1596W
HFE1600-24	24V	67A	19.2~29V	1200W	1608W
HFE1600-48	48V	33A	38.4~58V	1200W	1584W
Rack Selector			Max Rack Current		
HFE1600-S1U	Five slot 19in Rack, IEC320 input five connectors			200A each side 400A total	
HFE1600-S1U-TB	Five slot 19in Rack Terminal Block Input five connectors			200A each side 400A total	
HFE1600/BP	One spare slot blanking panel. Three provided with each rack				

- For option I²C interface, add /S to modules: HFE1600-24/S
- Maximum output power of 7600 watts per rack >170VAC input

Fig 1: Rear view of HFE1600-S1U Rack.

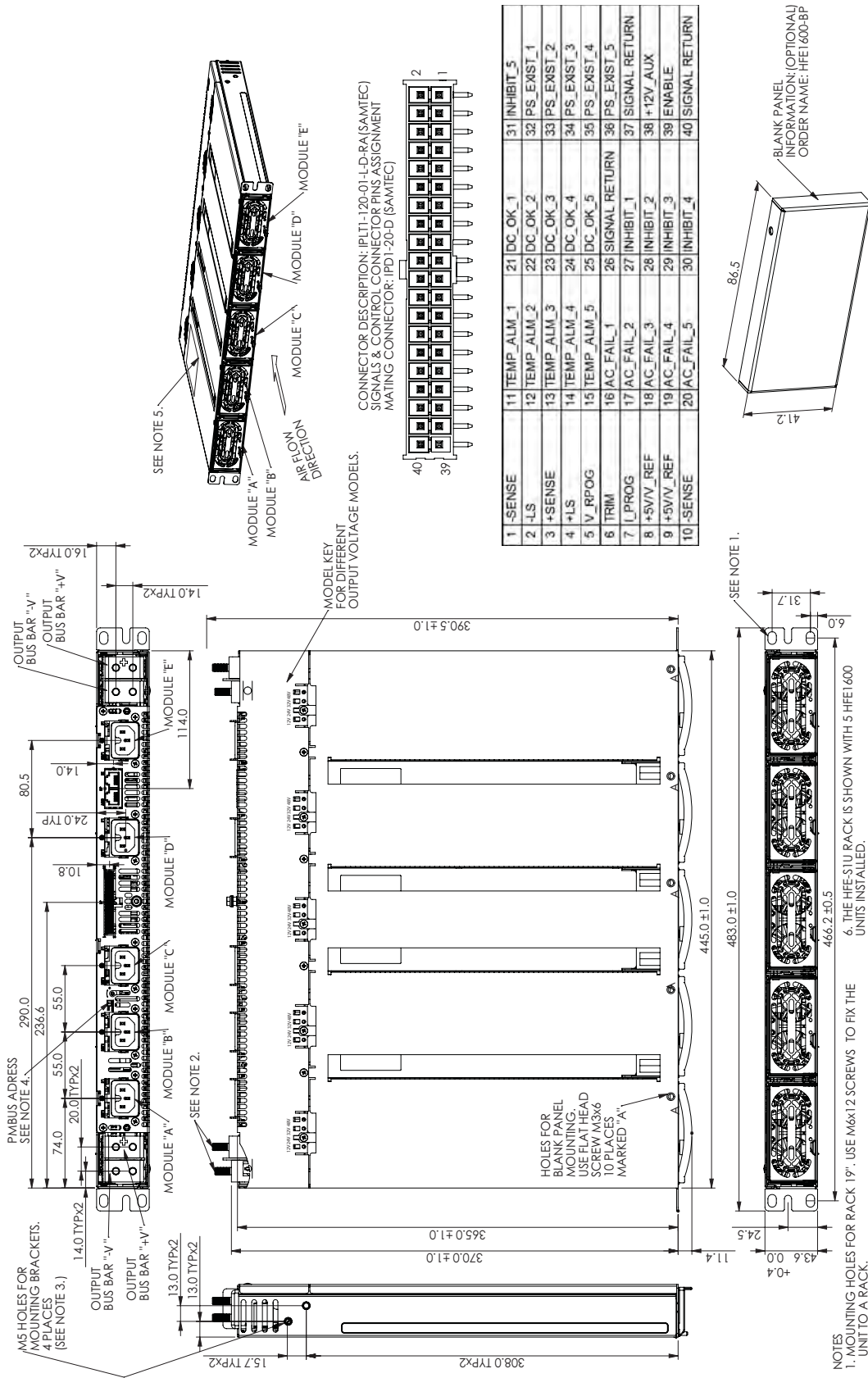


HFE 1600 Module Outline Drawing



- NOTES**
- CONNECTOR TYPE: PCIM34W13M400A1/AA, POSITRONIC. FEMALE CONNECTOR TYPE: PCIM34W13F400A1/AA. PIN ALLOCATION CHART SEE IN CHAPTER 2.
 - LED INDICATORS. REFER TO INSTRUCTION MANUAL.
 - MOUNTING SCREWS MUST NOT PENETRATE MORE THAN 7mm INTO THE UNIT.
 - MODEL NAME INPUT AND OUTPUT RATING AND SAFETY APPROVALS SYMBOLS ARE DESCRIBED ON TOP SURFACE LABEL.
 - ALLOW MINIMUM 50 mm OF UNRESTRICTED AIR SPACE AT THE REAR OF UNIT. DO NOT OBSTRUCT AIR FLOW TO THE UNIT FRONT PANEL.
 - REFER TO INSTRUCTION MANUAL FOR SETTING DETAILS.
 - TO EXTRACT THE POWER SUPPLY, ELEVATE THE RELEASE KNOB AND PULL THE EXTRACTION HANDLE.

HFE1600-S1U Rack Outline Drawing



- NOTES**
1. MOUNTING HOLES FOR RACK 19". USE M6x12 SCREWS TO FIX THE UNIT TO A RACK.
 2. USE NUT FLAT WASHER AND SPRING WASHER FOR LOAD WIRES FIXING. USE M6 LUG FOR LOAD WIRES RECOMMENDED TORQUE: 42-56 Kgf.cm
 3. TO FIX THE MOUNTING BRACKET TO THE CHASSIS USE M5x10 SEMS SCREWS. RECOMMENDED TIGHTENING TORQUE 27-31 Kgf.cm. SCREWS MUST NOT PENETRATE THE CHASSIS MORE THAN 6.0 mm.
 4. REFER TO INSTRUCTION MANUAL FOR SETTING DETAILS.
 5. MODEL NAME, VOLTAGE AND CURRENT RATING AND SAFETY APPROVALS SYMBOLS WILL BE SHOWN HERE ACCORDING TO THE SPECIFICATION.
 6. THE HFE-S1U RACK IS SHOWN WITH 5 HFE1600 UNITS INSTALLED.