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TDK·Lambda RFE1000 Series

1000W 1U Front End Power Supplies

https://product.tdk.com/en/power/rfe
www.emea.lambda.tdk.com/rfe



Industrial Test COMM

The RFE1000 series industrial AC-DC power supplies offer output power up to 1,000W in a low profile 1U 41mm package. Features include remote on/off, remote sense, a standby supply, current share with built in ORing diodes and a wide operating temperature range of 0°C to +70°C.

Features	Benefits
• 1U High (41mm)	• Utilizes Less System Space
• Internal Oring Diode	• Suitable for N+1 Redundancy
• Current Share	• Can be Paralleled for Higher Power Requirements
• Full Array of Signals	• Simplified System Monitoring

Model Selector (Full Systems)

Model	Nominal Output Voltage (V)	Adjustment Range (V)	Maximum Current (A)	Maximum Power (W)
RFE1000-24-Y	24	21.5 - 29	40	960
RFE1000-32-Y	32	28.8 - 38.4	31	992
RFE1000-48-Y	48	43 - 58	21	1008

Specifications

Model		RFE1000-24-Y	RFE1000-32-Y	RFE1000-48-Y
Input				
Input Voltage range	Vac	85 - 265		
Input Frequency	Hz	47 - 63		
Input Current (100 / 200Vac)	A	12 / 6		
Inrush Current	A	<40		
Leakage Current	mA	<1.1 at 230Vac input		
Power Factor Correction	-	EN61000-3-2 class A (20-100% load), >0.98 at full load		
Hold Up Time (typ) at 100Vac Input	ms	20 at <80% of rated current, nominal output voltage		
Efficiency (Typical) (100 / 200Vac)	%	84 / 86	84 / 86	85 / 88
Conducted & Radiated EMI	-	Designed to meet EN55032-B, FCC part 15J-B, VCCI-B		
Immunity	-	See Immunity table		
Safety Certifications and Markings	-	IEC/UL/CSA/EN62368-1, 60950-1, CE Mark and UKCA Mark		

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Immunity

Test	Standard	Test Level	Criteria	Notes
ESD	EN61000-4-2	±8kV air discharge, ±4kV contact discharge	B	See test report on website
Radiated Susceptibility	EN61000-4-3	3V/m from 80-1000 MHz (80% AM at 1kHz)	B	
Electrical Fast Transient Burst	EN61000-4-4	Power line pulses of ±1 kV; I/O line pulses of ±0.5 kV	B	
Surge	EN61000-4-5	±2kV common mode, ±1kV differential mode	B	
Conducted Susceptibility	EN61000-4-6	3Vrms, 150kHz - 80MHz 1kHz 80% AM	B	
Magnetic fields	EN61000-4-8	Inductive loop at 50 Hz, to 30A/m (rms) & 300A/m (rms)	A	
Voltage Dips and Input Interruptions	EN61000-4-11	Voltage Dips of 30% and >95%; Interruptions of >95%.	B	

Specifications

Model		RFE1000-24-Y	RFE1000-32-Y	RFE1000-48-Y
Output				
Line Regulation	mV	96	128	192
Load Regulation	mV	192	256	384
Temperature Stability	%	0.1 of rated Vout for 8hrs after 30min warmup. Constant line, load, & temp.		
Temperature Coefficient	ppm/°C	200		
Output Noise	mV	200	250	300
Minimum Load	A	none		
Overcurrent Protection	%	105 - 125% , Non foldback type		
Overvoltage Protection (Latching)	V	31 - 34	41.5 - 45.5	62 - 66
Overtemperature Protection	-	Yes, automatic reset		
Remote Sense	-	Compensates for up to 1V on each load wire		
Remote On/Off	-	ON: 0 - 0.6V or short, OFF: 2 - 15V or open		
DC OK signal	-	Open Collector, maximum sink current 10mA, 15Vdc maximum, On when Vout > 80% ±5%		
AC fail signal	-	Open Collector, maximum sink current 10mA, 15Vdc maximum; ON when AC input is >85Vac		
Standby Supply	-	12V, 0.25A bias voltage, (11.2 to 12.5V). Built in Oring diode.		
Indicators	-	Green LED indicates DC is OK; ON Vout >80% ±5% of rated Vo,OFF < 80% ±5% of rated Vo.		
Parallel Operation / Current Share	-	Single wire current sharing, up to 8 units		
Environmental				
Operating Temperature	°C	0 to +70, derate 2%/°C from 50 to 60, 2.5%/°C from 60 to 70		
Storage Temperature	°C	-30 to +85		
Humidity (non condensing)	%RH	Operating: 10 - 90, Storage: 10 - 95		
Cooling	-	Two variable speed internal fans, airflow exits across input/output terminals		
Altitude	m	3,000		
Withstand Voltage (For 1 minute)	Vac/Vdc	Input to Ground 2,000Vac, Input to Output 3,000Vac, Output to Ground 500Vdc		
Isolation Resistance	MΩ	>100 at 25°C, 70%RH, Output to Ground 500Vdc		
Vibration	-	Built to meet ETS 300 019		
Shock	-	Built to meet ETS 300 019		
Other				
Weight (Typ)	g	2,000		
Size (WxHxD)	mm	127 x 41 x 305		
Size (WxHxD)	Inches	5 x 1.61 x 12		
MTBF - Bellcore	Hours	430,880 hours Method 1, Ground Benign, 25C, nominal input		
Warranty	Years	2		

Notes:
See website for detailed specifications, test methods and installation manual

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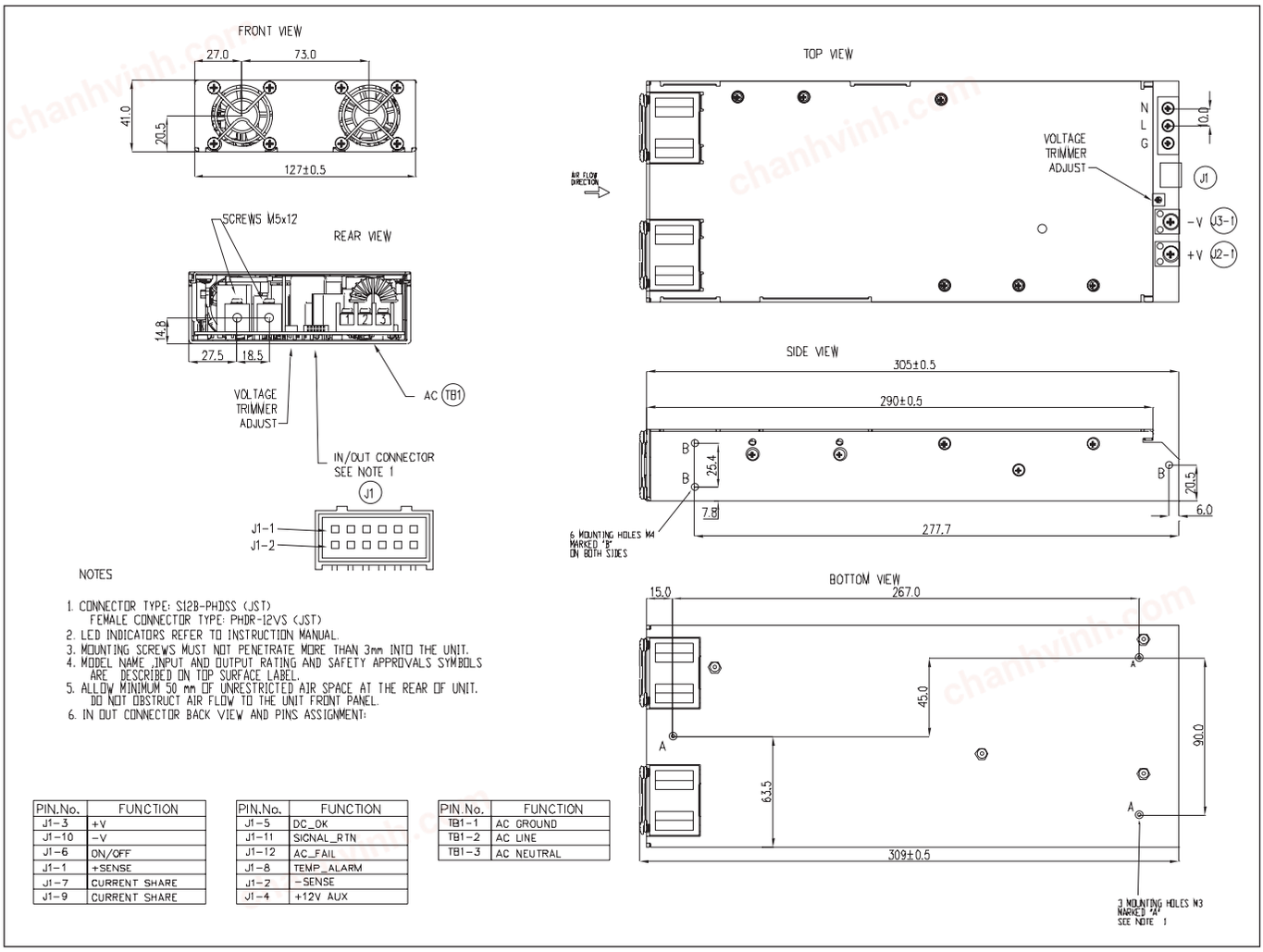
Outline Drawing



NOTES

1. CONNECTOR TYPE: S12B-PHDSS (JST)
   FEMALE CONNECTOR TYPE: PHDR-12VS (JST)
2. LED INDICATORS REFER TO INSTRUCTION MANUAL.
3. MOUNTING SCREWS MUST NOT PENETRATE MORE THAN 3mm INTO THE UNIT.
4. MODEL NAME ,INPUT AND OUTPUT RATING AND SAFETY APPROVALS SYMBOLS ARE DESCRIBED ON TOP SURFACE LABEL.
5. ALLOW MINIMUM 50 mm OF UNRESTRICTED AIR SPACE AT THE REAR OF UNIT. DO NOT OBSTRUCT AIR FLOW TO THE UNIT FRONT PANEL.
6. IN OUT CONNECTOR BACK VIEW AND PINS ASSIGNMENT:

PIN.No.	FUNCTION
J1-3	+V
J1-10	-V
J1-6	ON/OFF
J1-1	+SENSE
J1-7	CURRENT SHARE
J1-9	CURRENT SHARE

PIN.No.	FUNCTION
J1-5	DC_OK
J1-11	SIGNAL_RTN
J1-12	AC_FAIL
J1-8	TEMP_ALARM
J1-2	-SENSE
J1-4	+12V AUX

PIN.No.	FUNCTION
TB1-1	AC GROUND
TB1-2	AC LINE
TB1-3	AC NEUTRAL

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For Additional Information, please visit
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