

## 300-400W Medical Power Supplies

### Features

- ◆ Medical Safety Certifications (BF Rated)
- ◆ Fully Featured - including ORing FET
- ◆ Universal Input (90 - 264VAC)
- ◆ Peak Loading (10s)
- ◆ Suitable for 1U applications
- ◆ Full Digital Control
- ◆ High Efficiency
- ◆ Low Profile
- ◆ Reinforced Isolation (4kVAC input to output)



### Key Market Segments & Applications



Specifications		EFE300M	EFE400M
Input Voltage range	-	90 - 264VAC	
Input Frequency	-	45 - 63Hz, 440Hz with reduced PFC	
Inrush Current	A	<40A at 25C and 230VAC input, Cold Start	
Power Factor Harmonics	-	EN61000-3-2 Compliant (0.97 typical)	
Voltage Setting	-	Setting: -5% to +10% (Chosen at time of ordering), Accuracy: +/-1% at 50% Load	
Total Regulation	-	< 4% with 90 - 264VAC input change and 0-100% load change	
Ripple & Noise	mV	< 1.5% peak-peak	
Efficiency	-	90% typical. EFE400M: 1W power draw in standby mode	
Overcurrent Protection	-	Automatic recovery upon overload removal	
Overvoltage Protection	V	Cycle AC line to reset	
Overtemperature Protection	-	Yes	
Hold Up Time (Typ)	ms	>16ms at 90VAC input, 75% load	
Leakage Current (max)	µA	123µA 120VAC 60Hz, 257µA 240VAC 60Hz, <300µA 264VAC 63Hz (Type Test results)	
Fan Supply	-	12V 1A (Available if no fan option selected)	
Standby Voltage	-	5V 2A or 12V 1A (chosen at time of ordering)	
Remote Sense	-	None	
Signals & Features	-	Remote on/off - Inhibit or Enable operation (chosen at time of ordering) Power Good - High indicates supply is good. ORing FET - Allows redundant connection of supplies	
Operating Temperature (2)	°C	0 to +70°C. Derate linearly to 50% load from 50°C to 70°C	
Storage Temperature	°C	-40 to +85°C	
Humidity (non condensing)	%RH	5 - 95% RH	
Cooling	-	Forced air, 2m/s from input to output (approximately 10CFM)	
Isolation	-	Input to Output 4kVAC <sup>(3)</sup> , (2 x MOPPs (3rd edition 60601)); Input to Ground 1.5 kVAC, 2.3kVDC (Basic), Output to Ground 1500VAC	
Vibration (non operating)	-	2G, 10-500Hz (sweep & endurance at resonance) in all 3 planes. MIL-STD-810E, Method 51.4, Pro I, Cat 1, 9	
Shock	-	30G per IEC68-2-27, MIL-STD-810E/F, Method 516.5, Pro I, IV, VI	
Safety Agency Approvals	-	UL/CSA/IEC/EN 60601-1, ANSI/AAMI ES60601-1, IEC/EN 61010-1 <sup>(4)</sup> , IEC/UL/EN/CSA 60950-1, CE Mark	
Immunity	-	EN61000-4-2, -3, -4, -5, -6, -8, -11, -12, -14	
Conducted Emissions and Flicker	-	EN55011, EN55022 Class B (per CISPR.11/22), EN61000-3-3	
Radiated Emissions	-	EN55011, EN55022 Class B (per CISPR.11/22)	
Weight (open frame or enclosed)	g	350g or 600g	450g or 700g
Size (Open frame style) (1)	in	3 x 6 x 1.34"	3.5 x 6.5 x 1.34"
Warranty	yrs	Five Years	

(1) Including underside component leads

(2) -20°C cold start.

(3) Type tested to 4kVAC (equivalent to 5.7 kVDC), production tested to 4.3 kVDC.

(4) EFE400M, designed to meet 61010-1

## Model Selector

Product Code	Part Description	Style	Output Voltage (V)	Output Current (A)	Average Output Power (W)	Peak Output Current (A) <sup>(5)</sup>	Peak Output Power (W) <sup>(5)</sup>
U5Y0031	EFE300M12-5-ECMDL-YT	With Fan	12	25.0	300	33.30	400
U5Y0020	EFE300M12-5-HNMDL-YT	Open Frame	12	25.0	300	33.30	400
U6Y007P	EFE400M-12-5-ECMDL-YT	With Fan	12	33.3	400	44.17	530
U6Y001H	EFE400M-12-5-HNMDL-YT	Open Frame	12	33.3	400	44.17	530
U5Y0064	EFE300M24-5-ECMDL-YT	With Fan	24	12.5	300	16.70	400
U5Y0053	EFE300M24-5-HNMDL-YT	Open Frame	24	12.5	300	16.70	400
U6Y008Q	EFE400M-24-5-ECMDL-YT	With Fan	24	16.67	400	22.08	530
U6Y002J	EFE400M-24-5-HNMDL-YT	Open Frame	24	16.67	400	22.08	530
U5Y0166	EFE300M-48-5-ECMDL-YT	With Fan	48	6.25	300	7.29	350
U5Y0201	EFE300M-48-5-HNMDL-YT	Open Frame	48	6.25	300	7.29	350
U6Y009R	EFE400M-48-5-ECMDL-YT	With Fan	48	8.33	400	9.79	470
U6Y003K	EFE400M-48-5-HNMDL-YT	Open Frame	48	8.33	400	9.79	470

(5) For up to 10s without exceeding Average Output Power rating

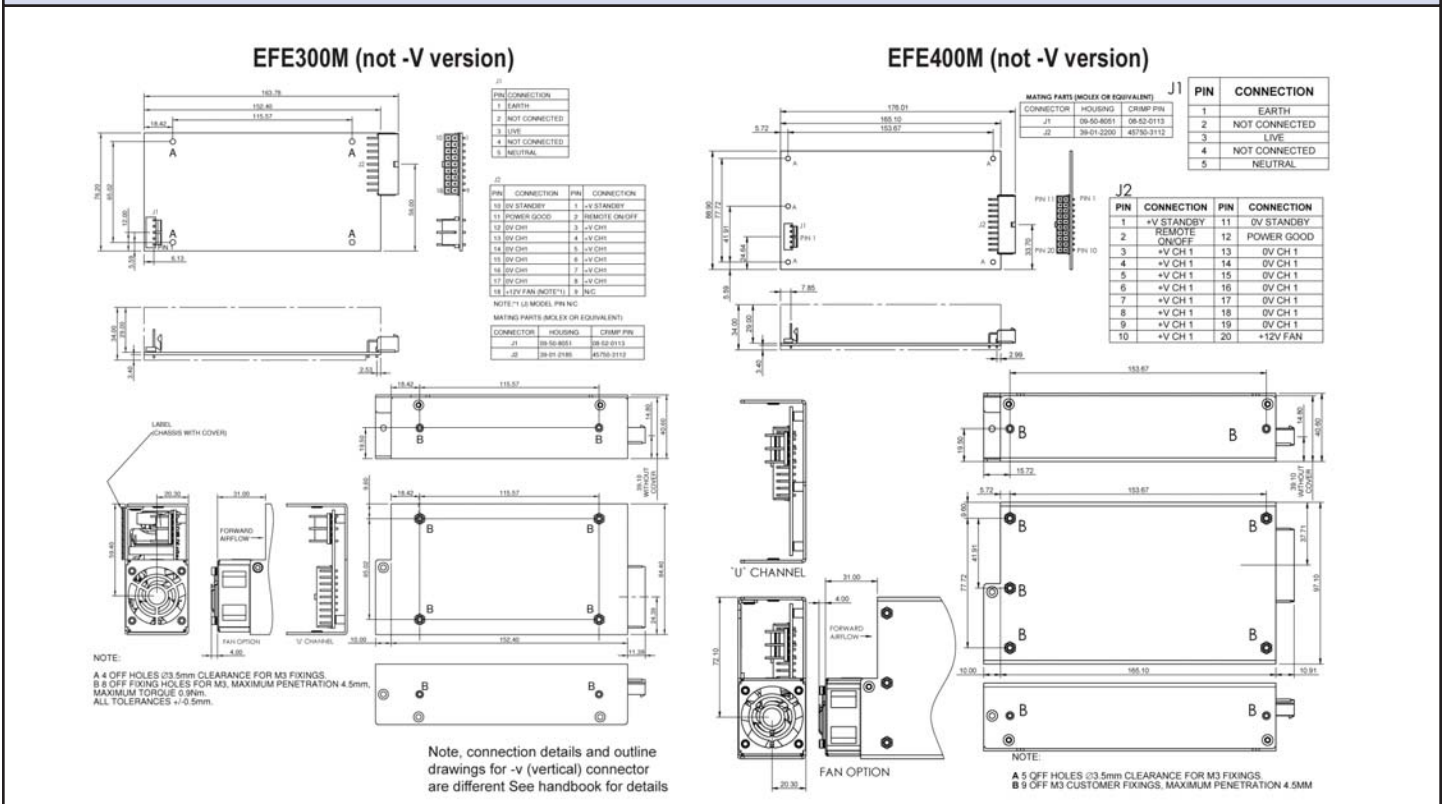
Note: The EFE300M is also available with 28V and 50V.

## Options

Additional options available. Reference detailed product data sheet on downloadable files section of web page.

Part Description Suffix	Standby "5" or "12"	U Chassis	Cover	Internal Fan	Enable or Inhibit "E" or "T"
-5-ECMDL-YT	5V 2A	Y	Y	Y	Inhibit
-5-HNMDL-YT	5V 2A	N	N	N	Inhibit

## Outline Drawing



## Other Medical Products

Vega Series	450 to 900W up to 10 outputs
CSS	40 to 500W Single Output
NV Series	175 to 900W 1U Power Supply 1-8 Outputs

For Additional Information, please visit [us.tdk-lambda.com/lp/products/efe-series.htm](http://us.tdk-lambda.com/lp/products/efe-series.htm)

