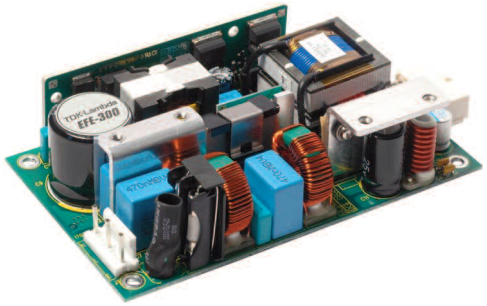


- High Efficiency
- 5 in x 3 in / 6 in x 3 in footprint
- No minimum load
- Fits 1U applications
- 400/530 Watts peak power for 10 seconds
- 5 Year Warranty

Scan here for product page

Key Market Segments & Applications

Instrumentation	Broadcast
Automation	ATE
Security	Industrial Computing
Network Servers/Routers	Lifesciences/Laboratory

EFE300 / EFE400

300/400 Watts, Ultra High Density
AC-DC, digital power solution

Features and Benefits

Features	Benefits
• Full Digital Control	• Improves Product Performance
• High Efficiency	• Minimises heat in system
• Low Profile	• Fits 1U applications

INPUT			
Input Voltage	90 - 264Vac / 120 - 350Vdc	Input Frequency	45 - 63Hz (440Hz with reduced PFC - consult factory)
Input Harmonics	EN61000-3-2 compliant	Power Factor	0.97 typical
Input Fuse	Dual fuses (Live + Neutral) Fast acting (not user accessible)	Inrush Current at 25°C and 230Vac	<20A for EFE300, <30A for EFE400 (cold start) (meets EN61000-3-3)
Earth Leakage Current	410µA at 120Vac (60Hz), 858µA max at 240Vac (60Hz) Worst case leakage current is less than 1.0mA at 264Vac, 63Hz (normal condition, 1.8mA Single Fault Condition)		

QUICK SELECTOR (Standard models). Additional variants available - see below

Output		Units without fan		Units with end fan
		Open Frame	Cover + Chassis	Cover + Chassis
12V / 25A	Description	EFE300-12-CNMDS	EFE300-12-CCMDS	EFE300-12-ECMDS
	Order code	**U2Y002G**	**U2Y001F**	**U2Y003H**
24V / 12.5A	Description	EFE300-24-CNMDS	EFE300-24-CCMDS	EFE300-24-ECMDS
	Order code	**U2Y005K**	**U2Y004J**	**U2Y006L**
12V / 33.3A	Description	EFE400-12-CNMDS	EFE400-12-CCMDS	EFE400-12-ECMDS
	Order code	**U4Y002H**	**U4Y001G**	**U4Y003J**
24V / 16.7A	Description	EFE400-24-CNMDS	EFE400-24-CCMDS	EFE400-24-ECMDS
	Order code	**U4Y005L**	**U4Y004K**	**U4Y006M**

HOW TO CREATE A PRODUCT DESCRIPTION

Output Power
EFE300 = 300W
EFE400 = 400W

EFE300- | Vout | Case/Fan Option | Input Connector | Fusing | Earth Leakage | Output Connector

blank = right angled
-V = Vertical

Output Voltage
12 = 12V
24 = 24V
Other values allowed
(see page 2 for details)

S = standard.
See above for details

D = Dual fused

-CN Open frame, no fan, with 12V / 0.25A fan supply
-CU U chassis, no fan, with 12V / 0.25A fan supply
-CC Cover+chassis, no fan, with 12V / 0.25A fan supply
-EC Cover+chassis, end fan (temp controlled)

M Molex (see page 3 for details)

Confirm availability of created product with the factory

ISOLATION				
Input to Output	Reinforced	3kV (ac), 4.3kV (dc)		
Input to Earth	Basic	1.5kV (ac), 2.3 kV (dc)	Output to Earth	200 V (dc)

OUTPUT SPECIFICATION			
	EFE300	EFE400	
Output Power	300W	400W	Continuous
Peak Power	400W	530W	for 10 seconds (300W RMS for EFE300, 400W RMS for EFE400)
Total Regulation	better than 4%		Including Line (for 90-264Vac input change), Load (for 0-100% load change) and temperature (0-50°C)
Ripple & Noise	1.5%		pk-pk, using EIAJ test method & 20MHz bandwidth
Voltage Setting Range	+10% / -5%		To be specified at time of ordering (chosen in 'Output Voltage' part of product code)
Voltage Setting Accuracy	±1%		at 50% load
Turn on Time	1.5s typical		at 90 Vac & 100% rated output power
Efficiency	90%		typical
Hold up	16ms		typical at 90 Vac, 75% load
Min Load	None		
Transient Response	<5%		of set voltage for 50% load change (in 50µs within the range 25 - 100% load)
Recovery	<1ms		for recovery to 2% of set voltage
Short circuit protection	Yes		Auto recovery after removal of short circuit
Over Temperature protection	Yes		Primary - auto recovers, secondary - cycle power to restart
Over Voltage Protection	Yes		Latching, need to cycle ac to restart unit.
Fan supply	12V / 250mA		Available if 'no fan' is specified, otherwise used by PSU fan. No access to connector with -CC (cover + chassis) variant.

ENVIRONMENT	
Temperature	0°C to 50°C operational, -40°C to 70°C storage (max 12 months). Full load, with 2m/s air blown from input to output (approximately 10CFM)
Derating	50°C to 70°C derate each output by 2.5% per °C
Low Temp Startup	-20°C
Humidity	5 - 95% RH non condensing
Shock	±3 x 30*g* shocks in each plane, total 18 shocks 30*g* shock = 11ms (+/-0.5msec), half sine Conforms to EN60068-2-27, EN60068-2-47, IEC68-2-27, IEC68-2-47, JIS C0041-1987. Conforms to MIL-STD-810E/F, Method 516.5, Pro I, IV, VI
Vibration	Single axis 10 - 500 Hz at 2*g* (sweep and endurance at resonance) in all 3 planes Conforms to EN60068-2-6, IEC68-2-6 Conforms to MIL-STD-810E, Method 514.4, Pro I, Cat 1,9
Altitude	-200 to 3,000 metres operational (-200 to 5000m storage/transportation)
Pollution	Degree 2, Material group IIIb

IMMUNITY EN61000-6-2:2005				Criteria
Electrostatic Discharge	EN61000-4-2	Level 4	Air discharge 15kV Contact discharge 8kV Not applicable to open frame units	A
Electromagnetic Field	EN61000-4-3	Level 3	12V/m	A
Fast / Burst Transient	EN61000-4-4	Level 4	ac input tested to 4.4kV dc output tested to 2.2kV	A
Surge Immunity	EN61000-4-5	Level 3	Common mode - 2.2kV Differential - 1.1kV	A
Conducted RF Immunity	EN61000-4-6	Level 3	12V	A
Power Frequency Magnetic Field	EN61000-4-8	Level 4	30A/m	A
Voltage Dips, Variations, Interruptions	EN61000-4-11	Class 3	Criteria B for 5 sec interruption EFE-300, criteria B for 1 cycle interruption	A
Ring Wave	EN61000-4-12	Level 3	Common mode - 2.2kV Differential - 1.1kV	A
Voltage Fluctuations	EN61000-4-14	Class 3		A

EMISSIONS EN61000-6-3:2007, EN60601-1-2:2001		
Radiated Electric Field	EN55011, EN55022	(as per CISPR.11/22) Class B, FCC47 part 15 subpart B see application note for details
Conducted Emissions	EN55011, EN55022	(as per CISPR.11/22) Class B, FCC47 part 15 subpart B
Conducted Harmonics	EN61000-3-2	Class A Class C (EFE300 at 100W and above, EFE400 at 200W and above)
Flicker	EN61000-3-3	Compliant - d_{max} only

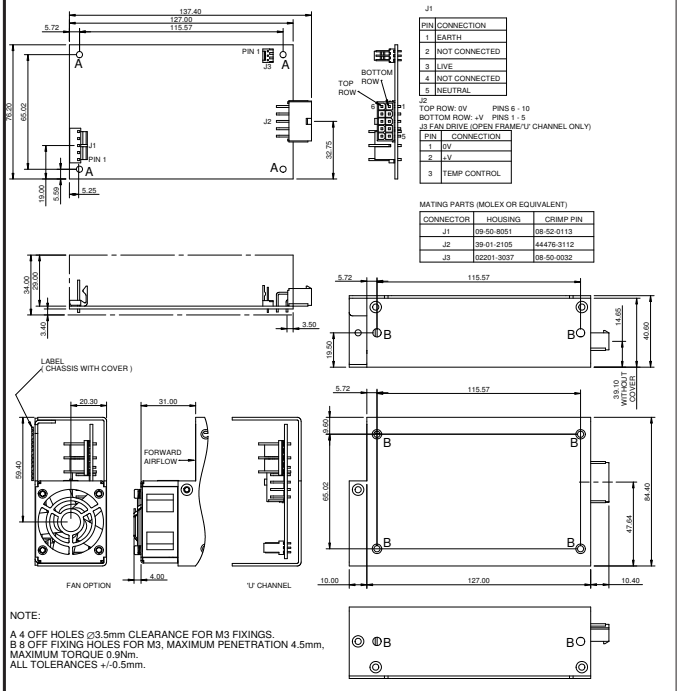
SAFETY APPROVALS

	Date	Comments		Date	Amendments
EN 60950-1	2006		IEC 60950-1*	2005	
UL 60950-1	2007	File E135494-A31/A33	CSA 22.2 No 60950-1	2007	
EN 61010-1	2001		IEC 61010-1*	2001	
CE Mark	LV Directive 2006/95/EC (EN60950-1)				
** CB certificate and Report available on request*			*Check with factory for status of approvals*		

OUTLINE & CONNECTION DRAWINGS
(not -V version)

Note connection details and outline drawings for -V (vertical) connector are different. See handbook for details)

EFE-300

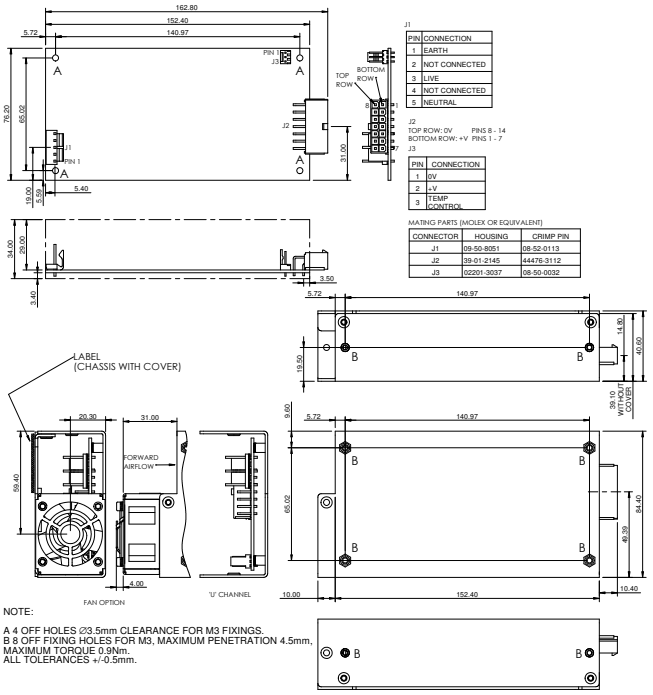


NOTE:
A 4 OFF HOLES ∅3.5mm CLEARANCE FOR M3 FIXINGS.
B 8 OFF FIXING HOLES FOR M3, MAXIMUM PENETRATION 4.5mm, MAXIMUM TORQUE 0.9Nm.
ALL TOLERANCES +/-0.5mm.

Connectors are not included with the product. They are available from TDK-Lambda

1 off input connector and 3 crimps are available as part number is 94910.
1 off output connector and 10 crimps are available as part number 94750.

EFE-400



NOTE:
A 4 OFF HOLES ∅3.5mm CLEARANCE FOR M3 FIXINGS.
B 8 OFF FIXING HOLES FOR M3, MAXIMUM PENETRATION 4.5mm, MAXIMUM TORQUE 0.9Nm.
ALL TOLERANCES +/-0.5mm.

Connectors are not included with the product. They are available from TDK-Lambda

1 off input connector and 3 crimps are available as part number is 94910.
1 off output connector and 14 crimps are available as part number 94751.

Notes 1. All customer fixings M3 2. Maximum Penetration 4.5mm 3. Maximum torque 0.9Nm 4. All tolerances +/-0.5mm

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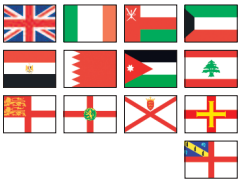

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