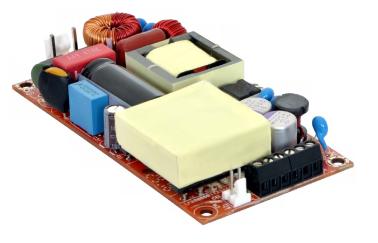
180 Watt Industrial



Features

- 4 x 2 x 0.75 Inches Form factor
- 180 Watts with Forced Air Cooling
- Efficiencies upto 92%
- -40 to 70 degree operating temperature*
- 12V / 0.5A Fan Output, Thermal Shut-Down feature
- 3.37m Hours, Telcordia -SR332-issue 3 MTBF
- Standby Power < 0.5W

	Electrical Specifications			
nput Voltage	80-264 VAC/390 VDC, Universal (Derate from 100% at 100V AC to 77% at 80V AC)			
nput Frequency	47–63 Hz			
nput Current	115 VAC: 2.2 A max. 230 VAC: 1.1 A max.			
lo Load Power	<0.5W typical for ULP180-1XXX and <0.85W typical for ULP180-0XXX			
nrush Current	115 VAC – 25 A, 230 VAC – 45 A, 264 VAC – 75 A			
eakage Current	300 uA Typical, (N.A. For Class II Option) Touch current <100uA			
fficiency	92%(48V,58V), 90%(24V,30V), 88%(12V,15V)			
łold-up Time	at 180W:10 ms; 120W: 16 ms			
ower Factor	>0.95@115 VAC and 0.9@230 VAC			
Output Power	180W with 13 CFM, upto 120W Convection			
ine Regulation	+/-0.5%			
oad Regulation	+/-1%			
ransient Response	25% step load change, at 0.1A/uS slew rate, 50% duty cycle, 50Hz=4%,			
	recovery time < 5 ms			
Rise Time	55ms typical			
Set Point Tolerance	+/-1%			
Output Voltage adjustment	+/-3% (Ref. Note 9)			
Over Current Protection	>110%			
Over Voltage Protection	110 to 140%			
Short Circuit Protection	Hiccup mode			
Switching Frequency	PFC – 70 to 130 KHz ,PWM – 50-80 KHz			
perating Temperature ⁷	- 40 to +70°C, * -40 to 0°C startup is guaranteed with spec deviation			
Storage Temperature	-40 to +85°C			
Relative Humidity	5% to 95%, noncondensing			
Altitude	Operating: 16,000 ft.; Nonoperating: 40,000 ft.			
ИТВF	3.37m Hours, Telcordia -SR332-issue 3			
solation Voltage	Input to Output – 3000V AC for ITE application			
•	Input to GND - 1500 VAC (Not Applicable For Class II Option)			
Cooling	180W with 13 CFM forced air cooling ⁶ (refer Mechanical Drawing)			
0	upto 120 W with natural convection cooling ⁶ (refer Derating Curve)			

Model Number	Description	Voltage	Max. Load (Convection) (112.5W) @50°C	Max.Load (Convection) (120W) @40°C	Max. Load (13 CFM)	Min. Load	Ripple ¹	Signal
ULP180-1012	with Screw Terminal	12 V	9.37A	10.00A	15.00A	0.0 A	2%	N.A
ULP180-1312	with Molex Connector	12 V	9.37A	10.00A	15.00A	0.0 A	2%	N.A
ULP180-1015	with Screw Terminal	15 V	7.50A	8.00A	12.00A	0.0 A	2%	N.A
ULP180-1315	with Molex Connector	15 V	7.50A	8.00A	12.00A	0.0 A	2%	N.A
ULP180-1024	with Screw Terminal	24 V	4.68A	5.00A	7.50A	0.0 A	1%	N.A
ULP180-1324	with Molex Connector	24 V	4.68A	5.00A	7.50A	0.0 A	1%	N.A
ULP180-1030	with Screw Terminal	30 V	3.75A	4.00A	6.00A	0.0 A	1%	N.A
ULP180-1330	with Molex Connector	30 V	3.75A	4.00A	6.00A	0.0 A	1%	N.A
ULP180-1048	with Screw Terminal	48 V	2.34A	2.50A	3.75A	0.0 A	1%	N.A
ULP180-1348	with Molex Connector	48 V	2.34A	2.50A	3.75A	0.0 A	1%	N.A
ULP180-1058	with Screw Terminal	58 V	1.94A	2.07A	3.10A	0.0 A	1%	N.A
ULP180-1358	with Molex Connector	58 V	1.94A	2.07A	3.10A	0.0 A	1%	N.A
ULP180-CK metal cov	er kit accessory							
ULP180-0012	with Screw Terminal	12 V	9.37A	10.00A	15.00A	0.0 A	2%	PG & AC PF ¹¹
ULP180-0312	with Molex Connector	12 V	9.37A	10.00A	15.00A	0.0 A	2%	PG & AC PF ¹¹
ULP180-0015	with Screw Terminal	15 V	7.50A	8.00A	12.00A	0.0 A	2%	PG & AC PF ¹¹
ULP180-0315	with Molex Connector	15 V	7.50A	8.00A	12.00A	0.0 A	2%	PG & AC PF ¹¹
ULP180-0024	with Screw Terminal	24 V	4.68A	5.00A	7.50A	0.0 A	1%	PG & AC PF ¹¹
ULP180-0324	with Molex Connector	24 V	4.68A	5.00A	7.50A	0.0 A	1%	PG & AC PF ¹¹
ULP180-0030	with Screw Terminal	30 V	3.75A	4.00A	6.00A	0.0 A	1%	PG & AC PF ¹¹
ULP180-0330	with Molex Connector	30 V	3.75A	4.00A	6.00A	0.0 A	1%	PG & AC PF ¹¹
ULP180-0048	with Screw Terminal	48 V	2.34A	2.50A	3.75A	0.0 A	1%	PG & AC PF ¹¹
ULP180-0348	with Molex Connector	48 V	2.34A	2.50A	3.75A	0.0 A	1%	PG & AC PF ¹¹
ULP180-0058	with Screw Terminal	58 V	1.94A	2.07A	3.10A	0.0 A	1%	PG & AC PF ¹¹
ULP180-0358	with Molex Connector	58 V	1.94A	2.07A	3.10A	0.0 A	1%	PG & AC PF ¹¹
ULP180-CKP metal cover kit accessory								

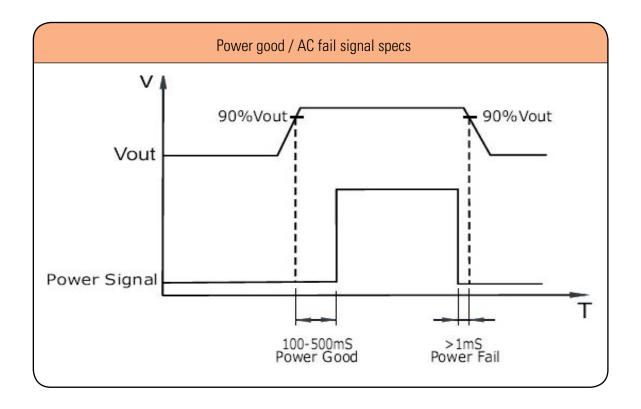
	Connecto	ors
J1	Pin 1	AC LINE
	Pin 2	NOT FITTED
	Pin 3	AC NEUTRAL
J2 Option 1 & 2	Pin 1,2,3	V1 +VE
	Pin 4,5,6	V1 -VE
J3	Pin 1	FAN +VE
	Pin 2	FAN -VE
J4	Pin 1	Vs
(For PGPF Option Only)	Pin 2	PGPF
	Pin 3	GND



4EM-17-174

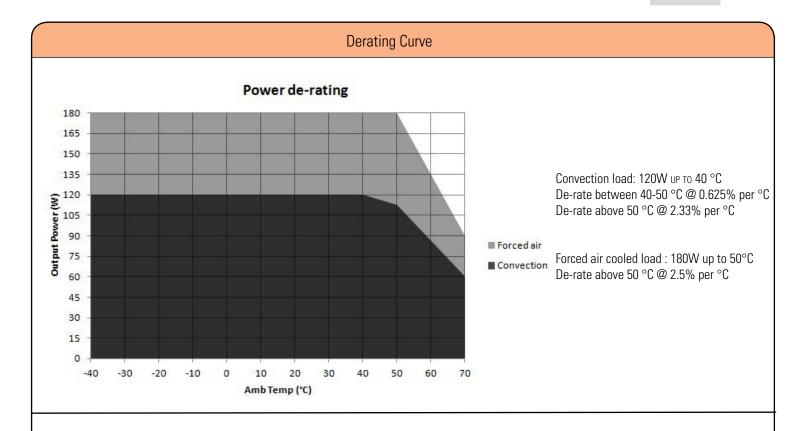
Notes

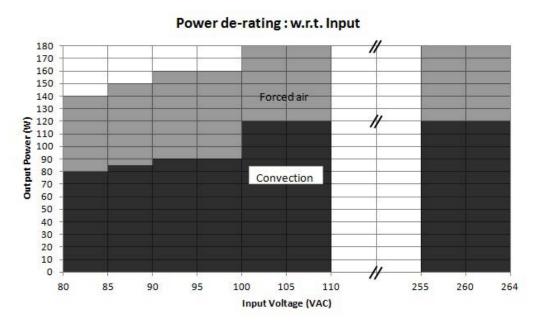
- 1. Ripple is peak to peak with 20 MHz bandwidth and 10 μ F (Tantalum capacitor) in parallel with a 0.1 μ F capacitor at rated line voltage and load ranges.
- 2. Class II means without input Earth pin.
- 3. Combined output power of main output, fan supply shall not exceed max. Power rating.
- 4. Fan supply output voltage tolerance including set point accuracy, line and load regulation is +/-10% and Ripple and noise is less than 10%.
- 5. Specifications are for nominal input voltage, 25°C unless otherwise stated.
- 6. 180W with 13CFM forced air cooling and 120W with natural convection cooling at 100 to 264VAC.
- 7. Output ripple can be more than 10% of the output voltage.
- 8. Fusing on neutral for ITE model is optional.
- 9. Adjustment potentiometer is located on the SMT side of the PCB.
- 10. When used in Cover Kit, de-rate output power to 70 % under all operating conditions
- 11. A TTL signal is available at pin 2 of J4 which goes high 100-500mS after output voltage reaches 90% of set value. It goes low a minimum of 1mS before output falls below 90% of the set value, when input AC is switched off.



	Mechanical Specifications			
AC Input Connector (J1)	Molex: 26-60-4030			
	Mating: 09-50-3031; Pins: 08-50-0106			
DC Output Connector (J2) Option 1 (Screw Terminal)	Molex: 39357 Series or equivalent			
DC Output Connector (J2) Option 2	Molex: 26-60-4060			
(Molex Connector) Mating: 09-50-3061; Pins: 08-50-0106			
Aux (Fan) Output(J3)	AMP :640456-2			
	Mating: 640440-2			
Signal Output (J4)	AMP :640456-3			
	Mating: 640440-3			
Dimensions	4 x 2 x 0.75 inches			
	(101.60 x 50.8x 19.05 mm)			
Weight	200 gm approx			
	EMC			
Parameter	Conditions/Description	Criteria		
Conducted Emissions	EN55032-B, CISPR22-B, FCC PART15-B	Pass		
Radiated Emissions	EN 55032 A	Pass		
		Level B with external core (King core K5B		
		RC 25x12x15-M in input cable)		
nput Current Harmonics	EN 61000-3-2	Class D		
Voltage Fluctuation and Flicker	EN 61000-3-3	Pass		
ESD Immunity	EN 61000-4-2	Level 3, Criterion A		
Radiated Field Immunity	EN 61000-4-3	Level 3, Criterion A		
Electrical Fast Transient Immunity	EN 61000-4-4	Level 3, Criterion A		
Surge Immunity	EN 61000-4-5	Level 3, Criterion A		
Conducted Immunity	EN 61000-4-6	Level 3, Criterion A		
Magnetic Field Immunity	EN 61000-4-8	Level 3, Criterion A		
/oltage dips, interruptions	EN 61000-4-11	Criterion A & B		
	Safety			
CE Mark	Complies with LVD Directive			
Approval Agency	Nemko, UL, C-UL			
Safety Standard(s)	EN60950-1, IEC60950-1 (ed.2), UL 60950 (ed.2),	CSA C22.2 No.60950-1 (ed.2), Class1 SELV		
Safety File Number(s)	per(s) UL: 20161121-E150565, Nemko: Certificate No: P16221546,			
	CB Test Certificate No: NO94842			

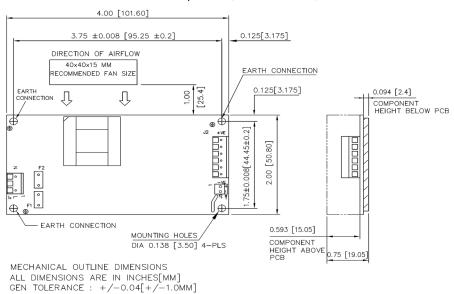






Mechanical Drawing

Option 1 (Without PGPF)

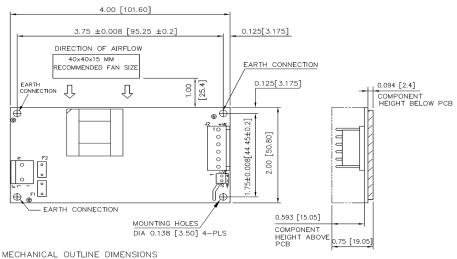


Notes: In case the PCB is mounted in a metal enclosure, using metal hardware ensure the following

- 1. Stand off, used to mount PCB has OD of 5.4 mm max.
- 2. Screws, used to fix PCB on stand off, have head dia of 6.0 mm max.
- 3. Washer, if used, to have dia of 6.5 mm max.

Mechanical Drawing

Option 2 (Without PGPF)



ALL DIMENSIONS ARE IN INCHES[MM]
GEN TOLERANCE: +/-0.04[+/-1.0MM]

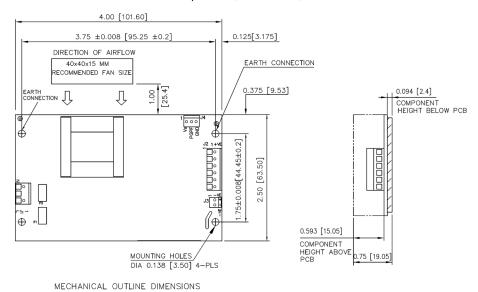
Notes: In case the PCB is mounted in a metal enclosure, using metal hardware ensure the following

- 1. Stand off, used to mount PCB has OD of 5.4 mm max.
- 2. Screws, used to fix PCB on stand off, have head dia of 6.0 mm max.
- 3. Washer, if used, to have dia of 6.5 mm max.



Mechanical Drawing

Option 3 (With PGPF)



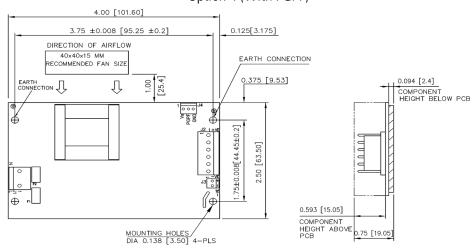
ALL DIMENSIONS ARE IN INCHES[MM] GEN TOLERANCE : +/-0.04[+/-1.0MM]

Notes: In case the PCB is mounted in a metal enclosure, using metal hardware ensure the following

- 1. Stand off, used to mount PCB has OD of 5.4 mm max.
- 2. Screws, used to fix PCB on stand off, have head dia of 6.0 mm max.
- 3. Washer, if used, to have dia of 6.5 mm max.

Mechanical Drawing

Option 4 (With PGPF)



MECHANICAL OUTLINE DIMENSIONS
ALL DIMENSIONS ARE IN INCHES[MM]
GEN TOLERANCE : +/-0.04[+/-1.0MM]

Notes: In case the PCB is mounted in a metal enclosure, using metal hardware ensure the following

- 1. Stand off, used to mount PCB has OD of 5.4 mm max.
- 2. Screws, used to fix PCB on stand off, have head dia of $6.0 \ \text{mm}$ max.
- 3. Washer, if used, to have dia of 6.5 mm max.