

Features

- 5 x 3 x 1.5 Inches Form factor
- Up to 550 Watts with Forced Air Cooled
- Efficiencies up to 92%
- -40 to 70 degree operating temperature*
- Remote ON/OFF **New**
- 12V / 0.5A Fan Output, Thermal Shut-Down feature
- MTBF : > 3M hours as per Telcordia SR-332, issue 3

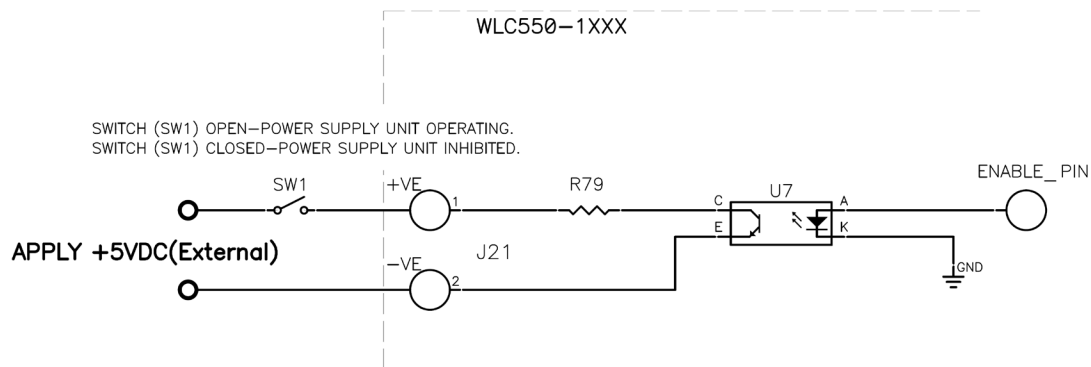
Electrical Specifications

Input Voltage	90-264 VAC/390 VDC, Universal (Derate from 100% at 115VAC to 78% at 90VAC)	
Input Frequency	47-63 Hz	
Input Current	115 VAC: 6.0 A max.	230 VAC: 3.0 A max.
No Load Power	< 0.5W @ 115VAC	< 0.7W @ 230VAC
Inrush Current	115 VAC – 25 A, 230 VAC – 45 A, 264 VAC – 75 A	
Leakage Current	<200uA @115VAC and <400uA @230VAC	
Efficiency	92%(48V), 91%(24V), 90%(12V,15V) typical@ 230VAC full load	
Hold-up Time	Full Load > 16 ms typical	Convection Load > 55 ms typical Conduction Load > 30ms typical
Power Factor	exceeds 0.95 with Full Load	
Output Power	up to 550W (Forced Air Cooled) up to 250W (Conduction Cooled) up to 150W (Convection Cooled)	
Output Voltage Adjustability	+/-3%	
Line Regulation	+/-0.5%	
Load Regulation	+/-1%	
Transient Response	50-100% step load change, at 0.1A/uS slew rate, 50% duty cycle, 50Hz=5% , recovery time < 5 ms	
Rise Time	55 ms typical	
Set Point Tolerance	+/-1%	
Over Current Protection	>110% ,Hiccup mode / Auto Recovery	
Over Voltage Protection	110 to 140% , Hiccup mode / Auto Recovery	
Short Circuit Protection	Hiccup mode / Auto Recovery	
Switching Frequency	PFC – 70 to 130 KHz ,Resonant – 68 to 80 KHz	
Operating Temperature	-40 to +70°C, * -40 to 0°C startup is guaranteed with spec deviation (ref note 6)	
Storage Temperature	-40 to +85°C	
Relative Humidity	5% to 95%, noncondensing	
Altitude	Operating: 16,000 ft.; Nonoperating: 40,000 ft.	
Isolation Voltage	Input to Output – 3000 VAC for ITE application Input to Earth : 1768 VAC	

Model Number	Voltage	Max. Load (Convection)	Max. Load ⁷ (Conduction)	Max. Load (400 LFM)	Min. Load	Ripple ¹
WLC550-1012	12V	9.17A	16.67A	41.67A	0.0A	2%
WLC550-1015	15V	7.33A	13.33A	33.33A	0.0A	2%
WLC550-1024	24V	6.25A	10.42A	22.92A	0.0A	1%
WLC550-1030	30V	5.00A	8.33A	18.33A	0.0A	1%
WLC550-1048	48V	3.13A	5.21A	11.46A	0.0A	1%
WLC550-1058	58V	2.59A	4.31A	9.48A	0.0A	1%

Add Suffix '0' for Remote On/Off option (example: LFWLC550-1030-0)

REMOTE ON/OFF INHIBIT



Pin Connections		
J1	Pin 1	AC LINE
	Pin 2	NOT FITTED
	Pin 3	AC NEUTRAL
J2	Pin 1	V1 +VE
	Pin 2	V1 -VE
J3	Pin 1	FAN +VE
	Pin 2	FAN -VE
J21 (Remote On/Off)	Pin 1	+VE(External)
	Pin 2	-VE (External)

Notes

- Ripple is peak to peak with 20 MHz bandwidth and 10 μ F (Electrolytic capacitor) in parallel with a 0.1 μ F capacitor at rated line voltage and load ranges.
- Combined output power of main output, fan supply shall not exceed max. Power rating.
- Fan supply output voltage tolerance including set point accuracy, line and load regulation is +/-10% and Ripple and noise is less than 10%.
- Specifications are for nominal input voltage, 25°C unless otherwise stated.
- Thermal shutdown feature : The power supply goes in hiccup mode when the temperature of Substrate PCB exceeds 110 °C (+/-10 °C).
- Output ripple can be more than 10% of the output voltage.
- Refer Recommended Conduction Plate & Clearance on Page No. 6.



Innovations in Power

Mechanical Specifications

AC Input Connector (J1)	JST : B3P-VH-B(LF)(SN) or equivalent Mating: VHR-3M or equivalent Pins : SVH-41T-P1.1 or equivalent
Earth (J4)	Molex: 19705-4301 Mating: 19003-0001
DC Output Connector (J2) (Screw Terminal)	6-32 inches Screw Pan HD Mating: Designed to accept Ring Tongue Terminal AMP : 8-31886-1, wherein one 16 AWG(max) wire can be crimped. Note : One Ring Tongue Terminal with 16 AWG is recommended for current up to 11A only. Use multiple tongue terminals with wire for more current
Aux (Fan) Output (J3) Remote On/Off (J21)	AMP :640456-2 Mating: 640440-2
Dimensions	5 x 3 x 1.5 inches (127 x 76.2x 38.1 mm)
Weight	500 gm approx

EMC

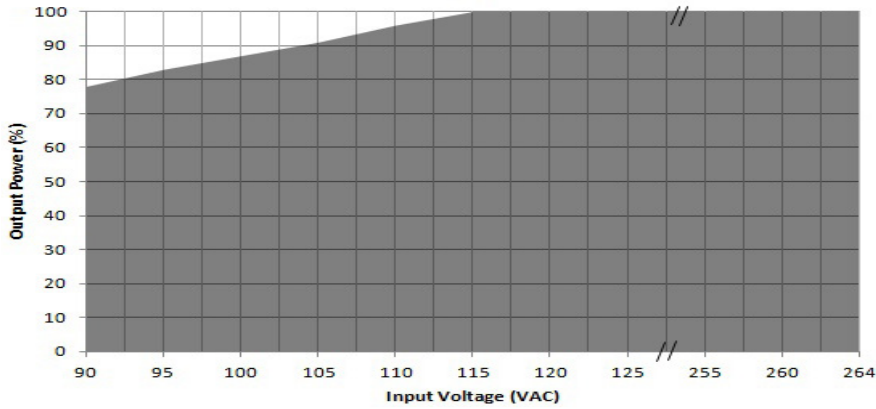
Parameter	Conditions/Description	Criteria
Conducted Emissions	EN55032-B, CISPR22-B, FCC PART15-B	Pass
Radiated Emissions	EN 55032 A	Pass Level B with external core (King core K5B RC 25x12x15-M in input cable)
Input Current Harmonics	EN 61000-3-2	Class D
Voltage Fluctuation and Flicker	EN 61000-3-3	Pass
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
Voltage 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)	UL 62368-1 & CAN/CSA C22.2 No. 62368-1:19, UL 60950-1 and CAN/CSA C22.2 No. 60950-1-07 IEC 62368-1:2018, IEC 60950-1(ed.2);am1;am2 EN 62368-1:2014;A11, EN 60950-1:2006;A11;A1;A12;A2
Safety File Number(s)	UL Certificate No : E515384-A6003-UL CB Test Certificate No : NO112396 Nemko Certificate No : P20224603

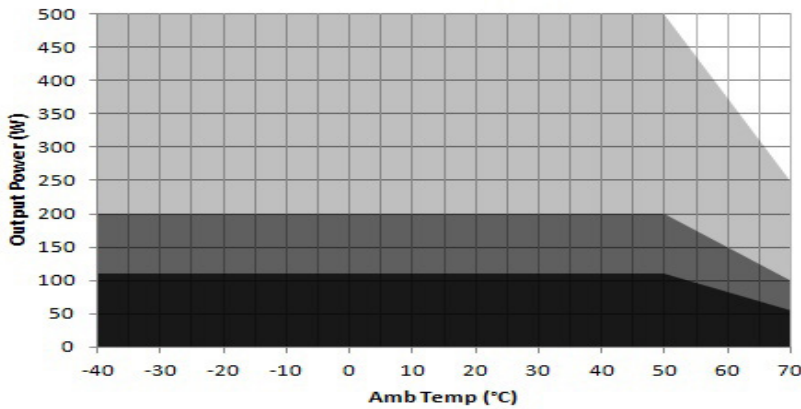
Derating Curve

Power De-rating : w.r.t. Input
For all mounting options a to f



De-rate linearly from 100% at 115VAC to 78% at 90VAC

Power De-rating : 12V, 15V
For all mounting options a to f

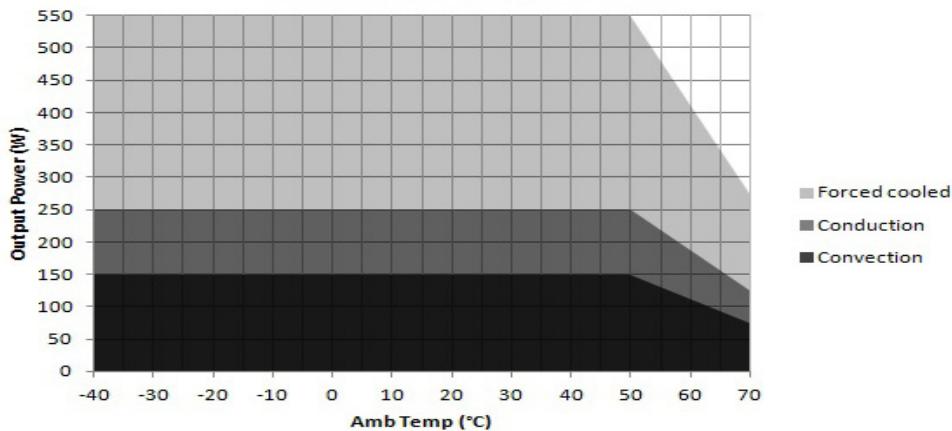


Convection load: 110W up to 50 °C
De-rate above 50 °C @ 2.5% per °C

Conduction load: 200W up to 50 °C
De-rate above 50 °C @ 2.5% per °C

Forced air cooled load : 500W up to 50°C
De-rate above 50 °C @ 2.5% per °C

Power De-rating : 24V, 30V, 48V, 58V
For all mounting options a to f



Convection load: 150W up to 50 °C
De-rate above 50 °C @ 2.5% per °C

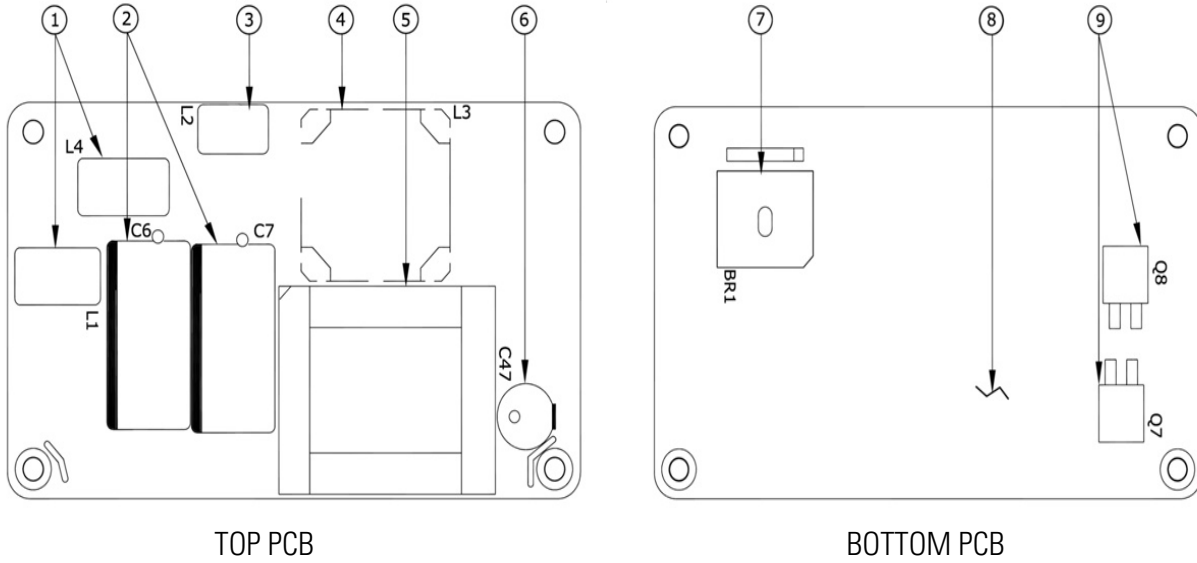
Conduction load: 250W up to 50 °C
De-rate above 50 °C @ 2.5% per °C

Forced air cooled load : 550W up to 50°C
De-rate above 50 °C @ 2.5% per °C



Maximum Operating Temperature

For reliable and safe operation, please make sure the maximum component temperatures given in table below is not exceeded.

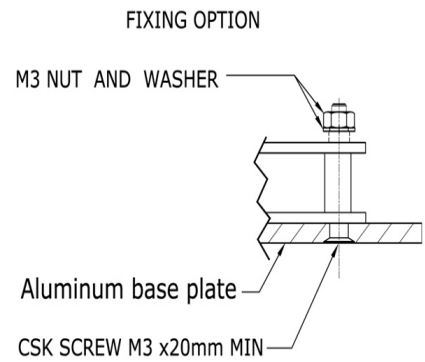
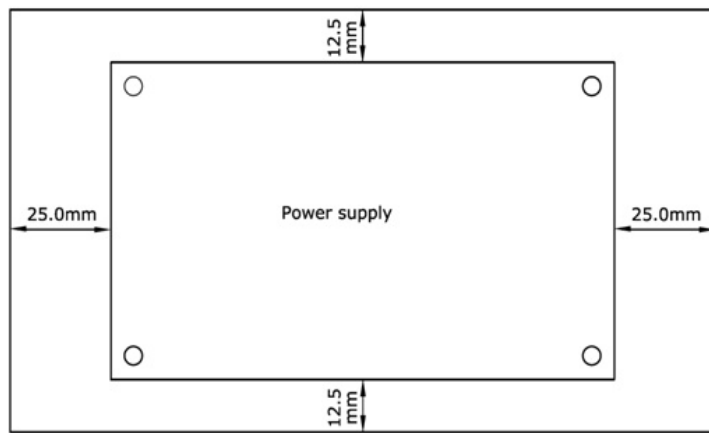
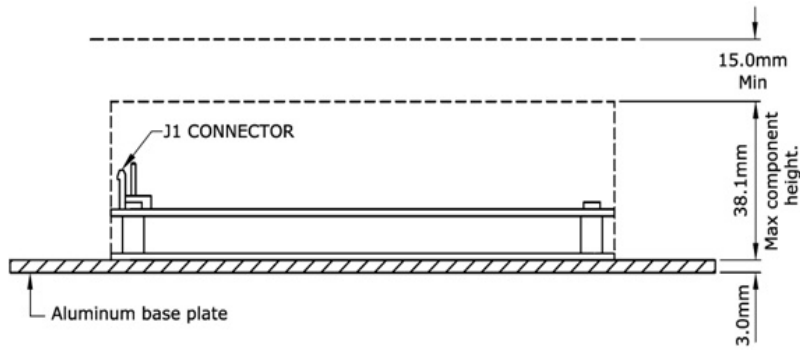


Ident no	Description	Max Temp Allowed (°C)
1	Common mode chokes	95
2	Input Bulk Capacitors	90
3	Differential choke	110
4	Boost Choke	110
5	Output Transformer	125 (for 12V & 15V) 110 (for 24V,30V,48V,58V)
6	Output Capacitor	90
7	Bridge Rectifier	120
8	Aluminium Clad PCB	105
9	Output Rectifiers	110

Recommended Conduction Plate & Clearance

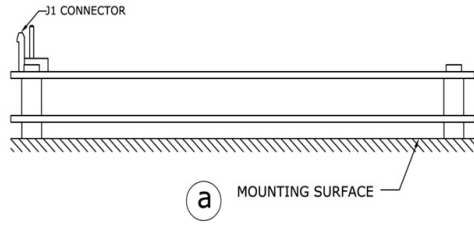
Conduction power rating mentioned in the table is with additional aluminium base plate of 3 mm thickness with 177.8mm(7in) length & 101.6mm(4in) width.

Clearance of minimum 15mm above the component height is recommended for better thermal management.

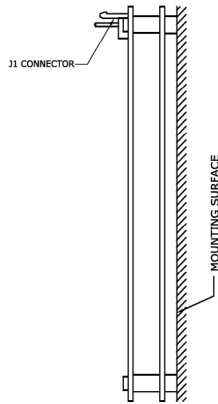


Mounting Option

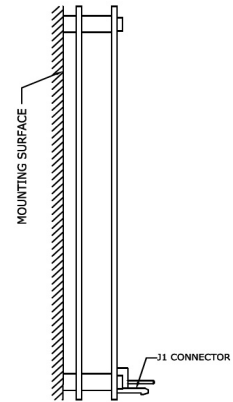
Horizontal Standard Position



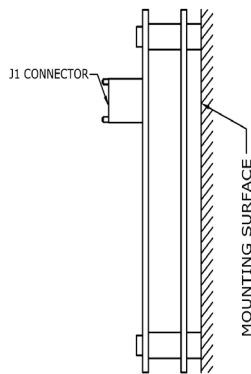
(a)



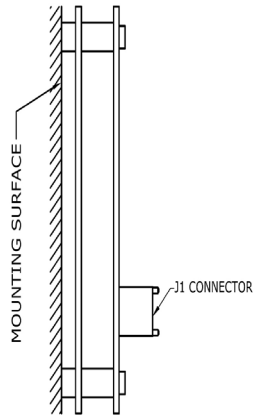
(b)



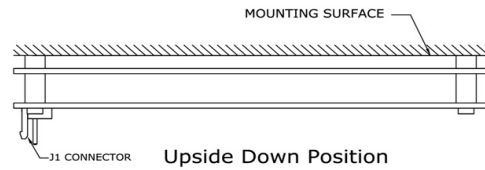
(c)



(d)



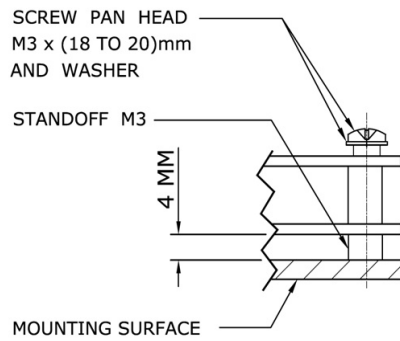
(e)



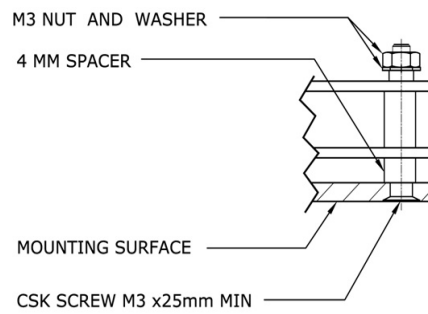
(f)

Upside Down Position

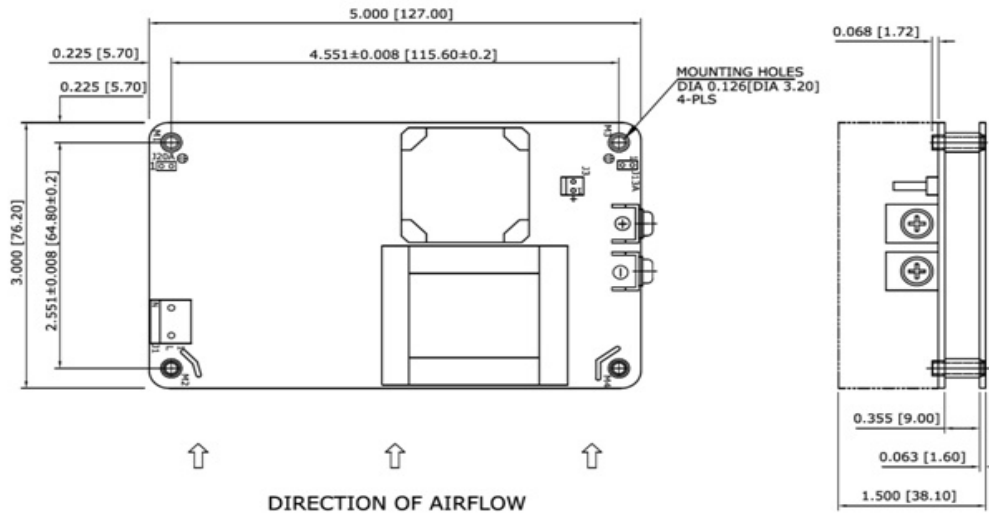
FIXING OPTION - 1



FIXING OPTION - 2



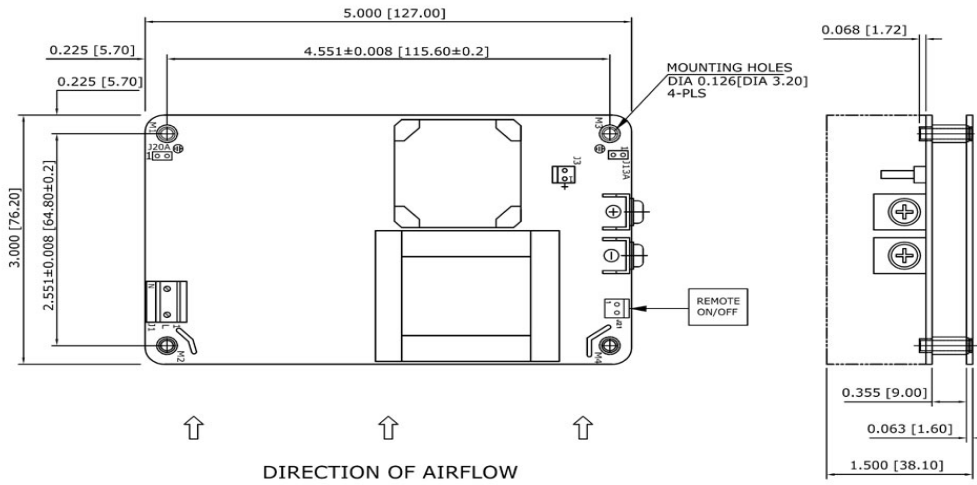
Mechanical Drawing



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

Mechanical Drawing

WLC550 SERIES WITH REMOTE ON/OFF



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

