110 Watt Industrial

Features

- 110 W fan-cooled rating
- Small 5 x 3 x 1.07 inches form factor
- High efficiency > 82%
- Low conducted and radiated noise
- EN61000–3–2 Class A harmonics
- Cover kit accessory available

Electrical Specifications

AC Input	90–264 V, Universal	
Input Frequency	47–63 Hz	
Input Current	120 VAC: 2.4 A max.	230 VAC: 1.2 A max.
Inrush Current	120 VAC: 35 A max.	230 VAC: 65 A max.
Leakage Current	120 VAC: < 500 µA	230 VAC: < 1000 µA
Efficiency	120 VAC: 80% typical	230 VAC: 82% typical
Hold-up Time	120 VAC: 15 ms	230 VAC: 22 ms
Output Power	80 to 110 W	
Line Regulation	+/–0.3%	
Load Regulation	V1: +/–1%, V2: +/–5%, V3 & V4: +/–7%	
Transient Response	< 10%, 50% to 100% load change, 50/60 Hz, 50% duty cycle, 0.1 A/µs, recovery time < 5 ms	
Rise Time	< 40 ms	
Set Point Tolerance	V1: +/–3%, V2: +/–5%, V3 & V4: +/–7%	
Over Current Protection	110 to 160%	
Over Voltage Protection	6.2 V +/–0.4 V for V1 with 5 V; 4.1 V +/–0.2 V for V1 with 3.3 V	
Short Circuit Protection	Short term with autorecovery < 6 s	
Switching Frequency	Boost converter: 45 kHz typical Resonant converter: 45 kHz typical	
Operating Temperature	0 to 70°C, refer derating curve	
Storage Temperature	–40 to +70°C	
Relative Humidity	95% Rh, noncondensing	
Altitude	Operating: 10,000 ft.; Nonoperating: 40,000 ft.	
MTBF	1.97m Hours, Telcordia SR332 Issue-3	
Isolation Voltage	Min. 4242 VDC between input and output	
Cooling	Convection: 80 W; 150 LFM: 110 W	

Model Number	Voltage	Max. Load[1] (Convection)	Max. Load[1] (150 LFM)	Min. Load	Ripple[2]
LFVLT110-1300	V1=5.1 V	12.0 A	18.0 A	0.1 A	1%
LFVLT110-1301	V1=12 V	6.8 A	9.2 A	0.4 A	1%
LFVLT110-1302	V1=15 V	5.5 A	7.3 A	0.4 A	1%
LFVLT110-1303	V1=24 V	3.33 A	4.6 A	0.1 A	1%
LFVLT110-1304	V1=48 V	1.7 A	2.3 A	0.2 A	1%
LFVLT110-4300	V1=5.1 V, V2=12.4 V, V3=-5.1 V, V4=-12.5 V	V1=10.0 A, V2=3.0 A, V3=0.8 A, V4=0.8 A	V1=15.0 A, V2=4.1 A, V3=1.1 A, V4=1.1 A	V1=1.0 A, V2=0.1 A, V3=0.0 A, V4=0.0 A	1%
LFVLT110-4301	V1=5.1 V, V2=23.5 V, V3=12.5 V, V4=-12.5 V	V1=10.0 A, V2=2.0 A, V3=0.8 A, V4=0.8 A	V1=15.0 A, V2=2.75 A, V3=1.1 A, V4=1.1 A	V1=1.0 A, V2=0.1 A, V3=0.0 A, V4=0.0 A	1%
LFVLT110-4302	V1=5.1 V, V2=16 V, V3=-5.1 V, V4=-16 V	V1=10.0 A, V2=3.0 A, V3=0.8 A, V4=0.8 A	V1=15.0 A, V2=4.1 A, V3=1.1 A, V4=1.1 A	V1=1.0 A, V2=0.1 A, V3=0.0A, V4=0.0 A	1%
LFVLT110-4303	V1=5.1 V, V2=12.4 V, V3=24 V, V4=-12.5 V	V1=10.0 A, V2=3.0 A, V3=0.8 A, V4=0.8 A	V1=15.0 A, V2=4.1 A, V3=1.1 A, V4=1.1 A	V1=1.0 A, V2=0.1 A, V3=0.0 A, V4=0.0 A	1%
LFVLT110-4304	V1=3.3 V, V2=5.1 V, V3=12.5 V, V4=-12.5 V	V1=10.0 A, V2=3.0 A, V3=0.8 A, V4=0.8 A	V1=15.0 A, V2=4.1 A, V3=1.1 A, V4=1.1 A	V1=1.0 A, V2=0.1 A, V3=0.0 A, V4=0.0 A	V1=1.5% V2, V3, V4=1%
LFVLT80-CK metal cover kit accessory					

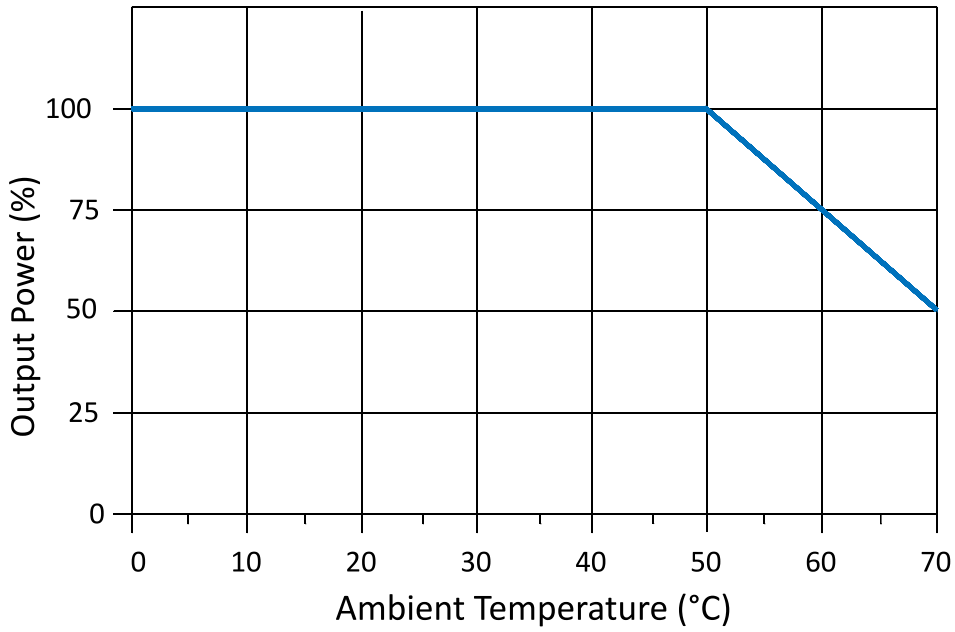
Connectors		
J1	Pin 1	AC NEUTRAL
	Pin 2	AC LINE
Spade Connector		EARTH
J2	Pin 1, 2, 3, 4	V1
	Pin 5, 6, 7, 8	RTN
	Pin 9, 10	V2
	Pin 11	V3
	Pin 12	V4
J3	Pin 1	RTN
	Pin 2	POWER FAIL/GOOD

Notes

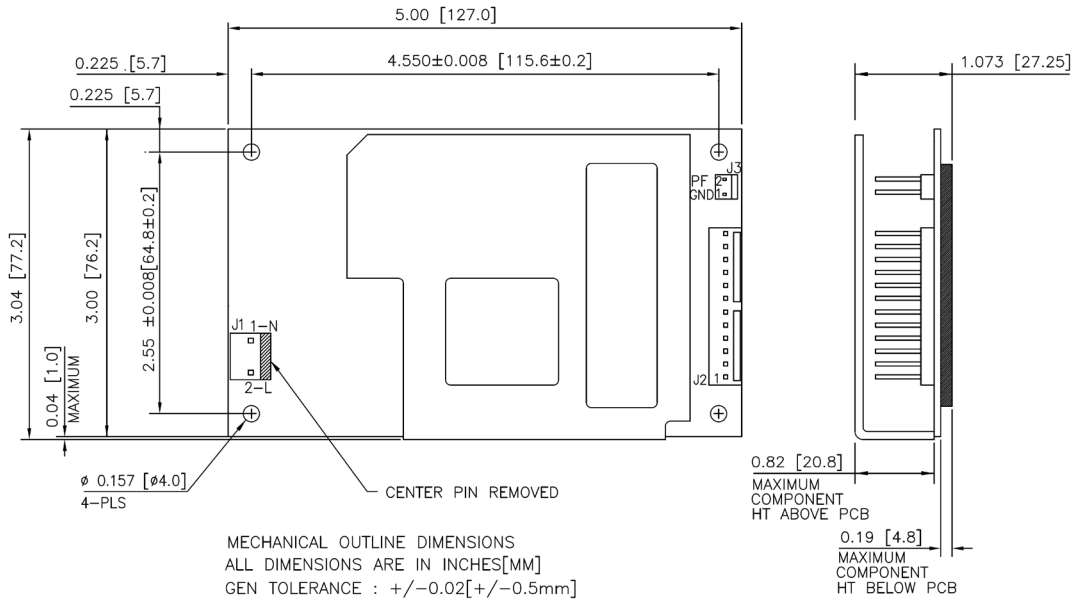
1. Maximum current per output channel. Do not exceed total output power rating.
2. Ripple is peak to peak with 20 MHz bandwidth and 10 µF (Tantalum capacitor) in parallel with a 0.1 µF capacitor at rated line voltage and load ranges.
3. Power fail and power good signal on quad output models only.
4. Specifications are for nominal input voltage, 25°C and max. load unless otherwise stated.
5. Derate output power linearly to 80% from 90 VAC to 80 VAC input.

Mechanical Specifications	
AC Input Connector (J1)	Molex: 26–60–4030 or equivalent Mating: 09–50–3031; Pins: 08–50–0106
EARTH	Molex: 19705–4301 Mating: 190030001
DC Output Connector (J2)	Tyco: 1–640445–2 or equivalent Mating: 1–647402–2; Pins: 3–647409–1
Signal Connector (J3)	Molex: 22–23–2021 or equivalent Mating: 22–01–2021
Dimensions	5.0 x 3.04 x 1.07 inches (127.0 x 77.22 x 27.18 mm)
Weight	250 g
EMC	
CE Mark	Complies with LVD Directive
Conducted Emissions	EN55022–B, CISPR22–B, FCC PART15–B
Static Discharge	EN61000–4–2, Level–3
RF Field Susceptibility	EN61000–4–3, Level–3
Fast Transients/Bursts	EN61000–4–4, Level–3
Radiated Emissions	EN55022–B, CISPR22–B, FCC PART15–B To be controlled in end system
Surge Susceptibility	EN61000–4–5, Level–3
Harmonic Current	EN61000–3–2, Class A
Safety	
Safety Standard(s)	IEC60950–1 (ed.2), EN60950–1, UL60950–1 (2nd Edition), CSA C22.2 No. 60950–1 (2nd Edition), Class 1 SELV
Approval Agency	Nemko, UL, C–UL
Safety File Number(s)	Nemko: P09210934 UL: E150565
Signal	
Power Fail/Good Signal[3]	Signal goes high after a delay of 100 ms once main output is within regulation band. Signal goes low 1 ms advance before output goes out of regulation due to mains failure

Derating Curve



Mechanical Drawing



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.