ARTESYN
LPQ200-M SERIES

200 Watts

Advanced Energy's Artesyn LPQ200-M series of open-frame AC-DC power supplies comprises two quad output models, one offering 3.3 V, 5 V, 12 V and -12 V outputs, the other offering 5 V, 12 V, 24 V and -12 V. Both models feature medical safety approvals and accept a universal input of 90—264 Vac or 120—300 Vdc. These compact switch-mode power supplies feature main output overvoltage protection and remote sense, with short-circuit protection on all outputs. Additional facilities include thermal overload protection and remote indication of power failure. LPQ200-M series power supplies provide 100 watts of output power with free air convection cooling and 200 watts with 30 CFM of forced air. Less than 1U high, they are suitable for a wide range of uses, including non-patient contact and non-patient critical medical applications.

DATA SHEET

Total Power:

100 - 200 Watts

Input Voltage:

90 - 264 Vac

# of Outputs:

Quad

SPECIAL FEATURES

- Medical and ITE safeties
- Active power factor correction
- 3" x 5" footprint
- Less than 1U high
- EN61000-3-2 compliant
- Remote sense
- Power fail
- Adjustable outputs
- Built-in Class B EMI filter
- Overvoltage protection
- Overload protection
- Thermal overload protection
- LPX200 enclosure kit available
- RoHS compliant

SAFETY

TUV	62368, 60601-1
UL	62368, 60601-1
CSA	62368, 60601-1
CB	Certificate & report
CE	Mark (LVD)

ELECTRICAL SPECIFICATIONS

Input	
Input range	90 - 264 Vac; 120 - 300 Vdc
Frequency	47 - 63 Hz
Inrush current	50 A max., cold start @ 25 °C, 230 Vac input
Efficiency	84% typical at full load
EMI/RFI	FCC Class B conducted; CISPR22 Class B conducted; EN55022 Class B conducted; VDE0878PT3 Class B conducted
Safety ground leakage current	275 µA @ 50/60 Hz, 264 Vac input
Output	
Maximum power	100 W for convection; 200 W with 30CFM forced air
Adjustment range	All outputs -20%, +10%, except for the 3.3 V output which will be -15%, +10% (LPQ201-M)
Hold-up time	16 ms @ 200 W load, 120 Vac input
Overload protection	Short circuit protection on all outputs. V1, V2 & V3 overload protected @ 110 - 160%. V4 is 150 - 250% above rating
Overvoltage protection	30 - 50% above nominal output on V1 (and V2 on LPQ201-M)
Logical Control	
Power failure	Active low logic signal goes high 100-500 msec after main output; it goes low at least 6 msec before loss of regulation
Remote sense	Compensates for 0.4 V lead drop min. Will operate without remote sense connected. Reverse connection protected.

ENVIRONMENTAL SPECIFICATIONS

Operating temperature	0 °C to 50 °C ambient derate each output as 2.5% per degree from 50 °C to 70 °C. -20 °C start up
Storage temperature	-40 °C to +85 °C
Electromagnetic susceptibility	Designed to meet EN61000-4; -2, -3, -4, -5, -6, -8, -11 Level 3
Humidity	Operating; non-condensing 10% to 90% RH, non-operating, non-condensing 10 - 95%
Vibration	IEC68-2-6 to the levels of IEC721-3-2
MTBF calculated	516,000 hours at full load and 25 °C ambient conditions. 230 Vac input, Bellcore

ORDERING INFORMATION

Model Number	Output Voltage	Minimum Load	Maximum Load with Convection Cooling	Maximum Load with 30CFM Forced Air	Peak Load	Regulation[2]	Ripple P/P (PARD)[3]
LPQ201-M	+3.3 V	0 A	13 A	18 A	20 A	± 2%	50 mV
	+5 V	0 A	13 A	18 A	20 A	± 2%	50 mV
	+12 V	0 A	5 A	9 A	10 A	± 5%	120 mV
	-12 V	0 A	1 A	2 A	2.5 A	± 5%	120 mV
LPQ202-M	+5 V	0 A	13 A	18 A	20 A	± 2%	50 mV
	+12 V	0 A	5 A	9 A	10 A	± 5%	120 mV
	+24 V	0 A	1.5 A	3 A	3.5 A	± 7%	240 mV
	-12 V	0 A	1 A	2 A	2.3 A	± 5%	120 mV

1. Peak current lasting < 30 seconds with a maximum 10% duty cycle.
2. At 25 °C including initial tolerance, line voltage, load currents and output voltages adjusted to factory settings.
3. 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.
4. This product is a Component Power Supply and is only for inclusion by professional installers within other equipment and must not be operated as a standalone product. EMC compliance to appropriate standards must be verified at the system level. This product is for sale to OEMs and System Integrators, including through Distribution Channels. It is not intended for sale to End Users.

PIN ASSIGNMENTS

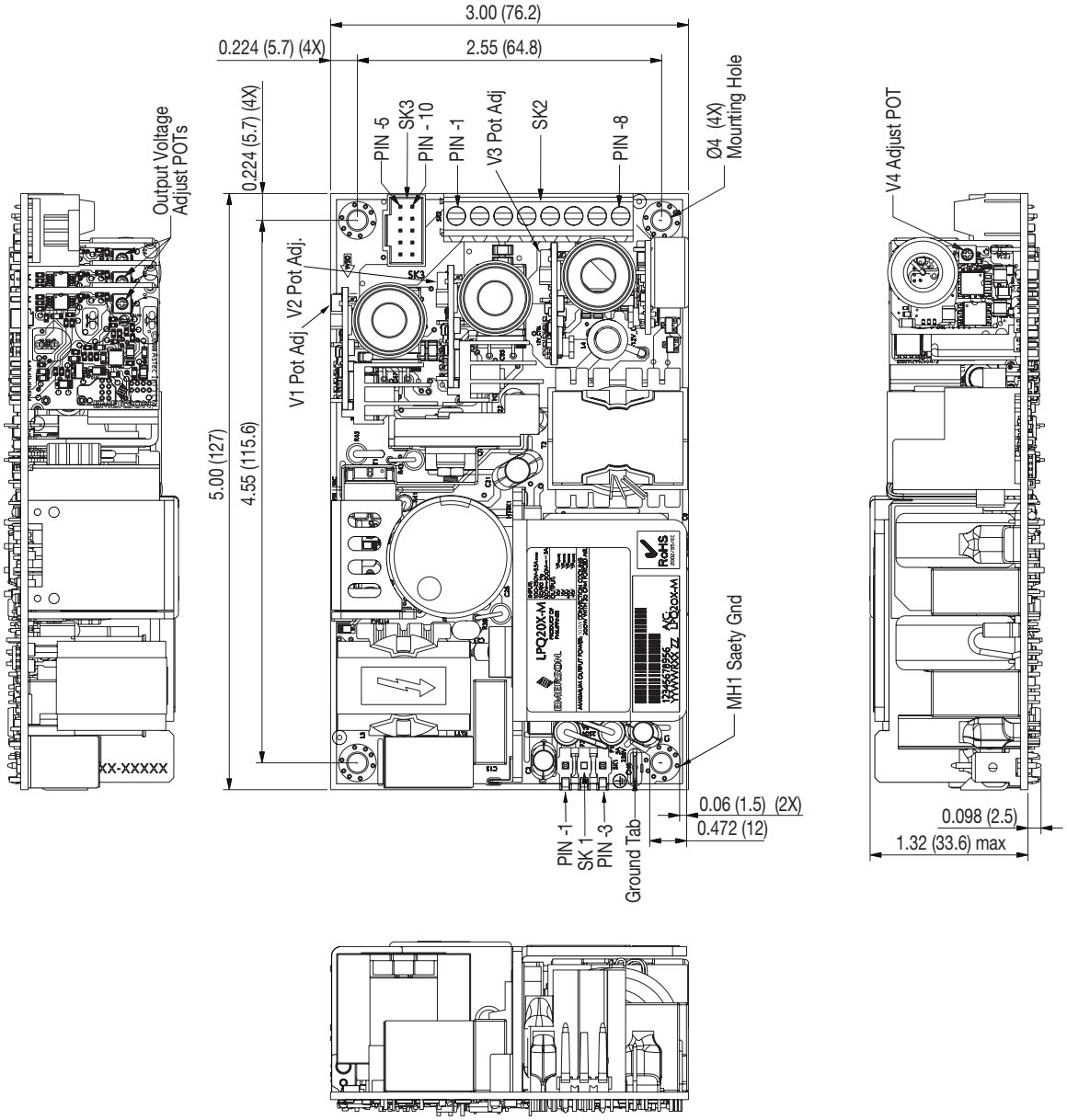
Connector	LPQ200-M	
SK1	PIN 1	Neutral
	PIN 3	Line
SK2	PIN 1	V1 OUT
	PIN 2	V2 OUT
	PIN 3	GND OUT
	PIN 4	GND OUT
	PIN 5	GND OUT
	PIN 6	GND OUT
	PIN 7	V3 OUT
	PIN 8	V4 OUT
SK3	PIN 1	+V1 Remote sense
	PIN 2	-V1 Remote sense
	PIN 3	N/C
	PIN 4	N/C
	PIN 5	+Power fail
	PIN 6	Common
	PIN 7	N/C
	PIN 8	Common
	PIN 9	+V2 Remote Sense (LPQ201-M only)
	PIN 10	-V2 Remote Sense (LPQ201-M only)

MATING CONNECTORS

AC Input (SK1)	Molex 09-50-3031 (connector) PINS: 08-52-0072
AC Ground	Molex 01-90020001
DC Output (SK2)	Terminal block Wire size based on Cable Ampacity/AWG
Control Signals (SK3)	Molex 90142-0010 (USA) PINS: 90119-2110 or AMP: 87977-3 PINS: 87309-8
Astec connector kit #70-841-015, includes all of above	

1. Specifications subject to change without notice.
2. All dimensions in inches (mm), tolerance is ± 0.02" (± 0.5 mm)
3. Mounting holes MH1 and MH2 should be grounded for EMI purposes.
4. Mounting hole MH1 is safety ground connection.
5. Specifications are for convection rating at factory settings at 115 Vac input, 25 °C unless otherwise stated.
6. This power supply requires mounting on metal standoffs 0.20" (5 m) in height.
7. Warranty: 2 years
8. Weight: 1.5 lbs/0.68 kg

MECHANICAL DRAWING



ABOUT ADVANCED ENERGY

Advanced Energy (AE) has devoted more than three decades to perfecting power for its global customers. AE designs and manufactures highly engineered, precision power conversion, measurement and control solutions for mission-critical applications and processes.

Our products enable customer innovation in complex applications for a wide range of industries including semiconductor equipment, industrial, manufacturing, telecommunications, data center computing, and medical. With deep applications know-how and responsive service and support across the globe, we build collaborative partnerships to meet rapid technological developments, propel growth for our customers, and innovate the future of power.

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