NPS20-M Series

40 Watts

Total Power: 25 - 40 Watts
Input Voltage: 90 - 264 VAC
127 - 300 VDC
# of Outputs: Single

RoHS

Special Features

- Medical and ITE Safety Approvals
- Universal input
- Less than 1U high
- 2" x 4" footprint
- Remote sense
- Overload and short circuit protection
- Adjustable output voltage
- High efficiency
- High MTBF
- Built in EMI filter (CISPR 22 Class B)
- International Efficiency Level V, Energy Star 2.0 & CeC compliant (NPS22-M < 38 Watt output)
- Less than 300 mW no-load power consumption
- 0˚C to +80˚C operation
- Input power < 49 watts
- Complies with EN61000-3-2
- Class I approved
- Class II approved (with Class A EMI)
- LPX50 enclosure kit available
- Dual AC fuses

Safety

- **TUV:** 60950, 60601-1
- **UL:** 60950, 60601-1
- **CSA:** 60950, 60601-1
- **NEMKO:** 60950, 60601-1
- **CB:** Certificate and report
- **CE:** Mark (LVD)
- **CQC:** Mark

Electrical Specifications

Input	
Input range:	90 - 264 VAC (wide range) 127-300 Vdc
Frequency:	47 - 440 Hz
Inrush current:	< 50 A peak @ 230 VAC, cold start @ 25 °C
Input power:	< 49 Watts
Efficiency:	87% average (as per Energy Star 2.0 standard) (NPS22-M, 80%)
EMI/RFI:	FCC Class B conducted; CISPR 22 Class B conducted; EN55022 Class B conducted, VDE0878PT3 Class B conducted
Safety ground leakage current:	275uA @ 50/60 Hz; 264 VAC input
Output	
Maximum power:	25 W for convection. 40 W with 200LFM forced air
Adjustment range:	± 20% minimum (-10%, +20% for NPS22-M)
Hold-up time:	10/20 ms 115/230 VAC input line
Overload protection:	Short circuit protection on all outputs. Case overload protected @ 110-160% of normal rating, (110% - 190% for NPS28-M)
Overvoltage protection:	30-50% above nominal output
Remote sense:	Compensated for 0.5 V lead drop max. Will operate without remote sense connected. Reverse connection protected.

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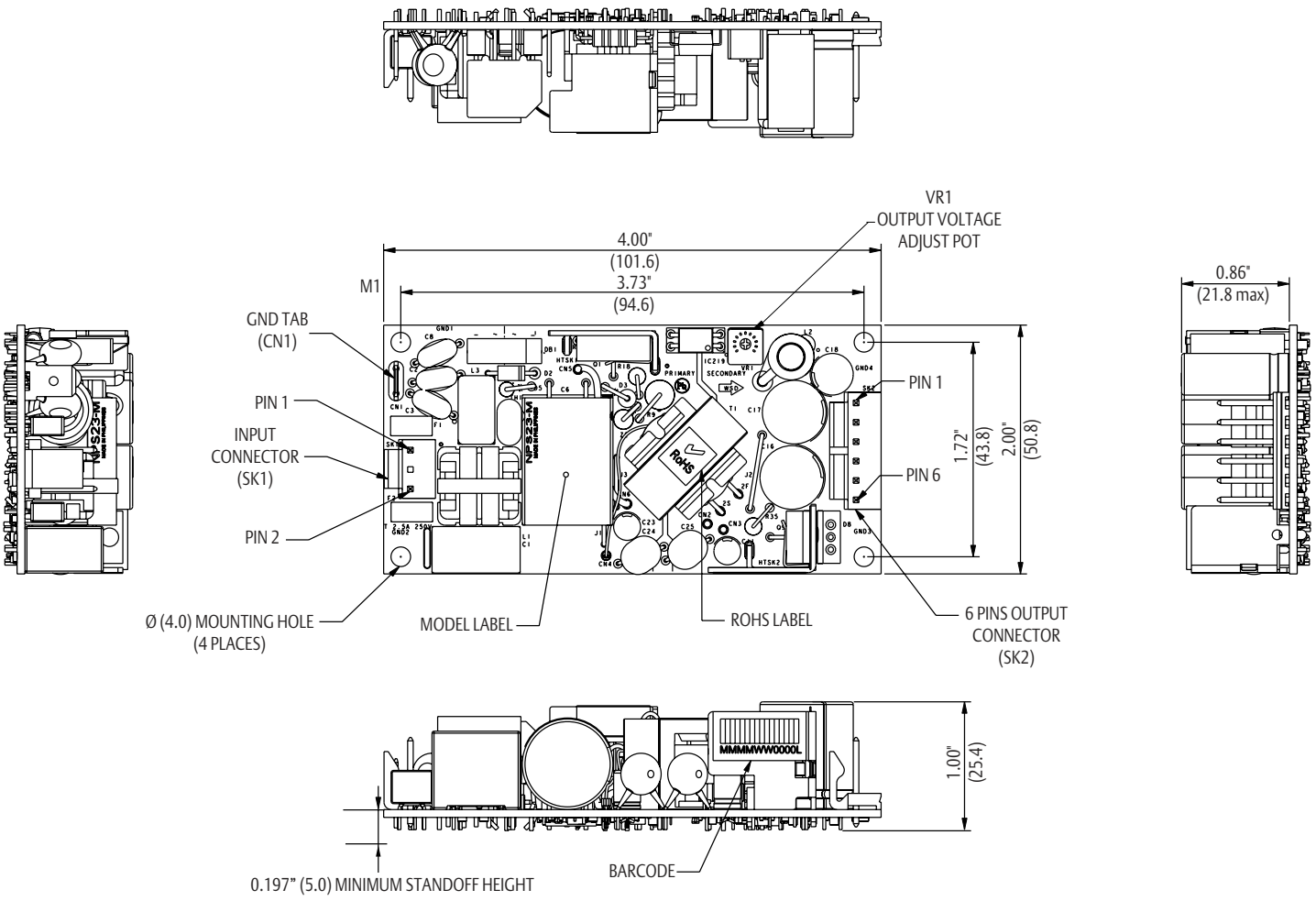
Environmental Specifications

Operating temperature:	0° to 50 °C ambient derate each output at 2.5% per degree from 50° to 80 °C. -20 °C start up
Storage temperature:	-45 °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
Vibration:	IEC68-2-6 to the levels of IEC721-3-2
MTBF demonstrated:	> 550,000 hours at full load and 25 °C ambient conditions

Mechanical Drawing



Ordering Information

Model Number	Output Voltage	Minimum Load	Maximum Load with Convection Cooling	Maximum Load with 200LFM Forced Air	Peak Load[1]	Regulation[2]	Ripple P/P (PARD)[3]
NPS22-M	5 V	0 A	5 A	8 A	9 A	± 2%	50 mV
NPS23-M	12 V	0 A	2.1 A	3.3 A	4 A	± 2%	120 mV
NPS24-M	15 V	0 A	1.7 A	2.7 A	3 A	± 2%	150 mV
NPS25-M	24 V	0 A	1 A	1.8 A	2 A	± 2%	240 mV
NPS28-M	48 V	0 A	0.52 A	0.84 A	1 A	± 2%	480 mV

1. Peak current lasting < 15 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.

Pin Assignments

Connector	NPS22-M	NPS23-M	NPS24-M	NPS25-M	NPS28-M
SK1-1	Line	Line	Line	Line	Line
SK1-3	Neutral	Neutral	Neutral	Neutral	Neutral
SK2-1	+5 V	+12 V	+15 V	+24 V	+48 V
SK2-2	+5 V	+12 V	+15 V	+24 V	+48 V
SK2-3	Common	Common	Common	Common	Common
SK2-4	Common	Common	Common	Common	Common
SK2-5	-Sense	-Sense	-Sense	-Sense	-Sense
SK2-6	+Sense	+Sense	+Sense	+Sense	+Sense

Mating Connectors

AC Input: Molex 09-50-8031 (USA)
09-91-0300 (UK)
PINS: 08-52-0113

DC Outputs: Molex 09-50-8061 (USA)
09-91-0600 (UK)
PINS: 08-52-0113

Emerson Network Power Connector Kit #70-841-006, includes all of the above

Notes:
1. Specifications subject to change without notice.
2. All dimensions in inches (mm), tolerance is ± 0.02" (± 0.5 mm)
3. Mounting holes M1 and M2 should be grounded for EMI purposes.
4. Mounting hole M1 is safety ground connection.
5. Specifications are for convection rating at factory settings at 115 VAC input, 25 °C unless otherwise stated.
6. For DC input an external DC safety rated fuse must be used.
7. Warranty: 2 year
8. Weight: 0.22 lbs/0.10 kg

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