

## NPS60-M Series

60 Watts

### Data Sheet

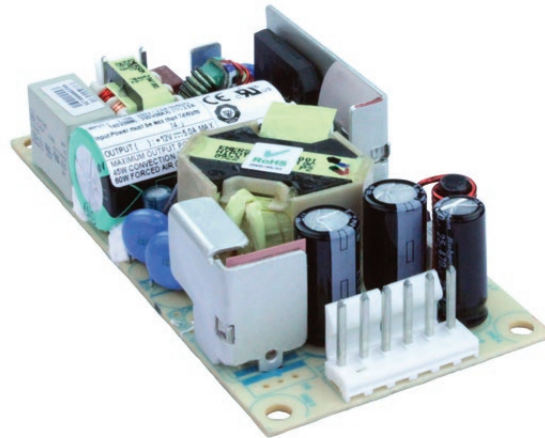
**Total Power:** 60 Watts  
**Input Voltage:** 90 - 264 VAC  
 127 - 300 VDC  
**# of Outputs:** Single

### 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 (except NPS62-M)
- Less than 300 mW no-load power consumption (less than 500 mW for NPS62-M)
- 0 °C to +80 °C operation
- Input power < 74 watts
- Complies with EN61000-3-2
- UL Class I approved
- Class II approved (with Class A EMI)
- LPX100 enclosure kit available
- Dual AC fuses
- RoHS compliant

### SAFETY

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



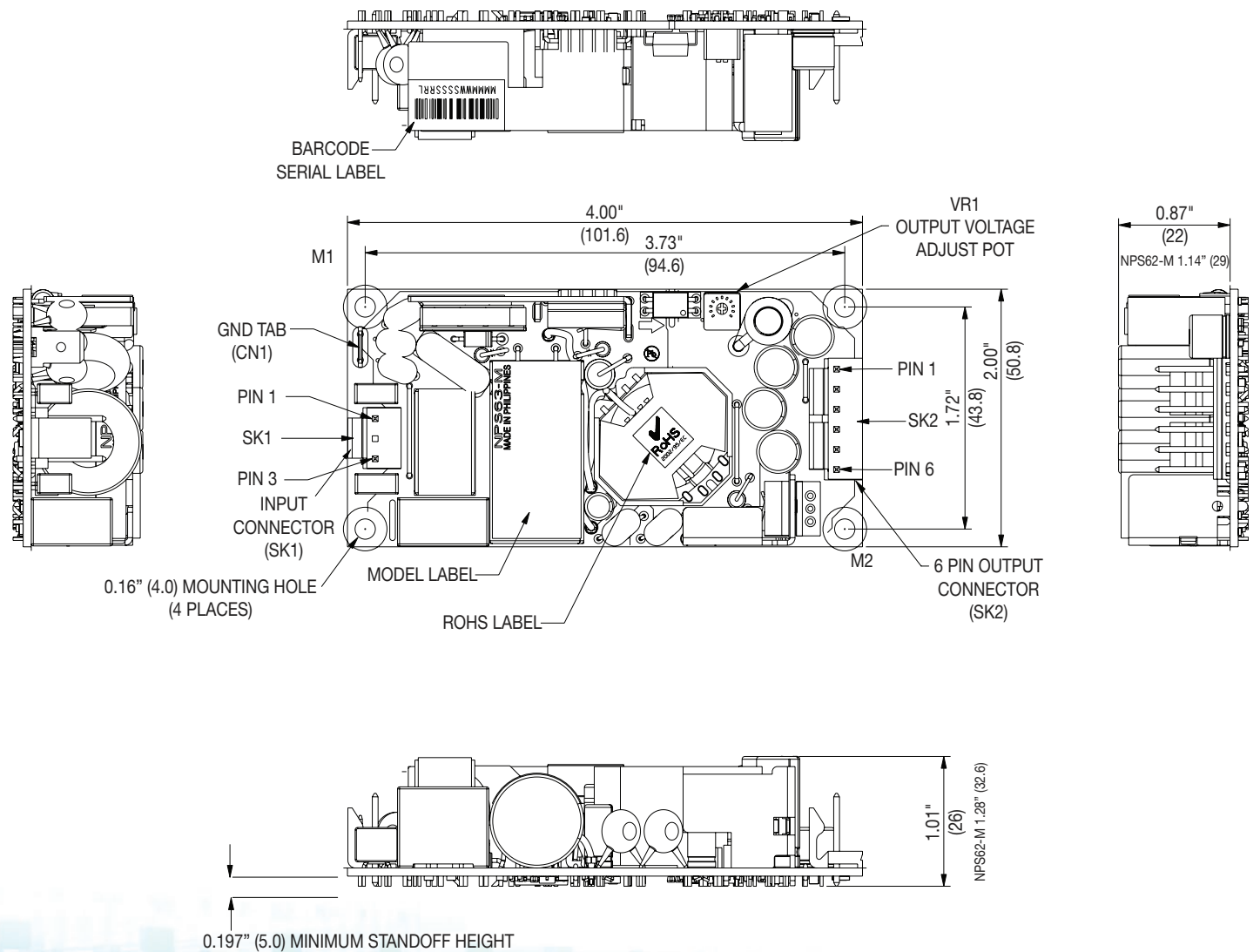
### Electrical Specifications

| Input                         |   |
|-------------------------------|---|
| Input range                   | 90 - 264 Vac (wide range) 127-300 Vdc   |
| Frequency                     | 47 - 63 Hz  |
| Inrush current                | < 50 A peak @ 230 Vac, cold start @ 25° C   |
| Input power                   | < 74 Watts  |
| Efficiency                    | 87% average (as per Energy Star 2.0 standard) (NPS62-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 | 275 µA @ 50/60 Hz; 264 Vac input  |
| Output                        |   |
| Maximum power                 | 60 W for convection   |
| Adjustment range              | ± 20% minimum   |
| Hold-up time                  | 13/75 ms 115/230 Vac input line   |
| Overload protection           | Short circuit protection on all outputs. Case overload protected @ 110-160% of normal rating                    |
| 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. |

### 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 | Peak Load <sup>1</sup> | Regulation <sup>2</sup> | Ripple P/P (PARD) <sup>3</sup> |
|--------------------------|----------------|--------------|--------------------------------------|------------------------|-------------------------|--------------------------------|
| NPS62-M                  | 5 V            | 0 A          | 11 A                                 | 13 A                   | ± 2%                    | 50 mV                          |
| NPS63-M                  | 12 V           | 0 A          | 5 A                                  | 5.5 A                  | ± 2%                    | 120 mV                         |
| NPS63-M-006 <sup>4</sup> | 12 V           | 0 A          | 5 A                                  | 5.5 A                  | ± 2%                    | 120 mV                         |
| NPS64-M                  | 15 V           | 0 A          | 4 A                                  | 4.4 A                  | ± 2%                    | 150 mV                         |
| NPS65-M                  | 24 V           | 0 A          | 2.5 A                                | 2.75 A                 | ± 2%                    | 240 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.
4. Compliant to Level VI efficiency.
5. 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 | NPS62-M | NPS63-M | NPS65-M |
|-----------|---------|---------|---------|
| SK1-1     | Line    | Line    | Line    |
| SK1-3     | Neutral | Neutral | Neutral |
| CN1       | Ground  | Ground  | Ground  |
| SK2-1     | +5 V    | +12 V   | +24 V   |
| SK2-2     | +5 V    | +12 V   | +24 V   |
| SK2-3     | Common  | Common  | Common  |
| SK2-4     | Common  | Common  | Common  |
| SK2-5     | -Sense  | -Sense  | -Sense  |
| SK2-6     | +Sense  | +Sense  | +Sense  |

## Mating Connectors

|  |   |
|--|---|
| <b>AC Input</b>  | Molex 09-50-8031 (USA)<br>09-93-0300 (UK)<br>PINS: 08-52-0113 |
| <b>DC Outputs</b>  | Molex 09-50-8061 (USA)<br>09-93-0600 (UK)<br>PINS: 08-52-0113 |
| Artesyn Embedded Technologies 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: 0.26 lbs/0.118 kg

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