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Embedded Power for
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# LPS40 Series

40 Watts

**Total Power:** **40-55 Watts**
**Input Voltage:** **85-264 VAC**
**120-300 VDC**
**# of Outputs:** **Single**




RoHS 2002/95/EC

## Special Features

- Universal input
- 3" x 5" footprint
- Less than 1U high
- Remote sense
- Terminal block option (-T)
- Built-in EMI filter
- Low output ripple
- Adjustable output
- Overvoltage protection
- Overload protection
- 110 KHz switching frequency
- LPX40 enclosure kit available

## Safety

| | |
|---|---|
| **UL** | UL60950<br>E132002 |
| **CSA** | CSA 22.2-234 Level 3<br>LR53982C |
| **NEMKO** | EN 60950/EMKO-TUE<br>P94100375 (74-sec) 203 |
| **CB** | Certificate and report<br>1119, 1125, 1126, 1127 |
| **CE Mark** | (LVD) |

## Electrical Specifications

| | |
|---|---|
| **Input** | |
| Input range | 85-264 VAC; 120-300 VDC |
| Frequency | 47-440 Hz |
| Inrush current | <18A peak @ 115VAC; <36A peak @ 230VAC, cold start @ 25°C |
| Input current | 1A max. (RMS) @ 115VAC |
| Efficiency | 70% typical at full load |
| EMI filter | FCC Class B conducted; CISPR 22 Class B conducted;<br>EN55022 Class B conducted; VDE 0878 PT3 class B conducted |
| Safety ground leakage current | <0.5 mA @ 50/60 Hz, 264 VAC input |
| **Output** | |
| Maximum power | 40W for convection; 55W with 30CFM forced air |
| Adjustment range | -5, +10% minimum |
| Hold-up time | 20ms @ 40W load, 115VAC nominal line |
| Overload protection | Short circuit protection on all outputs<br>Case overload protected @ 110-145% above peak rating |
| Overvoltage protection | 5V output; 5.7 to 6.7VDC. Other outputs 10% to 25% above nominal output |
| Remote sense | Compensates for 0.5 V lead drop minimum<br>Will operate without remote sense connected<br>Reverse connection protected |

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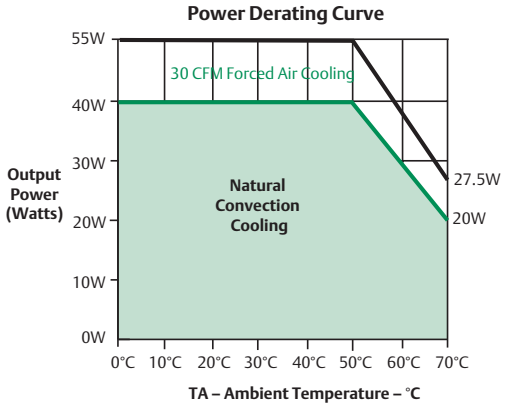
# Environmental Specifications

| | |
|---|---|
| Operating temperature: | 0° to 50°C ambient. Derate each output 2.5% per degree from 50° to 70°C, -20°C start up. |
| Storage temperature: | -40°C to +85°C |
| Temperature coefficient: | ±0.4% per °C |
| Electromagnetic susceptibility: | Designed to meet IEC 801, -2, -3, -4, -5, -6, Level 3 |
| Humidity: | Operating; non-condensing 5% to 95% RH |
| Vibration: | Three orthogonal axes, sweep at 1 oct/min, 5 min. dwell at four major resonances 0.75G peak 5Hz to 500Hz, operational |
| MTBF demonstrated: | >550,000 hours at full load and 25°C ambient conditions |

## Ordering Information

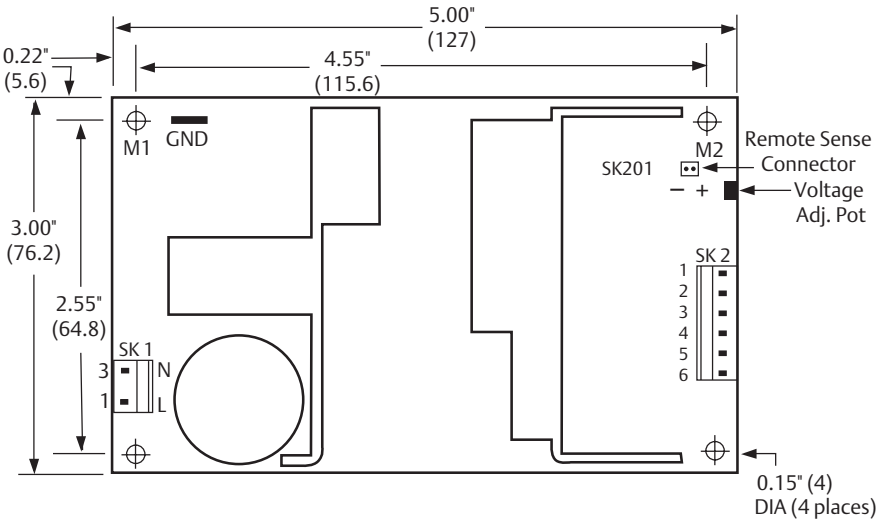
| Model Number | Output Voltage | Minimum Load | Maximum Load with Convection Cooling | Maximum Load with 30CFM forced Air | Peak Load [1] | Regulation [2] | Ripple P/P (PARD)[3] |
|---|---|---|---|---|---|---|---|
| LPS41(-T) | 3.3V | 0A | 8A | 11A | 12A | ±2% | 50 mV |
| LPS42(-T) | 5V | 0A | 8A | 11A | 12A | ±2% | 50 mV |
| LPS43(-T) | 12V | 0A | 3.3A | 4.5A | 5A | ±2% | 120 mV |
| LPS44(-T) | 15V | 0A | 2.6A | 3.6A | 4A | ±2% | 150mV |
| LPS45(-T) | 24V | 0A | 1.7A | 2.3A | 2.5A | ±2% | 240mV |
| LPS48(-T) | 48V | 0A | 0.9A | 1.2A | 1.3A | ±2% | 480 mV |

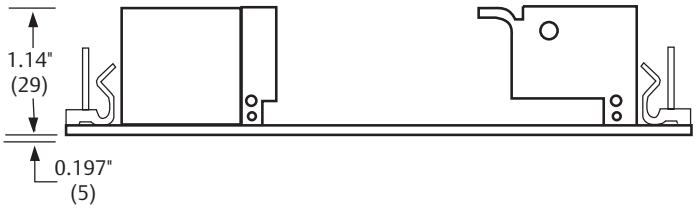
1. Peak current lasting <30 seconds with a maximum 10% duty cycle.
2. At 25°C including initial tolerance, line voltage, load currents and output voltages adjusted to factory settings.
3. Peak-to-peak with 20 MHz bandwidth and 10 µF in parallel with a 0.1 µF capacitor at rated line voltage and load ranges.
4. (-T) indicates Terminal Block option for input and output (instead of Molex type)




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## Mechanical Drawing




## Pin Assignments

| Connector | LPS41 | LPS42 | LPS43 | LPS44 | LPS45 | LPS48 |
|---|---|---|---|---|---|---|
| SK1-1 | Line | Line | Line | Line | Line | Line |
| SK1-3 | Neutral | Neutral | Neutral | Neutral | Neutral | Neutral |
| SK2-1 | +3.3V | +5V | +12V | +15V | +24V | +48V |
| SK2- 2 | +3.3V | +5V | +12V | +15V | +24V | +48V |
| SK2- 3 | +3.3V | +5V | +12V | +15V | +24V | +48V |
| SK2-4 | Common | Common | Common | Common | Common | Common |
| SK2-5 | Common | Common | Common | Common | Common | Common |
| SK2-6 | Common | Common | Common | Common | Common | Common |
| SK201-1 | +Sense | +Sense | +Sense | +Sense | +Sense | +Sense |
| SK201-2 | -Sense | -Sense | -Sense | -Sense | -Sense | -Sense |

## Mating Connectors

**AC Input:** Molex 09-50-8031 (USA) **Not required for (-T) option**
09-91-0300 (UK)
PINS: 08-52-0113

**DC Outputs:** Molex 09-50-8061 (USA) **Not required for (-T) option**
09-91-0600 (UK)
PINS: 08-52-0113

**Remote Sense:** Molex 22-01-2025
PINS: 08-52-0123

Astec Connector Kit #70-841-006, includes all of the above

1. Specifications subject to change without notice.
2. All dimensions in inches (mm), tolerance is ±0.02" (±0.5mm)
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. Warranty: 1 year
7. Weight: 0.5lbs/0.23kg

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