15W Ultra Slim Step Shape DIN Rail HDR-15 series

■ Features
  • Ultra slim design with 17.5mm(1SU) width
  • Universal input 85~264VAC(277VAC operational)
  • No load power consumption<0.3W
  • Isolation class II
  • Pass LPS (Limited power source)
  • DC output voltage adjustable
  • Protections : Short circuit / Overload / Over voltage
  • Cooling by free air convection (working temperature:-30~+70°C)
  • DIN rail TS-35/7.5 or 15 mountable
  • Over voltage category III
  • LED indicator for power on
  • 3 years warranty

■ Applications
  • Household control system
  • Building automation
  • Industrial control system
  • Factory automation
  • Electro-mechanical apparatus

■ Description
HDR-15 is one economical ultra slim 15W DIN rail power supply series, adapt to be installed on TS-35/7.5 or TS-35/15 mounting rails. The body is designed 17.5mm(1SU) in width, which allows space saving inside the cabinets. The entire series adopts the full range AC input from 85VAC to 264VAC(277VAC operational) and conforms to EN61000-3-2, the norm the European Union regulates for harmonic current.
HDR-15 is designed with plastic housing that it can effectively prevent user from electric hazards. With working efficiency up to 87%, the entire series can operate at the ambient temperature between -30°C and 70°C under air convection. It is equipped with constant current mode for overload protection, fitting various inductive or capacitive applications. The complete protection functions and relevant certificates for home automations and industrial control apparatus (IEC60950-1, UL508, UL60950-1, EN61558-2-16) make HDR-15 a very competitive power supply solution for household and industrial applications.

■ Model Encoding
  HDR - 15 - [output voltage]

  Output voltage
  Rated wattage
  Series name
## SPECIFICATION

### OUTPUT

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DC VOLTAGE</td>
<td>5V</td>
<td>12V</td>
<td>15V</td>
<td>24V</td>
<td>48V</td>
</tr>
<tr>
<td>RATED CURRENT</td>
<td>2.4A</td>
<td>1.25A</td>
<td>1A</td>
<td>0.63A</td>
<td>0.32A</td>
</tr>
<tr>
<td>CURRENT RANGE</td>
<td>0 – 2.4A</td>
<td>0 – 1.25A</td>
<td>0 – 1A</td>
<td>0 – 0.63A</td>
<td>0 – 0.32A</td>
</tr>
<tr>
<td>RATED POWER</td>
<td>12W</td>
<td>15W</td>
<td>15W</td>
<td>15.2W</td>
<td>15.4W</td>
</tr>
<tr>
<td>RIPPLE &amp; NOISE (max.) Note.2</td>
<td>80mVp-p</td>
<td>120mVp-p</td>
<td>120mVp-p</td>
<td>150mVp-p</td>
<td>240mVp-p</td>
</tr>
<tr>
<td>VOLTAGE ADJ. RANGE</td>
<td>4.5 – 5.5V</td>
<td>10.8 – 13.8V</td>
<td>13.5 – 18V</td>
<td>21.6 – 29V</td>
<td>43.2 – 55.2V</td>
</tr>
<tr>
<td>VOLTAGE TOLERANCE Note.3</td>
<td>±2.0%</td>
<td>±1.0%</td>
<td>±1.0%</td>
<td>±1.0%</td>
<td>±1.0%</td>
</tr>
<tr>
<td>LINE REGULATION</td>
<td>±1.0%</td>
<td>±1.0%</td>
<td>±1.0%</td>
<td>±1.0%</td>
<td>±1.0%</td>
</tr>
<tr>
<td>LOAD REGULATION</td>
<td>±1.0%</td>
<td>±1.0%</td>
<td>±1.0%</td>
<td>±1.0%</td>
<td>±1.0%</td>
</tr>
<tr>
<td>SETUP, RISE TIME</td>
<td>2000ms, 80ms/230VAC</td>
<td>2000ms, 80ms/115VAC at full load</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HOLD UP TIME (Typ.)</td>
<td>30ms/230VAC</td>
<td>12ms/115VAC at full load</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VOLTAGE RANGE</td>
<td>85 ~ 264VAC (277VAC operational )</td>
<td>120 ~ 370VDC (390VDC operational )</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FREQUENCY RANGE</td>
<td>47 – 63Hz</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EFFICIENCY (Typ.)</td>
<td>80%</td>
<td>85%</td>
<td>85.5%</td>
<td>88%</td>
<td>87%</td>
</tr>
<tr>
<td>AC CURRENT (Typ.)</td>
<td>0.5A/115VAC</td>
<td>0.25A/230VAC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INRUSH CURRENT (Typ.)</td>
<td>COLD START 25A/115VAC</td>
<td>45A/230VAC</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### INPUT

- **AC CURRENT (Typ.):** 80mA
- **Ripple & Noise (max.):** ±100mVp-p
- **Efficiency (Typ.):** 85%
- **Frequency Range:** 47 – 63Hz
- **Voltage Range:** 85 ~ 2.4A

### PROTECTION

- **Protection type:** Constant current limiting, recovers automatically after fault condition is removed
- **Overload Protection:**
  - Note.4: Protection type: Cold start 25A/115VAC
  - Note.5: Protection type: Cold start 45A/230VAC
- **Over Voltage:**
  - 5.75 ~ 6.75V
  - 14.2 ~ 16.2V
  - 18.8 ~ 22.5V
  - 30 ~ 36V
  - 58.5 ~ 64.8V

### ENVIRONMENT

- **Working Temp.:** -30 ~ +70°C (Refer to "Derating Curve")
- **Working Humidity:** 20 ~ 90% RH non-condensing
- **Storage Temp., Humidity:** -40 ~ +85°C, 10 ~ 95% RH non-condensing
- **Temperature Coefficient:** ±0.03%/°C (0 ~ 50°C) RH non-condensing
- **Vibration:** 10 ~ 500Hz, 2G, 10min./1cycle, period for 60min. each along X, Y, Z axes; Mounting: Compliance to IEC60068-2-6
- **Operating Altitude:** 2000 meters
- **Over Voltage Category:** III. According to EN61558, EN50178, EN60664-1, EN62477-1; altitude up to 2000 meters
- **Safety Standards:** UL60950-1, UL508, TUV EN61558-2-16, IEC60950-1, EAC TP TC 004, BSMI CNS14336-1 approved; Design refer to TUV EN60950-1

### EMC & SAFETY

- **Isolation Resistance:** I/P, O/P: 100 Ohms / 500VDC / 25°C / 70% RH
- **Safety Emission:** EN50024, EN50035, EN61000-6-2, EN61204-3
- **EMC Immunity:** EN50032, EN50035, EN61000-3, EN61204-3
- **EMC Immunity:**
  - ESD: EN61000-4-2, Level 3, 8KV air; Level 2, 4KV contact, criteria A
  - Radiated Susceptibility: EN61000-4-3, Level 3, criteria A
  - Magnetic Field: EN61000-4-8, Level 4, criteria A
  - Voltage Dips and Interruptions: EN61000-4-11, >95% dip 0.5 periods, 30% dip 25 periods, >95% interruptions 250 periods

### OTHERS

- **MTBF:** 1166K hrs min. MIL-HDBK-217F (25°C)
- **Dimension:** 17.5*90*54.5mm (W*H*D)
- **Packing:** 78g, 160pcs/13.5Kg/1.19CUFT

### NOTE

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.
2. Ripple & noise are measured at 20MHz bandwidth by using a 0.1µmF parallel capacitor.
3. Temperature tolerance includes set up tolerance, line regulation and load regulation.
4. Constant current limiting operation within 50% ~ 100% rated output voltage; protection type for short circuit is hiccup mode, will recover automatically after fault condition is removed.
5. The power supply is considered as an independent unit, but the final equipment still need to re-confirm that the whole system complies with the EMC directives. For guidance on how to perform these EMC tests, please refer to “EMI testing of component power supplies.” (as available on http://www.meanwell.com)
6. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m (6500ft).
## Mechanical Specification

(Unit: mm, tolerance ± 0.5mm)

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Assignment</th>
<th>Pin No.</th>
<th>Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>+V</td>
<td>3</td>
<td>AC/N</td>
</tr>
<tr>
<td>2</td>
<td>-V</td>
<td>4</td>
<td>AC/L</td>
</tr>
</tbody>
</table>

ADMISSIBLE DIN-RAIL: TS35/7.5 OR TS35/15

### Installation Manual