

Features

- Voltage Input Range 90~264V AC or 127~370V DC
- Operating Temperature Range: -30°C~+70°C
- With built-in Battery charging circuit
- High-Efficiency up to 88%
- Safety Standards to UL/EN/BS EN 62368-1
- Output SCP, OCP, OVP



Ideal Power's 56YDC60-xy 60W DIN Rail Mount AC/DC Power Supply Converter Series are certified to UKCA, CE, cULus, RoHS & UL 62368-1/BS EN 62368-1/EN 62368-1 Standards and comply with the relevant Efficiency Regulations. These are primarily used in ITE, Audio & Video Industries and customised solutions are available upon request.

Models

| Model Number* | Output Power (W) | DC Voltage CH1 / CH2 | Rated Current CH1 / CH2 | Voltage Adj Range (V) | Current Range (A) | Efficiency at 230V AC (%) Typ |
|----------------|------------------|----------------------|-------------------------|-----------------------|-------------------|-------------------------------|
| 56YDC60-40-138 | 40.02 | 13.8 / 13.8V | 1.9 / 1A | 12~15 | 0~2.9 | 86 |
| 56YDC60-40-276 | 40.02 | 27.6 / 27.6V | 0.95 / 0.5A | 24~30 | 0~1.45 | 87 |
| 56YDC60-60-138 | 59.34 | 13.8 / 13.8V | 2.8 / 1.5A | 12~15 | 0~4.3 | 86 |
| 56YDC60-60-276 | 59.34 | 27.6 / 27.6V | 1.4 / 0.75A | 24~30 | 0~2.15 | 88 |

Input Specifications

| Conditions | | Min | Typ | Max | Unit | |
|---------------------|--|----------|-----|-----|------|-----|
| Input Voltage Range | [DC input operation possible by connecting AC/L (+), AC/N (-)] | AC input | 90 | -- | 264 | VAC |
| | | DC input | 127 | -- | 370 | VDC |
| Frequency Range | | 47 | -- | 63 | Hz | |
| AC Current | 115V AC, 0.6A/230V AC | 56YDC40 | -- | 0.9 | -- | A |
| | 115V AC, 0.8A/230V AC | 56YDC60 | -- | 1.3 | -- | |
| Inrush Current | COLD START 30A/115V AC 60A/230V AC | | | | | |

Output Specifications

| | Conditions | Min | Typ | Max | Unit |
|-------------------|----------------|---------------------------------|------|-----|-------|
| Ripple & Noise | 56YDC60-40-138 | -- | -- | 120 | mVp-p |
| | 56YDC60-40-276 | -- | -- | 200 | |
| | 56YDC60-60-138 | -- | -- | 120 | |
| | 56YDC60-60-276 | -- | -- | 200 | |
| Voltage Tolerance | | -- | +1.0 | -- | % |
| Line Regulation | | -- | +0.5 | -- | |
| Load Regulation | | -- | +0.5 | -- | |
| Set up, Rise Time | | 400ms, 50ms/230VAC at full load | | | |
| | | 800ms, 50ms/115VAC at full load | | | |
| Hold up Time | | 50ms/230VAC at full load | | | |
| | | 10ms/115VAC at full load | | | |

Protection

| | | | | | |
|-------------------------|--|------------------|--|--|--|
| Overload Protection | >105%-150% rated output power: Protection type: Hiccup mode, recovers automatically when fault condition is removed | | | | |
| Over Voltage Protection | 56YDC60-40-138/56YDC60-60-138 | CH1:14.49~18.63V | | | |
| | 56YDC60-40-276/56YDC60-60-276 | CH1:28.98~37.26V | | | |
| Protection Type | Shut down o/p voltage, repower on to recover | | | | |
| Battery Cut Off | 10±0.5V | | | | |
| | 20±1V | | | | |

Environmental Characteristics

| Item | Operating Conditions |
|-----------------------|---|
| Operating Temperature | -30°C to 70°C (Refer to "Derating Curve") |
| Operating Humidity | 20 ~ 90% RH non-condensing |
| Storage Humidity | -40°C ~ 85% RH non-condensing |
| Storage Humidity | 10 ~ 95% RH non-condensing |
| Temp Coefficient | ± 0.03%/°C (0~50°C) on CH1 output |
| Vibration | 10~500Hz, 5G 10min/1cycle, 60min each along x, y, z axes. |
| MTBF | 1854.1K hrs min, Telcordia SR-332 (Bellcore) |

Safety & EMC

| | |
|----------------------|--|
| Safety Standards | UL62368-1, TUV BS EN/EN62368-1, EAC TP TC 004, AS/NZS 62368.1 approved |
| Withstand Voltage | I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC |
| Isolation Resistance | I/P-O/P, I/P-FG, O/P-FG:100M Ohms/ 500VDC/25 °C/70% RH |
| EMC Emissions | BS EN/EN55032 (CISPR32) Class B, BS EN/EN61000-3-2 |
| EMC Immunity | BS EN/EN61000-4-2,3,4,5,6,8,11, BS EN/EN55035 |

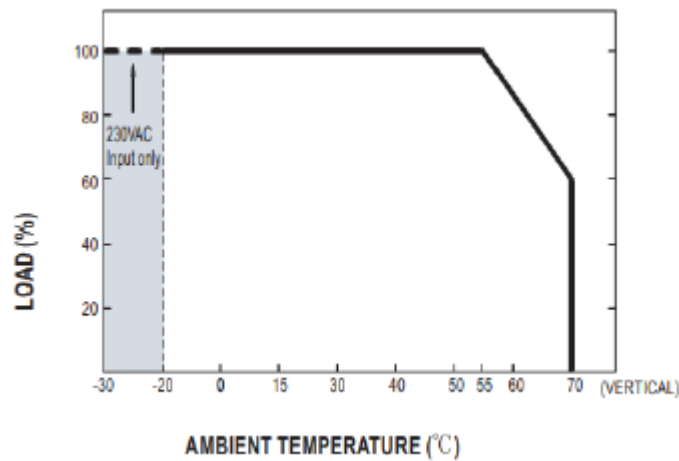
Mechanical Specifications

| | |
|-----------|------------------------------|
| Dimension | 41 x 100 x 925mm (L x W x H) |
| Weight | 300g |

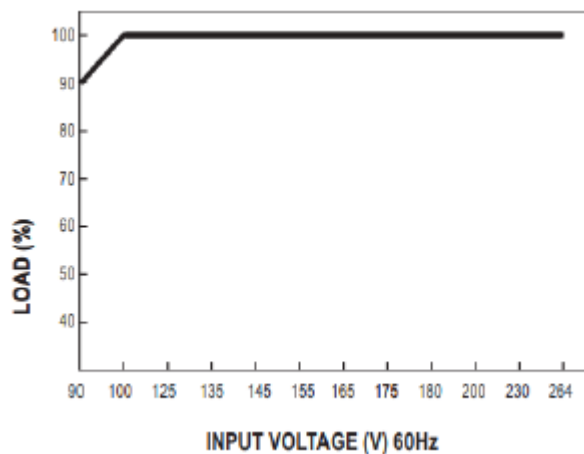
Note:

1. All parameters NOT specially mentioned at 400V AC input rated load and 25°C of ambient temperature.
2. Ripple & Noise are measured at 20MHZ of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uF & 47uF parallel capacitor.
3. Tolerance: includes set up tolerance, line regulation and load regulation.
4. Length of set up time is measured at first cold start. Turning ON/OFF the power supply may lead to increase of the set-up time.
5. Please refer to suggested Application 2. (2) - (3) in page 4.
6. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies."
7. The ambient temperature derating of 5°C/1000m is needed for operating altitude greater than 2000m(6500ft).

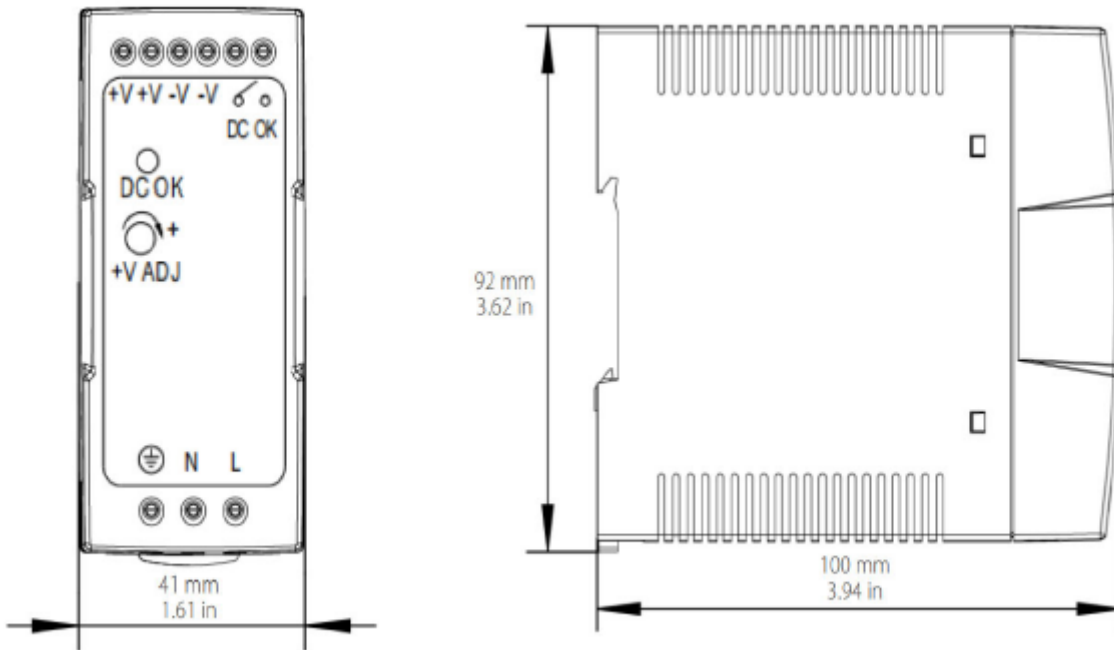
Derating Curve



Output Derating VS Input Voltage



Dimensions and Recommended Layout



Block Diagram

