

DDRH-60 Series

60W Ultra Wide Input DIN Rail Type DC-DC Converter



Case No:
57 x 93.5 x 105mm

Features

- 150~1500Vdc 10:1 ultra-wide input range
- 57mm slim width
- 4K VAC/I/O high isolation (Reinforced isolation)
- Protections: Short Circuit / Overload / Over voltage / Over Temperature, DC input under voltage / DC input reverse polarity
- Cooling by free air convection
- Can be installed on DIN rail TS-35/7.5 or 15
- Over voltage category II
- Operating altitude up to 5000 metres
- DC OK relay contact
- 1DC output voltage adjustable (+20%)
- 3 years warranty



Specification

| Voltage | | 150~1500VDC | | | | |
|------------------|----------------------------------|--|---|------------|------------|-----|
| INPUT | Efficiency | 200Vdc | 80% | 83% | 86% | 87% |
| | | 800Vdc | 81% | 85% | 87% | 88% |
| | | 1500Vdc | 76% | 81% | 84% | 83% |
| Inrush Current | | Cold start 120A/1500Vdc 80A/800Vdc 30A/150Vdc | | | | |
| OUTPUT | MODEL No. | DDRH-60-5 | DDRH-60-12 | DDRH-60-24 | DDRH-60-48 | |
| | DC Voltage | 5V | 12V | 24V | 48V | |
| | Rated Current | 10A | 5A | 2.5A | 1.25A | |
| | Current Range | 0~10A | 0~5A | 0~2.5A | 0~1.25A | |
| | Rated Power | 50W | 60W | 60W | 60W | |
| | Ripple Noise MAX. | 100mVp-p | 120mVp-p | 150mVp-p | 200mVp-p | |
| | Voltage Adjustment Range | 5 ~ 6V | 12 ~ 15V | 24 ~ 29V | 48 ~ 54V | |
| | Voltage Tolerance | ± 1.5% | ± 1.5% | ± 1.0% | ± 1.0% | |
| | Line Regulation | ± 0.5% | ± 0.5% | ± 0.5% | ± 0.5% | |
| | Load Regulation | ± 1.5% | ± 0.5% | ± 0.5% | ± 0.5% | |
| | External Capacitance Load (max.) | 6000µF | 4000µF | 2500µF | 1000µF | |
| | PROTECTION | Over Load | 105 ~ 135% rated output power Protection Type: Hiccup up mode when output voltage<55%, recovers automatically after condition is removed; Constant current limiting, recovers automatically after fault condition is removed within 55% ~ 100% rated output voltage | | | |
| Over Voltage | | 6.6~8.4V | 16.5~21V | 30~38V | 55~60V | |
| Over Temperature | | Protection type : Hiccup up mode, recovers automatically after fault condition is removed | | | | |
| DC INPUT | | Reverse Polarity | By internal Bridge Diode, no damage, recovers automatically after fault condition removed | | | |
| FUNCTION | DC OK Signal | Under Voltage Lockout Under voltage protection range:120 ~ 130Vdc , Under voltage release range:130 ~ 146.5Vdc | | | | |
| | Working Temperature | Relay contact rating(max.) : 30V / 1A resistive -30~+80°C (Refer to "Derating Curve") | | | | |
| | Working Humidity | 20~90% RH non-condensing | | | | |
| ENVIRONMENT | Storage Temp., Humidity | -40- +80°C, 10-95% RH non-condensing | | | | |
| | Temp. Co-efficient | ±0.03% / °C (0~55°C) | | | | |
| | Vibration | Component: 10 ~ 500Hz, 3G 10min./1cycle, 60min. each along X, Y, Z axes; Mounting clip: Compliance to IEC60068-2-6 | | | | |
| | Operating Altitude | 5000 metres/OVCII | | | | |
| SAFETY & EMC | Safety Standards | IEC62109-1(LVD) , EAC TP TC 004 approved; Design refer to UL1741(By request) | | | | |
| | Withstand Voltage | I/P-O/P:4KVAC O/P-DC OK: 0.5KVAC | | | | |
| | Isolation Resistance | I/P-O/P, 100M Ohms / 500VDC / 25°C/ 70% RH | | | | |
| | EMC Emission | Compliance to EN55032 (CISPR32) Class B, EN61000-3 | | | | |
| | EMC Immunity | Compliance to EN61000-4-2,3,4,5,6,8,11, EN55035, EN61000-6-2, Level 3, 8KV air; Level 2, 4KV contact, criteria A | | | | |
| OTHERS | M.T.B.F. | 454.5K hrs min. MIL-HDBK-217F (25°C); 503K hrs min. Telcordia TR/SR-332 (Bellcore) (25°C) | | | | |
| | Packaging | 0.8Kg, 16pcs/12.8Kg/0.82CUFT | | | | |

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.
2. Ripple and 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. Derating may be needed under low input voltage. Please check the derating curve for more details.
5. The power supply is considered as a component which will be installed with final equipment. The final equipment must be re-confirmed that it still meets EMC Directives.
6. Installation clearances: 40mm on top, 20mm on the bottom, 5mm on the left and right side are recommended when load is permanently with full power. In case the adjacent device is a heat source, 15mm clearance is recommended. For guidance on how to perform these EMC tests, please refer to 'EMI testing of component power supplies.'

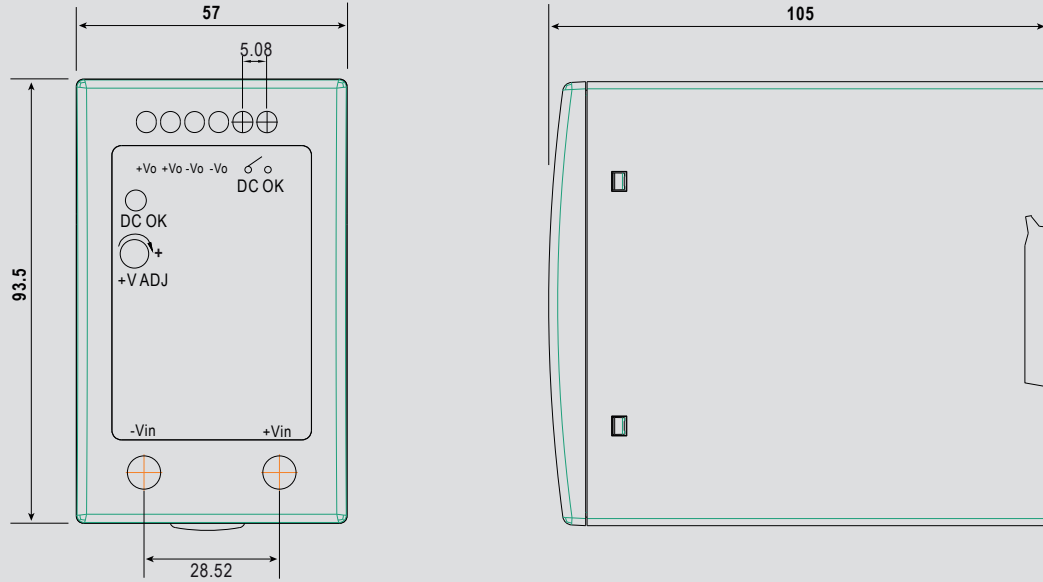
DDRH-60 Series

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Mechanical Specification

Case No.DDRH-60 Unit:mm

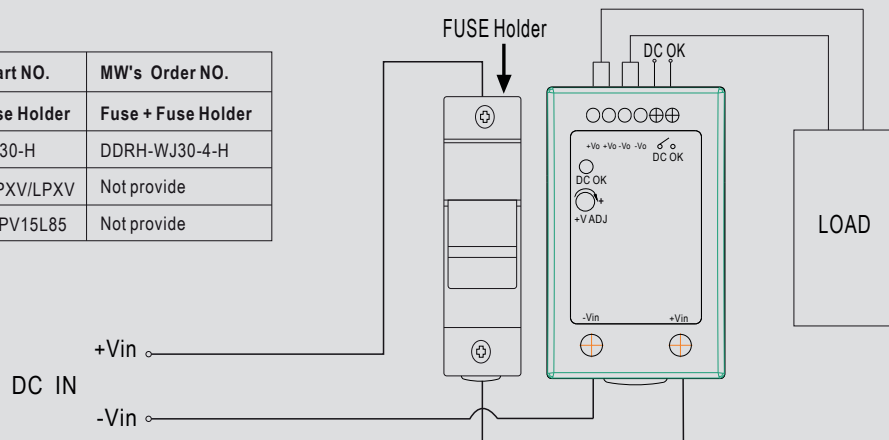


External FUSE wiring instruction

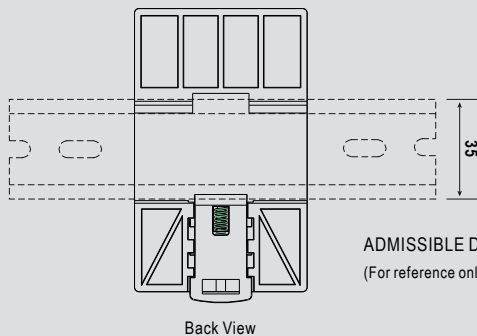
External FUSE is required.FUSE specification : 4A/1500Vdc.

Suggested model:

| Fuse Brand | Manufacturer Part NO. | | MW's Order NO. |
|------------|-----------------------|-------------|--------------------|
| | Fuse | Fuse Holder | Fuse + Fuse Holder |
| WalterFuse | WJ30-4 | WJ30-H | DDRH-WJ30-4-H |
| Littelfuse | SPXV-4A | LFPXV/LPXV | Not provide |
| Bussmann | PV-4A10F85L | CHPV15L85 | Not provide |



Installation Instruction



ADMISSIBLE DIN-RAIL: TS35/7.5 or TS35/15
(For reference only. Not included with unit.)

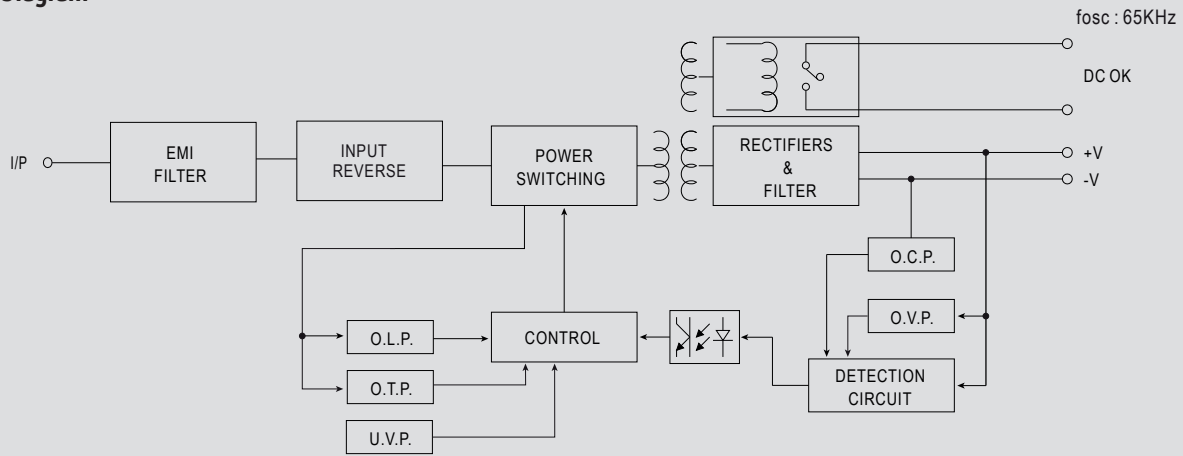
Back View

DDRH-60 Series

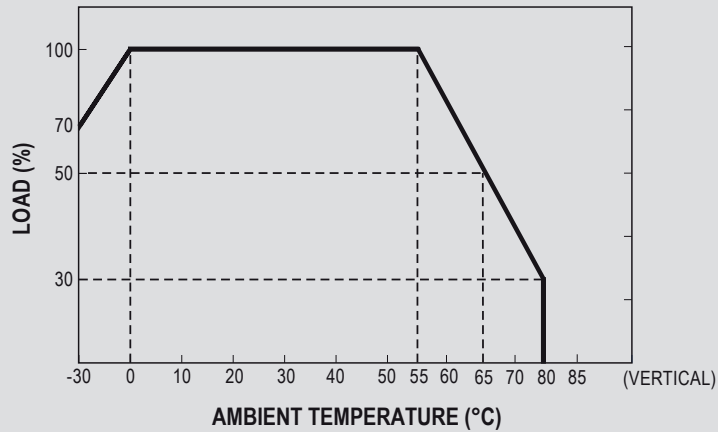
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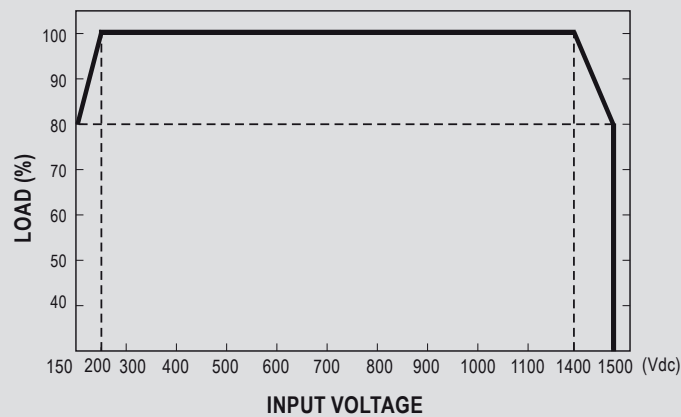
Block Diagram



Derating Curve



Static Characteristic



DC OK Relay Contact

| | |
|------------------------|--------------------------|
| Contact Close | PSU turns ON / DC OK. |
| Contact Open | PSU turns OFF / DC Fail. |
| Contact Ratings (max.) | 30V/1A resistive load. |