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# SD-350 series

## DC-DC Converter



INDUSTRIAL CONTROL SYSTEMS

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# 350W Single Output DC-DC Converter SD-350 series



User's Manual

## ■ Features :

- 2:1 wide input range
- Protections: Short circuit / Overload / Over voltage / Over temperature
- 1500VAC I/O isolation
- Forced air cooling by built-in DC Fan
- 100% full load burn-in test
- 24V and 48V input voltage design refer to LVD
- 2 years warranty

AS/NZS62368-1 TPTC004

## ■ GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

## SPECIFICATION

| MODEL | | SD-350B | | | | SD-350C | | | |
|---|---|---|---|---|---|---|---|---|---|
| OUTPUT | DC VOLTAGE | 5V | 12V | 24V | 48V | 5V | 12V | 24V | 48V |
| | RATED CURRENT | 57A | 27.5A | 14.6A | 7.3A | 60A | 27.5A | 14.6A | 7.3A |
| | CURRENT RANGE | 0 ~ 57A | 0 ~ 27.5A | 0 ~ 14.6A | 0 ~ 7.3A | 0 ~ 60A | 0 ~ 27.5A | 0 ~ 14.6A | 0 ~ 7.3A |
| | RATED POWER | 285W | 330W | 350.4W | 350.4W | 300W | 330W | 350.4W | 350.4W |
| | RIPPLE & NOISE (max.) Note.2 | 100mVp-p | 120mVp-p | 150mVp-p | 200mVp-p | 100mVp-p | 120mVp-p | 150mVp-p | 200mVp-p |
| | VOLTAGE ADJ. RANGE | 4.5 ~ 5.5VDC | 11 ~ 16VDC | 23 ~ 30VDC | 43 ~ 53VDC | 4.5 ~ 5.5VDC | 11 ~ 16VDC | 23 ~ 30VDC | 43 ~ 53VDC |
| | VOLTAGE TOLERANCE Note.3 | ±2.0% | ±1.0% | ±1.0% | ±1.0% | ±2.0% | ±1.0% | ±1.0% | ±1.0% |
| | LINE REGULATION | ±0.5% | ±0.3% | ±0.2% | ±0.2% | ±0.5% | ±0.3% | ±0.2% | ±0.2% |
| | LOAD REGULATION | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% |
| | SETUP, RISE TIME | 300ms, 50ms at full load | | | | | | | |
| INPUT | VOLTAGE RANGE | B:20 ~ 36VDC C:36 ~ 72VDC D:72 ~144VDC | | | | | | | |
| | EFFICIENCY (Typ.) | 74% | 80% | 80% | 84% | 76% | 81% | 81% | 82% |
| | DC CURRENT (Typ.) | 14.4A/24V | 16A/24V | 17.6A/24V | 17.6A/24V | 7.6A/48V | 8.8A/48V | 9.0A/48V | 9.0A/48V |
| | INRUSH CURRENT (Typ.) | C:45A/48VDC D:45A/96VDC | | | | | | | |
| PROTECTION | OVERLOAD | 105 ~ 135% rated output power | | | | | | | |
| | | Protection type : Shut down o/p voltage, re-power on to recover | | | | | | | |
| | OVER VOLTAGE | 5.75 ~ 6.75V | 16.8 ~ 20V | 31.5 ~ 37.5V | 53 ~ 65V | 5.75 ~ 6.75V | 16.8 ~ 20V | 31.5 ~ 37.5V | 53 ~ 65V |
| | | Protection type : Shut down o/p voltage, re-power on to recover | | | | | | | |
| | OVER TEMPERATURE | Shut down o/p voltage, recovers automatically after temperature goes down | | | | | | | |
| ENVIRONMENT | WORKING TEMP. | -20 ~ +60℃ (Refer to "Derating Curve") | | | | | | | |
| | WORKING HUMIDITY | 20 ~ 90% RH non-condensing | | | | | | | |
| | STORAGE TEMP., HUMIDITY | -40 ~ +85℃, 10 ~ 95% RH | | | | | | | |
| | TEMP. COEFFICIENT | ±0.03%/℃ (0 ~ 50℃) | | | | | | | |
| | VIBRATION | 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes | | | | | | | |
| SAFETY & EMC (Note 4) | SAFETY STANDARDS | EAC TP TC 004 approved, design refer to AS/NZS 62368.1 | | | | | | | |
| | WITHSTAND VOLTAGE | I/P-O/P:1.5KVAC 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℃/ 70% RH | | | | | | | |
| | EMC EMISSION | Compliance to BS EN/EN55032 (CISPR32) Class B, EAC TP TC 020 | | | | | | | |
| | EMC IMMUNITY | Compliance to BS EN/EN61000-4-2,3,4,6,8, BS EN/EN55035, light industry level, EAC TP TC 020 | | | | | | | |
| OTHERS | MTBF | 1705.6K hrs min. Telcordia SR-332 (Bellcore) ; 263.9K hrs min. MIL-HDBK-217F (25℃) | | | | | | | |
| | DIMENSION | 215*115*50mm (L*W*H) | | | | | | | |
| | PACKING | 1.1Kg; 12pcs/14.4Kg/0.9CUFT | | | | | | | |
| NOTE | 1. All parameters NOT specially mentioned are measured at 24,48,96VDC input, rated load and 25℃ of ambient temperature.<br>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 μF & 47 μF parallel capacitor.<br>3. Tolerance : includes set up tolerance, line regulation and load regulation.<br>4. The power supply is considered a component which will be installed into a final equipment. All the EMC tests are been executed by mounting the unit on a 360mm*360mm metal plate with 1mm of thickness. 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." (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf )<br>5. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).<br>※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx | | | | | | | | |

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# 350W Single Output DC-DC Converter

# SD-350 series



User's Manual

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- Protections: Short circuit / Overload / Over voltage / Over temperature
- 1500VAC I/O isolation
- Forced air cooling by built-in DC Fan
- 100% full load burn-in test
- 24V(B) and 48V(C) input voltage design refer to LVD
- 2 years warranty

AS/NZS62368-1 BS EN/EN62368-1 IEC62368-1 TPTC004

## ■ GTIN CODE

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## SPECIFICATION

| MODEL | | SD-350D | | | |
|---|---|---|---|---|---|
| OUTPUT | DC VOLTAGE | 5V | 12V | 24V | 48V |
| | RATED CURRENT | 60A | 29.2A | 14.6A | 7.3A |
| | CURRENT RANGE | 0 ~ 60A | 0 ~ 29.2A | 0 ~ 14.6A | 0 ~ 7.3A |
| | RATED POWER | 300W | 350.4W | 350.4W | 350.4W |
| | RIPPLE & NOISE (max.) Note.2 | 100mVp-p | 120mVp-p | 150mVp-p | 200mVp-p |
| | VOLTAGE ADJ. RANGE | 4.5 ~ 5.5VDC | 11 ~ 16VDC | 23 ~ 30VDC | 43 ~ 53VDC |
| | VOLTAGE TOLERANCE Note.3 | ±2.0% | ±1.0% | ±1.0% | ±1.0% |
| | LINE REGULATION | ±0.5% | ±0.3% | ±0.2% | ±0.2% |
| | LOAD REGULATION | ±1.0% | ±1.0% | ±1.0% | ±1.0% |
| | SETUP, RISE TIME | 300ms, 50ms at full load | | | |
| INPUT | VOLTAGE RANGE | B:20 ~ 36VDC C:36 ~ 72VDC D:72 ~144VDC | | | |
| | EFFICIENCY (Typ.) | 78% | 83% | 87% | 89% |
| | DC CURRENT (Typ.) | 6A/96V | 6A/96V | 6A/96V | 6A/96V |
| | INRUSH CURRENT (Typ.) | C:45A/48VDC D:45A/96VDC | | | |
| PROTECTION | OVERLOAD | 105 ~ 135% rated output power | | | |
| | | Protection type : Shut down o/p voltage, re-power on to recover | | | |
| | OVER VOLTAGE | 5.75 ~ 6.75V | 16.8 ~ 20V | 31.5 ~ 37.5V | 53 ~ 65V |
| | | Protection type : Shut down o/p voltage, re-power on to recover | | | |
| | OVER TEMPERATURE | Shut down o/p voltage, recovers automatically after temperature goes down | | | |
| ENVIRONMENT | WORKING TEMP. | -20 ~ +60℃ (Refer to "Derating Curve") | | | |
| | WORKING HUMIDITY | 20 ~ 90% RH non-condensing | | | |
| | STORAGE TEMP., HUMIDITY | -40 ~ +85℃, 10 ~ 95% RH | | | |
| | TEMP. COEFFICIENT | ±0.03%/℃ (0 ~ 50℃) | | | |
| | VIBRATION | 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes | | | |
| SAFETY & EMC (Note 4) | SAFETY STANDARDS | IEC/BS EN/EN 62368-1, EAC TP TC 004 approved, design refer to AS/NZS 62368.1 | | | |
| | WITHSTAND VOLTAGE | I/P-O/P:1.5KVAC 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℃/ 70% RH | | | |
| | EMC EMISSION | Compliance to BS EN/EN55022 (CISPR22) Class B, EAC TP TC 020 | | | |
| | EMC IMMUNITY | Compliance to BS EN/EN61000-4-2,3,4,6,8, BS EN/EN55035, light industry level, EAC TP TC 020 | | | |
| OTHERS | MTBF | 1705.6K hrs min. Telcordia SR-332 (Bellcore) ; 263.9K hrs min. MIL-HDBK-217F (25℃) | | | |
| | DIMENSION | 215*115*50mm (L*W*H) | | | |
| | PACKING | 1.1Kg; 12pcs/14.4Kg/0.9CUFT | | | |
| NOTE | 1. All parameters NOT specially mentioned are measured at 24,48,96VDC input, rated load and 25℃ of ambient temperature.<br>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 μF & 47 μF parallel capacitor.<br>3. Tolerance : includes set up tolerance, line regulation and load regulation.<br>4. The power supply is considered a component which will be installed into a final equipment. All the EMC tests are been executed by mounting the unit on a 360mm*360mm metal plate with 1mm of thickness. 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." (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf )<br>5. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).<br>※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx | | | | |

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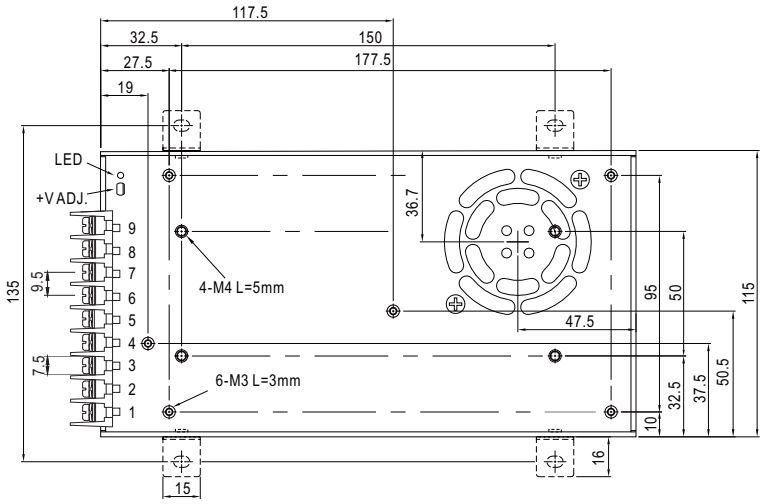
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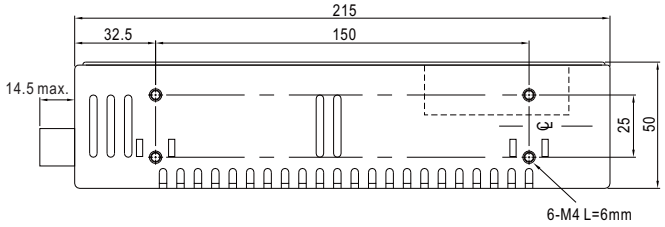
# 350W Single Output DC-DC Converter SD-350 series

## ■ Mechanical Specification

Case No. 912B

(Unit: mm , tolerance ± 1mm)



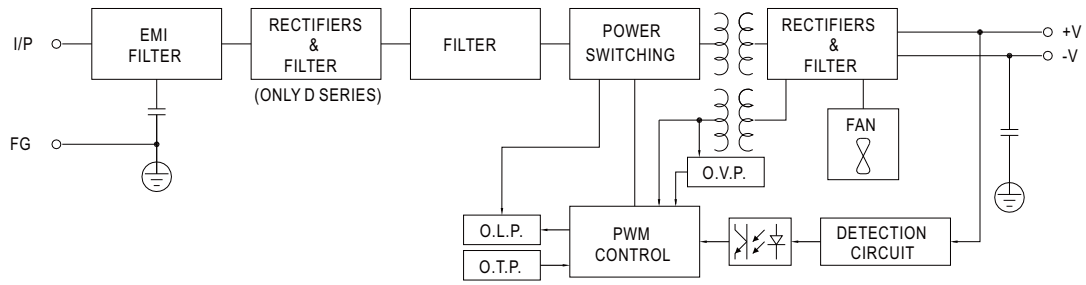

Air flow direction

Terminal Pin No. Assignment :

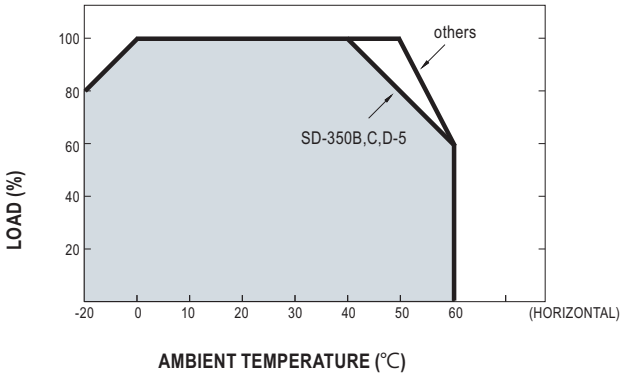
| Pin No. | Assignment | Pin No. | Assignment |
|---|---|---|---|
| 1 | DC INPUT V+ | 4,5,6 | DC OUTPUT V- |
| 2 | DC INPUT V- | 7,8,9 | DC OUTPUT V+ |
| 3 | FG ⏚ | | |

## ■ Block Diagram

fosc : 100KHz




## ■ Derating Curve




## ■ Static Characteristics

