



User's Manual



## Features

- Compliance to BS EN/EN50155 and BS EN/EN45545-2 railway standard
- Width only 40mm
- 2:1 wide input range
- -40~+70°C wide working temperature
- 150% peak load capability
- Current sharing up to 960W(3+1)
- DC output adjustable
- Cooling by free air convection
- Can be installed on DIN rail TS-35/7.5 or 15
- Protections: Short circuit / Overload / Over voltage / Over temperature / Input reverse polarity / Input under voltage protection
- 4KVdc I/O isolation(Reinforced isolation)
- DC OK relay contact
- Remote ON-OFF control
- 3 years warranty

## Description

DDR-240 series is a 240W DIN Rail type DC-DC converter with main features including DIN rail-type easy installation, ultra slim width (40mm), 2:1 wide input voltage, fanless design, -40~+70°C wide operating temperature, 4KVdc I/O isolation, 150% peak load, current sharing, DC OK, adjustable output voltage and full protective functions. This series of models has various input options: 16.8~33.6V / 33.6~67.2V / 67.2~154V and two output options: 24V / 48V and can be used for industrial & railway control, security control, communication system and other fields. Suitable applications include to DC buck/boost regulator, increasing system insulation level and voltage drop compensation along cable...etc.

## Model Encoding

**DDR - 240 B - 24**

- Output voltage(24/48Vdc)
- Input voltage (B:16.8~33.6Vdc, C:33.6~67.2Vdc, D:67.2~154Vdc)
- Rated wattage
- Series name

## Applications

- Bus, tram, metro or railway system
- Industrial control system
- Semi-conductor fabrication equipment
- Factory automation
- Electro-mechanical
- Wireless network
- Telecom or datacom system

## GTIN CODE

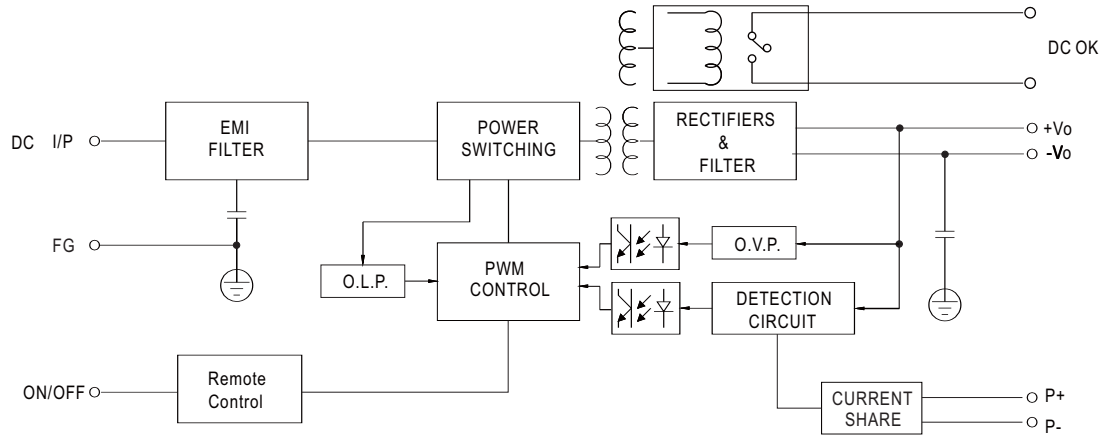
MW Search: <https://www.meanwell.com/serviceGTIN.aspx>

## SPECIFICATION

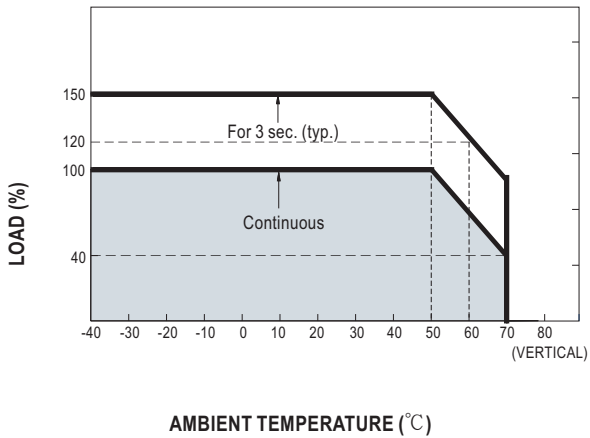
| MODEL                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | DDR-240B-24                                                                                                                                               | DDR-240B-48                                                                                              | DDR-240C-24                 | DDR-240C-48                                | DDR-240D-24                                                   | DDR-240D-48                                |          |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|-----------------------------|--------------------------------------------|---------------------------------------------------------------|--------------------------------------------|----------|
| OUTPUT                         | DC VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                           | 24V                                                                                                      | 48V                         | 24V                                        | 48V                                                           | 24V                                        | 48v      |
|                                | RATED CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                           | 10A                                                                                                      | 5A                          | 10A                                        | 5A                                                            | 10A                                        | 5A       |
|                                | CURRENT RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                           | 0 ~ 10A                                                                                                  | 0 ~ 5A                      | 0 ~ 10A                                    | 0 ~ 5A                                                        | 0 ~ 10A                                    | 0 ~ 5A   |
|                                | RATED POWER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                           | 240W                                                                                                     | 240W                        | 240W                                       | 240W                                                          | 240W                                       | 240W     |
|                                | PEAK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | CURRENT                                                                                                                                                   | 15A                                                                                                      | 7.5A                        | 15A                                        | 7.5A                                                          | 15A                                        | 7.5A     |
|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | POWER <small>Note.5</small>                                                                                                                               | 360W (3sec.)                                                                                             |                             |                                            |                                                               |                                            |          |
|                                | RIPPLE & NOISE (max.) <small>Note.2</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                           | 80mVp-p                                                                                                  | 100mVp-p                    | 80mVp-p                                    | 100mVp-p                                                      | 80mVp-p                                    | 100mVp-p |
|                                | VOLTAGE ADJ. RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                           | 24 ~ 28V                                                                                                 | 48 ~ 56V                    | 24 ~ 28V                                   | 48 ~ 56V                                                      | 24 ~ 28V                                   | 48~ 56V  |
|                                | VOLTAGE TOLERANCE <small>Note.3</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                           | ± 1.0%                                                                                                   | ± 1.0%                      | ± 1.0%                                     | ± 1.0%                                                        | ± 1.0%                                     | ± 1.0%   |
|                                | LINE REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                           | ± 0.5%                                                                                                   | ± 0.5%                      | ± 0.5%                                     | ± 0.5%                                                        | ± 0.5%                                     | ± 0.5%   |
|                                | LOAD REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                           | ± 1.0%                                                                                                   | ± 1.0%                      | ± 1.0%                                     | ± 1.0%                                                        | ± 1.0%                                     | ± 1.0%   |
| SETUP, RISE TIME               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 500ms, 60ms                                                                                                                                               |                                                                                                          |                             |                                            |                                                               |                                            |          |
| HOLD UP TIME (Typ.)            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Please refer to page 6 Hold up Time( Load de-rating curve )                                                                                               |                                                                                                          |                             |                                            |                                                               |                                            |          |
| INPUT                          | VOLTAGE RANGE <small>Note.4</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | CONTINUOUS                                                                                                                                                | 16.8 ~ 33.6Vdc                                                                                           |                             | 33.6 ~ 67.2Vdc                             |                                                               | 67.2 ~ 154Vdc                              |          |
|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 100ms                                                                                                                                                     | 14.4 ~ 16.8Vdc                                                                                           |                             | 28.8 ~33.6Vdc                              |                                                               | 66 ~ 67.2Vdc                               |          |
|                                | EFFICIENCY (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                           | 90%                                                                                                      | 90%                         | 91%                                        | 92%                                                           | 92%                                        | 92.5%    |
|                                | DC CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                           | 11.2A @24Vdc                                                                                             |                             | 5.6A @48Vdc                                |                                                               | 2.5A @110Vdc                               |          |
|                                | INRUSH CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                           | 30A                                                                                                      |                             |                                            |                                                               |                                            |          |
| INTERRUPTION OF VOLTAGE SUPPLY |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | EN50155:2021-Comply with S1 level                                                                                                                         |                                                                                                          |                             |                                            |                                                               |                                            |          |
| PROTECTION                     | OVERLOAD <small>Note.5</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Normally works within 150% rated output power for more than 3 seconds and then constant current protection 105~135% rated output power with auto-recovery |                                                                                                          |                             |                                            |                                                               |                                            |          |
|                                | OVER VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 28.8 ~ 35V                                                                                                                                                | 57.6 ~ 65.0V                                                                                             | 28.8 ~ 35V                  | 57.6 ~ 65V                                 | 28.8 ~ 35V                                                    | 57.6 ~ 65V                                 |          |
|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Protection type : Shut down o/p voltage, re-power on to recover                                                                                           |                                                                                                          |                             |                                            |                                                               |                                            |          |
|                                | OVER TEMPERATURE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                           | Shut down o/p voltage, re-power on to recover                                                            |                             |                                            |                                                               |                                            |          |
| FUNCTION                       | UNDER VOLTAGE LOCKOUT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                           | 24Vin (B - type) :Power ON≥16.8V , OFF≤16.5V                                                             |                             | 48Vin (C - type) :Power ON≥33.6V , OFF≤33V |                                                               | 110Vin (D - type):Power ON≥67.2V , OFF≤65V |          |
|                                | DC OK REALY CONTACT RATINGS (max.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                           | 30Vdc/1A resistive load                                                                                  |                             |                                            |                                                               |                                            |          |
|                                | CURRENT SHARING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                           | Up to 960W (3+1 units). Please refer to the Function Manual                                              |                             |                                            |                                                               |                                            |          |
| ENVIRONMENT                    | REMOTE ON-OFF CONTROL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                           | Please refer to the Function Manual                                                                      |                             |                                            |                                                               |                                            |          |
|                                | WORKING TEMP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                           | -40 ~ +70℃ (Refer to "Derating Curve")                                                                   |                             |                                            |                                                               |                                            |          |
|                                | WORKING HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                           | 5 ~ 95% RH non-condensing                                                                                |                             |                                            |                                                               |                                            |          |
|                                | STORAGE TEMP., HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                           | -40 ~ +85, 5 ~ 95% RH non-condensing                                                                     |                             |                                            |                                                               |                                            |          |
|                                | TEMP. COEFFICIENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                           | ±0.03%/℃ (0 ~ 55℃ )                                                                                      |                             |                                            |                                                               |                                            |          |
|                                | VIBRATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                           | Component:10 ~ 500Hz, 5G 10min./1cycle, 60min. each along X, Y, Z axes; Mounting: Compliance to IEC61373 |                             |                                            |                                                               |                                            |          |
|                                | OPERATING ALTITUDE <small>Note.7</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                           | 5000 meters                                                                                              |                             |                                            |                                                               |                                            |          |
| SAFETY & EMC<br>(Note 6)       | SAFETY STANDARDS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                           | IEC 62368-1, UL 62368-1, EAC TP TC 004, AS/NZS 62368.1 approved                                          |                             |                                            |                                                               |                                            |          |
|                                | WITHSTAND VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                           | I/P-O/P:4KVdc I/P-FG:2.5KVdc O/P-FG:0.71KVdc                                                             |                             |                                            |                                                               |                                            |          |
|                                | ISOLATION RESISTANCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                           | I/P-O/P, I/P-FG, O/P-FG:>100M Ohms / 500Vdc / 25℃/ 70% RH                                                |                             |                                            |                                                               |                                            |          |
|                                | EMC EMISSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Parameter                                                                                                                                                 |                                                                                                          | Standard                    |                                            | Test Level / Note                                             |                                            |          |
|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Conducted                                                                                                                                                 |                                                                                                          | BS EN/EN55032               |                                            | Class B                                                       |                                            |          |
|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Radiated                                                                                                                                                  |                                                                                                          | BS EN/EN55032               |                                            | Class B                                                       |                                            |          |
|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Voltage Flicker                                                                                                                                           |                                                                                                          | BS EN/EN61000-3-3           |                                            | -----                                                         |                                            |          |
|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Harmonic Current                                                                                                                                          |                                                                                                          | -----                       |                                            | -----                                                         |                                            |          |
|                                | EMC IMMUNITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | BS EN/EN55035 , BS EN/EN61000-6-2(BS EN/EN50082-2)                                                                                                        |                                                                                                          |                             |                                            |                                                               |                                            |          |
|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Parameter                                                                                                                                                 |                                                                                                          | Standard                    |                                            | Test Level / Note                                             |                                            |          |
|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ESD                                                                                                                                                       |                                                                                                          | BS EN/EN61000-4-2           |                                            | Level 3, 8KV air ; Level 3, 6KV contact; criteria A           |                                            |          |
|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Radiated                                                                                                                                                  |                                                                                                          | BS EN/EN61000-4-3           |                                            | Level 3, 10V/m ; criteria A                                   |                                            |          |
|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | EFT / Burst                                                                                                                                               |                                                                                                          | BS EN/EN61000-4-4           |                                            | Level 3, 2KV ; criteria A                                     |                                            |          |
|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Surge                                                                                                                                                     |                                                                                                          | BS EN/EN61000-4-5           |                                            | Level 3, 1KV/Line-Line ;Level 3, 2KV/Line-Line-FG ;criteria A |                                            |          |
|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Conducted                                                                                                                                                 |                                                                                                          | BS EN/EN61000-4-6           |                                            | Level 3, 10V ; criteria A                                     |                                            |          |
| Magnetic Field                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | BS EN/EN61000-4-8                                                                                                                                         |                                                                                                          | Level 4, 30A/m ; criteria A |                                            |                                                               |                                            |          |
| RAILWAY STANDARD               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compliance to BS EN/EN45545-2 for fire protection ; Meet BS EN/EN50155 / IEC60571 including IEC61373 for shock & vibration, BS EN/EN50121-3-2 for EMC     |                                                                                                          |                             |                                            |                                                               |                                            |          |
| OTHERS                         | MTBF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                           | 1415.6K hrs min. Telcordia SR-332 (Bellcore) ; 189.9K hrs min. MIL-HDBK-217F (25℃)                       |                             |                                            |                                                               |                                            |          |
|                                | DIMENSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                           | 40*125.2*113.5mm (W*H*D)                                                                                 |                             |                                            |                                                               |                                            |          |
|                                | PACKING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                           | 0.76Kg;20psc/16.2Kg/1.0CUFT                                                                              |                             |                                            |                                                               |                                            |          |
| NOTE                           | 1. All parameters NOT specially mentioned are measured at normal input (B:24Vdc , C:48Vdc , D:110Vdc ) , 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 μ F & 47 μ F parallel capacitor.<br>3. Tolerance : includes set up tolerance, line regulation and load regulation.<br>4. Derating may be needed under low input voltage. Please check the derating curve for more details.<br>5. 3 seconds max., please refer to peak loading curves.<br>6. 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."<br>(as available on <a href="https://www.meanwell.com/Upload/PDF/EMI_statement_en.pdf">https://www.meanwell.com/Upload/PDF/EMI_statement_en.pdf</a> )<br>7. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than2000m(6500ft).<br>※ Product Liability Disclaimer : For detailed information, please refer to <a href="https://www.meanwell.com/serviceDisclaimer.aspx">https://www.meanwell.com/serviceDisclaimer.aspx</a> |                                                                                                                                                           |                                                                                                          |                             |                                            |                                                               |                                            |          |

fosc : 80KHz

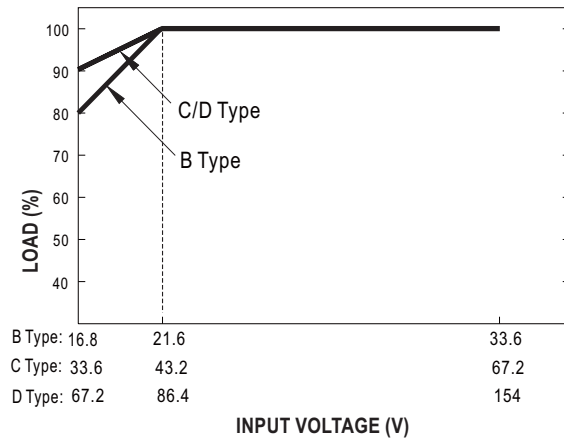
## Block Diagram



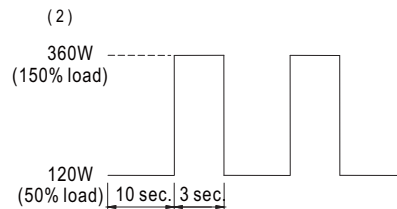
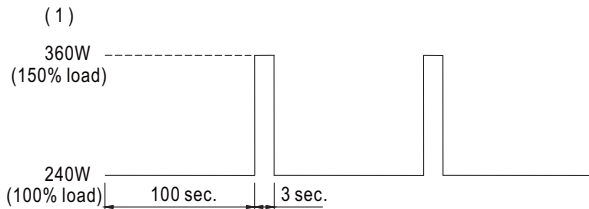
## Derating Curve



## Output derating VS input voltage



## Peak Loading



## ■ 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.   |

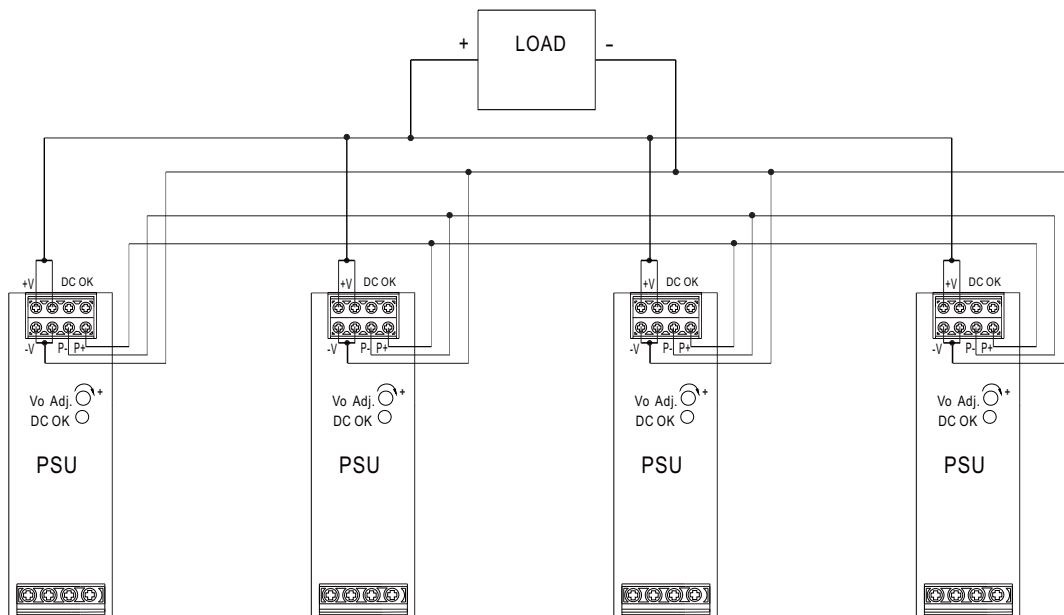
## ■ Function Manual

### 1. Current sharing

- (1) Parallel operation is available by connecting the units shown as below (P+, P- are connected mutually in parallel) :
- (2) The voltage difference among each output should be minimized that less than 0.2V is required.
- (3) The total output current must not exceed the value determined by the following equation (Output current at parallel operation)  

$$= (\text{The rated current per unit}) \times (\text{Number of unit}) \times 0.9.$$
- (4) In parallel operation 4 units is the maximum, please consult the manufacture for other applications.
- (5) When in parallel operation, the minimum output load should be greater than 3% of total output load.  

$$(\text{Min. load} > 3\% \text{ rated current per unit} \times \text{number of unit})$$



### 2. Remote ON-OFF Control

※ The power supply can be turned ON-OFF by using the "Remote ON-OFF" function.

|                               |                  |
|-------------------------------|------------------|
| Remote ON-OFF<br>(TB1 PIN2,4) | Output Status    |
| Open or 4 ~ 10VDC             | power supply ON  |
| Short or 0 ~ 0.8VDC           | power supply OFF |

## Input Fuse

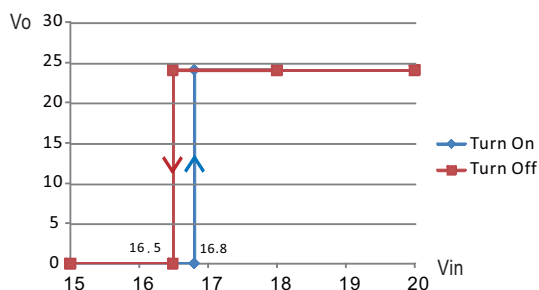
There is one fuse connected in series to the positive input line, which is used to protect against abnormal surge. Fuse specifications of each model are shown as below.

| Type | Fuse Type | Reference and Rating       |
|------|-----------|----------------------------|
| B    | Time-Lag  | Conquer MST, 10A, 250V *2  |
| C    | Time-Lag  | Conquer MST, 6.3A, 250V *2 |
| D    | Time-Lag  | Conquer MST, 6.3A, 250V *1 |

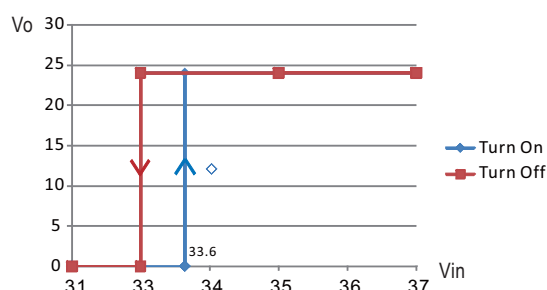
## Input Under-Voltage Protection

If input voltage drops below  $V_{imin}$ , the internal control IC shuts down and there is no output voltage. It recovers automatically when input voltage reaches above  $V_{imin}$ , please refer to the curve below.

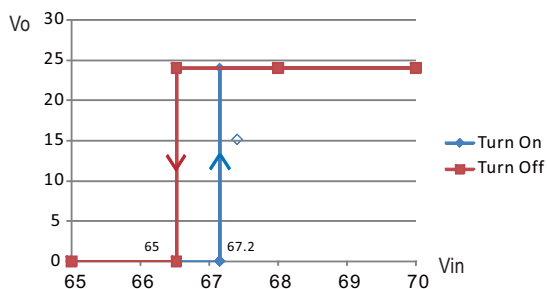
DDR-240B-24



DDR-240C-24



DDR-240D-24



## Input Reverse Polarity Protection

There is a MOSFET connected in series to the negative input line. If the input polarity is connected reversely, the MOSFET opens and there will be no output to protect the unit.

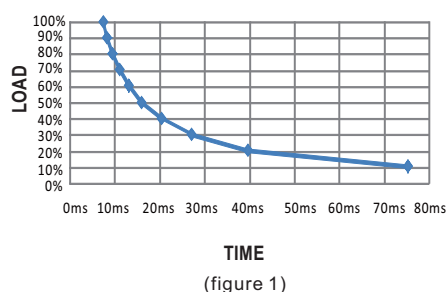
## Inrush Current

Inrush current is suppressed by a resistor during the initial start-up, and then the resistor is bypassed by a MOSFET to reduce power consumption after accomplishing the start-up.

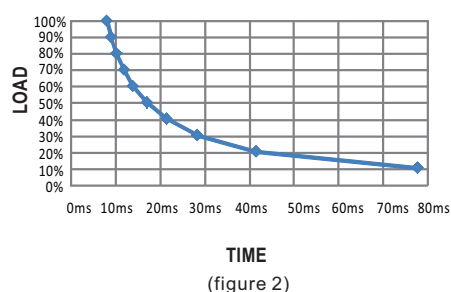
## Hold-up Time

| Model \ Load    | 100% load | 70% load  | other load |
|-----------------|-----------|-----------|------------|
| B type (24Vin)  | 6ms min.  | 10ms min. | figure 1,2 |
| C type (48Vin)  | 8ms min.  | 11ms min. | figure 3,4 |
| D type (110Vin) | 11ms min. | 15ms min. | figure 5,6 |

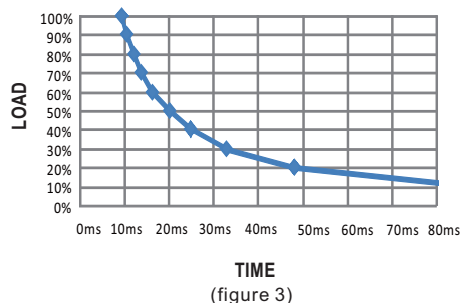
DDR-240B-24



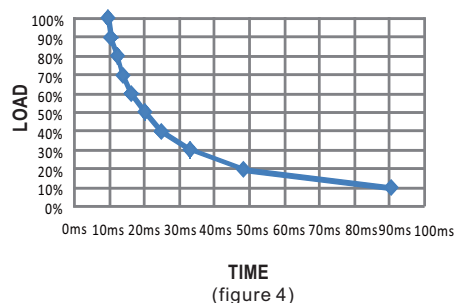
DDR-240B-48



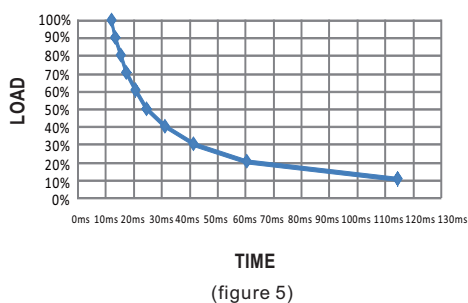
DDR-240C-24



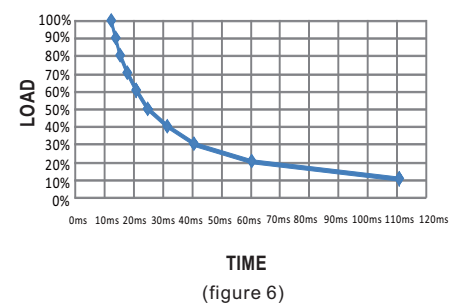
DDR-240C-48



DDR-240D-24



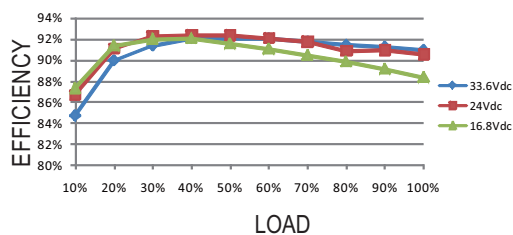
DDR-240D-48



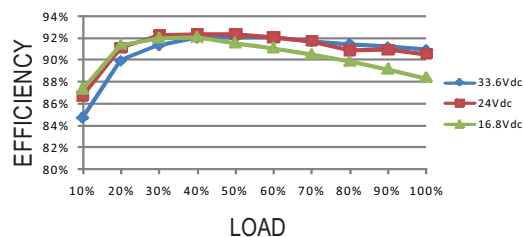
## ■ Efficiency vs Load & Vin Curve

The efficiency vs load & Vin curves of each model are shown as below.

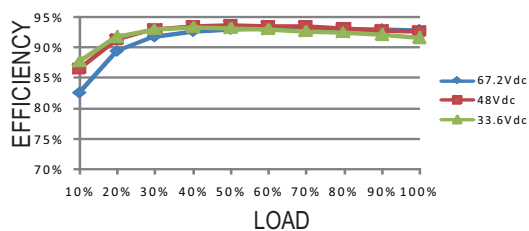
### DDR-240B-24



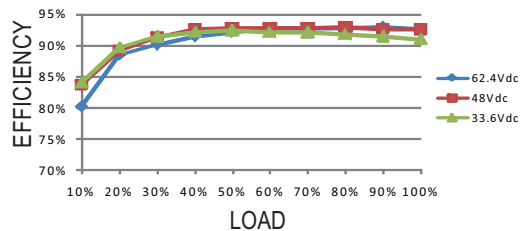
### DDR-240B-48



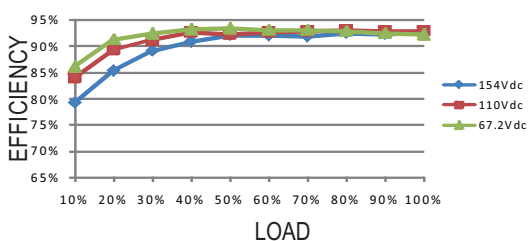
### DDR-240C-24



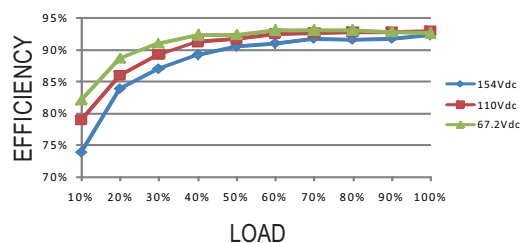
### DDR-240C-48



### DDR-240D-24



### DDR-240D-48



## ■ Immunity to Environmental Conditions

| Test method                  | Standard                 | Test conditions                                                     | Status |
|------------------------------|--------------------------|---------------------------------------------------------------------|--------|
| Dry Heat Test                | EN 50155 section 13.4.5  | Temperature: 70°C / 85°C<br>Duration: 6 hrs / 10min                 | PASS   |
| Damp Heat Test, Cyclic       | EN 50155 section 13.4.8  | Temperature: 25°C~55°C<br>Humidity: 90%~100% RH<br>Duration: 48 hrs | PASS   |
| Vibration Test               | EN 50155 section 13.4.10 | Temperature: 19°C<br>Humidity: 65%<br>Duration: 10 mins             | PASS   |
| Shock Test                   | EN 50155 section 13.4.10 | Temperature: 21 ± 3°C<br>Humidity: 65 ± 5%<br>Duration: 30ms*18     | PASS   |
| Low Temperature Storage Test | EN 50155 section 13.4.6  | Temperature: -40°C<br>Dwell Time: 16 hrs                            | PASS   |
| Salt Mist Test               | EN 50155 section 13.4.13 | Temperature: 35°C ± 2°C<br>Duration: 96 hrs                         | PASS   |

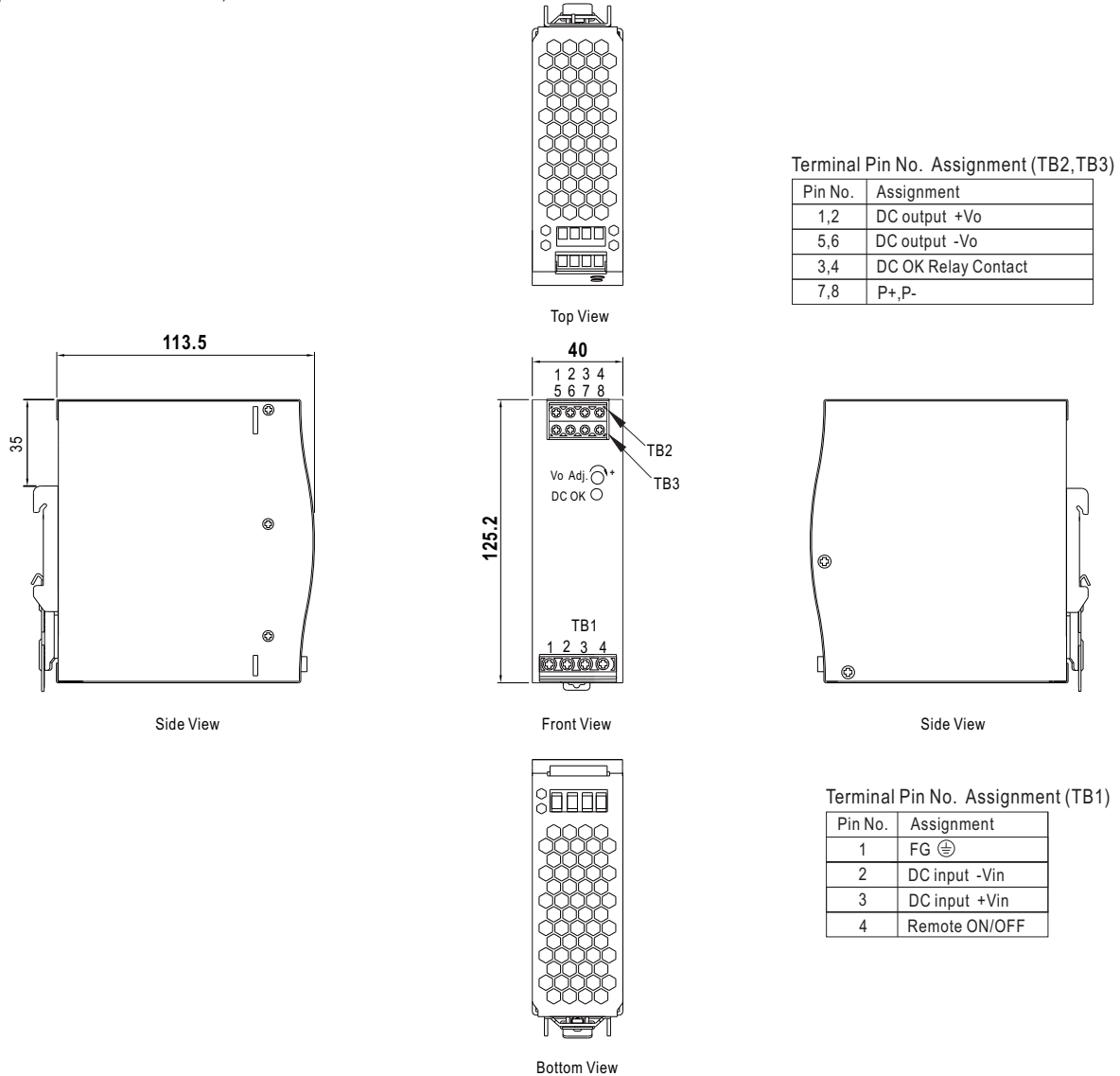
## ■ EN45545-2 Fire Test Conditions

| Test Items       |     |                     |                                        | Hazard Level |      |      |
|------------------|-----|---------------------|----------------------------------------|--------------|------|------|
| Items            |     | Standard            |                                        | HL1          | HL2  | HL3  |
| PCB              | R22 | Oxygen index test   | EN 45545-2:2020<br>EN ISO 4589-2:2017  | PASS         | PASS | PASS |
|                  |     | Smoke density test  | EN 45545-2:2020<br>EN ISO 5659-2:2017  | PASS         | PASS | PASS |
|                  |     | Smoke toxicity test | EN 45545-2:2020<br>EN 17084:2018       | PASS         | PASS | PASS |
|                  | R24 | Oxygen index test   | EN 45545-2:2020<br>EN ISO 4589-2:2017  | PASS         | PASS | PASS |
|                  | R25 | Glow-wire test      | EN 45545-2:2020<br>EN 60695-2-11:2014  | PASS         | PASS | PASS |
| Potting          | R24 | Oxygen index test   | EN 45545-2:2020<br>EN ISO 4589-2:2017  | PASS         | PASS | PASS |
| Terminals; block | R26 | Vertical flame test | EN 45545-2:2020<br>EN 60695-11-10:2013 | PASS         | PASS | PASS |

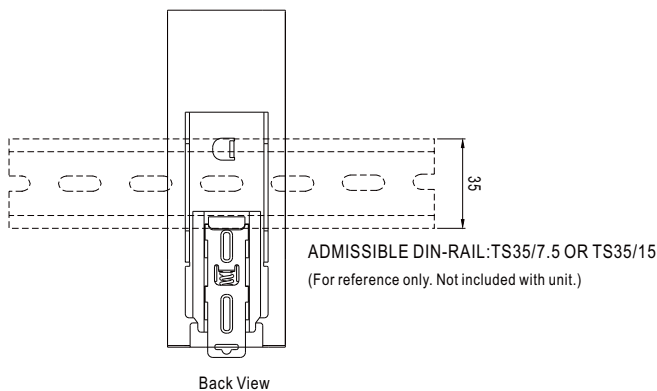
## Mechanical Specification

(Unit: mm , tolerance  $\pm 1$  mm)

Case No.265A-D



## Installation Instruction



This series fits DIN rail TS35/7.5 or TS35/15.  
For installation details, please refer to the Instruction manual.

## Installation Manual

Please refer to : <http://www.meanwell.com/manual.html>