
# MEAN WELL DRDN40 DIN Rail Type Redundancy Module Owner's Manual



Contents



## MEAN WELL DRDN40 DIN Rail Type Redundancy Module


## Features

- Support 1+1 and N+1 redundancy system
- 2 channels input and 1 output
- Suitable for redundancy operation of 12V/24V/48V system
- Output current up to 40A
- Cooling by free air convection
- -40~+80°C ultra-wide operating temperature (>+60°C derating)
- 55mm slim width
- Built-in 2 channels DC OK signal and alarm relay contact
- 3 years warranty

### Applications

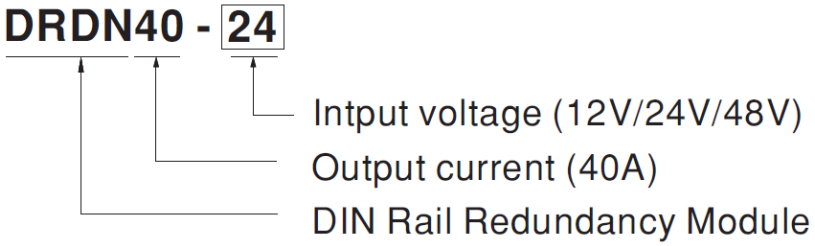
- Industrial control system
- Semiconductor fabrication equipment
- Factory automation
- Electro-mechanical apparatus

**GTIN CODE**
MW Search: **https://www.meanwell.com/serviceGTIN.aspx**

## Description

The DRDN40 series is a 40A redundancy module that can be used with a power supply to improve overall system operation reliability. Product key features include:12V/24V/48V input voltage for selection, support N+1 and 1+1 redundancy systems, built-in two rails DC input contacts and single output. The MOSFET technology implemented can reduce heat loss and reduce the voltage difference between the input and output voltages, built-in 2 channels DC OK relay contacts for monitoring output status, ultra-wide operating temperature of -40 to +80°C and narrow width (55mm).

### Model Encoding



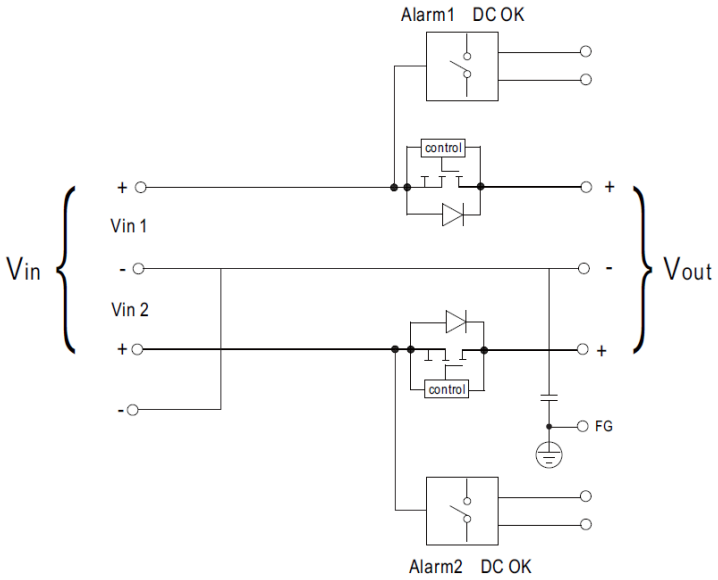

**SPECIFICATION**

| | | | | |
|---|---|---|---|---|
| **MODEL** | | **DRDN40-** | | |
| | | =12V, 24V, 48V | | |
| **INPUT** | **NUMBER OF INPUT** | 2 Channels | | |
| | **DC NORMAL VOLTAGE** | 12Vdc | 24Vdc | 48Vdc |
| | **DC VOLTAGE RANGE** | 9~14Vdc | 19~29Vdc | 36~60Vdc |
| | **RATED CURRENT** | 0~40A per input Continuous | | |
| | **VOLTAGE DROP ( Vin-Vout) (max.)** | 0.3V | | |
| | **PEAK CURRENT** | 0~60A per input 5Sec. | | |
| | **EFFICIENCY (Typ. )** | 98% | | |
| | **INPUT REVERSE CURRENT (max.)** | 1mA | | |
| | **INPUT REVERSE VOLTAGE (max.)** | 40Vdc | 40Vdc | 65Vdc |
| **OUTPUT** | **RATED CURRENT** | 0~40A, Continuous | | |
| | **PEAK CURRENT ( max.)** | 60A, 5Sec. | | |
| | **CAPACITANCE(Typ.)** | 320uF | | |
| | **STANDBY POWER LOSSES(Typ.)** | 1.5W | | |
| **PROTEC** | **OVERLOAD** | <60A,5Sec. No damage | | |

| | | | | |
|---|---|---|---|---|
| **TION** | **SHORT CIRCUIT** | <60A,5Sec. No damage | | |
| **FUNCTION** | **REDUNDANCY** | For 1+1 redundancy ,and support N+1 redundancy | | |
| | **BOTH INPUTS VOLTAGE ALARM** | <8.5V or >14.7V (±5%) | <18V or >31V (±5%) | <34.2V or >63V (±5%) |
| | **RELAY** | 30Vdc/1A resistive load | | |
| | **LED STATUS DISPLAY** | Green LED OK | | |
| **ENVIRONMENT** | **COOLING** | Free air convection | | |
| | **WORKING TEMP.**<br><br>**Note.2** | -40 ~ +80℃ (Refer to “Derating Curve”) | | |
| | **WORKING HUMIDITY** | 5 ~ 95% RH non-condensing | | |
| | **STORAGE TEMP.** | -40 ~ +85℃ | | |
| | **TEMP. COEFFICIENT** | ±0.03%/℃ (0 ~ 60℃) | | |
| | **VIBRATION** | Component:10 ~ 500Hz, 5G 10min./1cycle, 60min. each along X, Y, Z axes; Mounting: Compliance to IEC61373 | | |
| | **OPERATING ALTITUDE**<br><br>**Note.3** | 5000 meters/OVC II | | |
| | **SAFETY STANDARDS** | IEC62368-1, UL62368-1, EAC TP TC 004 approved | | |
| | **WITHSTAND VOLTAGE** | IP/OP – Chassis : 0.5KVac ; IP/OP- Relay : 0.5KVac ; Relay – Chassis : 0.5KVac | | |
| | **ISOLATION RESISTANCE** | IP/OP – Chassis, IP/OP- Relay, Relay – Chassis:>100M Ohms / 500Vdc / 25℃/ 70% RH | | |
| | | **Parameter** | **Standard** | **Test Level / Note** |
| | | Conducted | BS EN/EN55032(CISPR32) | Class B |

| | | | | |
|---|---|---|---|---|
| SAFETY & EMC (Note.4) | **EMC EMISSION** | Radiated | BS EN/EN55032(CISPR32) | Class B |
| | | Voltage Flicker | ── | ── |
| | | 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 4, 15KV air ; Level 3, 8KV 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-Chassis ;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 |
| OTHERS | **MTBF** | 1672.9K hrs min. Telcordia SR-332 (Bellcore) ; 499.5K hrs min. MIL-HDBK-217F (25℃) | | |
| | **DIMENSION** | 55*125.2*100mm (W*H*D) | | |
| | **PACKING** | 0.5Kg;20psc/11Kg/1.49CUFT | | |
| NOTE | 1. All parameters NOT specially mentioned are measured at normal input(12V/24V/48V) , rated load and 25℃ of ambient temperature.<br><br>2. Derating may be needed over high ambient temperature. Please check the derating curve for more details.<br><br>3. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).<br><br>4. 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 “EM testing of component power supplies.”<br><br>(as available on **https://www.meanwell.com//Upload/**PDF/EMI**_statement_en.pdf** )<br><br>※ Product Liability Disclaimer For detailed information, please refer to **https://www.meanwell.com/serviceDisclaimer**.aspx | | | |

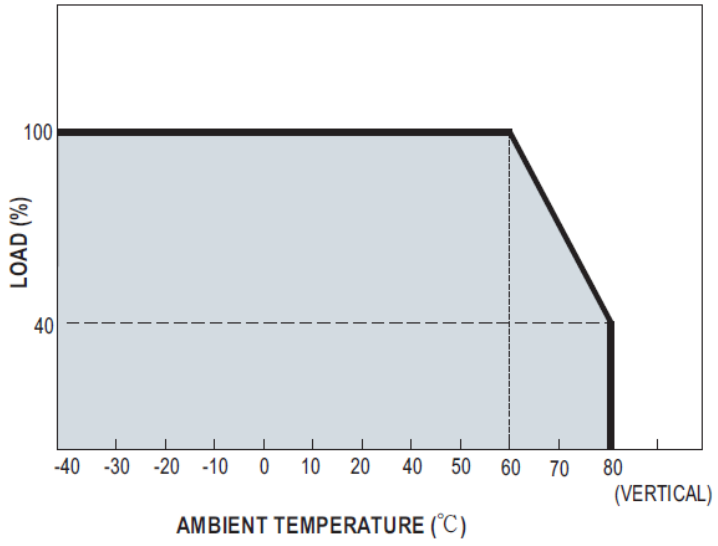
**Block Diagram**



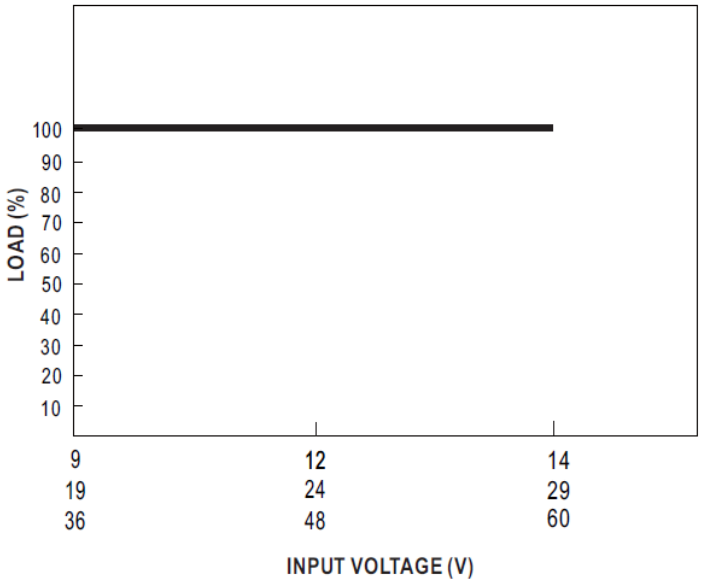

**DC OK Relay Contact**

| | |
|---|---|
| Contact Ratings (max.) | 30V/1A resistive load |
| Contact Close(DC OK) | PSU turns on |
| Contact Open(DC Fail) | PSU turns off / over or under input voltage |

**Derating Curve**



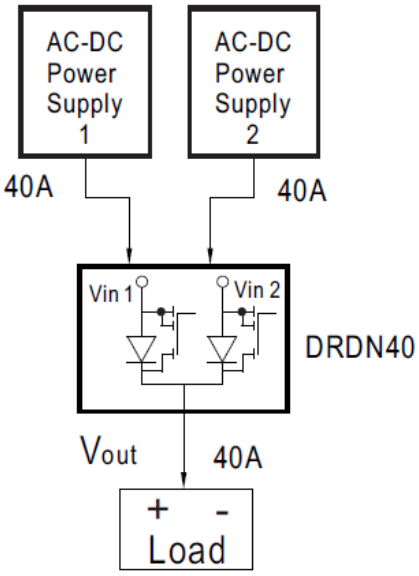

**Output Derating VS Input Voltage**




## Typical Application Notes

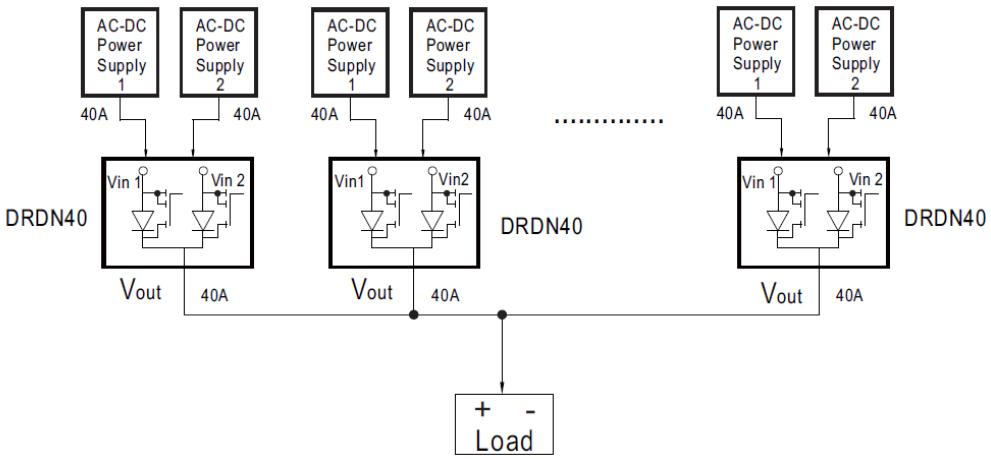
1. **1+1 Redundancy:**

   Using 1 more PSU as the redundant unit




2. **1+N Redundancy:**

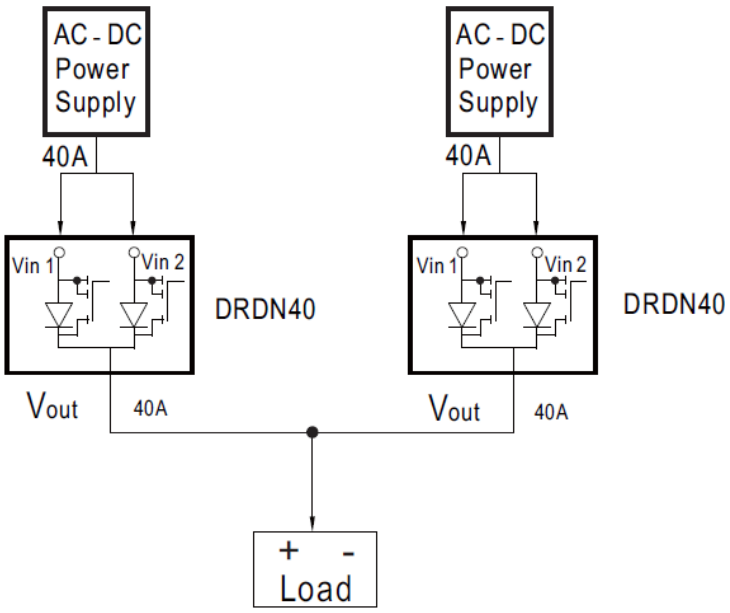
   Using more PSUs as the redundant units to increase the reliability



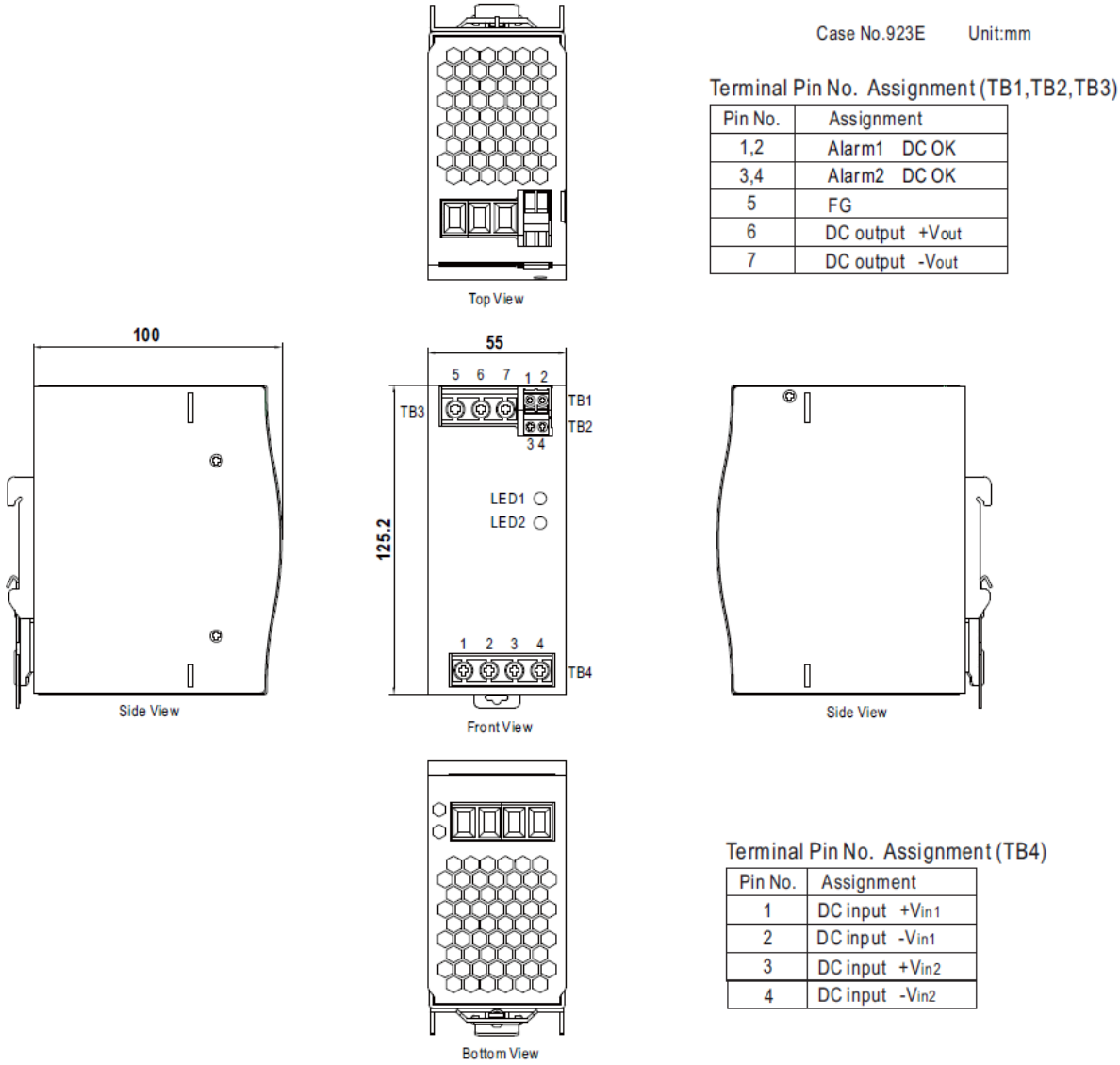

3. **Single Use:**

   Connecting only one PSU to one DRDN40 to reduce the stress of the and hence increase the reliability

MOSFET




## Mechanical Specification




Case No.923E Unit:mm

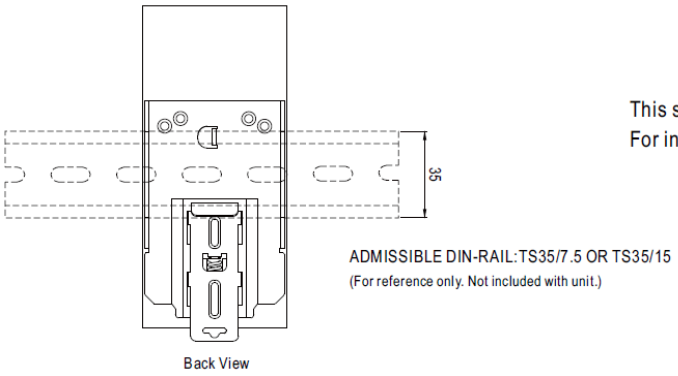
Terminal Pin No. Assignment (TB1,TB2,TB3)

| Pin No. | Assignment |
|---|---|
| 1,2 | Alarm1 DC OK |
| 3,4 | Alarm2 DC OK |
| 5 | FG |
| 6 | DC output +Vout |
| 7 | DC output -Vout |

Terminal Pin No. Assignment (TB4)

| Pin No. | Assignment |
|---|---|
| 1 | DC input +Vin1 |
| 2 | DC input -Vin1 |
| 3 | DC input +Vin2 |
| 4 | DC input -Vin2 |

## Installation Instruction




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

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**Installation Manual**
Please refer to: http://www.meanwell.com/manual.html

## Documents / Resources

| | |
|---|---|
|  | MEAN WELL DRDN40 DIN Rail Type Redundancy Module [pdf] Owner's Manual<br>DRDN40 DIN Rail Type Redundancy Module, DRDN40, DIN Rail Type Redundancy Module, Type Redundancy Module, Redundancy Module |

## References

- User Manual