



100W Single Output with Battery Charger (UPS Function)

**DRC-100** series



## ■ Features

- Universal AC input / Full range
- Protections: Short circuit / Overload / Over voltage
- Battery low protection / Battery reverse polarity protection by fuse
- Can be installed on DIN rail TS-35/7.5 or 15
- Alarm signal for AC OK and Battery low (via relay)
- Cooling by free air convection
- LED indicator for power on
- 100% full load burn-in test
- 3 years warranty

## ■ Applications

- Security system
- Emergency lighting system
- Alarm system
- DC UPS system
- Central monitoring system
- Access systems

## ■ GTIN CODE

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

## ■ Description

DRC-100 is a 96W AC/DC DIN rail type security power supply series. In addition to the primary output, there is a charger output with a smaller rated current, enabling the backup power supply application the security access systems require. DRC-100 accepts the universal input between 90VAC and 264VAC, and supplies 13.8VDC and 27.6VDC at output, respectively. With the efficiency up to 89%, it can operate with air convection cooling under -30°C through 70°C. In addition to the key protection features such as overload protection, over voltage protection, battery low cut off, and battery reverse polarity protection (by fuse), the alarm signal for AC OK and battery low signaling is provided, via relay contact output, to facilitate the system design.

## ■ Model Encoding

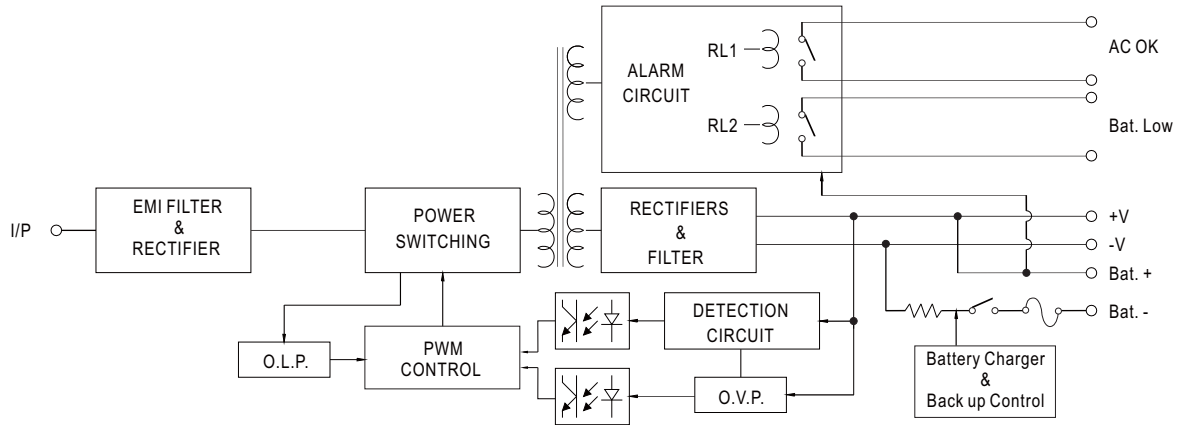
**DRC - 100 A**

Output voltage  
Output wattage  
Series name

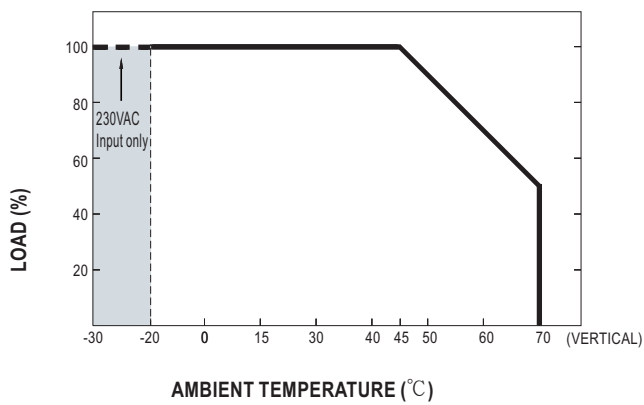
**SPECIFICATION**

| MODEL                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | DRC-100A                                                                                                                                                                      |       | DRC-100B                    |       |  |  |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------------------------|-------|--|--|
| OUTPUT                | OUTPUT NUMBER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | CH1                                                                                                                                                                           | CH2   | CH1                         | CH2   |  |  |
|                       | DC VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 13.8V                                                                                                                                                                         | 13.8V | 27.6V                       | 27.6V |  |  |
|                       | RATED CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 4.5A                                                                                                                                                                          | 2.5A  | 2.25A                       | 1.25A |  |  |
|                       | CURRENT RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 0 ~ 7A                                                                                                                                                                        | ----- | 0 ~ 3.5A                    | ----- |  |  |
|                       | RATED POWER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 96.6W                                                                                                                                                                         |       | 96.6W                       |       |  |  |
|                       | RIPPLE & NOISE (max.) Note.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 120mVp-p                                                                                                                                                                      | ----- | 240mVp-p                    | ----- |  |  |
|                       | VOLTAGE ADJ. RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | CH1:12 ~ 15V                                                                                                                                                                  |       | CH1:24 ~ 30V                |       |  |  |
|                       | VOLTAGE TOLERANCE Note.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ±1.0%                                                                                                                                                                         | ----- | ±1.0%                       | ----- |  |  |
|                       | LINE REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ±0.5%                                                                                                                                                                         | ----- | ±0.5%                       | ----- |  |  |
|                       | LOAD REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ±0.5%                                                                                                                                                                         | ----- | ±0.5%                       | ----- |  |  |
|                       | SETUP, RISE TIME Note.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 2400ms, 50ms/230VAC      2400ms, 50ms/115VAC at full load                                                                                                                     |       |                             |       |  |  |
|                       | HOLD UP TIME (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 50ms/230VAC      10ms/115VAC at full load                                                                                                                                     |       |                             |       |  |  |
| INPUT                 | VOLTAGE RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 90 ~ 264VAC      127 ~ 370VDC      [DC input operation possible by connecting AC/L(+), AC/N(-)]                                                                               |       |                             |       |  |  |
|                       | FREQUENCY RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 47 ~ 63Hz                                                                                                                                                                     |       |                             |       |  |  |
|                       | EFFICIENCY (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 87%                                                                                                                                                                           |       | 89%                         |       |  |  |
|                       | AC CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1.8A/115VAC      1.1A/230VAC                                                                                                                                                  |       |                             |       |  |  |
|                       | INRUSH CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | COLD START 30A/115VAC      60A/230VAC                                                                                                                                         |       |                             |       |  |  |
| PROTECTION            | OVERLOAD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 105 ~ 150% rated output power<br>Protection type : Hiccup mode, recovers automatically after fault condition is removed                                                       |       |                             |       |  |  |
|                       | OVER VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | CH1:14.49 ~ 18.63V                                                                                                                                                            |       | CH1:28.98 ~ 37.26V          |       |  |  |
|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Protection type : Shut down o/p voltage, re-power on to recover                                                                                                               |       |                             |       |  |  |
|                       | BATTERY CUT OFF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 10 ± 0.5V                                                                                                                                                                     |       | 20 ± 1V                     |       |  |  |
| FUNCTION              | AC OK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Relay contact output, ON : AC OK ; OFF : AC Fail ; max. rating : 30V/1A                                                                                                       |       |                             |       |  |  |
|                       | BATTERY LOW                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Relay contact output, OFF : Battery OK ; ON : Battery Low ; max. rating : 30V/1A                                                                                              |       |                             |       |  |  |
|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Battery low voltage : < 11V                                                                                                                                                   |       | Battery low voltage : < 22V |       |  |  |
| ENVIRONMENT           | WORKING TEMP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | -30 ~ +70°C (Refer to "Derating Curve")                                                                                                                                       |       |                             |       |  |  |
|                       | WORKING HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 20 ~ 90% RH non-condensing                                                                                                                                                    |       |                             |       |  |  |
|                       | STORAGE TEMP., HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -40 ~ +85°C, 10 ~ 95% RH                                                                                                                                                      |       |                             |       |  |  |
|                       | TEMP. COEFFICIENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ±0.03%/°C (0 ~ 50°C) on CH1 output                                                                                                                                            |       |                             |       |  |  |
|                       | VIBRATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes                                                                                                                  |       |                             |       |  |  |
| SAFETY & EMC (Note 5) | SAFETY STANDARDS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | UL62368-1, TUV BS EN/EN62368-1, EAC TP TC 004, AS/NZS 60950.1 approved                                                                                                        |       |                             |       |  |  |
|                       | WITHSTAND VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | I/P-O/P:3KVAC    I/P-FG:2KVAC    O/P-FG:0.5KVAC                                                                                                                               |       |                             |       |  |  |
|                       | ISOLATION RESISTANCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C / 70% RH                                                                                                                    |       |                             |       |  |  |
|                       | EMC EMISSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Compliance to BS EN/EN55032 (CISPR32) Class B, BS EN/EN61000-3-2,-3, EAC TP TC 020                                                                                            |       |                             |       |  |  |
|                       | EMC IMMUNITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11,BS EN/EN55035,BS EN/EN61204-3, light industry level, EAC TP TC 020 ; meet BS EN/EN54-4 for fire detection and fire alarm systems |       |                             |       |  |  |
| OTHERS                | MTBF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1820.4K hrs min.    Telcordia SR-332 (Bellcore) ; 410.1K hrs min.    MIL-HDBK-217F (25°C)                                                                                     |       |                             |       |  |  |
|                       | DIMENSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 55*90*100mm (W*H*D)                                                                                                                                                           |       |                             |       |  |  |
|                       | PACKING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 0.37Kg; 30pcs/12.1Kg/0.82CUFT                                                                                                                                                 |       |                             |       |  |  |
| NOTE                  | 1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C 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 $\mu$ F & 47 $\mu$ F parallel capacitor.<br>3. Tolerance : includes set up tolerance, line regulation and load regulation.<br>4. Length of set up time is measured at cold first start. Turning ON/OFF the power supply may lead to increase of the set up time.<br>5. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (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>6. Installation clearances : 40mm on top, 20mm on the bottom, 5mm on the left and right side are recommended when loaded permanently with full power. In case the adjacent device is a heat source, 15mm clearance is recommended.<br>7. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(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> |                                                                                                                                                                               |       |                             |       |  |  |

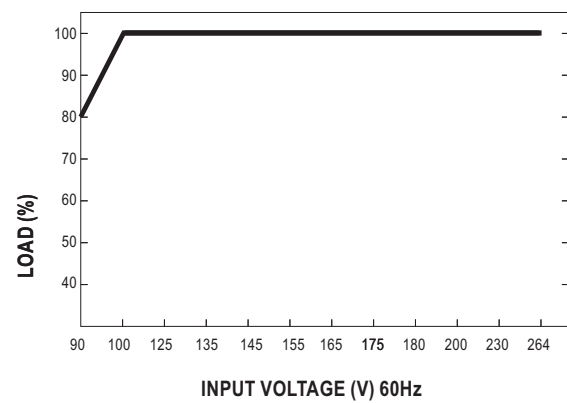
## ■ Block Diagram



## ■ Derating Curve



## ■ Static Characteristics



## Suggested Application

### 1.Backup connection for AC interruption

(1) Please refer to Fig 1.1 for suggested connection.

The power supply charges the battery and provides energy to the load at the same time when AC mains is OK.

The battery starts to supply power to the load when AC mains fails.

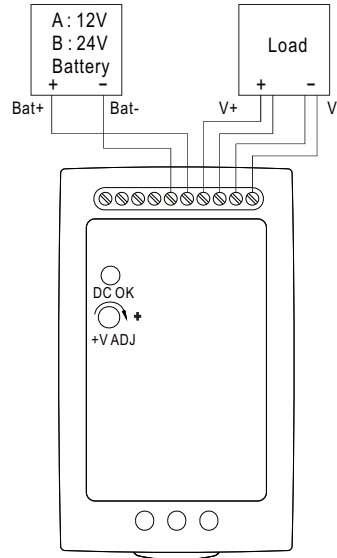


Fig 1.1 Suggested system connection

### 2.Alarm signal for AC OK and battery low

(1) Alarm signal is sent out through "AC OK " & " Battery Low " pins via relay contact.

(2) An external voltage source is required for this function. The maximum applied voltage is 30V and the maximum sink current is 1A. Please refer to Fig 2.2.

(3) Table 2.1 explains the alarm function built in the power supply

(4) AC OK signal (RL1, referring to Block Diagram) will go into hiccup mode when the overload protection is activated.

| Function    | Description                                                             | Output of alarm                                  |
|-------------|-------------------------------------------------------------------------|--------------------------------------------------|
| AC OK       | The signal is "Low" when the power supply turns ON.                     | Low or short                                     |
|             | The signal turns to be "High" when the power supply turns OFF.          | High or open (External applied voltage 30V max.) |
| Battery Low | The signal is "Low" when the voltage of battery is under A:11V, B:22V.  | Low or short                                     |
|             | The signal is "High" when the voltage of battery is above A:11V, B:22V. | High or open (External applied voltage 30V max.) |

Table 2.1 Explanation of alarm signal

#### AC OK (Battery low)

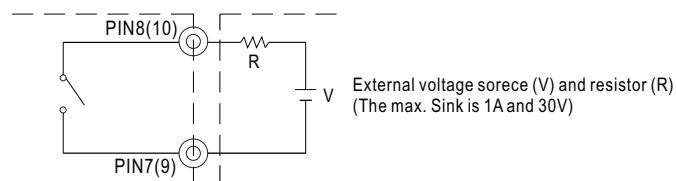
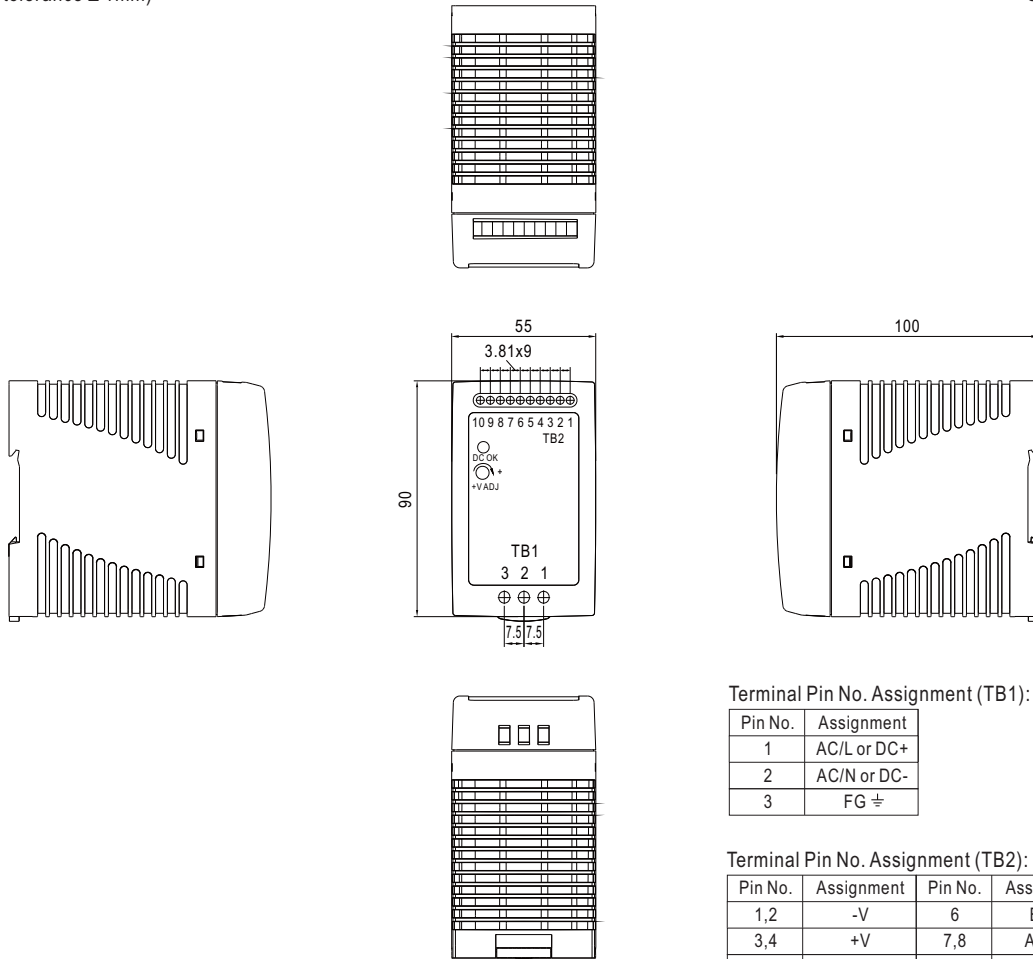


Fig 2.2 Internal circuit of AC OK (Battery Low), via relay contact

## Mechanical Specification

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

Case No.973A



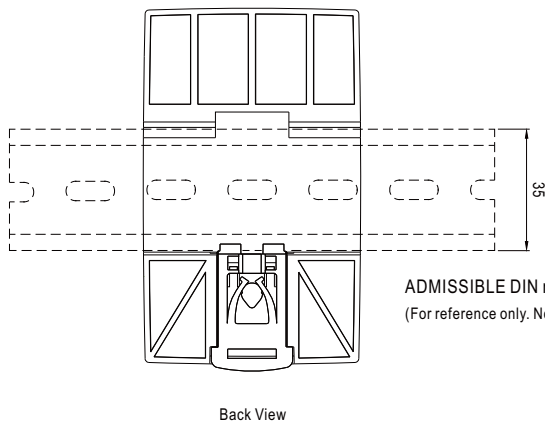
Terminal Pin No. Assignment (TB1):

| Pin No. | Assignment  |
|---------|-------------|
| 1       | AC/L or DC+ |
| 2       | AC/N or DC- |
| 3       | FG $\perp$  |

Terminal Pin No. Assignment (TB2):

| Pin No. | Assignment | Pin No. | Assignment |
|---------|------------|---------|------------|
| 1,2     | -V         | 6       | Bat. -     |
| 3,4     | +V         | 7,8     | AC OK      |
| 5       | Bat. +     | 9,10    | Bat. Low   |

## Installation Instruction



Back View

This series fits DIN rail TS35/7.5 or TS35/15.

For installation details, please refer to the Instruction manual.

ADMISSIBLE DIN rail: TS35/7.5 OR TS35/15  
(For reference only. Not included with unit.)

## Installation Manual

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