# 75W AC/DC High-End Ultra Slim Industrial DIN Rail Power XDR-75 series


(XDR-75-xx)


(XDR-75-xxLA)


(XDR-75-xxPI)

LISTED Class 1, Div. 2 (Applying) | LISTED UL61010 | BS EN/EN62368-1 BS EN/EN61558-1 BS EN/EN61010 | IEC62368-1 IEC61558-1 IEC61010 | (Note.5)

IS 13252 (By request Note.6) | KC62368-1 (By request) | CNS15598-1 | GB4943.1 | TPTC004

Automate | Industrial | Security | Network | Telecom

## Features

- 85~305Vac input (277Vac available)
- Global certificates in multi-fields(ITE 62368-1,Industrial 61558-1/-2-16,61010) & Marine DNV,SEMI47,CID2 HazLoc approved
- 30mm ultra slim width
- High efficiency up to 91% and no load power dissipation 0.7W~1W by R.C.
- 200% peak power capability
- 600% transient peak current capability
- Built-in constant current limiting circuit
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Fanless design, cooling by free air convection
- Over voltage category III (OVC III)
- -40~+85°C wide range operation temperature(>+60°C derating)
- Operating altitude up to 5000 meters
- Built-in remote ON/OFF control and DC OK relay contact
- Ultra low inrush current <6~15A
- Tool free terminal block (LA Type)
- Conformal coating
- Can be installed on DIN rail TS-35/75 or15
- 5 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 XDR-75 series is a 75W AC/DC high-end ultra slim industrial DIN rail power. Key features of this series include a narrow 30mm casing, optimizing system installation space, and an ultra-wide input range of 85~305Vac suitable for global use. It boasts a maximum efficiency of 91% and a low standby power consumption 0.7W~1W for energy savings and carbon reduction. It provides constant current with up to 200% peak power, and can handle instantaneous peak current of 600%. It has a fanless design, ultra-wide operating temperature range of -40 to +85℃ (up to +60℃ at full load); OVCIII compliance; ultra-low inrush current of <6~15A, and includes DC OK and remote ON/OFF functions. The internal PCB has a coating for basic moisture and dust protection, and it has multiple terminal blocks for selection. With comprehensive protection functions, complete safety certifications, and a 5-years warranty, the XDR-75 series is a compact, high-performance, and highly reliable DIN rail power supply.

## Model Encoding

XDR - 75 - 24 ☐

- Output terminal type
- Output voltage(12V/24V/36V/48V)
- Output wattage
- Series name

| Terminal Type Options | | Note |
|---|---|---|
| Blank | Screw Terminal | In stock |
| LA | Lever Actuated | In stock |
| PI | Push In | In stock |

# 75W AC/DC High-End Ultra Slim Industrial DIN Rail Power XDR-75 series

| SPECIFICATION | | XDR-75-12□ | XDR-75-24□ | XDR-75-36□ | XDR-75-48□ |
|---|---|---|---|---|---|
| | | □ =Blank, LA, PI | | | |
| **OUTPUT** | | | | | |
| DC VOLTAGE | | 12V | 24V | 36V | 48V |
| LOAD CURRENT RANGE | | 0 ~ 6.24A | 0 ~ 3.12A | 0 ~ 2.08A | 0 ~ 1.56A |
| RATED POWER | | 74.88W | 74.88W | 74.88W | 74.88W |
| PEAK | CURRENT (5sec.) | 12.5A | 6.25A | 4.17A | 3.13A |
| | POWER (5sec.) | 150W | | | |
| RIPPLE & NOISE (max.) Note.2 | | 100mVp-p | 100mVp-p | 120mVp-p | 120mVp-p |
| VOLTAGE ADJ. RANGE | | 12 ~ 15V | 24 ~ 29V | 36 ~ 42V | 48 ~ 56V |
| VOLTAGE TOLERANCE Note.3 | | ±1.0% | ±1.0% | ±1.0% | ±1.0% |
| LINE REGULATION | | ±0.5% | ±0.5% | ±0.5% | ±0.5% |
| LOAD REGULATION | | ±1.0% | ±1.0% | ±1.0% | ±1.0% |
| SETUP, RISE TIME | | 1200ms, 60ms/230Vac 2500ms, 60ms/115Vac at full load | | | |
| HOLD UP TIME (Typ.) | | 16ms/230Vac 10ms/115Vac at full load | | | |
| **INPUT** | | | | | |
| AC VOLTAGE RANGE | | 85 ~ 305Vac | | | |
| DC VOLTAGE RANGE | | 80 ~ 431Vdc (Derating 50% Load @80Vdc) | | | |
| NO LOAD CONSUMPTION(Typ.) | Remote Power OFF | 0.7W @115Vac & 230Vac | 1W @115Vac & 230Vac | | |
| | Remote Power ON | 1.5W @115Vac & 230Vac | | | |
| FREQUENCY RANGE | | 47 ~ 63Hz | | | |
| EFFICIENCY (Typ.) | | 89% | 90% | 91% | 91% |
| AC CURRENT (Typ.) | | 1.5A/115Vac 0.9A/230Vac 0.8A/277Vac | | | |
| INRUSH CURRENT (Typ.) | | COLD START 6A/115Vac 10A/230Vac 15A/277Vac | | | |
| LEAKAGE CURRENT | | <1mA / 240Vac <1.5mA / 277Vac | | | |
| **PROTECTION** | | | | | |
| OVERLOAD | | 105%~200% rated output power for more than 5 sec then constant current limiting at rate current without shutdown when Vo=10%~100%; Constant current limiting or Latch mode when Vo<10% rated voltage. | | | |
| OVER VOLTAGE | | 16 ~ 19V | 30 ~ 34V | 43 ~ 50V | 57 ~ 66V |
| | | Protection type : Shut down o/p voltage , re-power on to recover | | | |
| OVER TEMPERATURE | | Protection type : Shut down o/p voltage, recovers automatically after temperature goes down | | | |
| **FUNCTION** | | | | | |
| DC OK RELAY CONTACT | | Relay Contact Ratings (max.):30Vdc/1A, 30Vac/0.5A resistive load | | | |
| REMOTE CONTROL | | Power ON :RC + ~ RC- keep<0.5Vdc or open | | | |
| | | Power OFF:RC + ~ RC- keep 4~5Vdc by external voltage | | | |
| TRANSIENT PEAK CURRENT CAPABLILTY | | 12V: 500% rated current for 4ms; 24V/36V/48V: 600% rated current for 4ms | | | |
| **ENVIRONMENT** | | | | | |
| WORKING TEMP. | | -40 ~ +85℃ (Refer to "Derating Curve") | | | |
| WORKING HUMIDITY | | 20 ~ 95% RH non-condensing | | | |
| STORAGE TEMP., HUMIDITY | | -40 ~ +85℃, 10 ~ 95% RH non-condensing | | | |
| TEMP. COEFFICIENT | | ±0.03%/℃ (0 ~ 60℃) on Load output | | | |
| VIBRATION | | Component:10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes; Mounting: Compliance to IEC60068-2-6 | | | |

# 75W AC/DC High-End Ultra Slim Industrial DIN Rail Power XDR-75 series

| SPECIFICATION | XDR-75-12□ | XDR-75-24□ | XDR-36□ | XDR-48□ |
|---|---|---|---|---|
| | □ =Blank, LA, PI | | | |
| **SAFETY & EMC** Note.4&5&6 | | | | |
| **SAFETY STANDARDS** | CB IEC62368-1, IEC61558-1/-2-16, IEC61010-1/-2-201<br>TUV BS EN/EN62368-1,BS EN/EN61558-1/-2-16,BS EN/EN61010-1/-2-201<br>UL UL121201/CSA C22.2 NO.213.17 Class I,DIV2 Group A,B,C,D Hazardous Locations T4;UL61010-1/-2-201<br>CCC GB4943.1<br>BSMI CNS15598-1<br>EAC TPTC004<br>Marine DNV<br>SEMI F47 approved<br>KC/BIS KC62368-1 and BIS IS 13252 (Part 1) certified, no stock by request ,contact sales for inquires | | | |
| **OVER VOLTAGE CATEGORY** Note.7 | IEC/EN 61558-1/-2-16 (OVC Ⅲ, altitude up to 2000m )<br>IEC/EN/UL 61010-1/-2-201 (OVC Ⅱ, altitude up to 5000m )<br>IEC/EN 62368-1 (OVC Ⅱ, altitude up to 5000m ) | | | |
| **SAFETY EXTRA-LOW VOLTAGE(SELV)** | IEC/EN 61558-2-16 (SELV)<br>IEC/EN 62368-1 (SELV / ES1 ) | | | |
| **WITHSTAND VOLTAGE** | I/P-O/P: 4KVac I/P-FG: 2KVac O/P-FG: 1.5KVac O/P-DC OK: 0.5KVac | | | |
| **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 (CISPR32) / BS EN/EN61204-3 / CNS15936 / KS C 9832 | Class B | |
| | Radiated | BS EN/EN55032 (CISPR32) / BS EN/EN61204-3 / CNS15936 / KS C 9832 | Class B | |
| | Harmonic Current | BS EN/EN61000-3-2 | Class A | |
| | Voltage Flicker | BS EN/EN61000-3-3 | ----- | |
| **EMC IMMUNITY** | BS EN/EN55035 , BS EN/EN61204-3, BS EN/EN61000-6-2(BS EN/EN50082-2) ,KS C 9835,SEMI F47 tested at 200Vac | | | |
| | **Parameter** | **Standard** | **Test Level / Note** | |
| | ESD | BS EN/EN61000-4-2 | Level 4, 15KV air ; Level 4, 8KV contact; criteria A | |
| | Radiated | BS EN/EN61000-4-3 | Level 3, 10V/m ; criteria A | |
| | EFT / Burst | BS EN/EN61000-4-4 | Level 4, 4KV ; criteria A | |
| | Surge | BS EN/EN61000-4-5 | Level 4, 2KV/Line-Line ;Level 4, 4KV/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** | 1907.3K hrs min. Telcordia SR-332 (Bellcore); 333.9K hrs min. MIL-HDBK-217F (25℃) | | | |
| **DIMENSION** | **30*125.2*116mm (W*H*D)** | | | |
| **PACKING** | 496g; 24pcs/12.9Kg/1.27CUFT | | | |

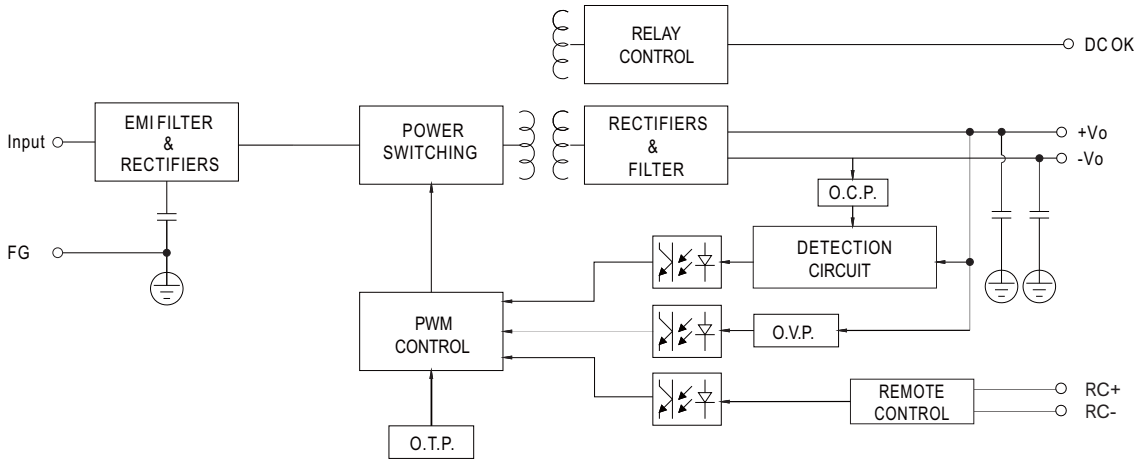
**NOTE**

1. All parameters NOT specially mentioned are measured at 230Vac input, rated load and 25℃ of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 μF & 47 μF parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. 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. (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf )
5. The Regulatory Compliance Mark (RCM) is applied on a voluntary basis. The equipment meets the relevant IEC or AS/NZS standards, or AS/NZS 3820 where applicable. The use of the RCM mark complies with AS/NZS 4417.1.
6. Some factory or model may not have the BIS logo, please contact your MEAN WELL sales for more information.
7. 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).
8. 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.

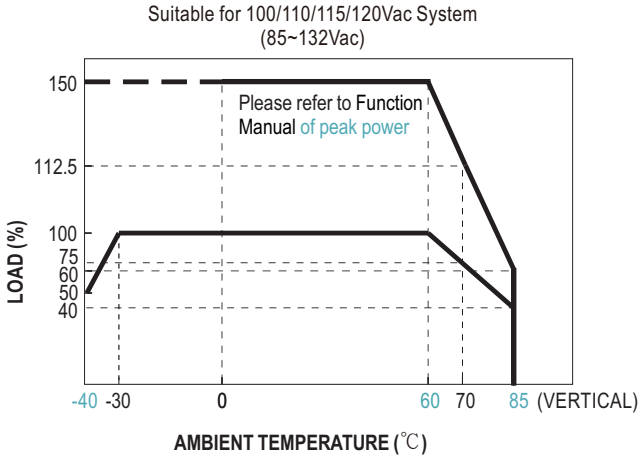
※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

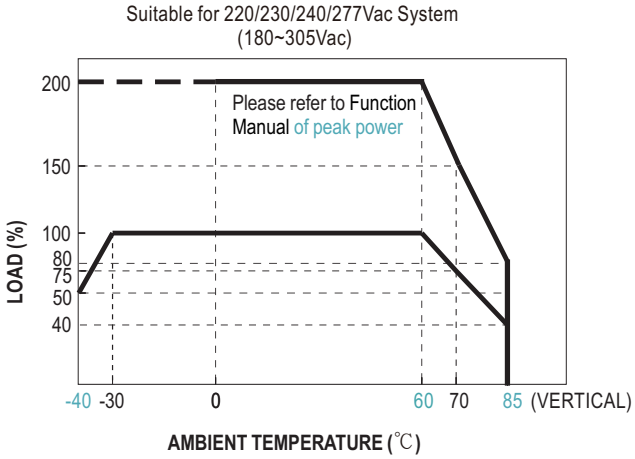
## ■ Block Diagram

PWM fosc : 65KHz

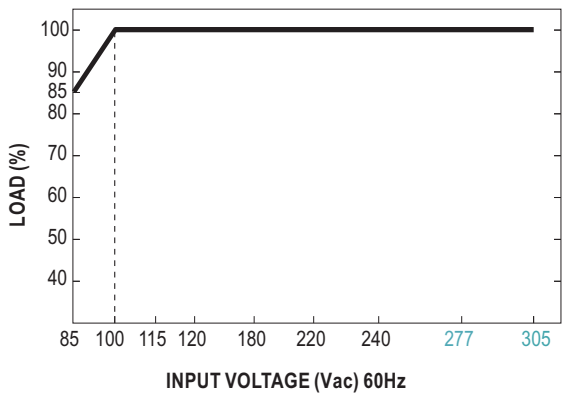


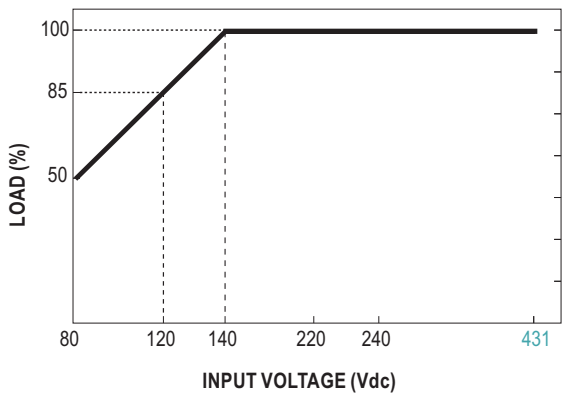

## ■ Derating Curve




## ■ Output derating VS input voltage



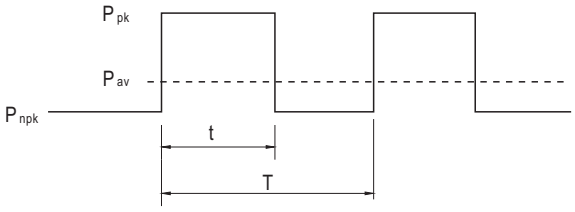



## ■ Peak Power

$$P_{av} = \frac{P_{pk} \times t + P_{npk} \times (T-t)}{T} \leqslant P_{rated}$$

$$Duty = \frac{t}{T} \times 100\% \leqslant 35\%$$

$t \leqslant 5$ sec




$P_{av}$ : Average output power (W)

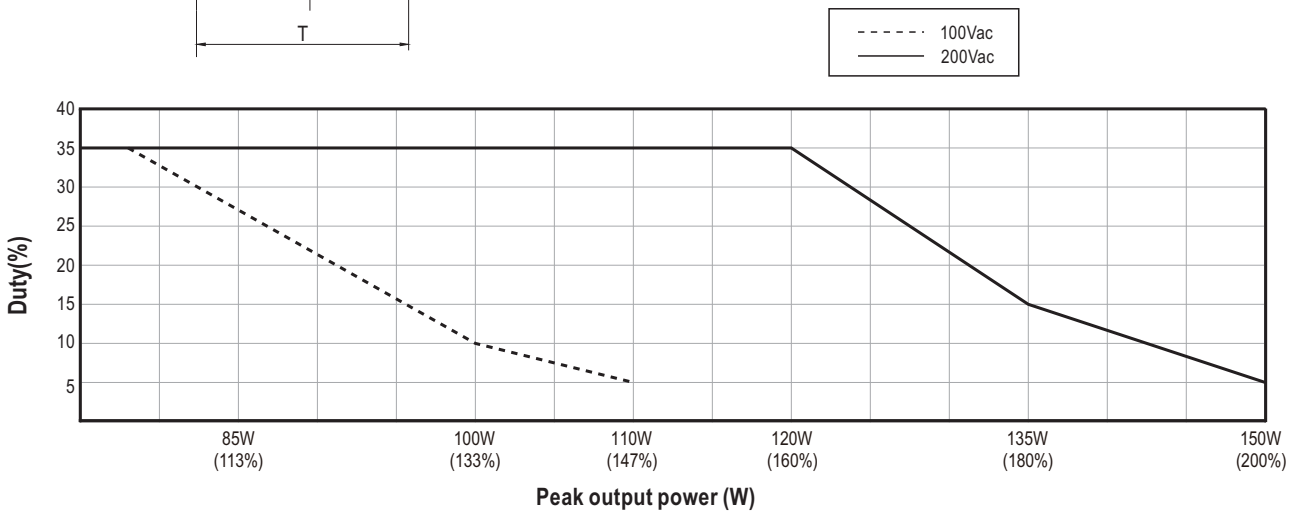
$P_{pk}$ : Peak output power (W)

$P_{npk}$ : Non-peak output power(W)

$P_{rated}$ : Rated output power(W)

t : Peak power width(sec)

T : Period(sec)




**For example (24V model) :**

Vin = 200Vac Duty_max = 5%

$P_{av} = P_{rated} = 75W$

$P_{pk} = 150W$

$t \leqslant 5$ sec

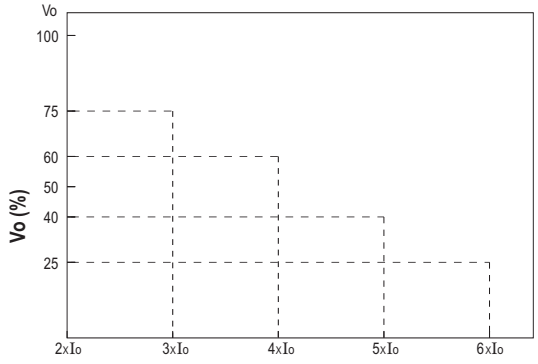
$$T \geqslant \frac{5\ sec}{5\%} \geqslant 100sec$$

$$P_{npk} \leqslant \frac{T P_{av} - t P_{pk}}{T-t}$$

$P_{npk} \leqslant 71W$

## ■ Transient peak current Capability

The device can delivers peak currents over 2xIo capacity, sustained for several milliseconds.



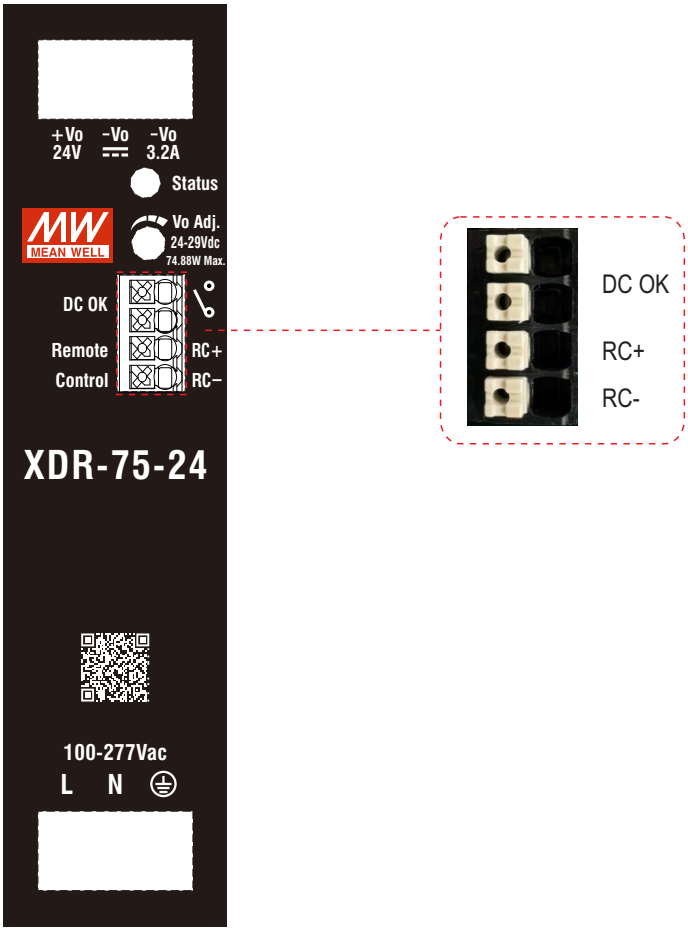

Transient peak current voltage dip

| Load | Vo(%) | 12V | 24V/36V/48V |
|---|---|---|---|
| | | Time | Time |
| 3xIo | 75 | 6ms | 8ms |
| 4xIo | 60 | 3ms | 6ms |
| 5xIo | 40 | 2ms | 5ms |
| 6xIo | 25 | -- | 4ms |

Note: The time indicated in the table refers to Power on AC for more than 3 seconds before applying load.

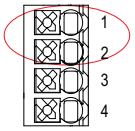
## ■ Function Manual

| Pin No. | Function | Description |
|---|---|---|
| 1,2 | DC OK<br>Relay Contact | Contact close : PSU turns ON/DC_OK ;<br>Contact open : PSU turns OFF/DC_fail;<br>Contact ratings (max.): 30Vdc/1A ,30Vac/0.5A resistive load. |
| 3 | RC+ | Turns the output ON and OFF by electrical signal<br>Remote power ON : keep<0.5Vdc<br>Remote power OFF: keep 4~5Vdc |
| 4 | RC- | |

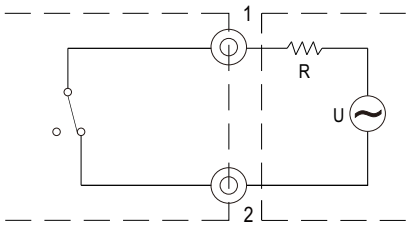


## 1.DC OK Relay Contact

| | |
|---|---|
| Contact Close | PSU turns ON / DC OK. |
| Contact Open | PSU turns OFF / DC Fail. |
| Contact Ratings (max.) | 30Vdc/1A ,30Vac/0.5A resistive load. |



DC OK.



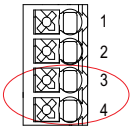
Internal circuit of DC_OK, via relay contact

External voltage source (U) and resistor (R)
(The max. Sink is 30Vdc/1A ,30Vac/0.5A)

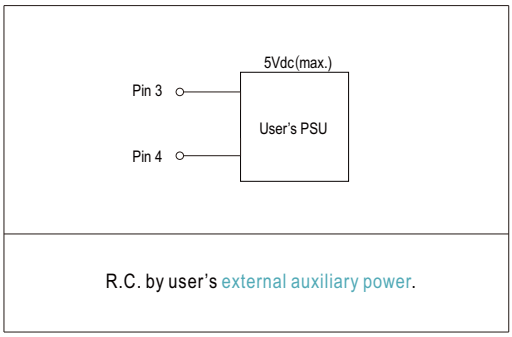
## 2.Remote ON/OFF Control

The PSU can be turned ON/OFF by using the "Remote Control" function.

| | |
|---|---|
| PSU Vo Status | Between RC+(Pin3) and RC-(Pin 4) |
| Remote power ON | Keep<0.5Vdc or open |
| Remote power OFF | Keep 4~5Vdc by external voltage |



RC+
RC-

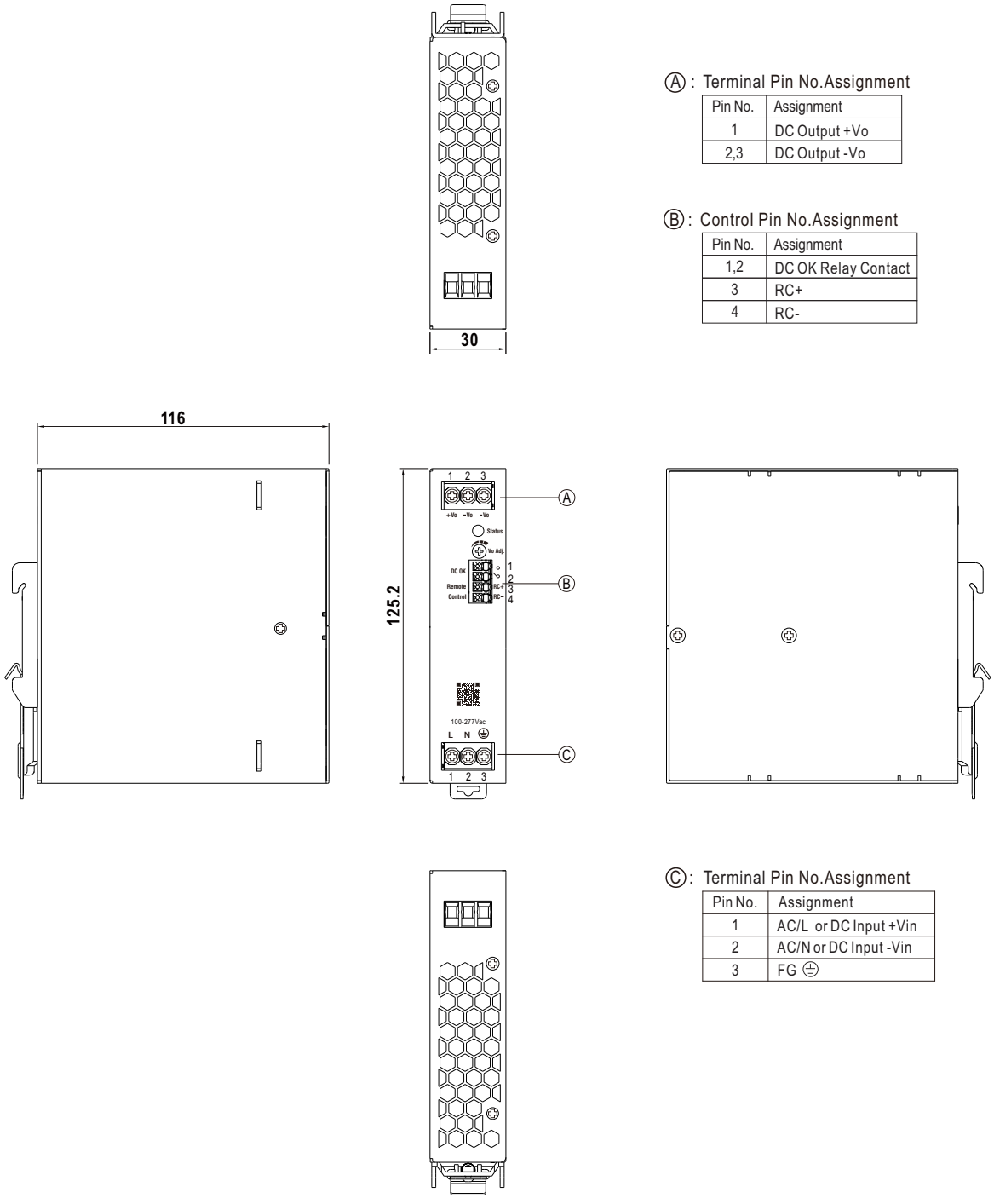



R.C. by user's external auxiliary power.

## ■ Mechanical Specification

(Unit:mm , Tolerance ±1mm)

Case No.301




Ⓐ : Terminal Pin No.Assignment

| Pin No. | Assignment |
|---|---|
| 1 | DC Output +Vo |
| 2,3 | DC Output -Vo |

Ⓑ : Control Pin No.Assignment

| Pin No. | Assignment |
|---|---|
| 1,2 | DC OK Relay Contact |
| 3 | RC+ |
| 4 | RC- |

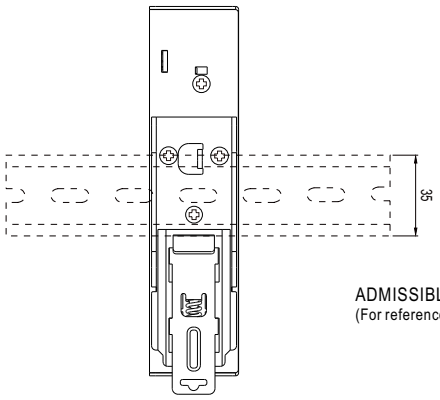
Ⓒ : Terminal Pin No.Assignment

| Pin No. | Assignment |
|---|---|
| 1 | AC/L or DC Input +Vin |
| 2 | AC/N or DC Input -Vin |
| 3 | FG ⏚ |

## ■ Recommend Wiring

| | | AC Input T.B | DC Output T.B | Signal connector |
|---|---|---|---|---|
| Solid Wire | | 6mm² max. | 6mm² max. | 1.5mm² max. |
| A.W.G | | 16~10 AWG | 16~10 AWG | 24~16 AWG |
| Wire Stripping Length | Blank | 10~11mm | 10~11mm | 8~9mm |
| | LA | 11~12mm | 11~12mm | |
| | PI | 14~15mm | 14~15mm | |
| Screw Terminal Torque | Blank | 5 Lb-In | 5 Lb-In | / |
| | LA/PI | Not applicable | | |

## ■ Installation Instruction




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

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