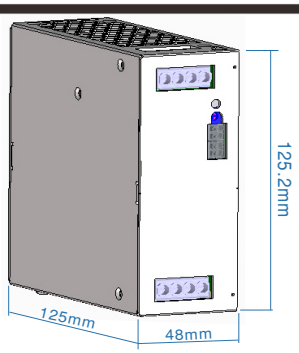
# 240W AC/DC 3Ø Input Ultra Slim Industrial DIN Rail Power XTR-240 series




User's Manual

LISTED Class 1, Div. 2 | LISTED UL61010 | BS EN/EN62368-1 BS EN/EN61558-1 BS EN/EN61010 | IEC62368-1 IEC61558-1 IEC61010 | AS/NZS61558-1 AS/NZS62368-1

IS13252 | KC62368-1 (By request) | CNS15598-1 | GB4943.1 | TPTC004

Automate | Industrial | Security | Network | Telecom

## Features

- Three-Phase 320 ~ 600Vac wide range input, 600 ~ 700Vac surge input for 1 sec. occasionally (Dual phase operation possible)
- Global certificates in multi-fields(ITE 62368-1,Industrial 61558-1/-2-16,61010) & Marine DNV,SEMI47,C1D2 HazLoc approved
- 48mm Ultra slim width
- High efficiency up to 94% and no load power dissipation<2.5W
- 150% Peak Power capability
- Built-in constant current limiting circuit
- Current sharing up to 960W(3+1) for parallel use (By request)
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Fanless design, cooling by free air convection
- Over voltage category III (OVC III)
- -40~+85℃ wide range operation temperature (>+60℃ derating)
- Operating altitude up to 5000 meters
- Built-in DC OK relay contact
- Ultra low inrush current < 10A
- Built-in ORing FET (By request)
- Tool free terminal block (LA type)
- Conformal coating
- Can be installed on DIN Rail TS-35/7.5 or 15
- 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 XTR-240 series is a 240W AC/DC 3Ø 320~600Vac input ultra slim industrial high-reliability DIN rail power. Key features of this series include a narrow 48 mm casing, optimizing system installation space, it boasts a maximum efficiency of 93% and a low standby power consumption <2.5W for energy savings and carbon reduction. It provides constant current with up to 150% peak power; fanless design , ultra-wide operating temperature range of -40 to +85℃ (up to +60℃ at full load); OVCIII compliance; parallel function capability up to 960W(By request);ultra-low inrush current of <10A; built-in DC OK and ORing FET(optional) ; internal PCB coating offers 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 XTR-240 series is a compact, high-performance, and highly reliable DIN rail power supply.

## Model Encoding

XTR - 240 ◯ - 24 □

- Output terminal type
- Output voltage(12V/24V/36V/48V)
- ◯ Blank: Non-Parallel
  P: Parallel(By request)
- Output wattage
- Series name

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

# 240W AC/DC 3Ø Input Ultra Slim Industrial DIN Rail Power XTR-240 series

## SPECIFICATION

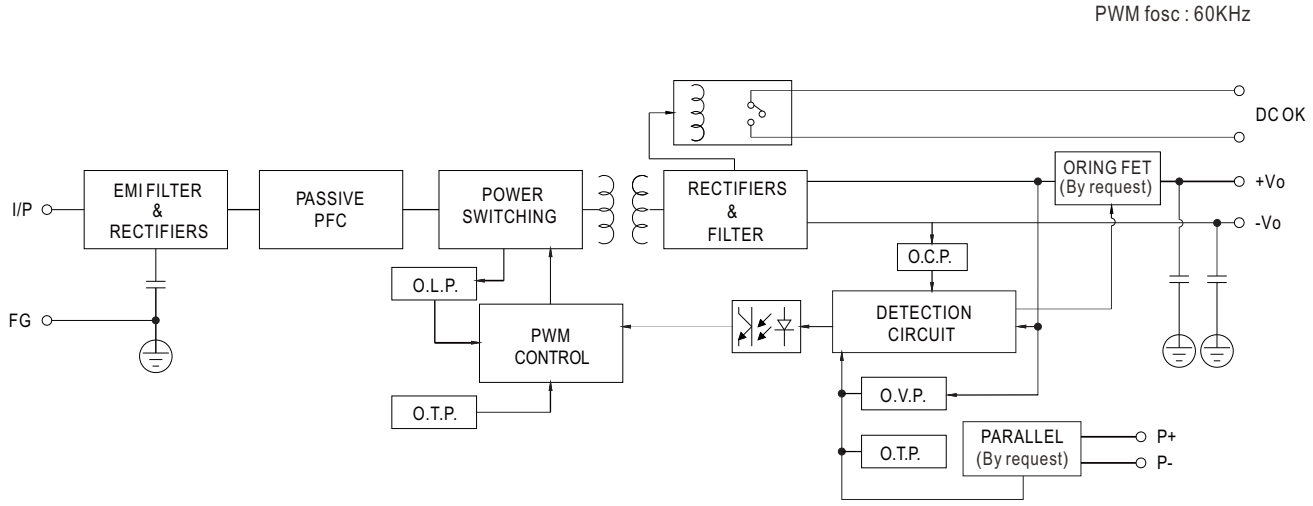
| MODEL | | XTR-240○-12□ | XTR-240○-24□ | XTR-240○-36□ | XTR-240○-48□ |
|---|---|---|---|---|---|
| | | ○=Blank, P □=Blank, LA, PI | | | |
| OUTPUT | DC VOLTAGE | 12V | 24V | 36V | 48V |
| | RATED CURRENT | 15A | 10A | 6.66A | 5A |
| | CURRENT RANGE | 0 ~ 15A | 0 ~ 10A | 0 ~ 6.66A | 0 ~ 5A |
| | RATED POWER | 180W | 240W | 239.8W | 240W |
| | PEAK CURRENT(5 sec.) | 22.5A | 15A | 10A | 7.5A |
| | PEAK POWER(5 sec.) | 270W | 360W | 360W | 360W |
| | RIPPLE & NOISE (max.) Note.2 | 100mVp-p | 100mVp-p | 120mVp-p | 120mVp-p |
| | VOLTAGE ADJ. RANGE | 12 ~ 15V | 24 ~ 29V | 36 ~ 42V | 48 ~ 55V |
| | 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 | 2000ms, 60ms/400Vac 1500ms, 60ms/500Vac at full load | | | |
| | HOLD UP TIME (Typ.) | 20ms / 400Vac 40ms / 500Vac at full load | | | |
| INPUT | VOLTAGE RANGE Note.4 | Three-Phase 320 ~ 600Vac (Dual phase operation possible in connecting L1,L3,FG or L2,L3,FG ) 450 ~ 800Vdc | | | |
| | NO LOAD POWER CONSUMPTION (Typ.) | 2.5W/500Vac | 2.5W/400Vac | 2.5W/400Vac | 2.5W/400Vac |
| | FREQUENCY RANGE | 47 ~ 63Hz | | | |
| | POWER FACTOR (Typ.) | PF≧0.53/400Vac PF≧0.52/500Vac at full load | | | |
| | EFFICIENCY (Typ.) | 92% | 93% | 93% | 94% |
| | AC CURRENT (Typ.) | 0.69A/400Vac 0.9A/500Vac | | | |
| | INRUSH CURRENT (Typ.) | COLD START 10A/400Vac | | | |
| | LEAKAGE CURRENT | <2mA / 530Vac | | | |
| PROTECTION | OVERLOAD | 105%~150% rated output power for more than 5 sec then constant current limiting without shutdown at rate current when Vo=30%~100% | | | |
| | | Hiccup mode when Vo<3% rated voltage | | | |
| | OVER VOLTAGE | 15 ~ 18V | 30 ~ 36V | 45 ~ 54V | 56 ~ 65V |
| | | Hiccup mode , recovers automatically after fault condition is removed | | | |
| | OVER TEMPERATURE | Shut down o/p voltage or hiccup mode, recovers automatically after temperature goes down | | | |
| FUNCTION | PARALLEL (optional) | Up to 960W (3+1), please refer to Function Manual for more details | | | |
| | DC OK RELAY CONTACT | Relay Contact Ratings (max.):30Vdc/1A, 30Vac/0.5A resistive load | | | |
| ENVIRONMENT | WORKING TEMP. Note.5 | -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℃ ) | | | |
| | VIBRATION | Component:10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes; Mounting: Compliance to IEC60068-2-6 | | | |
| SAFETY & EMC (Note 7) | SAFETY STANDARDS | UL121201/CSA C22.2 NO.213.17 Class I, Div. 2 Group A, B, C, D Hazardous Locations T4; UL61010; TUV BS EN/EN62368-1, BS EN/EN61558-1/-2-16,BS EN/EN61010;CB IEC62368-1,IEC61558-1,IEC61010;RCM AS/NZS 62368-1,AS/NZS 61558-1/-2-16; BIS IS13252 (Part 1):2010;BSMI CNS15598-1;CCC GB4943.1;EAC TPTC004 approved; KC KC62368-1 certified, no stock ,contact sale for inquires | | | |
| | OVER VOLTAGE CATEGORY Note.6 | IEC/EN 61558-1/-2-16 (OVC Ⅲ, altitude up to 2000m )<br>IEC/EN/UL 61010 (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 12V/24V)<br>IEC/EN/UL 61010-2-201 (SELV 12V/24V)<br>IEC/EN 62368-1 (SELV/ ES1 12V/24V ) | | | |
| | WITHSTAND VOLTAGE | I/P-O/P:4.87KVac I/P-FG:2.5KVac O/P-FG:0.5KVac 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 | | Class B |
| | | Radiated | BS EN/EN55032(CISPR32) / BS EN/EN61204-3 / CNS15936 | | 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 | | | |
| | | **Parameter** | **Standard** | | **Test Level / Note** |
| | | ESD | BS EN/EN61000-4-2 | | Level 4, 15KV air ; Level 4, 8KV contact |
| | | Radiated Field | 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-Earth |
| | | Conducted | BS EN/EN61000-4-6 | | Level 3, 10V/m ; criteria A |
| | | Magnetic Field | BS EN/EN61000-4-8 | | Level 4, 30A/m ; criteria A |
| | | Voltage Dips and Interruptions | BS EN/EN61000-4-11 | | ＞95% dip 0.5 periods, 30% dip 25 periods＞ 95% interruptions 250 periods |
| OTHERS | MTBF | K hrs min. Telcordia SR-332(Bellcore) ; K hrs min. MIL-HDBK-217F (25℃) | | | |
| | DIMENSION | **48*125.2*125mm (W*H*D)** | | | |
| | PACKING | 0.8Kg ; 12pcs/12.5Kg/0.89CUFT | | | |

**NOTE**

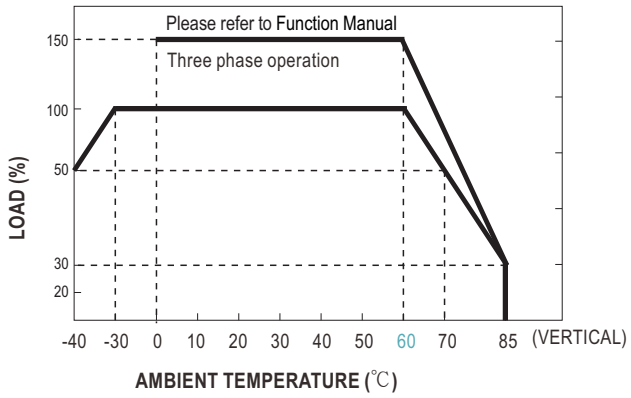
1. All parameters NOT specially mentioned are measured at 400Vac input, rated load and 25℃ of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 μF & 47 μF parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. Dual phase operation is allowed under certain derating to output load. Please refer to derating curves for details.
5. 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.
6. 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).
7. The power supply is considered as an independent unit, but the final equipment still need to re-confirm that the whole system complies with the EMC directives. For guidance on how to perform these EMC tests, please refer to “EMI testing of component power supplies.” (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf )

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

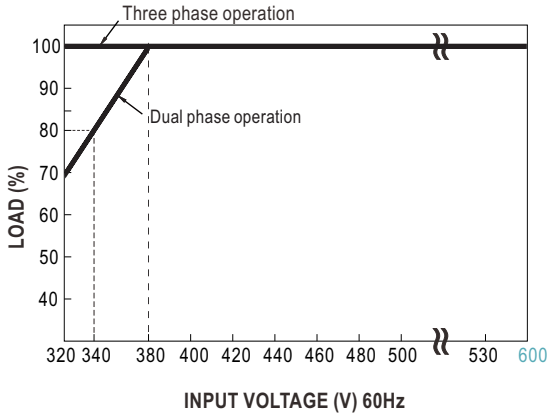
## ■ Block Diagram




## ■ Derating Curve




## ■ Output derating VS input voltage



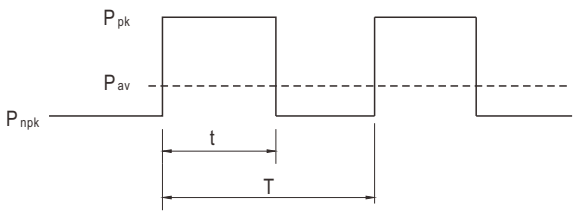

Note : When the dual phase input voltage is between 320~380Vac and ambient temperature is between -10℃~-40℃, the power supply may experience hiccup at cold start. The power supply will start up normally after 5~10 seconds.

## ■ 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)

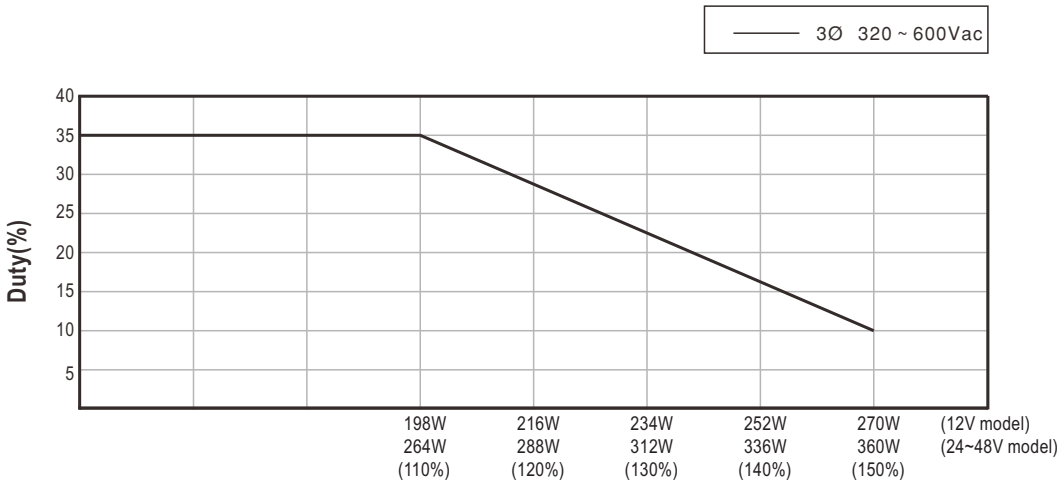
$P_{pk}$ : Peak output power (W)

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

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

t : Peak power width (sec)

T: Period (sec)




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

Vin = 400V Duty_max = 10%

$P_{av} = P_{rated} = 240W$

$P_{pk} = 360W$

$t \leqslant 5$ sec

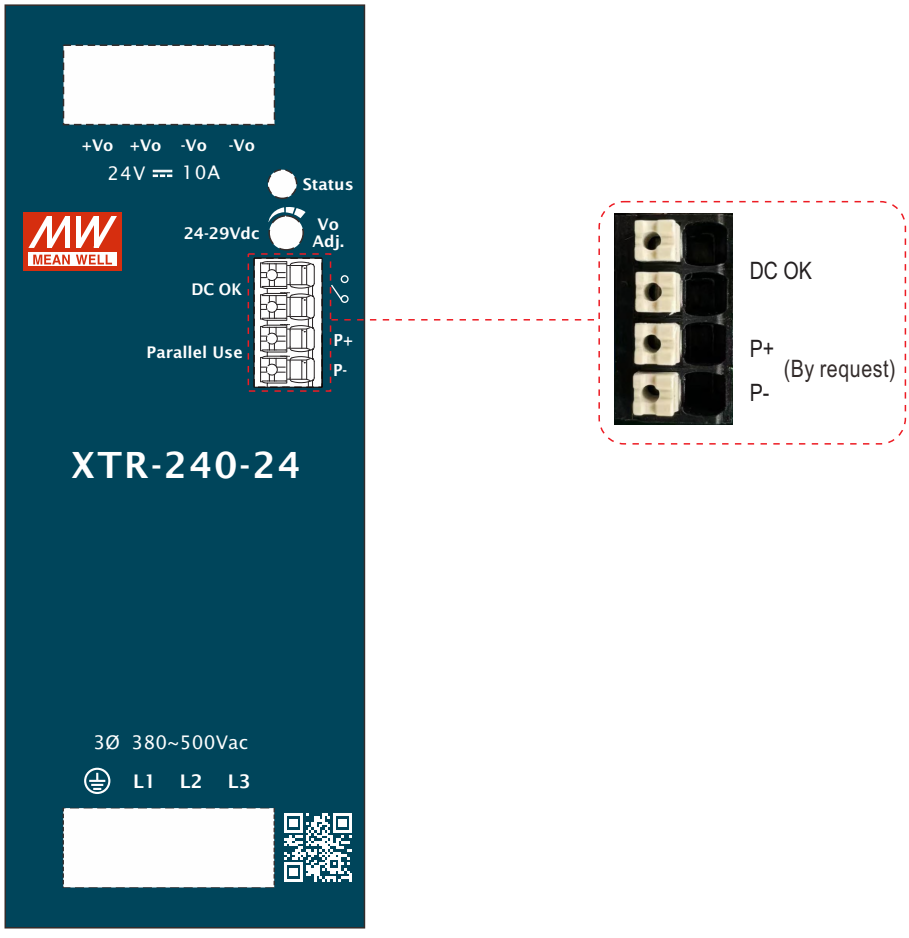
$$T \geqq \frac{5 \text{ sec}}{10\%} \geqq 50\text{sec}$$

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

$$P_{npk} \leqslant 226W$$

## ■ Function Manual

| Pin No. | Function | Description |
|---|---|---|
| 1,2 | DC OK | 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 | P+ (By request) | Current sharing signal. When units are connected in parallel, the P+ pins of the units should be connected mutually to allow current balance between units. |
| 4 | P- (By request) | Current sharing signal. When units are connected in parallel, the P- pins of the units should be connected mutually to allow current balance between units.<br>P- Signal is internally connected to -Vo. |



## 1.Parallel Use (By request)

XTR-240 has the built-in active current sharing function and can be connected in parallel, up to 4 units, to provide higher output power as exhibited below :

(1) Parallel operation is available by connecting the units shown as below (P+,P- are connected mutually in parallel).

(2) Difference of output voltages among parallel units should be less than 0.2V.

(3) The total output current must not exceed the value determined by the following equation (Output current at parallel operation)=(The rated current per unit) x (Number of unit) x 0.9.

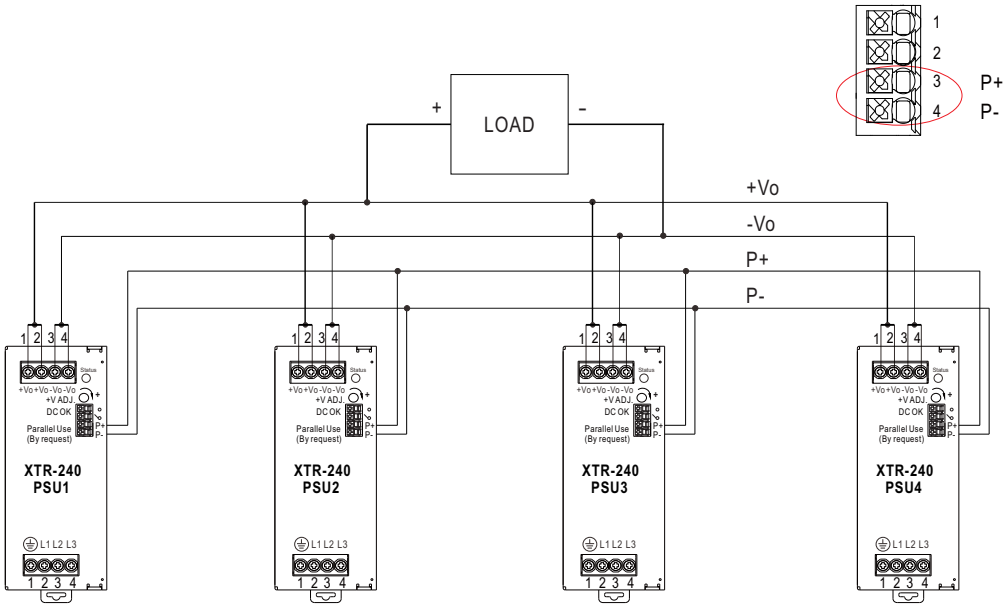
(4) In parallel operation 4 units is the maximum, please consult the manufacture for other applications.

(5) The power supplies should be paralleled using short and large diameter wiring and then connected to the load.

(6) When in parallel operation, the minimum output load should be greater than 5% of total output load. (Min. load >5% rated current per unit x number of unit)

(7) In parallel connection, maybe only one unit (master) operate if the total output load is less than 5% of rated load condition.
The other PSUs (slaves) may go into standby mode and their output LEDs & relays will not turn on.

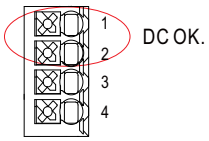
(8) P+ and P- lines should be twisted in pairs

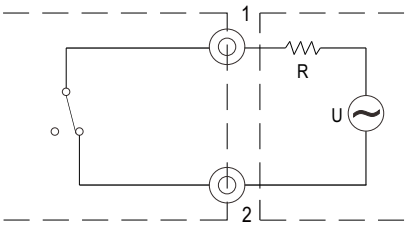



※ Please contact MEAN WELL for more details.

## 2.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. |



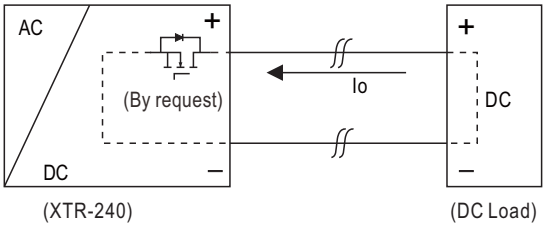




External voltage source (U) and resistor (R)
(The max. Sink is 30Vdc/1A ,30Vac/0.5A)

Internal circuit of DC_OK, via relay contact

### 3.Protection Against Inverse Reverse From The Load (By request)

Prevent PSU damage from Back Electro magnetic Force during deceleration of motor or inductive load.

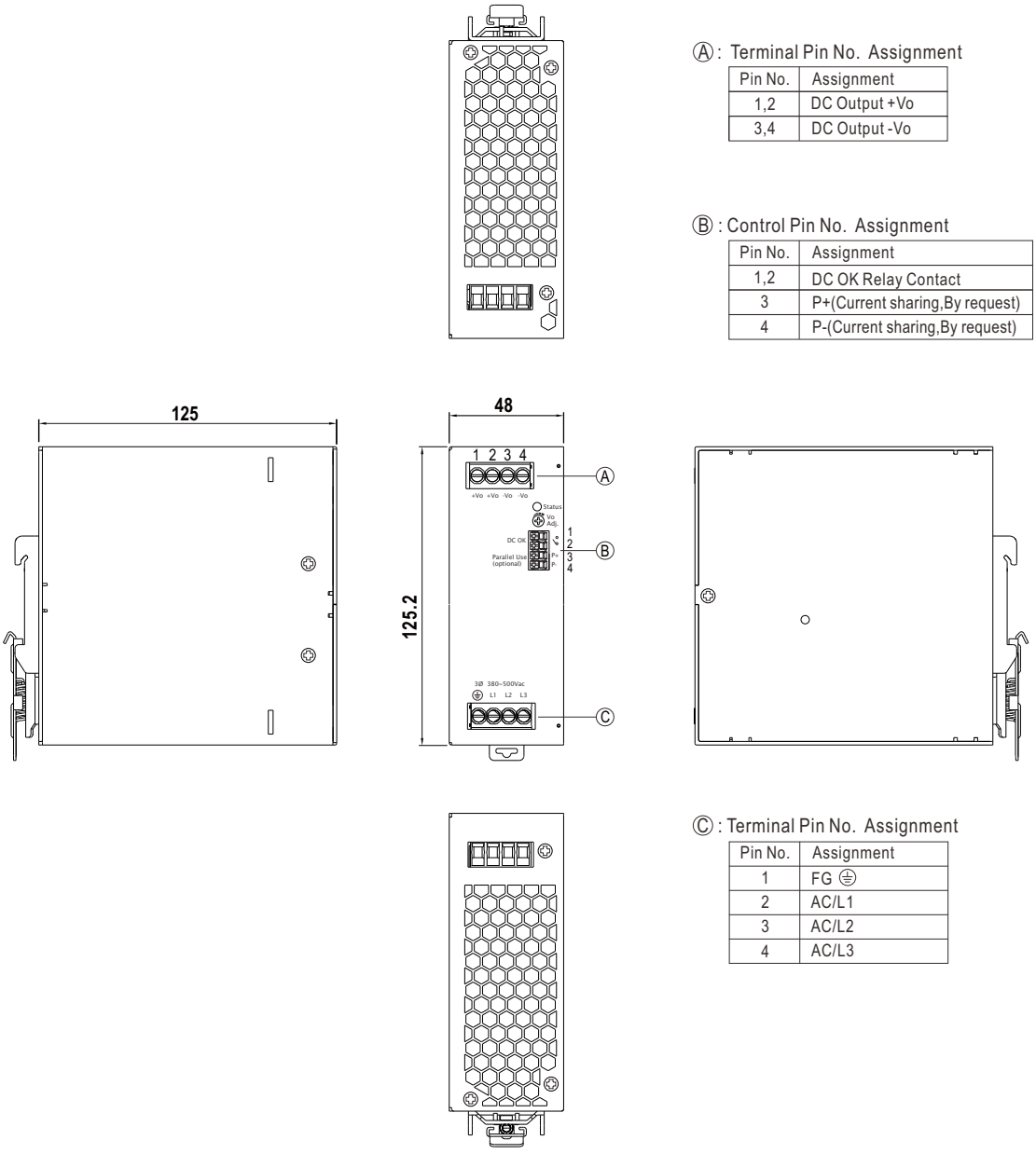



| PSU'S ORing FET turn OFF voltage | |
|---|---|
| MODEL | Max. allowable reverse voltage |
| XTR-240-12 | <16V |
| XTR-240-24 | <35V |
| XTR-240-36 | <50V |
| XTR-240-48 | <63V |

## ■ Mechanical Specification

(Unit:mm , Tolerance ±1mm)

Case No. 303




Ⓐ: Terminal Pin No. Assignment

| Pin No. | Assignment |
|---|---|
| 1,2 | DC Output +Vo |
| 3,4 | DC Output -Vo |

Ⓑ: Control Pin No. Assignment

| Pin No. | Assignment |
|---|---|
| 1,2 | DC OK Relay Contact |
| 3 | P+(Current sharing,By request) |
| 4 | P-(Current sharing,By request) |

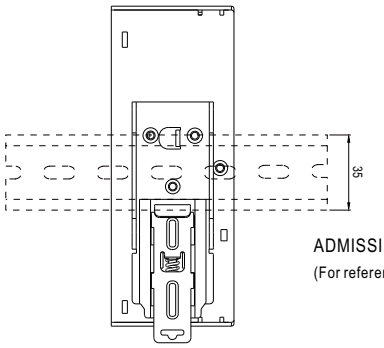
Ⓒ: Terminal Pin No. Assignment

| Pin No. | Assignment |
|---|---|
| 1 | FG ⏚ |
| 2 | AC/L1 |
| 3 | AC/L2 |
| 4 | AC/L3 |

## ■ Recommend Wiring

| | AC Input T.B | DC Output T.B | Signal connector |
|---|---|---|---|
| Solid Wire | 4mm$^2$ max. | 4mm$^2$ max. | 1.5mm$^2$ max. |
| A.W.G | 28~10 AWG | 28~10 AWG | 24~16 AWG |
| Screw Terminal Torque | 4 Lb-In | 4 Lb-In | / |

## ■ Installation Instruction



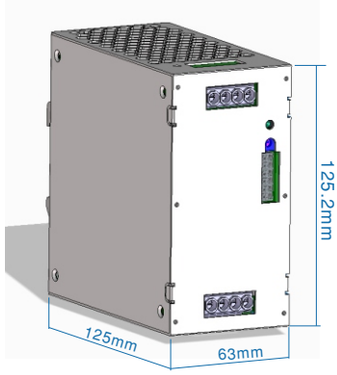

ADMISSIBLE DIN-RAIL:TS35/7.5 OR TS35/15
(For reference only. Not included with unit.)

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

## ■ Installation Manual

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

# 480W AC/DC 3Ø Input Ultra Slim Industrial DIN Rail Power XTR-480 series




User's Manual

LISTED Class 1, Div. 2 | LISTED UL61010 | BS EN/EN62368-1, BS EN/EN61558-1, BS EN/EN61010 | IEC62368-1, IEC61558-1, IEC61010 | AS/NZS61558-1, AS/NZS62368-1

IS13252 | KC62368-1 (By request) | CNS15598-1 | GB4943.1 | TPTC004

Automate | Industrial | Security | Network | Telecom

## Features

- Three-Phase 320 ~ 600Vac wide range input (Dual phase operation possible)
- Global certificates in multi-fields(ITE 62368-1,Industrial 61558-1/-2-16,61010) & Marine DNV,SEMI47,C1D2 HazLoc approved
- 63mm Ultra slim width
- High efficiency up to 95.5% and no load power dissipation<3.1W by R.C.
- 200% Peak Power capability
- Built-in constant current limiting circuit
- Current sharing up to 1920W(3+1) for parallel use
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Fanless design, cooling by free air convection
- Over voltage category III (OVC III)
- -40~+85℃ wide range operation temperature (>+60℃ derating)
- Operating altitude up to 5000 meters
- Built-in Remote ON/OFF Control and DC OK relay contact
- Ultra low inrush current < 10A
- Built-in ORing FET
- Tool free terminal block (LA type)
- Conformal coating
- Can be installed on DIN Rail TS-35/7.5 or 15
- 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 XTR-480 series is a 480W AC/DC 3Ø 320~600Vac input ultra slim industrial high-reliability DIN rail power. Key features of this series include a narrow 63 mm casing, optimizing system installation space, it boasts a maximum efficiency of 95.5% and a low standby power consumption <3.1W by remote control for energy savings and carbon reduction. It provides constant current with up to 200% peak power; fanless design , ultra-wide operating temperature range of -40 to +85℃ (up to +60℃ at full load); OVCIII compliance; parallel function capability up to 1920W; ultra-low inrush current of <10A; built-in Remote Control ,DC OK and ORing FET; internal PCB coating offers 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 XTR-480 series is a compact, high-performance, and highly reliable DIN rail power supply.

## Model Encoding

XTR - 480 - 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 |

# 480W AC/DC 3Ø Input Ultra Slim Industrial DIN Rail Power XTR-480 series

## SPECIFICATION

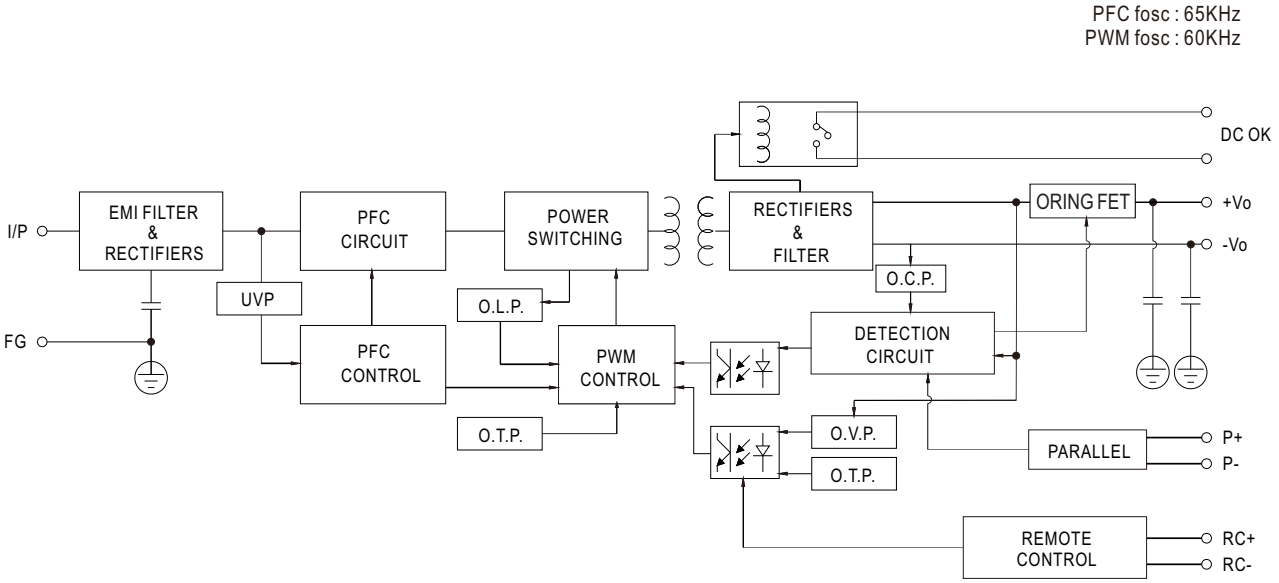
| MODEL | | | XTR-480-12□ | XTR-480-24□ | XTR-480-36□ | XTR-480-48□ |
|---|---|---|---|---|---|---|
| | | | □=Blank, LA, PI | | | |
| OUTPUT | DC VOLTAGE | | 12V | 24V | 36V | 48V |
| | RATED CURRENT | | 30A | 20A | 13.3A | 10A |
| | CURRENT RANGE | | 0 ~ 30A | 0 ~ 20A | 0 ~ 13.3A | 0 ~ 10A |
| | RATED POWER | | 360W | 480W | 478.8W | 480W |
| | PEAK | CURRENT(5 sec.) | 60A | 64A | 26.7A | 20A |
| | | POWER(5 sec.) | 720W | 960W | 961W | 960W |
| | RIPPLE & NOISE (max.) Note.2 | | 120mVp-p | 120mVp-p | 150mVp-p | 150mVp-p |
| | VOLTAGE ADJ. RANGE | | 12 ~ 15V | 24 ~ 29V | 36 ~ 42V | 48 ~ 55V |
| | 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 | | 800ms, 60ms/400Vac 600ms, 60ms/500Vac at full load | | | |
| | HOLD UP TIME (Typ.) | | 20ms / 400Vac 20ms / 500Vac at full load | | | |
| INPUT | VOLTAGE RANGE Note.4 | | Three-Phase 320 ~ 600Vac (Dual phase operation possible) 450 ~ 800Vdc | | | |
| | NO LOAD CONSUMPTION(Typ.) | Remote Power OFF | 3.1W/400Vac | 3.1W/400Vac | 3.1W/400Vac | 3.1W/400Vac |
| | | Remote Power ON | 5.0W/400Vac | 5.0W/400Vac | 5.0W/400Vac | 5.0W/400Vac |
| | FREQUENCY RANGE | | 47 ~ 63Hz | | | |
| | POWER FACTOR (Typ.) | | PF≧0.92/400Vac PF≧0.88/500Vac at full load | | | |
| | EFFICIENCY (Typ.) | | 93% | 94% | 94.5% | 95.5% |
| | AC CURRENT (Typ.) | | 0.85A/400Vac 0.7A/500Vac | | | |
| | INRUSH CURRENT (Typ.) | | COLD START 10A/500Vac | | | |
| | LEAKAGE CURRENT | | <3.5mA / 530Vac | | | |
| PROTECTION | OVERLOAD | | 105%~200% rated output power for more than 5 sec then constant current limiting without shutdown at rate current when Vo=30%~100% | | | |
| | | | Hiccup mode when Vo<30% rated voltage | | | |
| | OVER VOLTAGE | | 15 ~ 18V | 30 ~ 35V | 43 ~ 50V | 56 ~ 65V |
| | | | Protection type : Shut down o/p voltage, re-power on to recover | | | |
| | OVER TEMPERATURE | | Shut down o/p voltage or hiccup mode, recovers automatically after temperature goes down | | | |
| FUNCTION | PARALLEL | | Up to 1920W (3+1), please refer to Function Manual for more details | | | |
| | DC OK RELAY CONTACT | | Relay Contact Ratings (max.):30Vdc/1A, 30Vac/0.5A resistive load | | | |
| | REMOTE CONTROL | | Power ON : RC + ~ RC- open or keep 2~5Vdc | | | |
| | | | Power OFF: RC + ~ RC- short or keep<0.5Vdc | | | |
| ENVIRONMENT | WORKING TEMP. Note.5 | | -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℃) | | | |
| | VIBRATION | | Component:10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes; Mounting: Compliance to IEC60068-2-6 | | | |
| SAFETY & EMC (Note 7) | SAFETY STANDARDS | | UL121201/CSA C22.2 NO.213.17 Class I, Div. 2 Group A, B, C, D Hazardous Locations T4; UL61010; TUV BS EN/EN62368-1, BS EN/EN61558-1/-2-16,BS EN/EN61010;CB IEC62368-1,IEC61558-1,IEC61010;RCM AS/NZS 62368-1,AS/NZS 61558-1/-2-16; BIS IS13252 (Part 1):2010;BSMI CNS15598-1;CCC GB4943.1;EAC TPTC004 approved; KC KC62368-1 certified, no stock ,contact sale for inquires | | | |
| | OVER VOLTAGE CATEGORY Note.6 | | IEC/EN 61558-1/-2-16 (OVC Ⅲ, altitude up to 2000m )<br>IEC/EN/UL 61010 (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/UL 61010-2-201 (SELV )<br>IEC/EN 62368-1 (SELV/ ES1 ) | | | |
| | WITHSTAND VOLTAGE | | I/P-O/P:4.87KVac I/P-FG:2.5KVac O/P-FG:0.5KVac 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 | | Class B |
| | | | Radiated | BS EN/EN55032(CISPR32) / BS EN/EN61204-3 / CNS15936 | | 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 | | | |
| | | | **Parameter** | **Standard** | **Test Level / Note** | |
| | | | ESD | BS EN/EN61000-4-2 | Level 4, 15KV air ; Level 4, 8KV contact | |
| | | | Radiated Field | 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-Earth | |
| | | | Conducted | BS EN/EN61000-4-6 | Level 3, 10V/m ; criteria A | |
| | | | Magnetic Field | BS EN/EN61000-4-8 | Level 4, 30A/m ; criteria A | |
| | | | Voltage Dips and Interruptions | BS EN/EN61000-4-11 | ＞95% dip 0.5 periods, 30% dip 25 periods＞ 95% interruptions 250 periods | |
| OTHERS | MTBF | | K hrs min. Telcordia SR-332(Bellcore) ; K hrs min. MIL-HDBK-217F (25℃) | | | |
| | DIMENSION | | 63*125.2*125mm (W*H*D) | | | |
| | PACKING | | 1.3Kg ; 10pcs/14Kg/1.1CUFT | | | |

**NOTE**

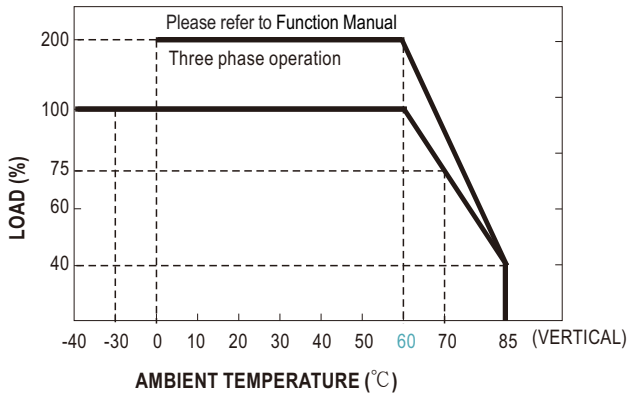
1. All parameters NOT specially mentioned are measured at 400Vac input, rated load and 25℃ of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 μF & 47 μF parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. Dual phase operation is allowed under certain derating to output load. Please refer to derating curves for details.
5. 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.
6. 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).
7. The power supply is considered as an independent unit, but the final equipment still need to re-confirm that the whole system complies with the EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf )

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

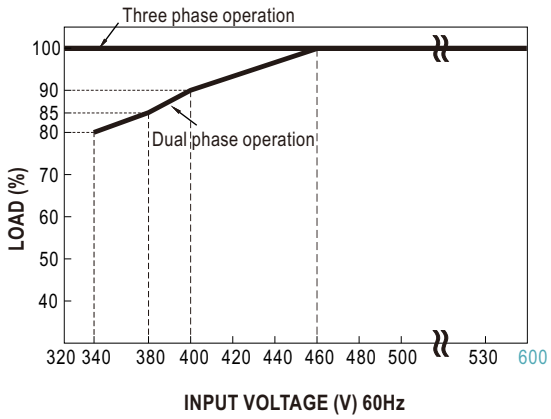
## ■ Block Diagram




## ■ Derating Curve




## ■ Output derating VS input voltage

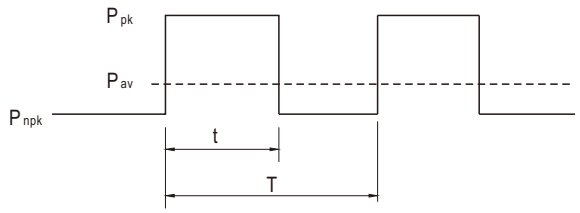


## ■ Peak Power

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

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

$t \leqslant 5$ sec




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

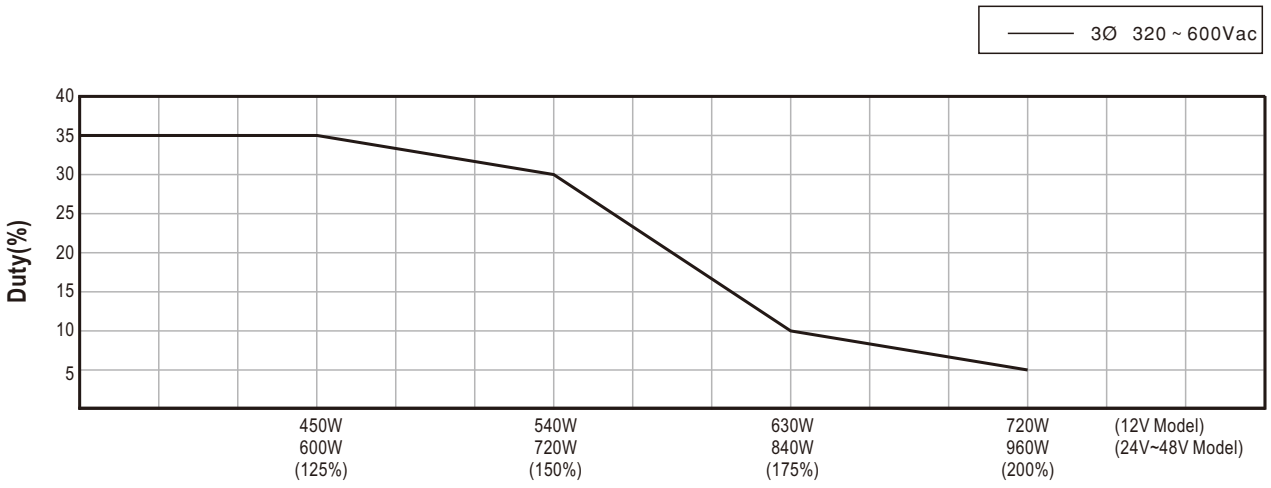
$P_{pk}$ : Peak output power (W)

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

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

t : Peak power width (sec)

T: Period (sec)




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

Vin = 400V Duty_max = 5%

$P_{av} = P_{rated} = 480W$

$P_{pk} = 960W$

$t \leqslant 5$ sec

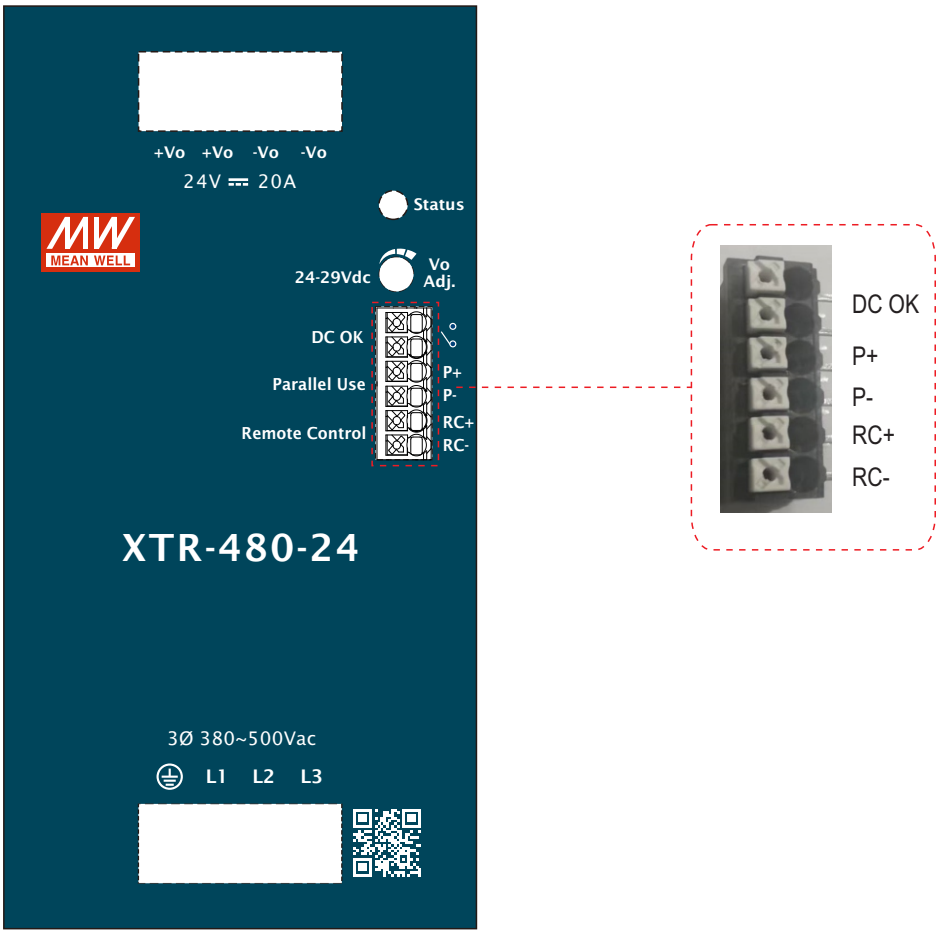
$$T \geqslant \frac{5\ sec}{5\%} \geqslant 100sec$$

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

$P_{npk} \leqslant 454.7W$

## ■ 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 | P+ | Current sharing signal. When units are connected in parallel, the P+ pins of the units should be connected mutually to allow current balance between units. |
| 4 | P- | Current sharing signal. When units are connected in parallel, the P- pins of the units should be connected mutually to allow current balance between units.<br>P- Signal is internally connected to -Vo. |
| 5 | RC+ | Turns the output ON and OFF by electrical singal<br>Remote power ON : Open or keep 2~5Vdc<br>Remote power OFF: Short or keep<0.5Vdc |
| 6 | RC- | |



## 1.Parallel Use

XTR-480 has the built-in active current sharing function and can be connected in parallel, up to 4 units, to provide higher output power as exhibited below :

(1) Parallel operation is available by connecting the units shown as below (P+,P- are connected mutually in parallel).

(2) Difference of output voltages among parallel units should be less than 0.2V.

(3) The total output current must not exceed the value determined by the following equation (Output current at parallel operation)=(The rated current per unit) x (Number of unit) x 0.9.

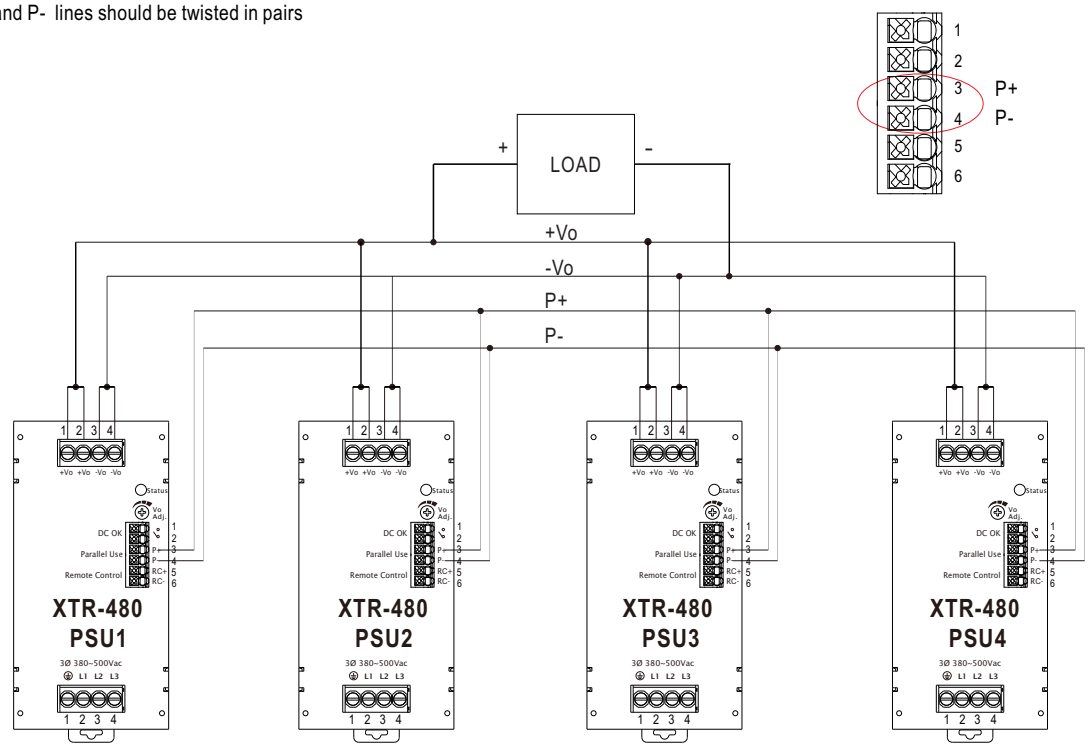
(4) In parallel operation 4 units is the maximum, please consult the manufacture for other applications.

(5) The power supplies should be paralleled using short and large diameter wiring and then connected to the load.

(6) When in parallel operation, the minimum output load should be greater than 5% of total output load. (Min. load >5% rated current per unit x number of unit)

(7) In parallel connection, maybe only one unit (master) operate if the total output load is less than 5% of rated load condition. The other PSUs (slaves) may go into standby mode and their output LEDs & relays will not turn on.

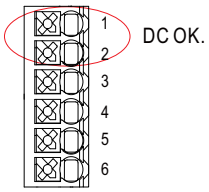
(8) P+ and P- lines should be twisted in pairs

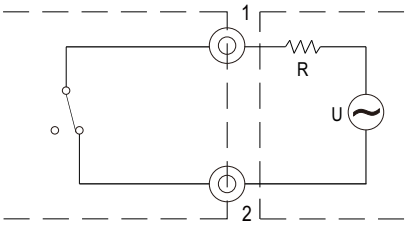



※ Please contact MEAN WELL for more details.

## 2.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. |



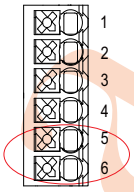




External voltage source (U) and resistor (R)
(The max. Sink is 30Vdc/1A ,30Vac/0.5A)

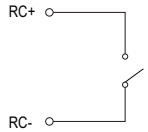
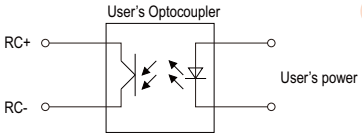
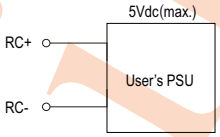
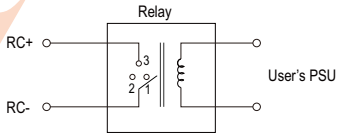
Internal circuit of DC_OK, via relay contact

## 3.Remote ON/OFF Control

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

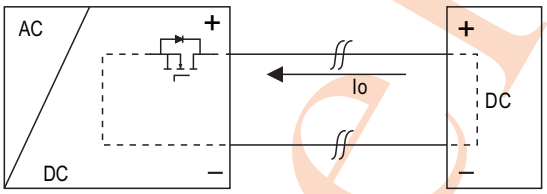



| PSU Vo Status | Between RC+ and RC- |
|---|---|
| Remote power ON | Open or keep 2~5Vdc |
| Remote power OFF | Short or keep<0.5Vdc |

| | | | |
|---|---|---|---|
|  |  |  |  |
| R.C. by external switch. | R.C. by user's optocoupler control module. | R.C. by user's external auxiliary power. | R.C. by user's Relay control module. |

## 4.Protection Against Reverse Voltages from the Load

Prevent PSU damage from Back Electro magnetic Force during deceleration of motor or inductive load.



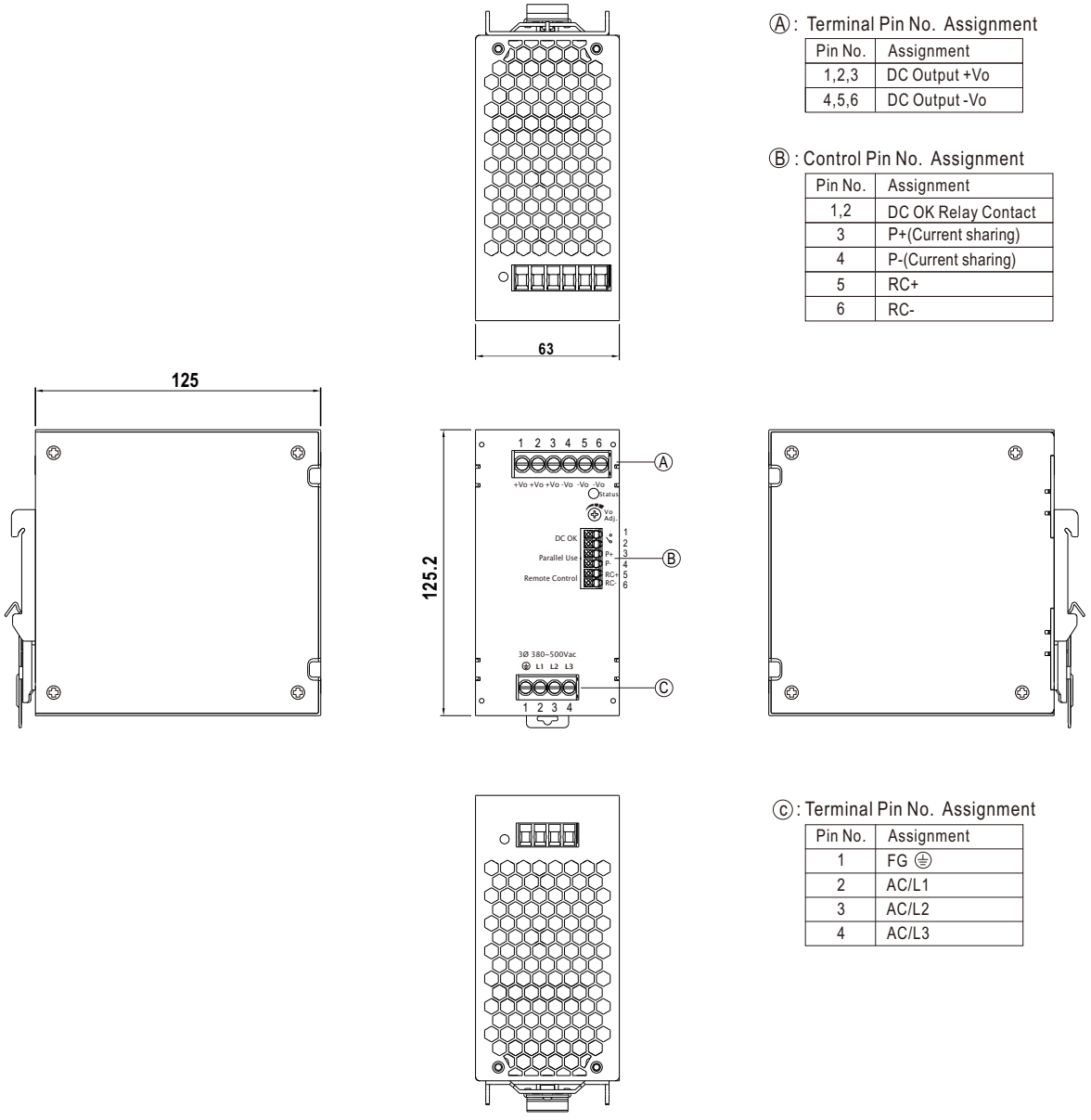

(XTR-480) (DC Load)

| PSU'S ORing FET turn OFF voltage | |
|---|---|
| MODEL | Max. allowable reverse voltage |
| XTR-480-12 | <16V |
| XTR-480-24 | <35V |
| XTR-480-36 | <50V |
| XTR-480-48 | <63V |

## ■ Mechanical Specification

(Unit:mm , Tolerance ±1mm)

Case No.305




Ⓐ: Terminal Pin No. Assignment

| Pin No. | Assignment |
|---|---|
| 1,2,3 | DC Output +Vo |
| 4,5,6 | DC Output -Vo |

Ⓑ: Control Pin No. Assignment

| Pin No. | Assignment |
|---|---|
| 1,2 | DC OK Relay Contact |
| 3 | P+(Current sharing) |
| 4 | P-(Current sharing) |
| 5 | RC+ |
| 6 | RC- |

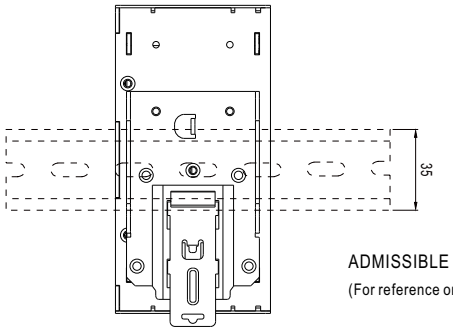
ⓒ: Terminal Pin No. Assignment

| Pin No. | Assignment |
|---|---|
| 1 | FG ⏚ |
| 2 | AC/L1 |
| 3 | AC/L2 |
| 4 | AC/L3 |

## ■ Recommend Wiring

| | AC Input T.B | DC Output T.B | Signal connector |
|---|---|---|---|
| Solid Wire | 6mm$^2$ max. | 6mm$^2$ max. | 1.5mm$^2$ max. |
| A.W.G | 18~10 AWG | 18~10 AWG | 24~16 AWG |
| Screw Terminal Torque | 9 Lb-In | 9 Lb-In | / |

## ■ Installation Instruction



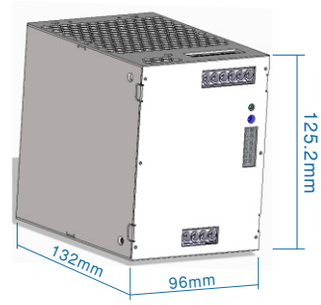

ADMISSIBLE DIN-RAIL:TS35/7.5 OR TS35/15
(For reference only. Not included with unit.)

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

## ■ Installation Manual

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

# 960W AC/DC 3Ø Input Ultra Slim Industrial DIN Rail Power XTR-960 series




User's Manual

LISTED Class 1, Div. 2 | LISTED UL61010 | BS EN/EN62368-1, BS EN/EN61558-1, BS EN/EN61010 | IEC62368-1, IEC61558-1, IEC61010 | AS/NZS61558-1, AS/NZS62368-1

IS13252 | KC62368-1 (By request) | CNS15598-1 | GB4943.1 | TPTC004

Automate | Industrial | Security | Network | Telecom

## Features

- Three-Phase 320 ~ 600Vac wide range input (Dual phase operation possible)
- Global certificates in multi-fields(ITE 62368-1,Industrial 61558-1/-2-16,61010) & Marine DNV,SEMI47,C1D2 HazLoc approved
- 96mm Ultra slim width
- High efficiency up to 96% and no load power dissipation<3.1W by R.C.
- 200% Peak Power capability
- Built-in constant current limiting circuit
- Current sharing up to 3840W(3+1) for parallel use
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Fanless design, cooling by free air convection
- Over voltage category III (OVC III)
- -40~+85℃ wide range operation temperature (>+60℃ derating)
- Operating altitude up to 5000 meters
- Built-in Remote ON/OFF Control and DC OK relay contact
- Ultra low inrush current < 10A
- Built-in ORing FET
- Tool free terminal block (LA type)
- Conformal coating
- Can be installed on DIN Rail TS-35/7.5 or 15
- 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 XTR-960 series is a 960W AC/DC 3Ø 320~600Vac input ultra slim industrial high-reliability DIN rail power. Key features of this series include a narrow 96 mm casing, optimizing system installation space, it boasts a maximum efficiency of 96% and a low standby power consumption <3.1W by remote control for energy savings and carbon reduction. It provides constant current with up to 200% peak power; fanless design , ultra-wide operating temperature range of -40 to +85℃ (up to +60℃ at full load); OVCIII compliance; parallel function capability up to 3840W; ultra-low inrush current of <10A; built-in Remote Control ,DC OK and ORing FET; internal PCB coating offers 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 XTR-960 series is a compact, high-performance, and highly reliable DIN rail power supply.

## Model Encoding

XTR - 960 - 24 ☐

- Output terminal type
- Output voltage(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 |

# 960W AC/DC 3Ø Input Ultra Slim Industrial DIN Rail Power XTR-960 series

## SPECIFICATION

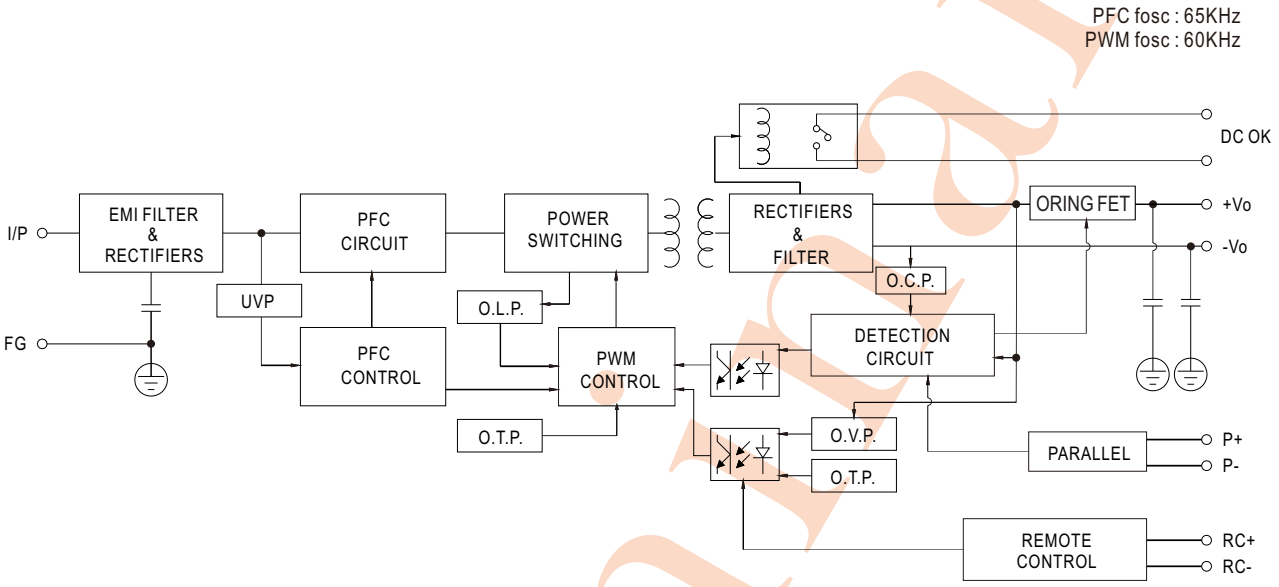
| MODEL | | | XTR-960-24□ | XTR-960-36□ | XTR-960-48□ |
|---|---|---|---|---|---|
| | | | □=Blank, LA, PI | | |
| OUTPUT | DC VOLTAGE | | 24V | 36V | 48V |
| | RATED CURRENT | | 40A | 26.66A | 20A |
| | CURRENT RANGE | | 0 ~ 40A | 0 ~ 26.66A | 0 ~ 20A |
| | RATED POWER | | 960W | 957.6W | 960W |
| | PEAK | CURRENT(5 sec.) | 80A | 53.3A | 40A |
| | | POWER(5 sec.) | 1920W | 1918.8W | 1920W |
| | RIPPLE & NOISE (max.) Note.2 | | 120mVp-p | 150mVp-p | 150mVp-p |
| | VOLTAGE ADJ. RANGE | | 24 ~ 29V | 36 ~ 42V | 48 ~ 55V |
| | VOLTAGE TOLERANCE Note.3 | | ±1.0% | ±1.0% | ±1.0% |
| | LINE REGULATION | | ±0.5% | ±0.5% | ±0.5% |
| | LOAD REGULATION | | ±1.0% | ±1.0% | ±1.0% |
| | SETUP, RISE TIME | | 800ms, 60ms/400Vac 600ms, 60ms/500Vac at full load | | |
| | HOLD UP TIME (Typ.) | | 20ms / 400Vac 20ms / 500Vac at full load | | |
| INPUT | VOLTAGE RANGE Note.4 | | Three-Phase 320 ~ 600Vac (Dual phase operation possible) 450 ~ 800Vdc | | |
| | NO LOAD CONSUMPTION(Typ.) | Remote Power OFF | 3.1W/400Vac | 3.1W/400Vac | 3.1W/400Vac |
| | | Remote Power ON | 6.1W/400Vac | 6.1W/400Vac | 6.1W/400Vac |
| | FREQUENCY RANGE | | 47 ~ 63Hz | | |
| | POWER FACTOR (Typ.) | | PF≧0.92/400Vac PF≧0.92/500Vac at full load | | |
| | EFFICIENCY (Typ.) | | 95% | 95.5% | 96% |
| | AC CURRENT (Typ.) | | 2A/400Vac 1.4A/500Vac | | |
| | INRUSH CURRENT (Typ.) | | COLD START 10A/500Vac | | |
| | LEAKAGE CURRENT | | <3.5mA / 530Vac | | |
| PROTECTION | OVERLOAD | | 105%~200% rated output power for more than 5 sec then constant current limiting without shutdown at rate current when Vo=30%~100% | | |
| | | | Hiccup mode when Vo<30% rated voltage | | |
| | OVER VOLTAGE | | 30 ~ 35V | 43 ~ 50V | 56 ~ 65V |
| | | | Protection type : Shut down o/p voltage, re-power on to recover | | |
| | OVER TEMPERATURE | | Shut down o/p voltage or hiccup mode, recovers automatically after temperature goes down | | |
| FUNCTION | PARALLEL | | Up to 3840W (3+1), please refer to Function Manual for more details | | |
| | DC OK RELAY CONTACT | | Relay Contact Ratings (max.):30Vdc/1A, 30Vac/0.5A resistive load | | |
| | REMOTE CONTROL | | Power ON : RC + ~ RC- open or keep 2~5Vdc | | |
| | | | Power OFF: RC + ~ RC- short or keep<0.5Vdc | | |
| ENVIRONMENT | WORKING TEMP. Note.5 | | -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℃) | | |
| | VIBRATION | | Component:10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes; Mounting: Compliance to IEC60068-2-6 | | |
| SAFETY & EMC (Note 7) | SAFETY STANDARDS | | UL121201/CSA C22.2 NO.213.17 Class I, Div. 2 Group A, B, C, D Hazardous Locations T4; UL61010; TUV BS EN/EN62368-1, BS EN/EN61558-1/-2-16,BS EN/EN61010;CB IEC62368-1,IEC61558-1,IEC61010;RCM AS/NZS 62368-1,AS/NZS 61558-1/-2-16; BIS IS13252 (Part 1):2010;BSMI CNS15598-1;CCC GB4943.1;EAC TPTC004 approved; KC KC62368-1 certified, no stock ,contact sale for inquires | | |
| | OVER VOLTAGE CATEGORY Note.6 | | IEC/EN 61558-1/-2-16 (OVC Ⅲ, altitude up to 2000m )<br>IEC/EN/UL 61010 (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/UL 61010-2-201 (SELV )<br>IEC/EN 62368-1 (SELV/ ES1 ) | | |
| | WITHSTAND VOLTAGE | | I/P-O/P:4.87KVac I/P-FG:2.5KVac O/P-FG:0.5KVac 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 | Class B |
| | | | Radiated | BS EN/EN55032(CISPR32) / BS EN/EN61204-3 / CNS15936 | 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 | | |
| | | | **Parameter** | **Standard** | **Test Level / Note** |
| | | | ESD | BS EN/EN61000-4-2 | Level 4, 15KV air ; Level 4, 8KV contact |
| | | | Radiated Field | 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-Earth |
| | | | Conducted | BS EN/EN61000-4-6 | Level 3, 10V/m ; criteria A |
| | | | Magnetic Field | BS EN/EN61000-4-8 | Level 4, 30A/m ; criteria A |
| | | | Voltage Dips and Interruptions | BS EN/EN61000-4-11 | ＞95% dip 0.5 periods, 30% dip 25 periods＞ 95% interruptions 250 periods |
| OTHERS | MTBF | | K hrs min. Telcordia SR-332(Bellcore) ; K hrs min. MIL-HDBK-217F (25℃) | | |
| | DIMENSION | | 96*125.2*132mm (W*H*D) | | |
| | PACKING | | 1.8Kg ; 6pcs/15Kg/1.1CUFT | | |

**NOTE**

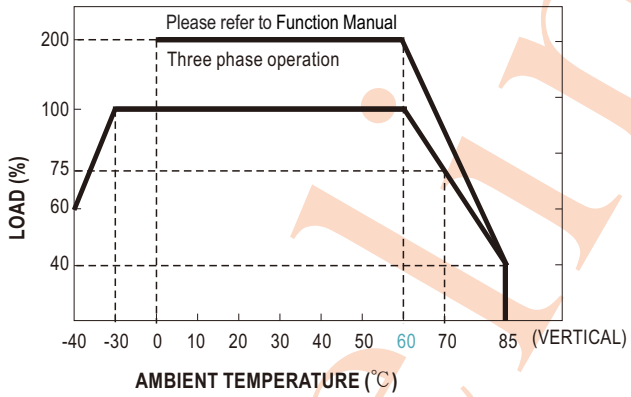
1. All parameters NOT specially mentioned are measured at 400Vac input, rated load and 25℃ of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 μF & 47 μF parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. Dual phase operation is allowed under certain derating to output load. Please refer to derating curves for details.
5. 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.
6. 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).
7. The power supply is considered as an independent unit, but the final equipment still need to re-confirm that the whole system complies with the EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf )

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

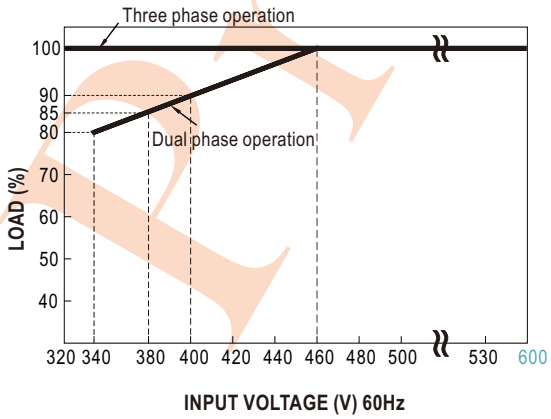
## ■ Block Diagram




## ■ 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)

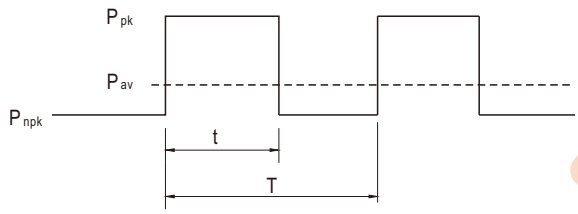
$P_{pk}$ : Peak output power (W)

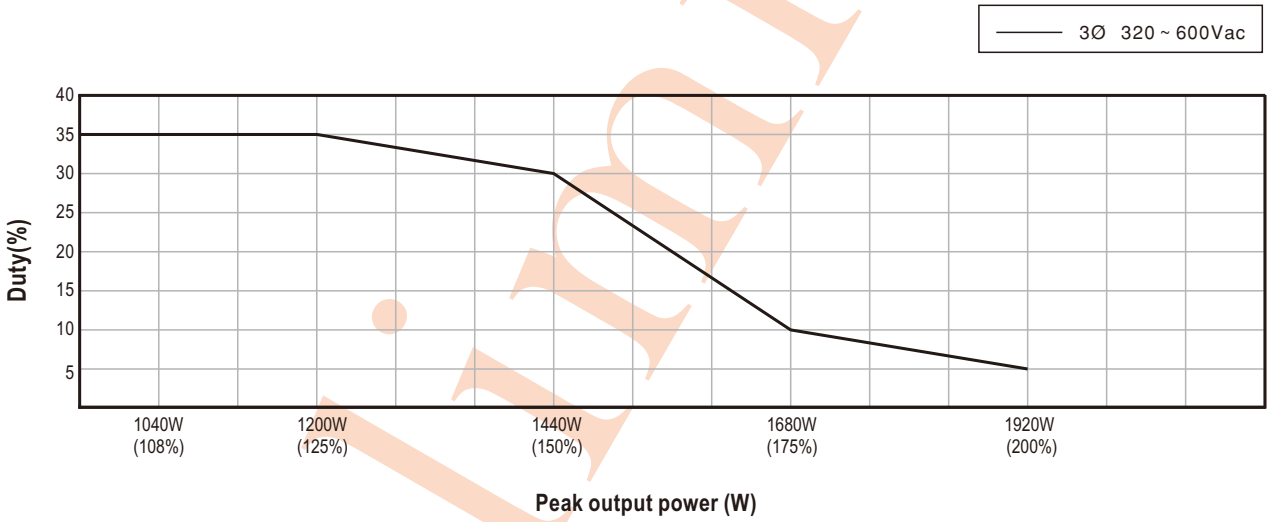
$P_{npk}$ : Non-peak output power (W)

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

t : Peak power width (sec)

T: Period (sec)




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

Vin = 400Vac Duty_max = 5%

$P_{av} = P_{rated} = 960W$

$P_{pk} = 1920W$

$t \leqslant 5$ sec

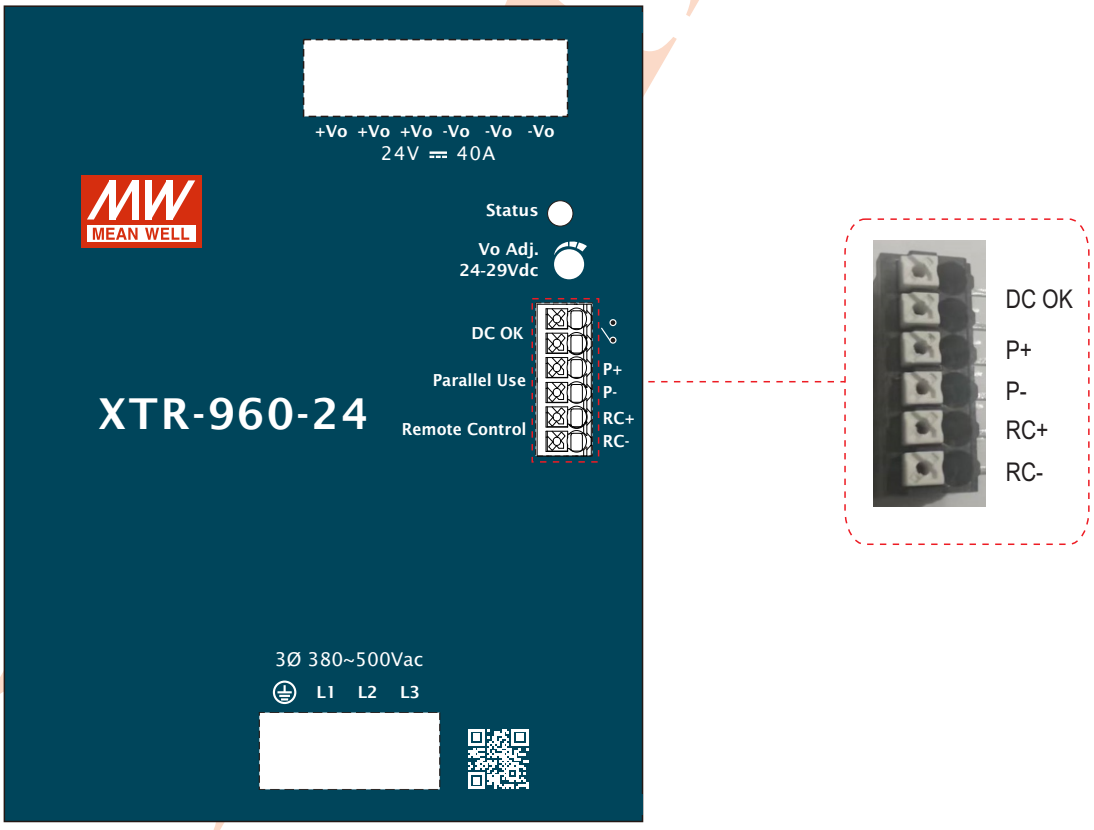
$$T \geqq \frac{5\ sec}{5\%} \geqq 100sec$$

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

$P_{npk} \leqslant 910W$

## ■ 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 | P+ | Current sharing signal. When units are connected in parallel, the P+ pins of the units should be connected mutually to allow current balance between units. |
| 4 | P- | Current sharing signal. When units are connected in parallel, the P- pins of the units should be connected mutually to allow current balance between units.<br>P- Signal is internally connected to -Vo. |
| 5 | RC+ | Turns the output ON and OFF by electrical singal<br>Remote power ON : Open or keep 2~5Vdc<br>Remote power OFF: Short or keep<0.5Vdc |
| 6 | RC- | |



## 1.Parallel Use

XTR-960 has the built-in active current sharing function and can be connected in parallel, up to 4 units, to provide higher output power as exhibited below :

(1) Parallel operation is available by connecting the units shown as below (P+,P- are connected mutually in parallel).

(2) Difference of output voltages among parallel units should be less than 0.2V.

(3) The total output current must not exceed the value determined by the following equation (Output current at parallel operation)=(The rated current per unit) x (Number of unit) x 0.9.

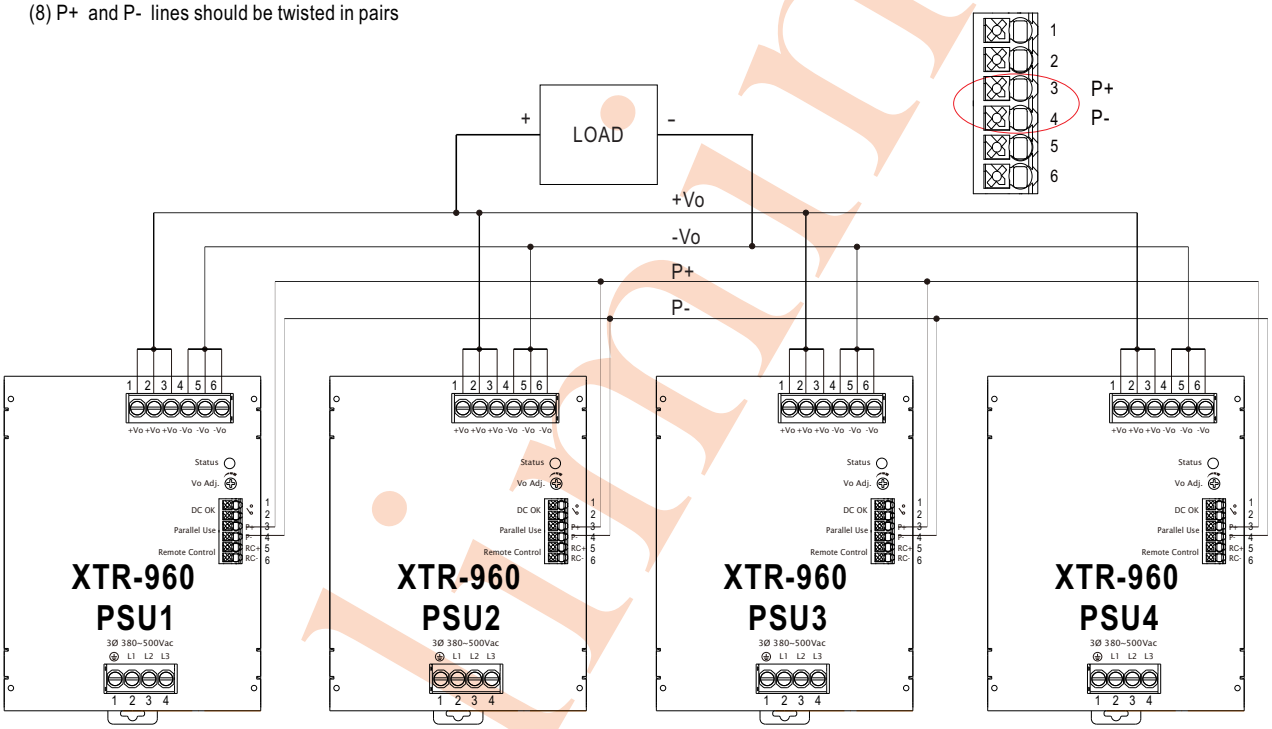
(4) In parallel operation 4 units is the maximum, please consult the manufacture for other applications.

(5) The power supplies should be paralleled using short and large diameter wiring and then connected to the load.

(6) When in parallel operation, the minimum output load should be greater than 5% of total output load. (Min. load >5% rated current per unit x number of unit)

(7) In parallel connection, maybe only one unit (master) operate if the total output load is less than 5% of rated load condition. The other PSUs (slaves) may go into standby mode and their output LEDs & relays will not turn on.

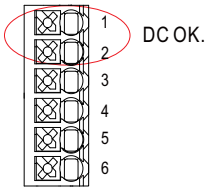
(8) P+ and P- lines should be twisted in pairs

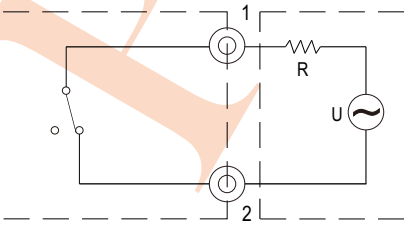



※ Please contact MEAN WELL for more details.

## 2.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. |



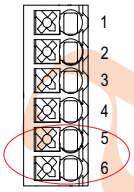




External voltage source (U) and resistor (R)
(The max. Sink is 30Vdc/1A ,30Vac/0.5A)

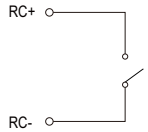
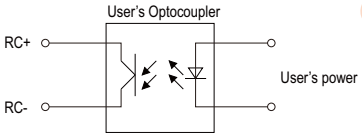
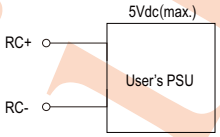
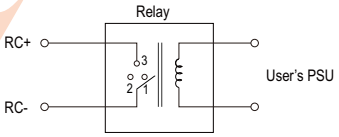
Internal circuit of DC_OK, via relay contact

### 3.Remote ON/OFF Control

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

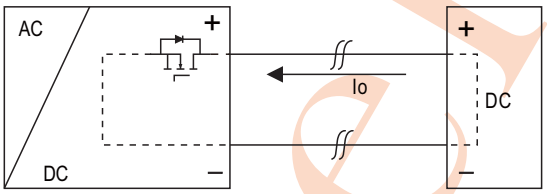



| PSU Vo Status | Between RC+ and RC- |
|---|---|
| Remote power ON | Open or keep 2~5Vdc |
| Remote power OFF | Short or keep<0.5Vdc |

| | | | |
|---|---|---|---|
|  |  |  |  |
| R.C. by external switch. | R.C. by user's optocoupler control module. | R.C. by user's external auxiliary power. | R.C. by user's Relay control module. |

### 4.Protection Against Reverse Voltages from the Load

Prevent PSU damage from Back Electro magnetic Force during deceleration of motor or inductive load.



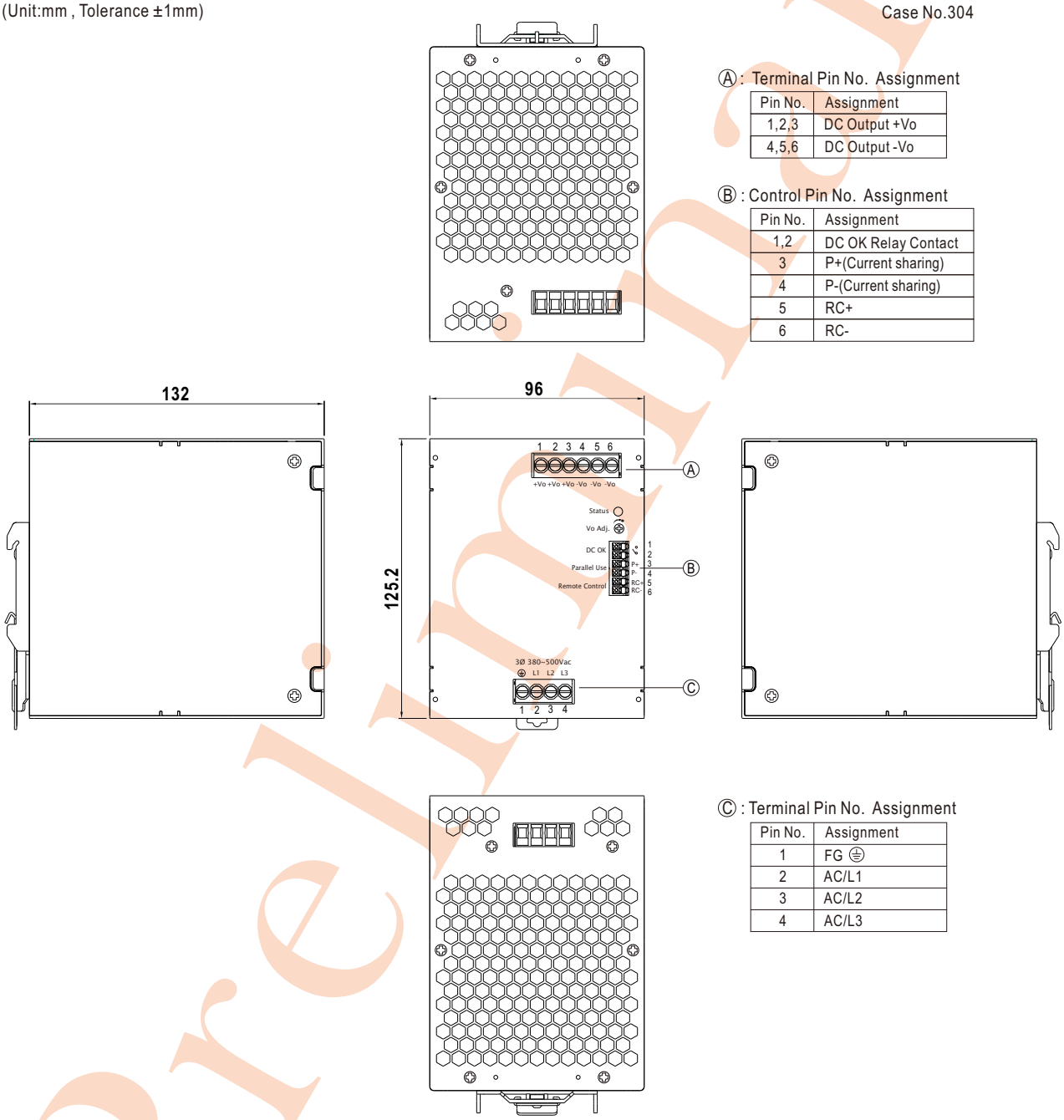

(XTR-960) (DC Load)

| PSU'S ORing FET turn OFF voltage | |
|---|---|
| MODEL | Max. allowable reverse voltage |
| XTR-960-24 | <35V |
| XTR-960-36 | <50V |
| XTR-960-48 | <63V |

## ■ Mechanical Specification

(Unit:mm , Tolerance ±1mm)

Case No.304




Ⓐ : Terminal Pin No. Assignment

| Pin No. | Assignment |
|---|---|
| 1,2,3 | DC Output +Vo |
| 4,5,6 | DC Output -Vo |

Ⓑ : Control Pin No. Assignment

| Pin No. | Assignment |
|---|---|
| 1,2 | DC OK Relay Contact |
| 3 | P+(Current sharing) |
| 4 | P-(Current sharing) |
| 5 | RC+ |
| 6 | RC- |

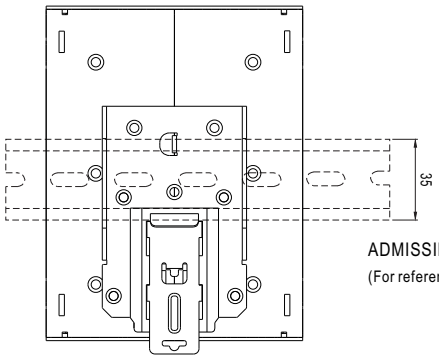
Ⓒ : Terminal Pin No. Assignment

| Pin No. | Assignment |
|---|---|
| 1 | FG ⏚ |
| 2 | AC/L1 |
| 3 | AC/L2 |
| 4 | AC/L3 |

## ■ Recommend Wiring

| | AC Input T.B | DC Output T.B | Signal connector |
|---|---|---|---|
| Solid Wire | 6mm$^2$ max. | 6mm$^2$ max. | 1.5mm$^2$ max. |
| A.W.G | 18~10 AWG | 18~10 AWG | 24~16 AWG |
| Screw Terminal Torque | 9 Lb-In | 9 Lb-In | / |

## ■ 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