









(XTR-240-xx)





KC62368-1 CNS15598-1 GB4943.1 TPTC004











(XTR-240-xxPI)







Features

IS13252 8

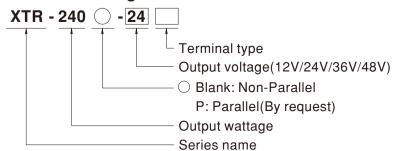
Three-Phase 320 ~ 600Vac wide range input, 600 ~ 700Vac surge input for 1 sec. occasionally (Dual phase operation possible)

- Global certificates in multi-fields(ITE 62368-1,Industrial 61558-1/-2-16,61010) & Marine DNV,SEMI47,C1D2 HazLoc approved • Electro-mechanical apparatus
- · 48mm Ultra slim width
- High efficiency up to 93.5% 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°C wide range operation temperature (>+60°C 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

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 93.5% 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 $^{\circ}$ C (up to +60 $^{\circ}$ C 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



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

Applications

- · Industrial control system
- · Semiconductor fabrication equipment
- Factory automation

GTIN CODE

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



| | | XTR-240○-12□ | XTR-240○-24□ | XTR-240○-36□ | XTR-240○-48□ | |
|--|-------------------|--|------------------------------------|-------------------------------------|------------------------------------|--|
| SPECIF | ICATION | ○=Blank, P □=Blank, LA, Pl | | | | |
| OUTPUT | | | | | | |
| DC VOLTAGE | | 12V | 24V | 36V | 48V | |
| RATED CURF | RENT | 15A | 10A | 6.66A | 5A | |
| CURRENT RA | ANGE | 0 ~ 15A | 0 ~ 10A | 0 ~ 6.66A | 0 ~ 5A | |
| RATED POW | ER | 180W | 240W | 239.8W | 240W | |
| DEAK | CURRENT(5 sec.) | 22.5A | 15A | 10A | 7.5A | |
| PEAK | POWER(5 sec.) | 270W | 360W | 360W | 360W | |
| RIPPLE & NO | ISE (max.) Note.2 | 100mVp-p | 100mVp-p | 120mVp-p | 120mVp-p | |
| VOLTAGE AD | J. RANGE | 12 ~ 15V | 24 ~ 29V | 36 ~ 42V | 48 ~ 55V | |
| VOLTAGE TO | LERANCE Note.3 | ±1.0% | ±1.0% | ±1.0% | ±1.0% | |
| LINE REGUL | ATION | ±0.5% | ±0.5% | ±0.5% | ±0.5% | |
| LOAD REGUI | LATION | ±1.0% | ±1.0% | ±1.0% | ±1.0% | |
| SETUP, RISE | TIME | 2000ms, 60ms/400Vac | 1500ms, 60ms/500Vac at full loa | d | | |
| HOLD UP TIME (Typ.) | | 20ms / 400Vac 40ms / 5 | 00Vac at full load | | | |
| INPUT | | | | | | |
| VOLTAGE RA | ANGE Note.4 | Three-Phase 320 ~ 600Vac 450 ~ 800Vdc (Dual phase operation possible in connecting L1,L3,FG or L2,L3,FG) | | | | |
| NO LOAD POWER CONSUMPTION (Typ.) | | 2.5W/400Vac | 2.5W/400Vac | 2.5W/400Vac | 2.5W/400Vac | |
| FREQUENCY RANGE | | 47 ~ 63Hz | | | | |
| POWER FAC | TOR (Typ.) | PF≥0.53/400Vac PF≥0.52/500Vac at full load | | | | |
| EFFICIENCY (Typ.) | | 88.7% | 92.5% | 92.5% | 93.5% | |
| AC CURRENT (Typ.) | | 0.69A/400Vac 0.6A/500Vac | | | | |
| INRUSH CURRENT (Typ.) | | COLD START 10A/400Vac | | | | |
| LEAKAGE CU | URRENT | <2mA / 530Vac | | | | |
| PROTECTION | N | | | | | |
| OVERLOAD | | 105%~150% rated output pow | er for more than 5 sec then consta | nt current limiting without shutdow | n at rate current when Vo=30%~100% | |
| OVERVOLE | | 15 ~ 18V | 30 ~ 36V | 45 ~ 54V | 56 ~ 65V | |
| OVER VOLTA | NGE | Hiccup mode , recovers automatically after fault condition is removed | | | | |
| OVER TEMPE | ERATURE | 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°C (Refer to "Derating Curve") | | | | | | |
| WORKING HUMIDITY | | 20 ~ 95% RH non-condensing | | | | |
| STORAGE TEMP., HUMIDITY | | -40 ~ +85°C, 10 ~ 95% RH non-condensing | | | | |
| TEMP. COEFFICIENT | | ±0.03%/°C (0~60°C) | | | | |
| VIBRATION | | Component:10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes; Mounting: Compliance to IEC60068-2-6 | | | | |



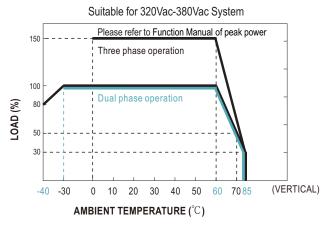
| CDECIFICATION | XTR-240○-12□ | XTR-240○-24□ | XTR-240○-36□ | XTR-240○-48□ | | |
|--------------------------------|---|--|--|---------------------------------|--|--|
| SPECIFICATION | ○=Blank, P □=Blank, LA, Pl | | | | | |
| SAFETY & EMC Note.7 | | | | | | |
| SAFETY STANDARDS | UL121201/CSA C22.2 NO.213.17 Class I, Div. 2 Group A, B, C, D Hazardous Locations T4; UL/CUL 61010-1/-2-201; TUV BS EN/EN 62368-1, BS EN IEC/EN IEC 61558-1/-2-16, BS EN/EN 61010-1/-2-201; CB IEC 62368-1, IEC 61558-1/2-16, IEC 61010-1/-2-201; RCM AS/NZS 62368-1, AS/NZS 61558-1/-2-16; BSMI CNS15598-1; CCC GB4943.1; EAC TPTC004 approved; Marine DNV KC KC62368-1 and BIS IS13252 (Part 1):2010 certified, no stock ,contact sale for inquires | | | | | |
| OVER VOLTAGE CATEGORY Note.6 | , | lititude up to 2000m) lititude up to 5000m) lititude up to 5000m) | | | | |
| SAFETY EXTRA-LOW VOLTAGE(SELV) | IEC/EN 61558-2-16 (SELV 1: IEC/EN/UL 61010-2-201 (SELV 1: IEC/EN 62368-1 (SELV/ E | , | | | | |
| WITHSTAND VOLTAGE | I/P-O/P:4.87KVac I/P-FG:2.5K | Vac O/P-FG:0.5KVac O/P-E | OC OK:0.5KVac | | | |
| ISOLATION RESISTANCE | I/P-O/P, I/P-FG, O/P-FG:>100M (| Dhms / 500VDC / 25°C / 70% RH | | | | |
| | Parameter | Standard | ndard | | | |
| | Conducted BS EN/EN55032(CISPR32) / BS EN/EN61204-3 / CNS15936 | | 6 Class B | | | |
| EMC EMISSION | Radiated BS EN/EN55032(CISPR32) / BS EN/EN | | 2) / BS EN/EN61204-3 / CNS1593 | 6 Class B | | |
| | Harmonic Current | BS EN/EN61000-3-2 | | Class A | | |
| | Voltage Flicker | BS EN/EN61000-3-3 | BS EN/EN61000-3-3 | | | |
| | BS EN/EN55035 , BS EN/EN61204-3 , BS EN/EN61000-6-2:2005 , BS EN/EN IEC61000-6-2:2019 | | | | | |
| | Parameter Standard | | Test Level / Note | Test Level / Note | | |
| | ESD | BS EN/EN61000-4-2 | Level 4, 15KV air ; L | evel 4, 8KV contact | | |
| | Radiated Field | BS EN/EN61000-4-3 | Level 3, 10V/m ; crit | eria A | | |
| | EFT / Burst | BS EN/EN61000-4-4 | Level 4, 4KV; criter | ia A | | |
| EMC IMMUNITY | 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; crit | eria A | | |
| | Magnetic Field | BS EN/EN61000-4-8 | Level 4, 30A/m ; crit | eria A | | |
| | Voltage Dips and Interruptions | BS EN/EN61000-4-11 | SS EN/EN61000-4-11 >95% dip 0.5 periods, 30% dip 2 periods > 95% interruptions 250 | | | |
| OTHERS | | | | | | |
| MTBF | 1432.3K hrs min. Telcordia SR-332(Bellcore); 191.5K hrs min. MIL-HDBK-217F (25°C) | | | 25°C) | | |
| DIMENSION | 48*125.2*125mm (W*H*D) | | | | | |
| PACKING | 990g; 12pcs/12.9Kg/1.16CUFT | | | | | |
| NOTE | | | | | | |

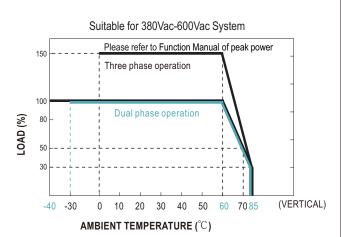
NOTE

- 1. All parameters NOT specially mentioned are measured at 400Vac input, rated load and 25°C of ambient temperature.
- 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 μ F & 47 μ F parallel capacitor.
- 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°C/1000m with fanless models and of 5°C/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 PWM fosc: 60KHz DCOK ORING FET (By request) → +Vo RECTIFIERS **EMIFILTER** POWER **PASSIVE** Input ○ SWITCHING PFC - -Vo RECTIFIERS FILTER O.C.P. O.L.P. DETECTION FG C PWM CIRCUIT CONTROL O.V.P. O.T.P. PARALLEL (By request) -0 Р-

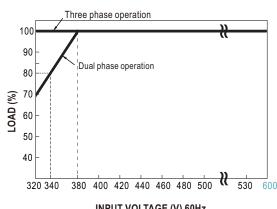
■ Derating Curve





Note : Dual phase operating temperature is between -30 $^{\circ}$ C ~+85 $^{\circ}$ C .

■ Output derating VS input voltage



INPUT VOLTAGE (V) 60Hz

Note : When ambient temperature is between -30 $^{\circ}$ C \sim -10 $^{\circ}$ C and unit is operated in dual-phase input mode :

- At dual-phase input 320~380Vac, power supply can be loaded but might experience hiccup at cold start for 5~10 seconds.

■ Peak Power

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

Duty =
$$\frac{t}{T}$$
 x 100% \leq 35%

t ≤ 5 sec

Pav: Average output power (W)

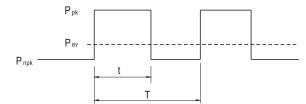
P_{pk}: Peak output power (W)

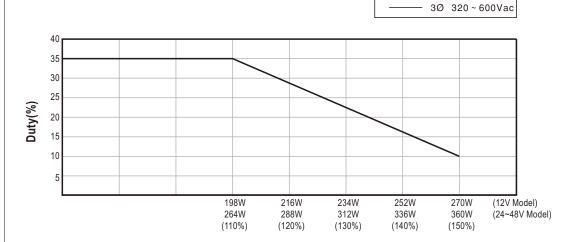
P_{npk}: Non-peak output power(W)

 $\mathsf{P}_{\mathsf{rated}}: \mathsf{Rated} \ \mathsf{output} \ \mathsf{power}(\mathsf{W})$

t : Peak power width (sec)

T: Period(sec)





Peak output power (W)

For example (24V model):

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

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

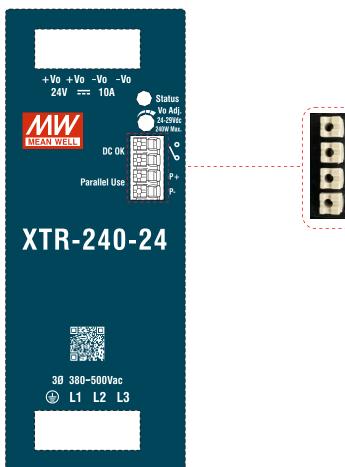
$$\mathsf{P}_{\mathsf{npk}} \leqslant \, \frac{\mathsf{T}\,\mathsf{P}_{\mathsf{av}} \, - \, t\,\mathsf{P}_{\mathsf{pk}}}{\mathsf{T-}\mathsf{t}}$$

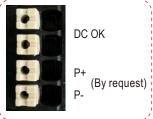
$$P_{npk} \le 226W$$



■ Function Manual

| Pin No. | Function | Description |
|---------|-----------------|---|
| 1,2 | DC OK | Contact close: PSU turns ON/DC_OK; Contact open: PSU turns OFF/DC_fail; 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. P- Signal is internally connected to -Vo. |



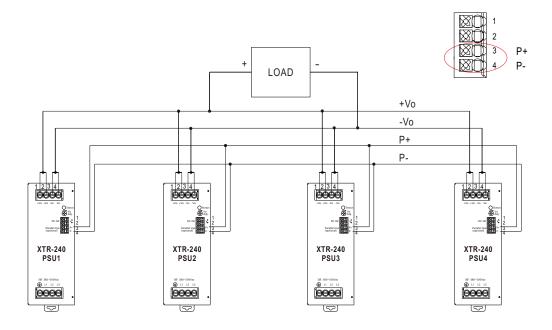




1.Parallel Use (By request)

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:

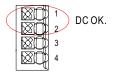
- (1) Parallel operation is available by connecting the units shown as below (P+,P- are connected mutually in parallel).
- (2) Difference of output voltages among parallel units should be less than 0.2V.
- (3) The total output current must not exceed the value determined by the following equation (Output 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) P+ and P- lines should be twisted in pairs

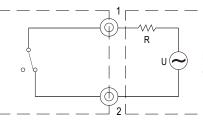


* Please contact MEAN WELL for more details.

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. |



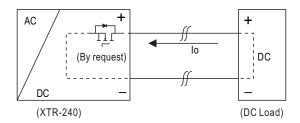


External voltage source (U) and resistor (R) (The max. Sink is 30Vdc/1A,30Vac/0.5A)

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.

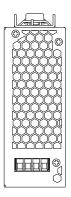


| PSU'S ORing FET turn OFF voltage | | | |
|----------------------------------|--------------------------------|--|--|
| MODEL | Max. allowable reverse voltage | | |
| XTR-240-12 | <16V | | |
| XTR-240-24 | <35V | | |
| XTR-240-36 | <50V | | |
| XTR-240-48 | <63V | | |

■ Mechanical Specification

(Unit:mm , Tolerance ±1mm)

Case No. 303

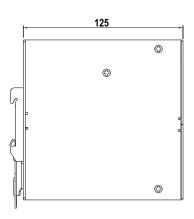


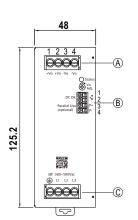
A: Terminal Pin No. Assignment

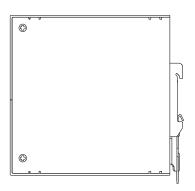
| Pin No. | Assignment | |
|---------|---------------|--|
| 1,2 | DC Output +Vo | |
| 3,4 | DC Output -Vo | |

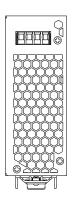
B: Control Pin No. Assignment

| 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

Screw Terminal Torque

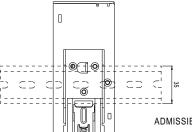
| | | AC Input T.B | DC Output T.B | Signal connector |
|-----------------------|------------------|--------------|---------------|------------------|
| Solid Wire | | 6mm² max. | 6mm² max. | 1.5mm² max. |
| A.W.G | XTR-240-12 | 18~10 AWG | 12~10 AWG | 24~16 AWG |
| | XTR-240-24/36/48 | | 16~10 AWG | |
| Wire Stripping Length | | 10~11mm | 10~11mm | 8~9mm |
| Screw Terminal Torque | | 5 Lb-In | 5 Lb-In | 1 |



X Lever-Actuated and Push In

| | | AC Input T.B | DC Output T.B | Signal connector |
|-----------------------|------------------|--------------|----------------|------------------|
| Solid Wire | | 6mm² max. | 6mm² max. | 1.5mm² max. |
| A.W.G | XTR-240-12 | 18~10 AWG | 12~10 AWG | 24~16 AWG |
| | XTR-240-24/36/48 | | 16~10 AWG | |
| Wire Stripping Length | | 10~11mm | 10~11mm | 8~9mm |
| Screw Terminal Torque | | | 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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