





















Applications















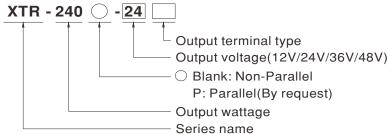
# Features

- Three-Phase 320  $\sim$  600Vac wide range input, 600  $\sim$  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 94% and no load power dissipation<2.5W</li>
- 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</li>
- 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% 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°C (up to +60°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



# · Industrial control system Semiconductor fabrication equipment Factory automation

## **GTIN CODE**

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





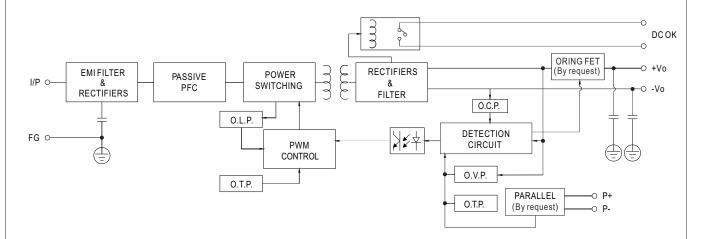
#### **SPECIFICATION**

MODEL		XTR-240 -12 = Plank	XTR-240○-24□	XTR-240	<b>)-36</b>	240○-48□
	DC VOLTAGE	○=Blank, P □=Blank, 12V	, LA, PI 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	
	CURRENT(5 sec.)	22.5A	15A	10A	7.5A	
	PEAK POWER(5 sec.)	270W	360W	360W	360W	
UTPUT	RIPPLE & NOISE (max.) Note.2	-	100mVp-p	120mVp-p	120mV	'p-p
UIPUI	VOLTAGE ADJ. RANGE	12 ~ 15V	24 ~ 29V	36 ~ 42V	48 ~ 5	
	VOLTAGE TOLERANCE Note.3		±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%	0
	SETUP, RISE TIME	2000ms, 60ms/400Vac 1	500ms, 60ms/500Vac at full le	oad	-	
	HOLD UP TIME (Typ.)	20ms / 400Vac 40ms / 50	00Vac at full load			
	VOLTAGE RANGE Note.4	Three-Phase 320 ~ 600Vac (D	ual phase operation possible	in connecting L1,L3	,FG or L2,L3,FG ) 450 ~ 8	00Vdc
	NO LOAD POWER CONSUMPTION (Typ.)	2.5W/500Vac	2.5W/400Vac	2.5W/400Va	c 2.5W/4	400Vac
	FREQUENCY RANGE	47 ~ 63Hz		·		
NPUT	POWER FACTOR (Typ.)	PF≥0.53/400Vac PF≥0.5	52/500Vac at full load			
	EFFICIENCY (Typ.)	92%	93%	93%	94%	
	AC CURRENT (Typ.)	0.69A/400Vac 0.9A/500V	Vac			
	INRUSH CURRENT (Typ.)	COLD START 10A/400Vac				
	LEAKAGE CURRENT	<2mA / 530Vac				
	OVERLOAD	105%~150% rated output power	r for more than 5 sec then cons	tant current limiting w	vithout shutdown at rate curre	ent when Vo=30%~100
	OVERLOAD	Hiccup mode when Vo<3% rat	ted voltage			
PROTECTION	OVER VOLTAGE	15 ~ 18V	30 ~ 36V	45 ~ 54V	56 ~ 68	5V
	OVER VOLIAGE	Hiccup mode , recovers autor	natically after fault condition is	s removed		
	OVER TEMPERATURE	Shut down o/p voltage or hiccu	up mode, recovers automatica	ally after temperature	e goes down	
UNCTION	PARALLEL (optional)	Up to 960W (3+1), please ref	fer to Function Manual for me	ore details		
UNCTION	DC OK RELAY CONTACT	Relay Contact Ratings (max.)	:30Vdc/1A, 30Vac/0.5A resist	tive load		
	WORKING TEMP. Note.5	-40 ~ +85°C (Refer to "Derating	ng Curve")			
	WORKING HUMIDITY	20 ~ 95% RH non-condensing				
NVIRONMENT	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH no	n-condensing			
	TEMP. COEFFICIENT VIBRATION	±0.03%/°C (0 ~ 60°C) Component:10 ~ 500Hz, 2G 1				
	OVER VOLTAGE CATEGORY	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 IEC/EN 61558-1/-2-16 (OVC III, altitude up to 2000m) IEC/EN 61558-1/-2-16 (OVC III, altitude up to 5000m)				
	Note.6 SAFETY EXTRA-LOW	IEC/EN 62368-1 (OVC II, altitude up to 5000m)  IEC/EN 61558-2-16 (SELV 12V/24V)  IEC/EN/UL 61010-2-201 (SELV 12V/24V)				
	VOLTAGE(SELV) WITHSTAND VOLTAGE		V/ ES1 12V/24V )	O/P DC OK:0 5KV/a	0	
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:>100			C	
	ISOLATION NEOISTANGE	Parameter	Standard	7 /0 1311		Test Level / Note
		Conducted		32(CISPR32) / BS FI	N/EN61204-3 / CNS15936	Class B
	EMC EMISSION	Radiated			N/EN61204-3 / CNS15936	Class B
		Harmonic Current	BS EN/EN6100	,		Class A
SAFETY &		Voltage Flicker	BS EN/EN6100			
MC		BS EN/EN55035 , BS EN/EN6	31204-3			
Note 7)		Parameter	Standard	Т	est Level / Note	
		ESD	BS EN/EN6100	00-4-2 L	evel 4, 15KV air ; Level 4, 8	BKV contact
		Radiated Field	BS EN/EN6100	00-4-3 L	evel 3, 10V/m; criteria A	
		EFT / Burst	BS EN/EN6100	00-4-4 L	evel 4, 4KV ; criteria A	
	EMC IMMUNITY	Surge	BS EN/EN6100	00-4-5 L	evel 4, 2KV / Line-Line, Le	evel 4, 4KV/ Line-Ear
		Conducted	BS EN/EN6100	00-4-6 L	evel 3, 10V/m; criteria A	
		Magnetic Field	BS EN/EN6100		Level 4, 30A/m; criteria A >95% dip 0.5 periods, 30% dip 25	
		Voltage Dips and Interruptions	s BS EN/EN6100		eriods > 95% interruptions	
	MTBF	K hrs min. Telcordia SR-332(Bellcore) ; K hrs min. MIL-HDBK-217F (25°C)				
THERS	DIMENSION	48*125.2*125mm (W*H*D)				
	PACKING	0.8Kg; 12pcs/12.5Kg/0.89CUFT				
IOTE	Ripple & noise are measured     Tolerance : includes set up to     Dual phase operation is allow     Installation clearances : 40mn     In case the adjacent device is     The ambient temperature den	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).			2000m(6500ft).	
NOTE  NOTE  1. Installation clearances: 4 umm on top, 2 umm on the bottom, 5 mm on the left and right side are recommended when loaded permanently with full point case the adjacent device is a heat source, 15 mm 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(for the companient of th			2000m(6500i			

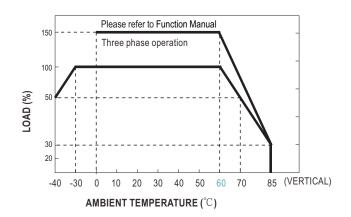


# **■** Block Diagram

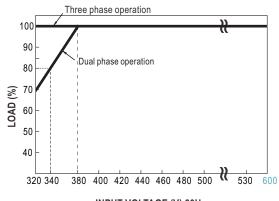
PWM fosc: 60KHz



# ■ Derating Curve



# ■ Output derating VS input voltage



INPUT VOLTAGE (V) 60Hz

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

## ■ Peak Power

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

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

t ≤ 5 sec

Pav: Average output power (W)

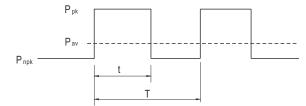
P<sub>pk</sub>: Peak output power (W)

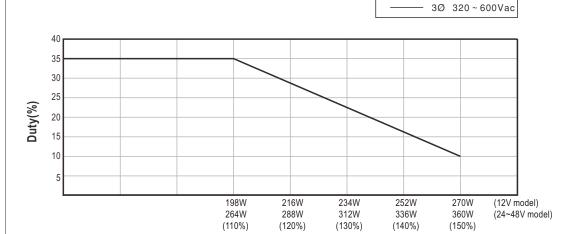
P<sub>npk</sub>: Non-peak output power(W)

Prated: Rated output power(W)

t : Peak power width (sec)

T: Period(sec)





# Peak output power (W)

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

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

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

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

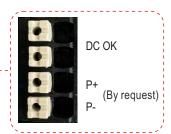
$$P_{npk} \le 226W$$



# **■** 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.





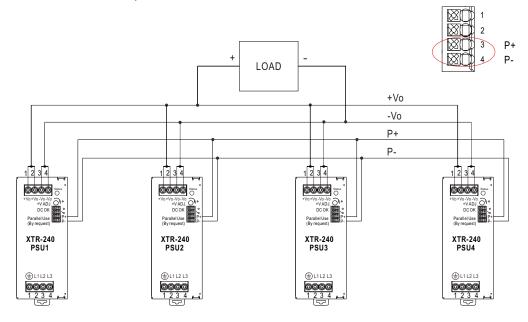
File Name:XTR-240-SPEC 2025-01-24



# 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:

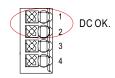
- (1) Parallel operation is available by connecting the units shown as below (P+,P- are connected mutually in parallel).
- (2) Difference of output voltages among parallel units should be less than 0.2V.
- (3) The total output current must not exceed the value determined by the following equation (Output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

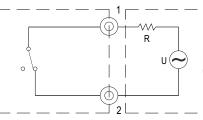


\* Please contact MEAN WELL for more details.

#### 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.





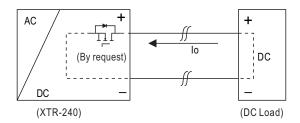
External voltage source (U) and resistor (R) (The max. Sink is 30Vdc/1A,30Vac/0.5A)

Internal circuit of DC\_OK, via relay contact



# ${\bf 3. Protection\, Against\, Inverse\, Reverse\, From\, The\, Load\, (By\, request)}$

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



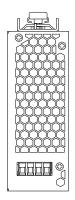
PSU'S ORing FET turn OFF voltage				
MODEL	Max. allowable reverse voltage			
XTR-240-12	<16V			
XTR-240-24	<35V			
XTR-240-36	<50V			
XTR-240-48	<63V			



# ■ Mechanical Specification

(Unit:mm , Tolerance ±1mm)

Case No. 303

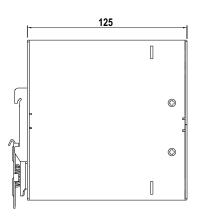


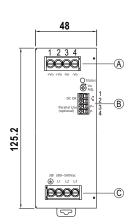
#### A: Terminal Pin No. Assignment

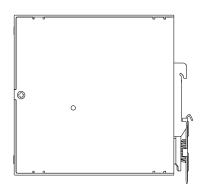
Pin No.	Assignment
1,2	DC Output +Vo
3,4	DC Output -Vo

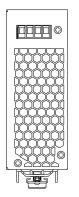
#### B: Control Pin No. Assignment

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

	AC Input T.B	DC Output T.B	Signal connector
Solid Wire	4mm² max.	4mm² max.	1.5mm² max.
A.W.G	28~10 AWG	28~10 AWG	24~16 AWG
Screw Terminal Torque	4 Lb-In	4 Lb-In	1



# ■ Installation Instruction



## **■** Installation Manual

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

File Name:XTR-240-SPEC 2025-01-24











































# 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°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 < 10A</li>
- 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

# 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°C (up to +60°C 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 No					
Blank	Screw Terminal		In stock		
LA	Lever-Actuated	Date	In stock		
PI	Push In		In stock		

# Applications

- Industrial control system
- · Semiconductor fabrication equipment

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Factory automation

**GTIN CODE** 

· Electro-mechanical apparatus

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MODEL		XTR-480-12□	XTR-480-24□	XTR-480-36□	XTR-	480-48□	
		□=Blank, LA, PI					
	DC VOLTAGE	12V	24V	36V	48V		
	RATED CURRENT	30A	20A	13.3A	10A		
	CURRENT RANGE	0 ~ 30A	0 ~ 20A	0 ~ 13.3A	0 ~ 10	A	
	RATED POWER	360W	480W	478.8W	480W		
	CURRENT(5 sec.)	60A		26.7A	20A		
	PEAK POWER(5 sec.)	720W		961W	960W		
	RIPPLE & NOISE (max.) Note.:			150mVp-p	150mV	'n-n	
UTPUT	. ,	1 1		36 ~ 42V	48 ~ 5	· ·	
	VOLTAGE ADJ. RANGE	12 ~ 15V			1.5		
	VOLTAGE TOLERANCE Note.3			±1.0%	±1.0%		
	LINE REGULATION	±0.5%		±0.5%	±0.5%	6	
	LOAD REGULATION	±1.0%	±1.0%	±1.0%	±1.0%	6	
	SETUP, RISE TIME	00ms, 60ms/400Vac 600ms, 60ms/500Vac at full load					
	HOLD UP TIME (Typ.)	20ms / 400Vac 20ms / 500Vac at full load					
	VOLTAGE RANGE Note.4	Three-Phase 320 ~ 600Vac (Dua	al phase operation possible) 450	~ 800Vdc			
		3.1W/400Vac	3.1W/400Vac	3.1W/400Vac	3 1\\\\\	100Vac	
	CONSUMPTION(Typ.) Remote Power ON		5.0W/400Vac	5.0W/400Vac		100Vac	
			5.0W/400VaC	5.0W/400Vac	3.000/2	100 Vac	
	FREQUENCY RANGE	47 ~ 63Hz					
IPUT	POWER FACTOR (Typ.)		500Vac at full load				
	EFFICIENCY (Typ.)	93%	94%	94.5%	95.5%		
	AC CURRENT (Typ.)	0.85A/400Vac 0.7A/500Va	IC .				
	INRUSH CURRENT (Typ.)	COLD START 10A/500Vac					
	LEAKAGE CURRENT	<3.5mA / 530Vac					
		105%~200% rated output power to	for more than 5 sec then constant cu	rrent limiting without shu	tdown at rate curr	ent when Vo=30%~10	
	OVERLOAD	Hiccup mode when Vo<30% ra		- Januar Sila			
ROTECTION		15 ~ 18V	30 ~ 35V	43 ~ 50V	56 ~ 65	5\ <i>/</i>	
KUIECIION	OVER VOLTAGE			45~500	30 ~ 0.	J V	
			o voltage, re-power on to recover				
	OVER TEMPERATURE		mode, recovers automatically afte		/n		
	PARALLEL		er to Function Manual for more de				
UNCTION	DC OK RELAY CONTACT	Relay Contact Ratings (max.):3	0Vdc/1A, 30Vac/0.5A resistive load	d			
UNCTION	DEMOTE CONTROL	Power ON : RC + ~ RC- open	or keep 2~5Vdc				
	REMOTE CONTROL	Power OFF: RC + ~ RC- short	or keep<0.5Vdc				
	WORKING TEMP. Note.5	0.71					
	WORKING HUMIDITY	,					
THUIDONMENT.	STORAGE TEMP., HUMIDITY		/	20 ~ 95% RH non-condensing			
ENVIRONMENT		-40 ~ +85°C, 10 ~ 95% RH non-condensing					
	,		condensing				
	TEMP. COEFFICIENT	±0.03%/°C (0~60°C)		/ 7 aves: Mounting: Co.	mpliance to IEC6	0068.2.6	
	,	±0.03%/°C (0~60°C) Component:10~500Hz, 2G 10r UL121201/CSA C22.2 NO.213.	min./1cycle, 60min. each along X, V 17 Class I, Div. 2 Group A, B, C, D	Hazardous Locations T	'4; UL61010; TU\	/ BS EN/EN62368-1	
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 60°C)  Component:10 ~ 500Hz, 2G 10r  UL121201/CSA C22.2 NO.213.  BS EN/EN61558-1/-2-16,BS EN  BIS IS13252 (Part 1):2010;BSM	min./1cycle, 60min. each along X, \\ 17 Class I, Div. 2 Group A, B, C, D I I/EN61010;CB IEC62368-1,IEC61! II CNS15598-1;CCC GB4943.1;EA	Hazardous Locations T 558-1,IEC61010;RCM A	'4; UL61010; TU\	/ BS EN/EN62368-1	
	TEMP. COEFFICIENT VIBRATION SAFETY STANDARDS	±0.03%/°C (0 ~ 60°C)  Component:10 ~ 500Hz, 2G 10r  UL121201/CSA C22.2 NO.213. BS EN/EN61558-1/-2-16,BS EN  BIS IS13252 (Part 1):2010;BSW  KC KC62368-1 certified, no stor  IEC/EN 61558-1/-2-16 (OVC III,	min./1cycle, 60min. each along X, \\ 17 Class I, Div. 2 Group A, B, C, D I\\ I/EN61010;CB IEC62368-1,IEC618\\ II CNS15598-1;CCC GB4943.1;EA\\ ck ,contact sale for inquires\\ altitude up to 2000m)	Hazardous Locations T 558-1,IEC61010;RCM A	'4; UL61010; TU\	/ BS EN/EN62368-1	
	TEMP. COEFFICIENT VIBRATION	±0.03%/°C (0 ~ 60°C)  Component:10 ~ 500Hz, 2G 10r  UL121201/CSA C22.2 NO.213. BS EN/EN61558-1/-2-16, BS EN  BIS IS13252 (Part 1):2010;BSN  KC KC62368-1 certified, no stor  IEC/EN 61558-1/-2-16 (OVC III,  IEC/EN/UL 61010 (OVC III,  IEC/EN 62368-1 (OVC III,	min./1cycle, 60min. each along X, \\ 17 Class I, Div. 2 Group A, B, C, D I\\ I/EN61010;CB IEC62368-1,IEC618\\ II CNS15598-1;CCC GB4943.1;EA\\ ck ,contact sale for inquires\\ altitude up to 2000m \) altitude up to 5000m \) altitude up to 5000m \)	Hazardous Locations T 558-1,IEC61010;RCM A	'4; UL61010; TU\	/ BS EN/EN62368-1	
	TEMP. COEFFICIENT VIBRATION SAFETY STANDARDS OVER VOLTAGE CATEGORY	±0.03%/°C (0 ~ 60°C)  Component:10 ~ 500Hz, 2G 10r  UL121201/CSA C22.2 NO.213.  BS EN/EN61558-1/-2-16, BS EN  BIS IS13252 (Part 1):2010; BSN  KC KC62368-1 certified, no stor  IEC/EN 61558-1/-2-16 (ΟVC III,  IEC/EN/UL 61010 (ΟVC II,  IEC/EN 62368-1 (ΟVC III,  IEC/EN 61558-2-16 (SELV)	min./1cycle, 60min. each along X, Y 17 Class I, Div. 2 Group A, B, C, D I I/EN61010;CB IEC62368-1,IEC619 II CNS15598-1;CCC GB4943.1;EA ck ,contact sale for inquires altitude up to 2000m ) altitude up to 5000m ) altitude up to 5000m )	Hazardous Locations T 558-1,IEC61010;RCM A	'4; UL61010; TU\	/ BS EN/EN62368-1	
	TEMP. COEFFICIENT VIBRATION  SAFETY STANDARDS  OVER VOLTAGE CATEGORY Note.6	±0.03%/°C (0 ~ 60°C)  Component:10 ~ 500Hz, 2G 10r  UL121201/CSA C22.2 NO.213.  BS EN/EN61558-1/-2-16,BS EN  BIS IS13252 (Part 1):2010;BSN  KC KC62368-1 certified, no stor  IEC/EN 61558-1/-2-16 (OVC III,  IEC/EN/UL 61010 (OVC III,  IEC/EN 62368-1 (OVC III,  IEC/EN 61558-2-16 (SELV)  IEC/EN/UL 61010-2-201 (SELV)	min./1cycle, 60min. each along X, Y 17 Class I, Div. 2 Group A, B, C, D I I/EN61010;CB IEC62368-1,IEC619 II CNS15598-1;CCC GB4943.1;EA ck ,contact sale for inquires altitude up to 2000m ) altitude up to 5000m ) altitude up to 5000m )	Hazardous Locations T 558-1,IEC61010;RCM A	'4; UL61010; TU\	/ BS EN/EN62368-1	
	TEMP. COEFFICIENT VIBRATION  SAFETY STANDARDS  OVER VOLTAGE CATEGORY Note.6  SAFETY EXTRA-LOW VOLTAGE (SELV)	±0.03%/°C (0 ~ 60°C)  Component:10 ~ 500Hz, 2G 10r  UL121201/CSA C22.2 NO.213.  BS EN/EN61558-1/-2-16, BS EN  BIS IS13252 (Part 1):2010; BSN  KC KC62368-1 certified, no stor  IEC/EN 61558-1/-2-16 (OVC III,  IEC/EN/UL 61010 (OVC II,  IEC/EN 62368-1 (SELV)  IEC/EN 61558-2-16 (SELV)  IEC/EN 62368-1 (SELV)	min./1cycle, 60min. each along X, Y 17 Class I, Div. 2 Group A, B, C, D I I/EN61010;CB IEC62368-1,IEC619 II CNS15598-1;CCC GB4943.1;EA ck ,contact sale for inquires altitude up to 2000m ) altitude up to 5000m ) altitude up to 5000m )	Hazardous Locations T 558-1,IEC61010;RCM A C TPTC004 approved;	'4; UL61010; TU\	/ BS EN/EN62368-1	
	TEMP. COEFFICIENT VIBRATION  SAFETY STANDARDS  OVER VOLTAGE CATEGORY Note.6  SAFETY EXTRA-LOW VOLTAGE (SELV) WITHSTAND VOLTAGE	±0.03%/°C (0 ~ 60°C)  Component:10 ~ 500Hz, 2G 10r  UL121201/CSA C22.2 NO.213.  BS EN/EN61558-1/-2-16, BS EN  BIS IS13252 (Part 1):2010; BSN  KC KC62368-1 certified, no stor  IEC/EN 61558-1/-2-16 (OVC III,  IEC/EN/UL 61010 (OVC III,  IEC/EN 62368-1 (OVC III,  IEC/EN 61558-2-16 (SELV)  IEC/EN 62368-1 (SELV)  IEC/EN 62368-1 (SELV)  I/P-O/P:4.87KVac I/P-FG:2.5	min./1cycle, 60min. each along X, Y 17 Class I, Div. 2 Group A, B, C, D I I/EN61010;CB IEC62368-1,IEC619 II CNS15598-1;CCC GB4943.1;EA ck ,contact sale for inquires altitude up to 2000m ) altitude up to 5000m ) altitude up to 5000m )  ES1)  KVac O/P-FG:0.5KVac O/P-Do	Hazardous Locations T 558-1,IEC61010;RCM A C TPTC004 approved;	'4; UL61010; TU\	/ BS EN/EN62368-1	
	TEMP. COEFFICIENT VIBRATION  SAFETY STANDARDS  OVER VOLTAGE CATEGORY Note.6  SAFETY EXTRA-LOW VOLTAGE (SELV)	±0.03%/°C (0 ~ 60°C)  Component:10 ~ 500Hz, 2G 10r  UL121201/CSA C22.2 NO.213. BS EN/EN61558-1/-2-16, BS EN  BIS IS13252 (Part 1):2010;BSN  KC KC62368-1 certified, no stor  IEC/EN 61558-1/-2-16 (OVC III,  IEC/EN/UL 61010 (OVC II,  IEC/EN 62368-1 (OVC III,  IEC/EN 61558-2-16 (SELV)  IEC/EN/UL 61010-2-201 (SELV)  IEC/EN 62368-1 (SELV)  I/P-O/P:4.87KVac I/P-FG:2.5I	min./1cycle, 60min. each along X, Y 17 Class I, Div. 2 Group A, B, C, D I I/EN61010;CB IEC62368-1,IEC619 II CNS15598-1;CCC GB4943.1;EA ck ,contact sale for inquires altitude up to 2000m ) altitude up to 5000m ) altitude up to 5000m )  ES1)  ES1)  EVAC O/P-FG:0.5KVac O/P-DO Ohms / 500VDC / 25°C / 70% RH	Hazardous Locations T 558-1,IEC61010;RCM A C TPTC004 approved;	'4; UL61010; TU\	/ BS EN/EN62368-1 AS/NZS 61558-1/-2-	
	TEMP. COEFFICIENT VIBRATION  SAFETY STANDARDS  OVER VOLTAGE CATEGORY Note.6  SAFETY EXTRA-LOW VOLTAGE (SELV) WITHSTAND VOLTAGE	±0.03%/°C (0 ~ 60°C)  Component:10 ~ 500Hz, 2G 10r  UL121201/CSA C22.2 NO.213. BS EN/EN61558-1/-2-16, BS EN  BIS IS13252 (Part 1):2010;BSN  KC KC62368-1 certified, no stor  IEC/EN 61558-1/-2-16 (OVC III,  IEC/EN/UL 61010 (OVC III,  IEC/EN 62368-1 (OVC III,  IEC/EN 61558-2-16 (SELV)  IEC/EN 61558-2-16 (SELV)  IEC/EN 62368-1 (SELV)  I/P-O/P:4.87KVac I/P-FG:>100M  Parameter	min./1cycle, 60min. each along X, Y 17 Class I, Div. 2 Group A, B, C, D I I/EN61010;CB IEC62368-1,IEC618 II CNS15598-1;CCC GB4943.1;EA ck ,contact sale for inquires altitude up to 2000m ) altitude up to 5000m ) altitude up to 5000m )  ES1)  KVac O/P-FG:0.5KVac O/P-D0 Ohms / 500VDC / 25°C / 70% RH  Standard	Hazardous Locations T 558-1,IEC61010;RCM A C TPTC004 approved;	4; UL61010; TU\ S/NZS 62368-1,	/ BS EN/EN62368-1 AS/NZS 61558-1/-2-	
	TEMP. COEFFICIENT VIBRATION  SAFETY STANDARDS  OVER VOLTAGE CATEGORY Note.6  SAFETY EXTRA-LOW VOLTAGE (SELV) WITHSTAND VOLTAGE	±0.03%/°C (0 ~ 60°C)  Component:10 ~ 500Hz, 2G 10r  UL121201/CSA C22.2 NO.213. BS EN/EN61558-1/-2-16, BS EN  BIS IS13252 (Part 1):2010;BSN  KC KC62368-1 certified, no stor  IEC/EN 61558-1/-2-16 (OVC III,  IEC/EN/UL 61010 (OVC III,  IEC/EN 62368-1 (OVC III,  IEC/EN/UL 61010-2-201 (SELV)  IEC/EN 62368-1 (SELV)  IFC/EN 62368-1 (I/P-G:2.5I)  I/P-O/P:4.87KVac I/P-FG:>100M  Parameter  Conducted	min./1cycle, 60min. each along X, \ \ 17 Class I, Div. 2 Group A, B, C, D I \ I/EN61010;CB IEC62368-1,IEC618 II CNS15598-1;CCC GB4943.1;EAck, contact sale for inquires altitude up to 2000m) altitude up to 5000m) altitude up to 5000m)  ES1)  KVac O/P-FG:0.5KVac O/P-D0 Ohms / 500VDC / 25°C / 70% RH  Standard  BS EN/EN55032(CISF	Hazardous Locations T 558-1,IEC61010;RCM A C TPTC004 approved; C OK:0.5KVac	4; UL61010; TUV S/NZS 62368-1,	/ BS EN/EN62368-1 AS/NZS 61558-1/-2-	
	TEMP. COEFFICIENT VIBRATION  SAFETY STANDARDS  OVER VOLTAGE CATEGORY Note.6  SAFETY EXTRA-LOW VOLTAGE (SELV) WITHSTAND VOLTAGE	±0.03%/°C (0 ~ 60°C)  Component:10 ~ 500Hz, 2G 10r  UL121201/CSA C22.2 NO.213. BS EN/EN61558-1/-2-16, BS EN  BIS IS13252 (Part 1):2010;BSN  KC KC62368-1 certified, no stor  IEC/EN 61558-1/-2-16 (OVC III,  IEC/EN/UL 61010 (OVC III,  IEC/EN 62368-1 (OVC III,  IEC/EN 61558-2-16 (SELV)  IEC/EN 61558-2-16 (SELV)  IEC/EN 62368-1 (SELV)  I/P-O/P:4.87KVac I/P-FG:>100M  Parameter	min./1cycle, 60min. each along X, \ \ 17 Class I, Div. 2 Group A, B, C, D I \ I/EN61010;CB IEC62368-1,IEC618 II CNS15598-1;CCC GB4943.1;EAck, contact sale for inquires altitude up to 2000m) altitude up to 5000m) altitude up to 5000m)  ES1)  KVac O/P-FG:0.5KVac O/P-D0 Ohms / 500VDC / 25°C / 70% RH  Standard  BS EN/EN55032(CISF	Hazardous Locations T 558-1,IEC61010;RCM A C TPTC004 approved;	4; UL61010; TUV S/NZS 62368-1,	/ BS EN/EN62368-1 AS/NZS 61558-1/-2-	
	TEMP. COEFFICIENT VIBRATION  SAFETY STANDARDS  OVER VOLTAGE CATEGORY Note.6  SAFETY EXTRA-LOW VOLTAGE (SELV)  WITHSTAND VOLTAGE ISOLATION RESISTANCE	±0.03%/°C (0 ~ 60°C)  Component:10 ~ 500Hz, 2G 10r  UL121201/CSA C22.2 NO.213. BS EN/EN61558-1/-2-16, BS EN  BIS IS13252 (Part 1):2010;BSN  KC KC62368-1 certified, no stor  IEC/EN 61558-1/-2-16 (OVC III,  IEC/EN/UL 61010 (OVC III,  IEC/EN 62368-1 (OVC III,  IEC/EN/UL 61010-2-201 (SELV)  IEC/EN 62368-1 (SELV)  IFC/EN 62368-1 (I/P-G:2.5I)  I/P-O/P:4.87KVac I/P-FG:>100M  Parameter  Conducted	min./1cycle, 60min. each along X, \ \ 17 Class I, Div. 2 Group A, B, C, D I \ I/EN61010;CB IEC62368-1,IEC618 II CNS15598-1;CCC GB4943.1;EAck, contact sale for inquires altitude up to 2000m) altitude up to 5000m) altitude up to 5000m)  ES1)  KVac O/P-FG:0.5KVac O/P-D0 Ohms / 500VDC / 25°C / 70% RH  Standard  BS EN/EN55032(CISF	Hazardous Locations T 558-1,IEC61010;RCM A C TPTC004 approved; C OK:0.5KVac	4; UL61010; TUV S/NZS 62368-1,	/ BS EN/EN62368-1 AS/NZS 61558-1/-2- Test Level / Note Class B	
	TEMP. COEFFICIENT VIBRATION  SAFETY STANDARDS  OVER VOLTAGE CATEGORY Note.6  SAFETY EXTRA-LOW VOLTAGE (SELV)  WITHSTAND VOLTAGE ISOLATION RESISTANCE	±0.03%/°C (0 ~ 60°C)  Component:10 ~ 500Hz, 2G 10r  UL121201/CSA C22.2 NO.213. BS EN/EN61558-1/-2-16, BS EN  BIS IS13252 (Part 1):2010;BSN  KC KC62368-1 certified, no stor  IEC/EN 61558-1/-2-16 (OVC III,  IEC/EN/UL 61010 (OVC III,  IEC/EN 62368-1 (OVC III,  IEC/EN 61558-2-16 (SELV)  IEC/EN 61558-2-16 (SELV)  IEC/EN 62368-1 (SELV)  ICC/EN 623	min./1cycle, 60min. each along X, \ 17 Class I, Div. 2 Group A, B, C, D I I/EN61010;CB IEC62368-1,IEC618 II CNS15598-1;CCC GB4943.1;EA ck ,contact sale for inquires altitude up to 2000m) altitude up to 5000m) altitude up to 5000m)  ES1) KVac O/P-FG:0.5KVac O/P-D0 Ohms / 500VDC / 25°C / 70% RH  Standard  BS EN/EN55032(CISF BS EN/EN61000-3-2	Hazardous Locations T 558-1,IEC61010;RCM A C TPTC004 approved; C OK:0.5KVac	4; UL61010; TUV S/NZS 62368-1,	/ BS EN/EN62368-1 AS/NZS 61558-1/-2- Test Level / Note Class B Class B	
SAFETY &	TEMP. COEFFICIENT VIBRATION  SAFETY STANDARDS  OVER VOLTAGE CATEGORY Note.6  SAFETY EXTRA-LOW VOLTAGE (SELV)  WITHSTAND VOLTAGE ISOLATION RESISTANCE	±0.03%/°C (0 ~ 60°C)  Component:10 ~ 500Hz, 2G 10r  UL121201/CSA C22.2 NO.213.  BS EN/EN61558-1/-2-16,BS EN  BIS IS13252 (Part 1):2010;BSN  KC KC62368-1 certified, no stor  IEC/EN 61558-1/-2-16 (OVC III,  IEC/EN/UL 61010 (OVC II,  IEC/EN 62368-1 (OVC III,  IEC/EN 61558-2-16 (SELV)  IEC/EN 62368-1 (SELV)  IEC/EN 62368-1 (SELV)  I/P-O/P:4.87KVac I/P-FG:>100M  Parameter  Conducted  Radiated  Harmonic Current  Voltage Flicker	min./1cycle, 60min. each along X, Y 17 Class I, Div. 2 Group A, B, C, D I/EN61010;CB IEC62368-1,IEC619 II CNS15598-1;CCC GB4943.1;EA ck ,contact sale for inquires altitude up to 2000m ) altitude up to 5000m ) altitude up to 5000m )  ES1) KVac O/P-FG:0.5KVac O/P-D0 Ohms / 500VDC / 25°C / 70% RH Standard BS EN/EN55032(CISF BS EN/EN61000-3-2 BS EN/EN61000-3-3	Hazardous Locations T 558-1,IEC61010;RCM A C TPTC004 approved; C OK:0.5KVac	4; UL61010; TUV S/NZS 62368-1,	V BS EN/EN62368-1 AS/NZS 61558-1/-2-  Test Level / Note Class B Class B Class A	
SAFETY &	TEMP. COEFFICIENT VIBRATION  SAFETY STANDARDS  OVER VOLTAGE CATEGORY Note.6  SAFETY EXTRA-LOW VOLTAGE (SELV)  WITHSTAND VOLTAGE ISOLATION RESISTANCE	±0.03%/°C (0 ~ 60°C)  Component:10 ~ 500Hz, 2G 10r  UL121201/CSA C22.2 NO.213.  BS EN/EN61558-1/-2-16, BS EN  BIS IS13252 (Part 1):2010; BSN  KC KC62368-1 certified, no stor  IEC/EN 61558-1/-2-16 (OVC III,  IEC/EN/UL 61010 (OVC II,  IEC/EN 62368-1 (OVC III,  IEC/EN 61558-2-16 (SELV)  IEC/EN 61558-2-16 (SELV)  IEC/EN 62368-1 (SELV)  I/P-O/P:4.87KVac I/P-FG:>100M  Parameter  Conducted  Radiated  Harmonic Current  Voltage Flicker  BS EN/EN55035 , BS EN/EN61	min./1cycle, 60min. each along X, Y 17 Class I, Div. 2 Group A, B, C, D I/EN61010;CB IEC62368-1,IEC619 II CNS15598-1;CCC GB4943.1;EA ck ,contact sale for inquires altitude up to 2000m ) altitude up to 5000m ) altitude up to 5000m )  ES1 )  KVac O/P-FG:0.5KVac O/P-D0 Ohms / 500VDC / 25°C / 70% RH Standard BS EN/EN55032(CISF BS EN/EN61000-3-2 BS EN/EN61000-3-3	Hazardous Locations T 558-1,IEC61010;RCM A C TPTC004 approved; C OK:0.5KVac PR32) / BS EN/EN61204 PR32) / BS EN/EN61204	4; UL61010; TUV S/NZS 62368-1, -3 / CNS15936 -3 / CNS15936	V BS EN/EN62368-1 AS/NZS 61558-1/-2-  Test Level / Note Class B Class B Class A	
SAFETY &	TEMP. COEFFICIENT VIBRATION  SAFETY STANDARDS  OVER VOLTAGE CATEGORY Note.6  SAFETY EXTRA-LOW VOLTAGE (SELV)  WITHSTAND VOLTAGE ISOLATION RESISTANCE	±0.03%/°C (0 ~ 60°C)  Component:10 ~ 500Hz, 2G 10r  UL121201/CSA C22.2 NO.213.  BS EN/EN61558-1/-2-16, BS EN  BIS IS13252 (Part 1):2010; BSN  KC KC62368-1 certified, no stor  IEC/EN 61558-1/-2-16 (OVC III,  IEC/EN/UL 61010 (OVC II,  IEC/EN 62368-1 (SELV)  IEC/EN 61558-2-16 (SELV)  IEC/EN 61558-2-16 (SELV)  IEC/EN 62368-1 (SELV)  I/P-O/P:4.87KVac I/P-FG:>100M  Parameter  Conducted  Radiated  Harmonic Current  Voltage Flicker  BS EN/EN55035 , BS EN/EN61  Parameter	min./1cycle, 60min. each along X, Y 17 Class I, Div. 2 Group A, B, C, D I I/EN61010;CB IEC62368-1,IEC619 II CNS15598-1;CCC GB4943.1;EA ck ,contact sale for inquires altitude up to 2000m ) altitude up to 5000m ) altitude up to 5000m )  ES1)  KVac O/P-FG:0.5KVac O/P-DO Ohms / 500VDC / 25°C / 70% RH  Standard  BS EN/EN55032(CISF BS EN/EN61000-3-2 BS EN/EN61000-3-3 204-3  Standard	Hazardous Locations T 558-1,IEC61010;RCM A C TPTC004 approved;  C OK:0.5KVac  PR32) / BS EN/EN61204  PR32) / BS EN/EN61204	4; UL61010; TUV S/NZS 62368-1, -3 / CNS15936 -3 / CNS15936	Test Level / Note Class B Class A	
SAFETY &	TEMP. COEFFICIENT VIBRATION  SAFETY STANDARDS  OVER VOLTAGE CATEGORY Note.6  SAFETY EXTRA-LOW VOLTAGE (SELV)  WITHSTAND VOLTAGE ISOLATION RESISTANCE	±0.03%/°C (0 ~ 60°C)  Component:10 ~ 500Hz, 2G 10r  UL121201/CSA C22.2 NO.213.  BS EN/EN61558-1/-2-16, BS EN  BIS IS13252 (Part 1):2010; BSN  KC KC62368-1 certified, no stor  IEC/EN 61558-1/-2-16 (OVC III,  IEC/EN/UL 61010 (OVC II,  IEC/EN 62368-1 (SELV)  IEC/EN 61558-2-16 (SELV)  IEC/EN 62368-1 (SELV)  IPC/EN 62368-1 (SELV)  I/P-O/P:4.87KVac I/P-FG:>100M  Parameter  Conducted  Radiated  Harmonic Current  Voltage Flicker  BS EN/EN55035 , BS EN/EN61  Parameter  ESD	min./1cycle, 60min. each along X, Y 17 Class I, Div. 2 Group A, B, C, D I I/EN61010;CB IEC62368-1,IEC619 II CNS15598-1;CCC GB4943.1;EA ck ,contact sale for inquires altitude up to 2000m ) altitude up to 5000m ) altitude up to 5000m )  ES1)  KVac O/P-FG:0.5KVac O/P-D0 Ohms / 500VDC / 25°C / 70% RH  Standard  BS EN/EN55032(CISF BS EN/EN61000-3-2 BS EN/EN61000-3-3 204-3  Standard  BS EN/EN61000-4-2	Hazardous Locations T 558-1,IEC61010;RCM A C TPTC004 approved;  C OK:0.5KVac  PR32) / BS EN/EN61204  PR32) / BS EN/EN61204  Test Level 4, 15k	4; UL61010; TUV S/NZS 62368-1, 1-3 / CNS15936 1-3 / CNS15936 V Note V air ; Level 4, 8	Test Level / Note Class B Class A	
SAFETY &	TEMP. COEFFICIENT VIBRATION  SAFETY STANDARDS  OVER VOLTAGE CATEGORY Note.6  SAFETY EXTRA-LOW VOLTAGE (SELV)  WITHSTAND VOLTAGE ISOLATION RESISTANCE	±0.03%/°C (0 ~ 60°C)  Component:10 ~ 500Hz, 2G 10r  UL121201/CSA C22.2 NO.213.  BS EN/EN61558-1/-2-16, BS EN  BIS IS13252 (Part 1):2010; BSN  KC KC62368-1 certified, no stor  IEC/EN 61558-1/-2-16 (OVC III,  IEC/EN/UL 61010 (OVC II,  IEC/EN 62368-1 (SELV)  IEC/EN 61558-2-16 (SELV)  IEC/EN 61558-2-16 (SELV)  IEC/EN 62368-1 (SELV)  I/P-O/P:4.87KVac I/P-FG:>100M  Parameter  Conducted  Radiated  Harmonic Current  Voltage Flicker  BS EN/EN55035 , BS EN/EN61  Parameter	min./1cycle, 60min. each along X, Y 17 Class I, Div. 2 Group A, B, C, D I I/EN61010;CB IEC62368-1,IEC619 II CNS15598-1;CCC GB4943.1;EA ck ,contact sale for inquires altitude up to 2000m ) altitude up to 5000m ) altitude up to 5000m )  ES1)  KVac O/P-FG:0.5KVac O/P-DO Ohms / 500VDC / 25°C / 70% RH  Standard  BS EN/EN55032(CISF BS EN/EN61000-3-2 BS EN/EN61000-3-3 204-3  Standard	Hazardous Locations T 558-1,IEC61010;RCM A C TPTC004 approved;  C OK:0.5KVac  PR32) / BS EN/EN61204  PR32) / BS EN/EN61204  Test Level 4, 15k	4; UL61010; TUV S/NZS 62368-1, -3 / CNS15936 -3 / CNS15936	Test Level / Note Class B Class A	
AFETY &	TEMP. COEFFICIENT VIBRATION  SAFETY STANDARDS  OVER VOLTAGE CATEGORY Note.6  SAFETY EXTRA-LOW VOLTAGE (SELV)  WITHSTAND VOLTAGE ISOLATION RESISTANCE  EMC EMISSION	±0.03%/°C (0 ~ 60°C)  Component:10 ~ 500Hz, 2G 10r  UL121201/CSA C22.2 NO.213.  BS EN/EN61558-1/-2-16, BS EN  BIS IS13252 (Part 1):2010; BSN  KC KC62368-1 certified, no stor  IEC/EN 61558-1/-2-16 (OVC III,  IEC/EN/UL 61010 (OVC II,  IEC/EN 62368-1 (SELV)  IEC/EN 61558-2-16 (SELV)  IEC/EN 62368-1 (SELV)  IPC/EN 62368-1 (SELV)  I/P-O/P:4.87KVac I/P-FG:>100M  Parameter  Conducted  Radiated  Harmonic Current  Voltage Flicker  BS EN/EN55035 , BS EN/EN61  Parameter  ESD	min./1cycle, 60min. each along X, Y 17 Class I, Div. 2 Group A, B, C, D I I/EN61010;CB IEC62368-1,IEC619 II CNS15598-1;CCC GB4943.1;EA ck ,contact sale for inquires altitude up to 2000m ) altitude up to 5000m ) altitude up to 5000m )  ES1)  KVac O/P-FG:0.5KVac O/P-D0 Ohms / 500VDC / 25°C / 70% RH  Standard  BS EN/EN55032(CISF BS EN/EN61000-3-2 BS EN/EN61000-3-3 204-3  Standard  BS EN/EN61000-4-2	Hazardous Locations T 558-1,IEC61010;RCM A C TPTC004 approved;  C OK:0.5KVac  PR32) / BS EN/EN61204  PR32) / BS EN/EN61204  Test Level 4, 15k	4; UL61010; TUV S/NZS 62368-1, 1-3 / CNS15936 1-3 / CNS15936 1-3 / CNS15936 V Note V air; Level 4, 8 V/m; criteria A	Test Level / Note Class B Class A	
AFETY &	TEMP. COEFFICIENT VIBRATION  SAFETY STANDARDS  OVER VOLTAGE CATEGORY Note.6  SAFETY EXTRA-LOW VOLTAGE (SELV)  WITHSTAND VOLTAGE ISOLATION RESISTANCE	±0.03%/°C (0 ~ 60°C)  Component:10 ~ 500Hz, 2G 10r  UL121201/CSA C22.2 NO.213. BS EN/EN61558-1/-2-16, BS EN  BIS IS13252 (Part 1):2010;BSN  KC KC62368-1 certified, no stor  IEC/EN 61558-1/-2-16 (OVC III,  IEC/EN/UL 61010 (OVC II,  IEC/EN 62368-1 (OVC III,  IEC/EN 61558-2-16 (SELV)  IEC/EN 61558-2-16 (SELV)  IEC/EN 62368-1 (SELV)  I/P-O/P:4.87KVac I/P-FG:>100M  Parameter  Conducted  Radiated  Harmonic Current  Voltage Flicker  BS EN/EN55035 , BS EN/EN61  Parameter  ESD  Radiated Field	min./1cycle, 60min. each along X, Y 17 Class I, Div. 2 Group A, B, C, D I I/EN61010;CB IEC62368-1,IEC619 II CNS15598-1;CCC GB4943.1;EA ck ,contact sale for inquires altitude up to 2000m ) altitude up to 5000m ) altitude up to 5000m )  ES1)  KVac O/P-FG:0.5KVac O/P-D0 Ohms / 500VDC / 25°C / 70% RH  Standard  BS EN/EN55032(CISF BS EN/EN61000-3-2 BS EN/EN61000-3-3 204-3  Standard  BS EN/EN61000-4-2 BS EN/EN61000-4-2 BS EN/EN61000-4-3	PR32) / BS EN/EN61204  Test Level 4, 154  Level 4, 4K	4; UL61010; TUV S/NZS 62368-1, 1-3 / CNS15936 1-3 / CNS15936 1-3 / CNS15936 1-4 / Note V air ; Level 4, 8 V/m ; criteria A	Test Level / Note Class B Class A	
AFETY &	TEMP. COEFFICIENT VIBRATION  SAFETY STANDARDS  OVER VOLTAGE CATEGORY Note.6  SAFETY EXTRA-LOW VOLTAGE (SELV)  WITHSTAND VOLTAGE ISOLATION RESISTANCE  EMC EMISSION	±0.03%/°C (0 ~ 60°C)  Component:10 ~ 500Hz, 2G 10r  UL121201/CSA C22.2 NO.213. BS EN/EN61558-1/-2-16, BS EN  BIS IS13252 (Part 1):2010;BSN  KC KC62368-1 certified, no stor  IEC/EN 61558-1/-2-16 (OVC III,  IEC/EN 61558-2-16 (OVC III,  IEC/EN 62368-1 (OVC III,  IEC/EN 61558-2-16 (SELV)  IEC/EN 61558-2-16 (SELV)  IEC/EN 61558-2-16 (SELV)  IFC/EN 62368-1 (SELV)  I/P-O/P:4.87KVac I/P-FG:>100M  Parameter  Conducted  Radiated  Harmonic Current  Voltage Flicker  BS EN/EN55035 , BS EN/EN61  Parameter  ESD  Radiated Field  EFT / Burst	min./1cycle, 60min. each along X, Y 17 Class I, Div. 2 Group A, B, C, D I I/EN61010;CB IEC62368-1,IEC618 II CNS15598-1;CCC GB4943.1;EA ck ,contact sale for inquires altitude up to 2000m ) altitude up to 5000m ) altitude up to 5000m )  ES1)  KVac O/P-FG:0.5KVac O/P-D0 Ohms / 500VDC / 25°C / 70% RH  Standard  BS EN/EN55032(CISF BS EN/EN61000-3-2 BS EN/EN61000-3-3  204-3  Standard  BS EN/EN61000-4-2 BS EN/EN61000-4-3 BS EN/EN61000-4-4	PR32) / BS EN/EN61204  Test Level 4, 154 Level 4, 4K Level 4, 2K'	4; UL61010; TUV S/NZS 62368-1, 1-3 / CNS15936 1-3 / CNS15936 1-3 / CNS15936 1-4 / Note V air ; Level 4, 8 V/m ; criteria A	V BS EN/EN62368-1 AS/NZS 61558-1/-2-  Test Level / Note Class B Class B Class A	
AFETY &	TEMP. COEFFICIENT VIBRATION  SAFETY STANDARDS  OVER VOLTAGE CATEGORY Note.6  SAFETY EXTRA-LOW VOLTAGE (SELV)  WITHSTAND VOLTAGE ISOLATION RESISTANCE  EMC EMISSION	±0.03%/°C (0 ~ 60°C)  Component:10 ~ 500Hz, 2G 10r  UL121201/CSA C22.2 NO.213. BS EN/EN61558-1/-2-16, BS EN  BIS IS13252 (Part 1):2010;BSN  KC KC62368-1 certified, no stor  IEC/EN 61558-1/-2-16 (OVC III,  IEC/EN 62368-1 (OVC III,  IEC/EN 62368-1 (OVC III,  IEC/EN 61558-2-16 (SELV)  IEC/EN 61558-2-16 (SELV)  IEC/EN 62368-1 (SELV)  IPC/EN 62368-1 (SELV)  IPC/PN 62368-1 (SELV)  IPC/PN 62368-1 (SELV)  IPC/EN 6236	min./1cycle, 60min. each along X, \ 17 Class I, Div. 2 Group A, B, C, D I //EN61010;CB IEC62368-1,IEC618 II CNS15598-1;CCC GB4943.1;EAck, contact sale for inquires altitude up to 2000m ) altitude up to 5000m )  ES1)  KVac O/P-FG:0.5KVac O/P-D0 Ohms / 500VDC / 25°C / 70% RH  Standard  BS EN/EN55032(CISF BS EN/EN61000-3-2 BS EN/EN61000-3-3 204-3  Standard  BS EN/EN61000-4-2 BS EN/EN61000-4-3 BS EN/EN61000-4-4 BS EN/EN61000-4-5	PR32) / BS EN/EN61204  Test Level 4, 15t Level 4, 4K Level 4, 2K Level 3, 10\ Level 4, 2K Level 3, 10\ Level 4, 15\ Level 3, 10\ Level 3, 10\ Level 4, 15\ Level 3, 10\ Level 4, 15\ Level	4; UL61010; TUV S/NZS 62368-1, 1-3 / CNS15936 1-3 / CNS15936 1-3 / CNS15936 1-4 / Note (V air ; Level 4, 8) 1/m ; criteria A V / Line-Line, Le 1/m ; criteria A	V BS EN/EN62368-1 AS/NZS 61558-1/-2-  Test Level / Note Class B Class B Class A	
AFETY &	TEMP. COEFFICIENT VIBRATION  SAFETY STANDARDS  OVER VOLTAGE CATEGORY Note.6  SAFETY EXTRA-LOW VOLTAGE (SELV)  WITHSTAND VOLTAGE ISOLATION RESISTANCE  EMC EMISSION	±0.03%/°C (0 ~ 60°C)  Component:10 ~ 500Hz, 2G 10r  UL121201/CSA C22.2 NO.213. BS EN/EN61558-1/-2-16, BS EN  BIS IS13252 (Part 1):2010;BSW  KC KC62368-1 certified, no stor  IEC/EN 61558-1/-2-16 (OVC III,  IEC/EN 62368-1 (OVC III,  IEC/EN 62368-1 (SELV)  IEC/EN 61558-2-16 (SELV)  IEC/EN 61558-2-16 (SELV)  IEC/EN 61558-2-16 (SELV)  IEC/EN 62368-1 (SELV)  IPC/EN 62368-1 (SELV)  IPC/PN/UL 61010-2-201 (SELV)  IPC/EN 62368-1 (SELV)  IPC/E	min./1cycle, 60min. each along X, \ 17 Class I, Div. 2 Group A, B, C, D I // EN61010; CB   EC62368-1,   EC61! I CNS15598-1; CCC GB4943.1; EAck , contact sale for inquires altitude up to 2000m ) altitude up to 5000m )  ES1)  KVac O/P-FG:0.5KVac O/P-D0 Ohms / 500VDC / 25°C / 70% RH  Standard  BS EN/EN55032(CISF BS EN/EN61000-3-2 BS EN/EN61000-3-3 204-3  Standard  BS EN/EN61000-4-2 BS EN/EN61000-4-3 BS EN/EN61000-4-5 BS EN/EN61000-4-6 BS EN/EN61000-4-6	PR32) / BS EN/EN61204  Test Level 4, 15/ Level 4, 2K' Level 4, 2K' Level 4, 30/ Level 4, 30/ Level 4, 30/	4; UL61010; TUV S/NZS 62368-1, 1-3 / CNS15936 1-3 / CNS15936 1-3 / CNS15936 V Mote (V air ; Level 4, 8 V/ Line-Line, Le V/ criteria A V/ Line-Line, Le V/m; criteria A A/m; criteria A	J BS EN/EN62368-1 AS/NZS 61558-1/-2-  Test Level / Note Class B Class B Class A	
AFETY &	TEMP. COEFFICIENT VIBRATION  SAFETY STANDARDS  OVER VOLTAGE CATEGORY Note.6  SAFETY EXTRA-LOW VOLTAGE (SELV)  WITHSTAND VOLTAGE ISOLATION RESISTANCE  EMC EMISSION	±0.03%/°C (0 ~ 60°C)  Component:10 ~ 500Hz, 2G 10r  UL121201/CSA C22.2 NO.213. BS EN/EN61558-1/-2-16, BS EN  BIS IS13252 (Part 1):2010;BSN  KC KC62368-1 certified, no stor  IEC/EN 61558-1/-2-16 (OVC III,  IEC/EN 62368-1 (OVC III,  IEC/EN 62368-1 (OVC III,  IEC/EN 61558-2-16 (SELV)  IEC/EN 61558-2-16 (SELV)  IEC/EN 62368-1 (SELV)  IPC/EN 62368-1 (SELV)  IPC/PN 62368-1 (SELV)  IPC/PN 62368-1 (SELV)  IPC/EN 6236	min./1cycle, 60min. each along X, \ 17 Class I, Div. 2 Group A, B, C, D I // EN61010; CB   EC62368-1,   EC61! I CNS15598-1; CCC GB4943.1; EAck , contact sale for inquires altitude up to 2000m ) altitude up to 5000m )  ES1)  KVac O/P-FG:0.5KVac O/P-D0 Ohms / 500VDC / 25°C / 70% RH  Standard  BS EN/EN55032(CISF BS EN/EN61000-3-2 BS EN/EN61000-3-3 204-3  Standard  BS EN/EN61000-4-2 BS EN/EN61000-4-3 BS EN/EN61000-4-5 BS EN/EN61000-4-6 BS EN/EN61000-4-6	Hazardous Locations T	4; UL61010; TUV S/NZS 62368-1, 1-3 / CNS15936 1-3 / CNS15936 1-3 / CNS15936 1-4 / Note (V air ; Level 4, 8) 1/m ; criteria A V / Line-Line, Le 1/m ; criteria A	Fest Level / Note Class B Class B Class A KV contact	
AFETY &	TEMP. COEFFICIENT VIBRATION  SAFETY STANDARDS  OVER VOLTAGE CATEGORY Note.6  SAFETY EXTRA-LOW VOLTAGE (SELV)  WITHSTAND VOLTAGE ISOLATION RESISTANCE  EMC EMISSION	±0.03%/°C (0 ~ 60°C)  Component:10 ~ 500Hz, 2G 10r  UL121201/CSA C22.2 NO.213. BS EN/EN61558-1/-2-16, BS EN  BIS IS13252 (Part 1):2010;BSW  KC KC62368-1 certified, no stor  IEC/EN 61558-1/-2-16 (OVC III,  IEC/EN 62368-1 (OVC III,  IEC/EN 62368-1 (OVC III,  IEC/EN 61558-2-16 (SELV)  IEC/EN 61558-2-16 (SELV)  IEC/EN 62368-1 (SELV)  IPC/EN 62368-1 (I/P-FG:2-5)  I/P-O/P:4.87KVac I/P-FG:>100M  Parameter  Conducted  Radiated  Harmonic Current  Voltage Flicker  BS EN/EN55035 , BS EN/EN61  Parameter  ESD  Radiated Field  EFT / Burst  Surge  Conducted  Magnetic Field  Voltage Dips and Interruptions	min./1cycle, 60min. each along X, \ 17 Class I, Div. 2 Group A, B, C, D I // EN61010; CB   EC62368-1,   EC61! I CNS15598-1; CCC GB4943.1; EAck , contact sale for inquires altitude up to 2000m ) altitude up to 5000m )  ES1)  KVac O/P-FG:0.5KVac O/P-D0 O/P-FG:0.5KVa	Test Level 4, 15	4; UL61010; TUV S/NZS 62368-1, 1-3 / CNS15936 1-3 / CNS15936 1-3 / CNS15936 1-4 / Note (V air ; Level 4, 8) 1/m ; criteria A V / Line-Line, Le 1/m ; criteria A 2.5 periods, 30%	V BS EN/EN62368-1 AS/NZS 61558-1/-2-  Test Level / Note Class B Class B Class A  KV contact  vel 4, 4KV/ Line-Ea	
AFETY & MC Note 7)	TEMP. COEFFICIENT VIBRATION  SAFETY STANDARDS  OVER VOLTAGE CATEGORY Note.6  SAFETY EXTRA-LOW VOLTAGE (SELV)  WITHSTAND VOLTAGE ISOLATION RESISTANCE  EMC EMISSION  MTBF	±0.03%/°C (0 ~ 60°C )  Component:10 ~ 500Hz, 2G 10r  UL121201/CSA C22.2 NO.213. BS EN/EN61558-1/-2-16, BS EN  BIS IS13252 (Part 1):2010;BSN  KC KC62368-1 certified, no stor  IEC/EN 61558-1/-2-16 (OVC III,  IEC/EN 62368-1 (OVC III,  IEC/EN 62368-1 (OVC III,  IEC/EN 61558-2-16 (SELV)  IEC/EN 61558-2-16 (SELV)  IEC/EN 62368-1 (OVC III,  IEC/EN 62368-1 (OVC	min./1cycle, 60min. each along X, \ 17 Class I, Div. 2 Group A, B, C, D I // EN61010; CB   EC62368-1,   EC61! I CNS15598-1; CCC GB4943.1; EAck , contact sale for inquires altitude up to 2000m ) altitude up to 5000m )  ES1)  KVac O/P-FG:0.5KVac O/P-D0 O/P-FG:0.5KVa	Hazardous Locations T	4; UL61010; TUV S/NZS 62368-1, 1-3 / CNS15936 1-3 / CNS15936 1-3 / CNS15936 1-4 / Note (V air ; Level 4, 8) 1/m ; criteria A V / Line-Line, Le 1/m ; criteria A 2.5 periods, 30%	V BS EN/EN62368-1 AS/NZS 61558-1/-2-  Test Level / Note Class B Class B Class A  KV contact  vel 4, 4KV/ Line-Ea	
SAFETY & SIMC Note 7)	TEMP. COEFFICIENT VIBRATION  SAFETY STANDARDS  OVER VOLTAGE CATEGORY Note.6  SAFETY EXTRA-LOW VOLTAGE (SELV)  WITHSTAND VOLTAGE ISOLATION RESISTANCE  EMC EMISSION  MTBF DIMENSION	±0.03%/°C (0 ~ 60°C )  Component:10 ~ 500Hz, 2G 10r  UL121201/CSA C22.2 NO.213. BS EN/EN61558-1/-2-16, BS EN  BIS IS13252 (Part 1):2010;BSN  KC KC62368-1 certified, no stor  IEC/EN 61558-1/-2-16 (OVC III,  IEC/EN 62368-1 (OVC III,  IEC/EN 62368-1 (OVC III,  IEC/EN 61558-2-16 (SELV )  IEC/EN 61558-2-16 (SELV )  IEC/EN 62368-1 (SELV )  IEC/EN 62368-1 (P-FG:2-50)  I/P-O/P:4.87KVac I/P-FG:2-50  I/P-O/P, I/P-FG, O/P-FG:>100M  Parameter  Conducted  Radiated  Harmonic Current  Voltage Flicker  BS EN/EN55035 , BS EN/EN61  Parameter  ESD  Radiated Field  EFT / Burst  Surge  Conducted  Magnetic Field  Voltage Dips and Interruptions  K hrs min. Telcordia SR-33  63*125.2*125mm (W*H*D)	min./1cycle, 60min. each along X, \ 17 Class I, Div. 2 Group A, B, C, D I // EN61010; CB   EC62368-1,   EC61! I CNS15598-1; CCC GB4943.1; EAck , contact sale for inquires altitude up to 2000m ) altitude up to 5000m )  ES1)  KVac O/P-FG:0.5KVac O/P-D0 O/P-FG:0.5KVa	Test Level 4, 15	4; UL61010; TUV S/NZS 62368-1, 1-3 / CNS15936 1-3 / CNS15936 1-3 / CNS15936 1-4 / Note (V air ; Level 4, 8) 1/m ; criteria A V / Line-Line, Le 1/m ; criteria A 2.5 periods, 30%	V BS EN/EN62368-1 AS/NZS 61558-1/-2-  Test Level / Note Class B Class B Class A  KV contact  vel 4, 4KV/ Line-Ea	
SAFETY & EMC Note 7)	TEMP. COEFFICIENT VIBRATION  SAFETY STANDARDS  OVER VOLTAGE CATEGORY Note.6  SAFETY EXTRA-LOW VOLTAGE (SELV)  WITHSTAND VOLTAGE ISOLATION RESISTANCE  EMC EMISSION  MTBF	±0.03%/°C (0 ~ 60°C )  Component:10 ~ 500Hz, 2G 10r  UL121201/CSA C22.2 NO.213. BS EN/EN61558-1/-2-16, BS EN  BIS IS13252 (Part 1):2010;BSN  KC KC62368-1 certified, no stor  IEC/EN 61558-1/-2-16 (OVC III,  IEC/EN 62368-1 (OVC III,  IEC/EN 62368-1 (OVC III,  IEC/EN 61558-2-16 (SELV)  IEC/EN 61558-2-16 (SELV)  IEC/EN 62368-1 (OVC III,  IEC/EN 62368-1 (OVC	min./1cycle, 60min. each along X, \ 17 Class I, Div. 2 Group A, B, C, D I // EN61010; CB   EC62368-1,   EC61! I CNS15598-1; CCC GB4943.1; EAck , contact sale for inquires altitude up to 2000m ) altitude up to 5000m )  ES1)  KVac O/P-FG:0.5KVac O/P-D0 O/P-FG:0.5KVa	Test Level 4, 15	4; UL61010; TUV S/NZS 62368-1, 1-3 / CNS15936 1-3 / CNS15936 1-3 / CNS15936 1-4 / Note (V air ; Level 4, 8) 1/m ; criteria A V / Line-Line, Le 1/m ; criteria A 2.5 periods, 30%	V BS EN/EN62368-1 AS/NZS 61558-1/-2-  Test Level / Note Class B Class B Class A  KV contact  vel 4, 4KV/ Line-Ea	
SAFETY & EMC Note 7)	TEMP. COEFFICIENT VIBRATION  SAFETY STANDARDS  OVER VOLTAGE CATEGORY Note.6  SAFETY EXTRA-LOW VOLTAGE (SELV)  WITHSTAND VOLTAGE ISOLATION RESISTANCE  EMC EMISSION  MTBF DIMENSION PACKING  1. All parameters NOT specially	±0.03%/°C (0 ~ 60°C )  Component:10 ~ 500Hz, 2G 10r  UL121201/CSA C22.2 NO.213. BS EN/EN61558-1/-2-16, BS EN  BIS IS13252 (Part 1):2010;BSN  KC KC62368-1 certified, no stor  IEC/EN 61558-1/-2-16 (OVC III,  IEC/EN 62368-1 (OVC III,  IEC/EN 62368-1 (OVC III,  IEC/EN 61558-2-16 (SELV )  IEC/EN 61558-2-16 (SELV )  IEC/EN 62368-1 (SELV )  IEC/EN 62368-1 (P-FG:2-50)  I/P-O/P; 1/P-FG, O/P-FG:>100M  Parameter  Conducted  Radiated  Harmonic Current  Voltage Flicker  BS EN/EN55035 , BS EN/EN61  Parameter  ESD  Radiated Field  EFT / Burst  Surge  Conducted  Magnetic Field  Voltage Dips and Interruptions  K hrs min. Telcordia SR-33  63*125.2*125mm (W*H*D)  1.3Kg ; 10pcs/14Kg/1.1CUFT	min./1cycle, 60min. each along X, \ 17 Class I, Div. 2 Group A, B, C, D I // EN61010; CB   EC62368-1,   EC61! I CNS15598-1; CCC GB4943.1; EAck, contact sale for inquires altitude up to 2000m ) altitude up to 5000m )  ES1)  KVac O/P-FG:0.5KVac O/P-D0 O/P-FG:0.5KVac	Test Level 4, 15	4; UL61010; TUV S/NZS 62368-1, 1-3 / CNS15936 1-3 / CNS15936 1-3 / CNS15936 V Mote (V air ; Level 4, 8 V/m ; criteria A V ; criteria A V / Line-Line, Le I/m ; criteria A 2.5 periods, 30% 15% interruptions	V BS EN/EN62368-1 AS/NZS 61558-1/-2-  Test Level / Note Class B Class B Class A  KV contact  vel 4, 4KV/ Line-Ea	
SAFETY & EMC Note 7)	TEMP. COEFFICIENT VIBRATION  SAFETY STANDARDS  OVER VOLTAGE CATEGORY Note.6  SAFETY EXTRA-LOW VOLTAGE (SELV)  WITHSTAND VOLTAGE ISOLATION RESISTANCE  EMC EMISSION  MTBF DIMENSION PACKING  1. All parameters NOT specially 2. Ripple & noise are measured	### ##################################	min./1cycle, 60min. each along X, \ 17 Class I, Div. 2 Group A, B, C, D I/FN61010;CB IEC62368-1,IEC618 II CNS15598-1;CCC GB4943.1;EAck, contact sale for inquires altifude up to 2000m ) altifude up to 5000m ) altifude up to 5000m )  ES1)  KVac O/P-FG:0.5KVac O/P-D0 Ohms / 500VDC / 25°C / 70% RH  Standard  BS EN/EN55032(CISF BS EN/EN61000-3-2 BS EN/EN61000-3-3  204-3  Standard  BS EN/EN61000-4-2 BS EN/EN61000-4-5 BS EN/EN61000-4-5 BS EN/EN61000-4-6 BS EN/EN61000-4-8 BS EN/EN61000-4-11 32(Bellcore); K hrs min. MIL-Haccinput, rated load and 25°C of ama 12" twisted pair-wire terminated wi	Test Level 4, 15	4; UL61010; TUV S/NZS 62368-1, 1-3 / CNS15936 1-3 / CNS15936 1-3 / CNS15936 V Mote (V air ; Level 4, 8 V/m ; criteria A V ; criteria A V / Line-Line, Le I/m ; criteria A 2.5 periods, 30% 15% interruptions	V BS EN/EN62368-1 AS/NZS 61558-1/-2-  Test Level / Note Class B Class B Class A  KV contact  vel 4, 4KV/ Line-Ea	
SAFETY & EMC Note 7)	TEMP. COEFFICIENT VIBRATION  SAFETY STANDARDS  OVER VOLTAGE CATEGORY Note.6  SAFETY EXTRA-LOW VOLTAGE (SELV)  WITHSTAND VOLTAGE ISOLATION RESISTANCE  EMC EMISSION  MTBF DIMENSION PACKING  1. All parameters NOT specially 2. Ripple & noise are measured 3. Tolerance : includes set up to	±0.03%/°C (0 ~ 60°C)  Component:10 ~ 500Hz, 2G 10r  UL121201/CSA C22.2 NO.213. BS EN/EN61558-1/-2-16, BS EN BIS IS13252 (Part 1):2010;BSW KC KC62368-1 certified, no stor  IEC/EN 61558-1/-2-16 (OVC III, IEC/EN/UL 61010 (OVC II, IEC/EN 62368-1 (SELV) IEC/EN 61558-2-16 (SELV) IEC/EN 61558-2-16 (SELV) IEC/EN 61558-2-16 (SELV) IP-O/P, I/P-FG, O/P-FG:>100M  Parameter  Conducted Radiated Harmonic Current Voltage Flicker BS EN/EN55035 , BS EN/EN61  Parameter ESD  Radiated Field EFT / Burst Surge Conducted Magnetic Field  Voltage Dips and Interruptions  K hrs min. Telcordia SR-33 63*125.2*125mm (W*H*D) 1.3Kg ; 10pcs/14Kg/1.1CUFT Tementioned are measured at 400V I at 20MHz of bandwidth by using a plerance, line regulation and load respectives.	min./1cycle, 60min. each along X, \ 17 Class I, Div. 2 Group A, B, C, D I/FN61010;CB IEC62368-1,IEC618 II CNS15598-1;CCC GB4943.1;EAck, contact sale for inquires altitude up to 2000m ) altitude up to 5000m )  ES1)  KVac O/P-FG:0.5KVac O/P-D0 Ohms / 500VDC / 25°C / 70% RH  Standard  BS EN/EN55032(CISF BS EN/EN61000-3-2 BS EN/EN61000-3-2 BS EN/EN61000-4-2 BS EN/EN61000-4-2 BS EN/EN61000-4-3 BS EN/EN61000-4-5 BS EN/EN61000-4-5 BS EN/EN61000-4-6 BS EN/EN61000-4-1 BS EN/EN61000-4-1 BS EN/EN61000-4-5 BS EN/EN61000-4-1	PR32) / BS EN/EN61204  Level 4, 15  Level 3, 10\ Level 4, 4K\ Level 3, 10\ Level 4, 30/ PR32) / BS EN/EN61204	4; UL61010; TUV S/NZS 62368-1, 1-3 / CNS15936 1-3 / CNS15936 1-3 / CNS15936 V Mote (V air ; Level 4, 8 V/m ; criteria A V ; criteria A V / Line-Line, Le I/m ; criteria A 2.5 periods, 30% 15% interruptions	V BS EN/EN62368-1 AS/NZS 61558-1/-2-  Test Level / Note Class B Class B Class A  KV contact  vel 4, 4KV/ Line-Ea	
SAFETY & EMC Note 7)	TEMP. COEFFICIENT VIBRATION  SAFETY STANDARDS  OVER VOLTAGE CATEGORY Note.6  SAFETY EXTRA-LOW VOLTAGE (SELV)  WITHSTAND VOLTAGE ISOLATION RESISTANCE  EMC EMISSION  MTBF DIMENSION PACKING  1. All parameters NOT specially 2. Ripple & noise are measured 3. Tolerance: includes set up to 4. Dual phase operation is alloy	±0.03%/°C (0 ~ 60°C)  Component:10 ~ 500Hz, 2G 10r  UL121201/CSA C22.2 NO.213. BS EN/EN61558-1/-2-16, BS EN  BIS IS13252 (Part 1):2010;BSN  KC KC62368-1 certified, no stor  IEC/EN 61558-1/-2-16 (OVC III,  IEC/EN 62368-1 (OVC III,  IEC/EN 62368-1 (OVC III,  IEC/EN 62368-1 (OVC III,  IEC/EN 62368-1 (SELV)  IEC/EN 62368-1 (SELV)  IEC/EN 62368-1 (SELV)  IEC/EN 62368-1 (SELV)  IP-O/P:4.87KVac I/P-FG:2.51  I/P-O/P, I/P-FG, O/P-FG:>100M  Parameter  Conducted  Radiated  Harmonic Current  Voltage Flicker  BS EN/EN55035 , BS EN/EN61  Parameter  ESD  Radiated Field  EFT / Burst  Surge  Conducted  Magnetic Field  Voltage Dips and Interruptions  K hrs min. Telcordia SR-33  63*125.2*125mm (W*H*D)  1.3Kg ; 10pcs/14Kg/1.1CUFT  mentioned are measured at 400V  at 20MHz of bandwidth by using a olerance, line regulation and load received under certain derating to output	min./1cycle, 60min. each along X, \ 17 Class I, Div. 2 Group A, B, C, D I // EN61010; CB   EC62368-1,   EC618   I CNS15598-1; CCC GB4943.1; EAck, contact sale for inquires altitude up to 2000m ) altitude up to 5000m ) altitude up to 5000m )  ES1)  KVac O/P-FG:0.5KVac O/P-D0 O/P-FG:0.5K	Test Level 4, 15 Level 4, 4K Level 4, 4K Level 4, 4K Level 4, 30 μ periods 9 glDBK-217F (25°C)	4; UL61010; TUV S/NZS 62368-1,  1-3 / CNS15936 1-4 / Note  V / Air ; Level 4, 8 V / Line-Line, Le V / Line-Line, L	J BS EN/EN62368-1 AS/NZS 61558-1/-2-  Test Level / Note Class B Class B Class A  KV contact  vel 4, 4KV/ Line-Ea  dip 25 250 periods	
SAFETY & EMC Note 7)	TEMP. COEFFICIENT VIBRATION  SAFETY STANDARDS  OVER VOLTAGE CATEGORY Note.6  SAFETY EXTRA-LOW VOLTAGE (SELV)  WITHSTAND VOLTAGE ISOLATION RESISTANCE  EMC EMISSION  MTBF  DIMENSION  PACKING  1. All parameters NOT specially 2. Ripple & noise are measured 3. Tolerance: includes set up to 4. Dual phase operation is allow 5. Installation clearances: 40mm	±0.03%/°C (0 ~ 60°C)  Component:10 ~ 500Hz, 2G 10r  UL121201/CSA C22.2 NO.213. BS EN/EN61558-1/-2-16, BS EN  BIS IS13252 (Part 1):2010;BSN  KC KC62368-1 certified, no stor  IEC/EN 61558-1/-2-16 (OVC III,  IEC/EN 62368-1 (OVC III,  IEC/EN 62368-1 (OVC III,  IEC/EN 62368-1 (OVC III,  IEC/EN 62368-1 (SELV)  IEC/EN 61558-2-16 (SELV)  IEC/EN 62368-1 (SELV)  IEC/EN 62368-1 (SELV)  IP-O/P:4.87KVac I/P-FG:2.51  I/P-O/P, I/P-FG, O/P-FG:>100M  Parameter  Conducted  Radiated  Harmonic Current  Voltage Flicker  BS EN/EN55035, BS EN/EN61  Parameter  ESD  Radiated Field  EFT / Burst  Surge  Conducted  Magnetic Field  Voltage Dips and Interruptions  K hrs min. Telcordia SR-33  63*125.2*125mm (W*H*D)  1.3Kg; 10pcs/14Kg/1.1CUFT  mentioned are measured at 400V  at 20MHz of bandwidth by using a olerance, line regulation and load reced under certain derating to output m on top, 20mm on the bottom, 5m	min./1cycle, 60min. each along X, \ 17 Class I, Div. 2 Group A, B, C, D I/EN61010;CB   EC62368-1,   EC618   ICNS15598-1;CCC GB4943.1;EAck, contact sale for inquires altitude up to 2000m ) altitude up to 5000m ) altitude up to 5000m )  ES1)  KVac O/P-FG:0.5KVac O/P-D0	Test Level 4, 15 Level 4, 4K Level 4, 4K Level 4, 4K Level 4, 30 μ periods 9 glDBK-217F (25°C)	4; UL61010; TUV S/NZS 62368-1,  1-3 / CNS15936 1-4 / Note  V / Air ; Level 4, 8 V / Line-Line, Le V / Line-Line, L	J BS EN/EN62368-1 AS/NZS 61558-1/-2-  Test Level / Note Class B Class B Class A  KV contact  vel 4, 4KV/ Line-Ea  dip 25 250 periods	
SAFETY & EMC Note 7)	TEMP. COEFFICIENT VIBRATION  SAFETY STANDARDS  OVER VOLTAGE CATEGORY Note.6  SAFETY EXTRA-LOW VOLTAGE (SELV)  WITHSTAND VOLTAGE ISOLATION RESISTANCE  EMC EMISSION  MTBF DIMENSION PACKING  1. All parameters NOT specially 2. Ripple & noise are measured 3. Tolerance: includes set up to 4. Dual phase operation is allow 5. Installation clearances: 40m In case the adjacent device id 6. The ambient temperature device id	±0.03%/°C (0 ~ 60°C)  Component:10 ~ 500Hz, 2G 10r  UL121201/CSA C22.2 NO.213. BS EN/EN61558-1/-2-16,BS EN  BIS IS13252 (Part 1):2010;BSN  KC KC62368-1 certified, no stor  IEC/EN 61558-1/-2-16 (OVC III,  IEC/EN 62368-1 (OVC III,  IEC/EN 62368-1 (OVC III,  IEC/EN 62368-1 (OVC III,  IEC/EN 61558-2-16 (SELV)  IEC/EN 62368-1 (SELV)  IEC/EN 62368-1 (SELV)  IPC/EN 62368-1 (IP-FG:2.5)  I/P-O/P:4.87KVac I/P-FG:2.5)  I/P-O/P;4.87KVac I/P-FG:>100M  Parameter  Conducted  Radiated  Harmonic Current  Voltage Flicker  BS EN/EN55035 , BS EN/EN61  Parameter  ESD  Radiated Field  EFT / Burst  Surge  Conducted  Magnetic Field  Voltage Dips and Interruptions  K hrs min. Telcordia SR-33  63*125.2*125mm (W*H*D)  1.3Kg ; 10pcs/14Kg/1.1CUFT  Tementioned are measured at 400V  I at 20MHz of bandwidth by using a olerance, line regulation and load reved under certain derating to output on top, 20mm on the bottom, 5m is a heat source, 15mm clearance is rating of 3.5°C/1000m with fanless rating of 3.5°C/1000m with fanless	min./1cycle, 60min. each along X, \ 17 Class I, Div. 2 Group A, B, C, D I/EN61010;CB IEC62368-1,IEC618 II CNS15598-1;CCC GB4943.1;EAck, contact sale for inquires altitude up to 2000m ) altitude up to 5000m ) altitude up to 5000m ) altitude up to 5000m )  ES1)  KVac O/P-FG:0.5KVac O/P-D0 Ohms / 500VDC / 25°C / 70% RH  Standard  BS EN/EN55032(CISF BS EN/EN61000-3-2 BS EN/EN61000-3-3  204-3  Standard  BS EN/EN61000-4-2 BS EN/EN61000-4-5 BS EN/EN61000-4-5 BS EN/EN61000-4-5 BS EN/EN61000-4-5 BS EN/EN61000-4-1 BS EN/EN61000-4-1 BS EN/EN61000-4-1 BS EN/EN61000-4-5 BS EN/EN61000-4-1 Company of the service o	Test Level 4, 15½ Level 4, 15½ Level 4, 15½ Level 4, 2K′ Level 4, 30½ Level 4, 40½ Level 4, 30½ Level 4, 30½ Level 4, 30½ Level 4, 30½ Level 4, 40½	4; UL61010; TUV S/NZS 62368-1,  1-3 / CNS15936 1-4 / Wair ; Level 4, 8 1/m ; criteria A 1/m ; crite	BS EN/EN62368-1 AS/NZS 61558-1/-2-  Test Level / Note Class B Class B Class A  KV contact  vel 4, 4KV/ Line-Ea  dip 25 250 periods  n full power. 2000m(6500ft).	
SAFETY & EMC Note 7)	TEMP. COEFFICIENT VIBRATION  SAFETY STANDARDS  OVER VOLTAGE CATEGORY Note.6  SAFETY EXTRA-LOW VOLTAGE (SELV)  WITHSTAND VOLTAGE ISOLATION RESISTANCE  EMC EMISSION  EMC EMISSION  PACKING  1. All parameters NOT specially 2. Ripple & noise are measured 3. Tolerance : includes set up to 4. Dual phase operation is allow 5. Installation clearances : 40m In case the adjacent device i 6. The ambient temperature de 7. The power supply is conside	±0.03%/°C (0 ~ 60°C)  Component:10 ~ 500Hz, 2G 10r  UL121201/CSA C22.2 NO.213.  BS EN/EN61558-1/-2-16, BS EN  BIS IS13252 (Part 1):2010;BSN  KC KC62368-1 certified, no stor  IEC/EN 61558-1/-2-16 (OVC III,  IEC/EN 62368-1 (OVC III,  IEC/EN 62368-1 (OVC III,  IEC/EN 62368-1 (SELV)  IEC/EN/UL 61010-2-201 (SELV)  IEC/EN/UL 61010-2-201 (SELV)  IEC/EN 62368-1 (SELV/  I/P-O/P;4.87KVac I/P-FG:2.5I  I/P-O/P, I/P-FG, O/P-FG:>100M  Parameter  Conducted  Radiated  Harmonic Current  Voltage Flicker  BS EN/EN55035, BS EN/EN61  Parameter  ESD  Radiated Field  EFT / Burst  Surge  Conducted  Magnetic Field  Voltage Dips and Interruptions  K hrs min. Telcordia SR-33  63*125.2*125mm (W*H*D)  1.3Kg; 10pcs/14Kg/1.1CUFT  rmentioned are measured at 400V/  at 20MHz of bandwidth by using a olerance, line regulation and load reved under certain derating to output on top, 20mm on the bottom, 5m is a heat source, 15mm clearance is rating of 3.5°C/1000m with fanless red as an independent unit, but the	min./1cycle, 60min. each along X, \ 17 Class I, Div. 2 Group A, B, C, D I/EN61010; CB IEC62368-1, IEC618 II CNS15598-1; CCC GB4943.1; EAck, contact sale for inquires altitude up to 2000m ) altitude up to 5000m ) altitude up to 5000m )  ES1)  KVac O/P-FG:0.5KVac O/P-D0 Ohms / 500VDC / 25°C / 70% RH  Standard  BS EN/EN55032(CISF BS EN/EN55032(CISF BS EN/EN61000-3-2 BS EN/EN61000-3-2 BS EN/EN61000-4-2 BS EN/EN61000-4-2 BS EN/EN61000-4-5 BS EN/EN61000-4-5 BS EN/EN61000-4-6 BS EN/EN61000-4-8 BS EN/EN61000-4-8 BS EN/EN61000-4-8 BS EN/EN61000-4-1 BS EN/EN/EN/EN/EN/EN/EN/EN/EN/EN/EN/EN/EN/E	Test Level 4, 15% Level 4, 15% Level 4, 2K' Level 4, 30% Level 4, 30% P35% dip 0 periods 9  DBK-217F (25°C)  Dient temperature. tha 0.1 \( \mu \) F & 47 \( \mu \) F pares for operating altifirm that the whole systems	4; UL61010; TUV S/NZS 62368-1,  1-3 / CNS15936 1-4 / Note 1-5 / CNS15936 1-7 / Note	BS EN/EN62368-1 AS/NZS 61558-1/-2-  Test Level / Note Class B Class B Class A  KV contact  vel 4, 4KV/ Line-Ea  dip 25 250 periods  n full power. 2000m(6500ft).	
SAFETY & EMC Note 7)	TEMP. COEFFICIENT VIBRATION  SAFETY STANDARDS  OVER VOLTAGE CATEGORY Note.6  SAFETY EXTRA-LOW VOLTAGE (SELV)  WITHSTAND VOLTAGE ISOLATION RESISTANCE  EMC EMISSION  MTBF DIMENSION PACKING  1. All parameters NOT specially 2. Ripple & noise are measured 3. Tolerance: includes set up to 4. Dual phase operation is allow 5. Installation clearances: 40m In case the adjacent device i 6. The ambient temperature de 7. The power supply is conside EMC directives. For guidance	±0.03%/°C (0 ~ 60°C)  Component:10 ~ 500Hz, 2G 10r  UL121201/CSA C22.2 NO.213.  BS EN/EN61558-1/-2-16, BS EN  BIS IS13252 (Part 1):2010;BSN  KC KC62368-1 certified, no stor  IEC/EN 61558-1/-2-16 (OVC III,  IEC/EN 62368-1 (OVC III,  IEC/EN 62368-1 (OVC III,  IEC/EN 62368-1 (SELV)  IEC/EN/UL 61010-2-201 (SELV)  IEC/EN/UL 61010-2-201 (SELV)  IEC/EN 62368-1 (SELV/  I/P-O/P;4.87KVac I/P-FG:2.5I  I/P-O/P, I/P-FG, O/P-FG:>100M  Parameter  Conducted  Radiated  Harmonic Current  Voltage Flicker  BS EN/EN55035, BS EN/EN61  Parameter  ESD  Radiated Field  EFT / Burst  Surge  Conducted  Magnetic Field  Voltage Dips and Interruptions  K hrs min. Telcordia SR-33  63*125.2*125mm (W*H*D)  1.3Kg; 10pcs/14Kg/1.1CUFT  rmentioned are measured at 400V/  at 20MHz of bandwidth by using a olerance, line regulation and load reved under certain derating to output on top, 20mm on the bottom, 5m is a heat source, 15mm clearance is rating of 3.5°C/1000m with fanless red as an independent unit, but the	min./1cycle, 60min. each along X, \ 17 Class I, Div. 2 Group A, B, C, D I // EN61010; CB   EC62368-1,   EC618   I CNS15598-1; CCC GB4943.1; EAck, contact sale for inquires altifude up to 2000m ) altifude up to 5000m ) altifude up to 5000m )  ES1)  KVac O/P-FG:0.5KVac O/P-D0 O/P-FG:0.5K	Test Level 4, 15% Level 4, 15% Level 4, 2K' Level 4, 30% Level 4, 30% P35% dip 0 periods 9  DBK-217F (25°C)  Dient temperature. tha 0.1 \( \mu \) F & 47 \( \mu \) F pares for operating altifirm that the whole systems	4; UL61010; TUV S/NZS 62368-1,  1-3 / CNS15936 1-4 / Note 1-5 / CNS15936 1-7 / Note	BS EN/EN62368-1 AS/NZS 61558-1/-2-  Test Level / Note Class B Class B Class A  KV contact  vel 4, 4KV/ Line-Ea  dip 25 250 periods  n full power. 2000m(6500ft).	

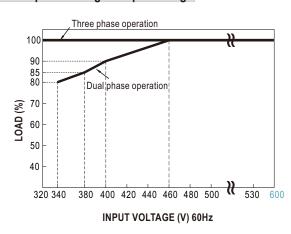
File Name:XTR-480-SPEC 2025-01-24



#### ■ Block Diagram PFC fosc: 65KHz PWM fosc: 60KHz DC OK ORING FET -○ +Vo RECTIFIERS EMI FILTER PFC POWER I/P O & FILTER & RECTIFIERS SWITCHING CIRCUIT -- -Vo O.C.P. UVP O.L.P. DETECTION FG C PFC PWM CIRCUIT CONTROL CONTROL O.T.P. 0.V.P. PARALLEL O.T.P. REMOTE → RC+ CONTROL → RC-■ Derating Curve Please refer to Function Manual Three phase operation

# 200 Please refer to Function Manual Three phase operation 75 60 40 -40 -30 0 10 20 30 40 50 60 70 85 (VERTICAL) AMBIENT TEMPERATURE (°C)

# ■ Output derating VS input voltage

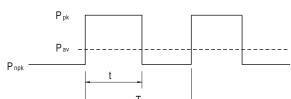


## ■ Peak Power

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

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

t ≤ 5 sec



Pav: Average output power (W)

Ppk: Peak output power (W)

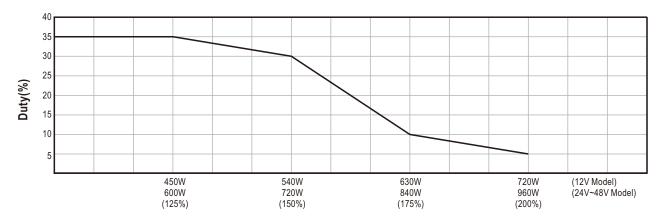
P<sub>npk</sub>: Non-peak output power(W)

Prated: Rated output power(W)

t : Peak power width (sec)

T: Period(sec)





## Peak output power (W)

## For example (24V model):

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

$$t \le 5 \sec$$

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

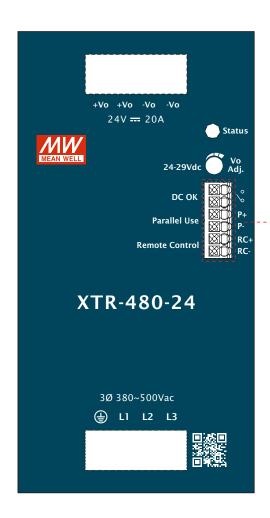
$$\mathsf{P}_{\mathsf{npk}} \leqslant \frac{\mathsf{T}\,\mathsf{P}_{\mathsf{av}}\, -\, t\,\mathsf{P}_{\mathsf{pk}}}{\mathsf{T-}t}$$

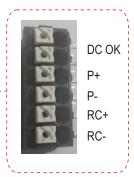
$$P_{npk} \le 454.7W$$



# ■ Function Manual

Pin No.	Function	Description
1,2	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.
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. P- Signal is internally connected to -Vo.
5	RC+	Turns the output ON and OFF by electrical singal Remote power ON: Open or keep 2~5Vdc
6	RC-	Remote power OFF: Short or keep<0.5Vdc





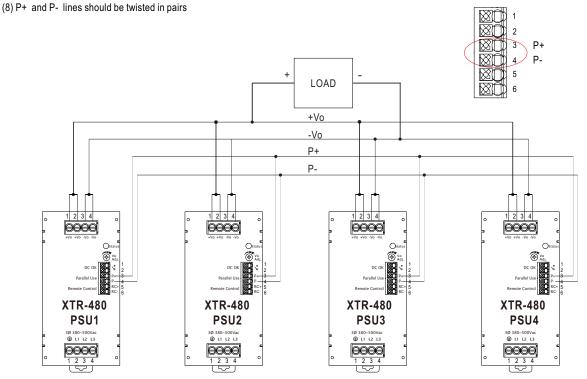


#### 1.Parallel Use

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.



\* Please contact MEAN WELL for more details.

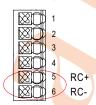
#### 2.DC OK Relay Contact

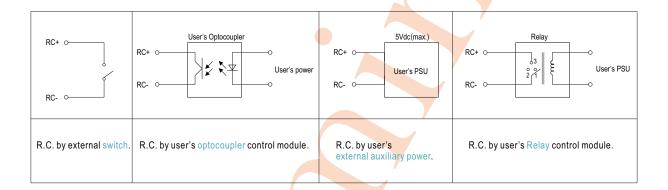
Contact Close  Contact Open	PSU turns ON / DC OK. PSU turns OFF / DC Fail.	ДО 1 ДО 3 ДО 3
Contact ratings (max.)	30Vdc/1A,30Vac/0.5A resistive load.	X
Internal circuit of DC_O	External voltage source (The max. Sink is 30Vdd	

#### 3.Remote ON/OFF Control

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

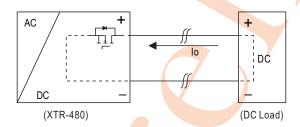
PSU Vo Status	Between RC+ and RC-
Remote power ON	Open or keep 2~5Vdc
Remote power OFF	Short or keep<0.5Vdc





# 4. Protection Against Reverse Voltages from the Load

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

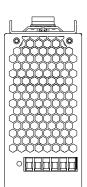


PSU'S ORing FET turn OFF voltage			
MODEL	Max. allowable reverse voltage		
XTR-480-12	<16V		
XTR-480-24	<35V		
XTR-480-36	<50V		
XTR-480-48	<63V		



# ■ Mechanical Specification

(Unit:mm , Tolerance ±1mm)



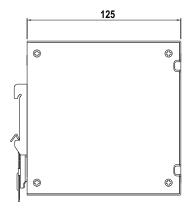
#### Case No.305

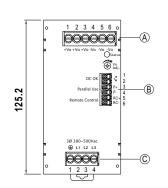
## $\ensuremath{ \begin{tabular}{l} \ensuremath{ A} \ensuremath{ :} \ensuremath{ \ensuremath{ Terminal Pin No.}} \ensuremath{ Assignment} \ensuremath{ } \ensuremath{ } \ensuremath{ \ensuremath{ A} \ensuremath{ :} \ensuremath{ \ensuremath{ \ensuremath{ \ensuremath{ A} \ensuremath{ \ensuremath{$

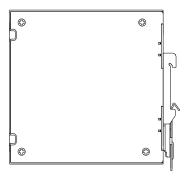
Pin No.	Assignment
1,2,3	DC Output +Vo
4,5,6	DC Output -Vo

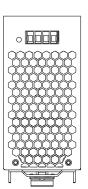
#### B: Control Pin No. Assignment

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

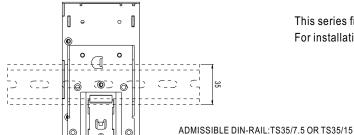
Pin No.	Assignment
1	FG 🖶
2	AC/L1
3	AC/L2
4	AC/L3

# ■ Recommend Wiring

	AC Input T.B	DC Output T.B	Signal connector
Solid Wire	6mm² max.	6mm² max.	1.5mm² max.
A.W.G	18~10 AWG	18~10 AWG	24~16 AWG
Screw Terminal Torque	9 Lb-In	9 Lb-In	1



# ■ Installation Instruction



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

# (For reference only. Not included with unit.)

## ■ Installation Manual

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





























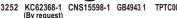












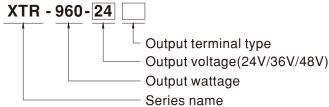
#### Features

- 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.</li>
- 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°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 < 10A</li>
- 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

# 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 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



Termi	nal Type Options		Note
Blank	Screw Terminal		In stock
LA	Lever-Actuated	DEE	In stock
PI	Push In	len den	In stock

# Applications

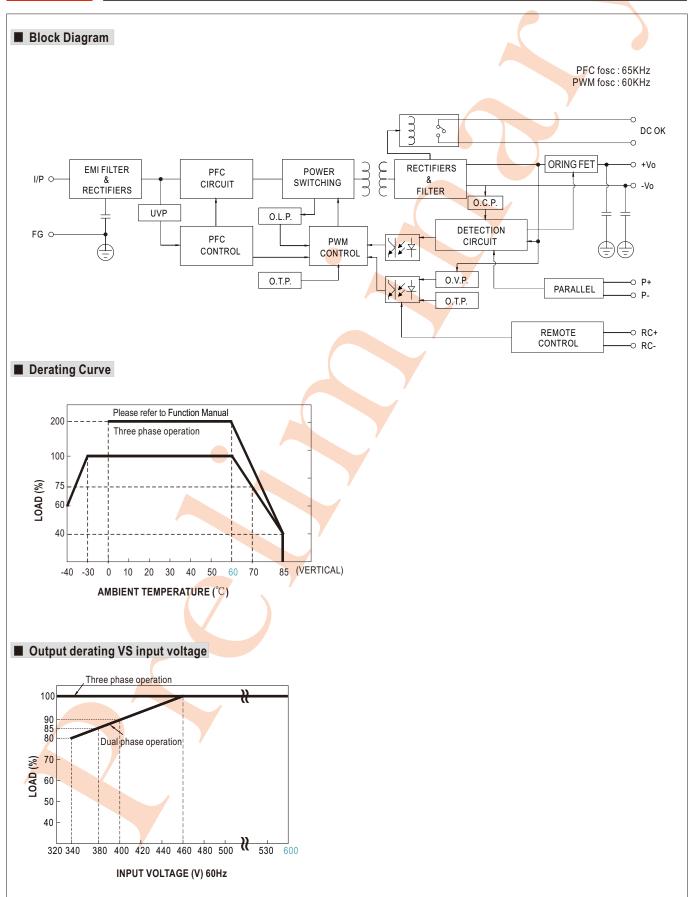
- Industrial control system
- Semiconductor fabrication equipment
- Factory automation
- Electro-mechanical apparatus

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

		XTR-960-24 □ □=Blank, LA, PI	XTR-960-36□	XTR-960-48	
	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	
DUTPUT	RIPPLE & NOISE (max.) Note.2		150mVp-p	150mVp-p	
	VOLTAGE ADJ. RANGE	24 ~ 29V	36 ~ 42V	48 ~ 55V	
	VOLTAGE TOLERANCE Note.3	,	±1.0%	±1.0%	
	LINE REGULATION	±0.5%	±0.5%	±0.5%	
	LOAD REGULATION	±1.0%	±1.0%	±1.0%	
	SETUP, RISE TIME	<u> </u>	s/500Vac at full load		
	HOLD UP TIME (Typ.)	20ms / 400Vac 20ms / 500Vac at fu	ıll load		
	VOLTAGE RANGE Note.4	Three-Phase 320 ~ 600Vac (Dual phase	operation possible) 450 ~ 800 Vo	dc	
	NO LOAD Remote Power OFF	3.1W/400Vac	3.1W/400Vac	3.1W/400Vac	
	CONSUMPTION(Typ.) Remote Power ON	6.1W/400Vac	6.1W/400Vac	6.1W/400Vac	
	FREQUENCY RANGE	47 ~ 63Hz			
INDUT	POWER FACTOR (Typ.)	PF≧0.92/400Vac PF≧0.92/500Vac	at full load		
INPUT	EFFICIENCY (Typ.)	95%	95.5%	96%	
	AC CURRENT (Typ.)	2A/400Vac 1.4A/500Vac	00.070	3070	
	INRUSH CURRENT (Typ.)	COLD START 10A/500Vac		,	
	, ,				
	LEAKAGE CURRENT	<3.5mA / 530Vac	then Feed then are the first	Alaba a collaboration of the c	
	OVERLOAD	105%~200% rated output power for more		iting without shutdown at rate curr	ent wnen Vo=30%~10
		Hiccup mode when Vo<30% rated volta			
PROTECTION	OVER VOLTAGE	30 ~ 35V	43 ~ 50V	56 ~ 65V	
	OVER VOLIAGE	Protection type : Shut down o/p voltage	e, re-power on to recover		
	OVER TEMPERATURE	Shut down o/p voltage or hiccup mode, r	ecovers automatically after tempe	rature goes down	
	PARALLEL	Up to 3840W (3+1), please refer to Fur	nction Manual for more details		
	DC OK RELAY CONTACT	Relay Contact Ratings (max.):30Vdc/1A			
FUNCTION		Power ON : RC + ~ RC- open or keep			
	REMOTE CONTROL	Power OFF: RC + ~ RC- short or keep			
	WORKING TEMP. Note.5				
		,			
	WORKING HUMIDITY	20 ~ 95% RH non-condensing			
ENVIRONMENT	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH non-condensing			
	TEMP. COEFFICIENT VIBRATION	±0.03%/°C (0 ~ 60°C)  Component:10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes; Mounting: Compliance to IEC60068-2-6			
	SAFETY STANDARDS  OVER VOLTAGE CATEGORY Note.6	UL121201/CSA C22.2 NO.213.17 Class BS EN/EN616558-1/-2-16,BS EN/EN610 BIS IS13252 (Part 1):2010;BSMI CNS15 KC KC62368-1 certified, no stock ,conta IEC/EN/UL6158-1/-2-16 (OVC III, altitude IEC/EN/UL61010 (OVC II, altitude IEC/EN/UL63684)	10;CB IEC62368-1,IEC61558-1,IE 5598-1;CCC GB4943.1;EAC TPTC act sale for inquires up to 2000m) up to 5000m)	EC61010;RCM AS/NZS 62368-1,	
	SAFETY EXTRA-LOW VOLTAGE (SELV)	IEC/EN 62368-1 (OVC II, altitude to IEC/EN 61558-2-16 (SELV) IEC/EN/UL 61010-2-201 (SELV) IEC/EN 62368-1 (SELV/ ES1)	up to souum )		
	WITHSTAND VOLTAGE	,	O/P-FG:0.5KVac	5K\/oo	
	ISOLATION RESISTANCE			Jivac	
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:>100M Ohms /			Test Level / Note
		Parameter	Standard  PS EN/ENES032/CISPR32\/	DO EN/ENG1004 0 / ON045000	
		Conducted	1	BS EN/EN61204-3 / CNS15936	Class B
	EMC EMICCION	Dadiated	BS EN/EN55032(CISPR32) / BS EN/EN61204-3 / CNS15936		Closs D
	EMC EMISSION	Radiated	` '		Class B
SAFETY &	EMC EMISSION	Harmonic Current	BS EN/EN61000-3-2		Class A
	EMC EMISSION	Harmonic Current Voltage Flicker	` '		
EMC	EMC EMISSION	Harmonic Current Voltage Flicker BS EN/EN55035 , BS EN/EN61204-3	BS EN/EN61000-3-2 BS EN/EN61000-3-3		Class A
EMC	EMC EMISSION	Harmonic Current Voltage Flicker BS EN/EN55035 , BS EN/EN61204-3 Parameter	BS EN/EN61000-3-2	Test Level / Note	Class A
EMC	EMC EMISSION	Harmonic Current Voltage Flicker BS EN/EN55035 , BS EN/EN61204-3	BS EN/EN61000-3-2 BS EN/EN61000-3-3		Class A
EMC	EMC EMISSION	Harmonic Current Voltage Flicker BS EN/EN55035 , BS EN/EN61204-3 Parameter	BS EN/EN61000-3-2 BS EN/EN61000-3-3 Standard	Test Level / Note	Class A
EMC		Harmonic Current Voltage Flicker BS EN/EN55035 , BS EN/EN61204-3 Parameter ESD	BS EN/EN61000-3-2 BS EN/EN61000-3-3  Standard BS EN/EN61000-4-2	Test Level / Note Level 4, 15KV air ; Level 4, 8	Class A
EMC	EMC IMMUNITY	Harmonic Current Voltage Flicker BS EN/EN55035 , BS EN/EN61204-3 Parameter ESD Radiated Field	BS EN/EN61000-3-2 BS EN/EN61000-3-3  Standard BS EN/EN61000-4-2 BS EN/EN61000-4-3	Test Level / Note Level 4, 15KV air ; Level 4, 8 Level 3, 10V/m ; criteria A	Class A
EMC		Harmonic Current Voltage Flicker BS EN/EN55035 , BS EN/EN61204-3 Parameter ESD Radiated Field EFT / Burst	BS EN/EN61000-3-2 BS EN/EN61000-3-3  Standard BS EN/EN61000-4-2 BS EN/EN61000-4-3 BS EN/EN61000-4-4	Test Level / Note Level 4, 15KV air ; Level 4, 8 Level 3, 10V/m ; criteria A Level 4, 4KV ; criteria A	Class A
SAFETY & EMC Note 7)		Harmonic Current Voltage Flicker BS EN/EN55035 , BS EN/EN61204-3 Parameter ESD Radiated Field EFT / Burst Surge Conducted	BS EN/EN61000-3-2 BS EN/EN61000-3-3  Standard BS EN/EN61000-4-2 BS EN/EN61000-4-3 BS EN/EN61000-4-4 BS EN/EN61000-4-5	Test Level / Note Level 4, 15KV air; Level 4, 8 Level 3, 10V/m; criteria A Level 4, 4KV; criteria A Level 4, 2KV / Line-Line, Le Level 3, 10V/m; criteria A	Class A
EMC		Harmonic Current Voltage Flicker BS EN/EN55035 , BS EN/EN61204-3 Parameter ESD Radiated Field EFT / Burst Surge	BS EN/EN61000-3-2 BS EN/EN61000-3-3  Standard BS EN/EN61000-4-2 BS EN/EN61000-4-3 BS EN/EN61000-4-4 BS EN/EN61000-4-5 BS EN/EN61000-4-6	Test Level / Note Level 4, 15KV air ; Level 4, 8 Level 3, 10V/m ; criteria A Level 4, 4KV ; criteria A Level 4, 2KV / Line-Line, Le Level 3, 10V/m ; criteria A Level 4, 30A/m ; criteria A	Class A  SKV contact  Evel 4, 4KV/ Line-Ea
EMC		Harmonic Current Voltage Flicker BS EN/EN55035 , BS EN/EN61204-3 Parameter ESD Radiated Field EFT / Burst Surge Conducted	BS EN/EN61000-3-2 BS EN/EN61000-3-3  Standard BS EN/EN61000-4-2 BS EN/EN61000-4-3 BS EN/EN61000-4-4 BS EN/EN61000-4-5 BS EN/EN61000-4-6	Test Level / Note Level 4, 15KV air; Level 4, 8 Level 3, 10V/m; criteria A Level 4, 4KV; criteria A Level 4, 2KV / Line-Line, Le Level 3, 10V/m; criteria A	Class A  KV contact  evel 4, 4KV/ Line-Ea
EMC		Harmonic Current Voltage Flicker BS EN/EN55035 , BS EN/EN61204-3 Parameter ESD Radiated Field EFT / Burst Surge Conducted Magnetic Field Voltage Dips and Interruptions	BS EN/EN61000-3-2 BS EN/EN61000-3-3  Standard BS EN/EN61000-4-2 BS EN/EN61000-4-3 BS EN/EN61000-4-4 BS EN/EN61000-4-5 BS EN/EN61000-4-6 BS EN/EN61000-4-8 BS EN/EN61000-4-11	Test Level / Note Level 4, 15KV air; Level 4, 8 Level 3, 10V/m; criteria A Level 4, 4KV; criteria A Level 4, 2KV / Line-Line, Le Level 3, 10V/m; criteria A Level 4, 30A/m; criteria A >95% dip 0.5 periods, 30% periods> 95% interruptions	Class A
EMC Note 7)	EMC IMMUNITY  MTBF	Harmonic Current Voltage Flicker BS EN/EN55035 , BS EN/EN61204-3 Parameter ESD Radiated Field EFT / Burst Surge Conducted Magnetic Field Voltage Dips and Interruptions K hrs min. Telcordia SR-332(Bellcore	BS EN/EN61000-3-2 BS EN/EN61000-3-3  Standard BS EN/EN61000-4-2 BS EN/EN61000-4-3 BS EN/EN61000-4-4 BS EN/EN61000-4-5 BS EN/EN61000-4-6 BS EN/EN61000-4-8 BS EN/EN61000-4-11	Test Level / Note Level 4, 15KV air; Level 4, 8 Level 3, 10V/m; criteria A Level 4, 4KV; criteria A Level 4, 2KV / Line-Line, Le Level 3, 10V/m; criteria A Level 4, 30A/m; criteria A >95% dip 0.5 periods, 30% periods> 95% interruptions	Class A
EMC	EMC IMMUNITY  MTBF  DIMENSION	Harmonic Current Voltage Flicker BS EN/EN55035 , BS EN/EN61204-3 Parameter ESD Radiated Field EFT / Burst Surge Conducted Magnetic Field Voltage Dips and Interruptions K hrs min. Telcordia SR-332(Bellcore 96*125.2*132mm (W*H*D)	BS EN/EN61000-3-2 BS EN/EN61000-3-3  Standard BS EN/EN61000-4-2 BS EN/EN61000-4-3 BS EN/EN61000-4-4 BS EN/EN61000-4-5 BS EN/EN61000-4-6 BS EN/EN61000-4-8 BS EN/EN61000-4-11	Test Level / Note Level 4, 15KV air; Level 4, 8 Level 3, 10V/m; criteria A Level 4, 4KV; criteria A Level 4, 2KV / Line-Line, Le Level 3, 10V/m; criteria A Level 4, 30A/m; criteria A >95% dip 0.5 periods, 30% periods> 95% interruptions	Class A
EMC Note 7)	EMC IMMUNITY  MTBF DIMENSION PACKING	Harmonic Current Voltage Flicker BS EN/EN55035 , BS EN/EN61204-3 Parameter ESD Radiated Field EFT / Burst Surge Conducted Magnetic Field Voltage Dips and Interruptions K hrs min. Telcordia SR-332(Bellcore	BS EN/EN61000-3-2 BS EN/EN61000-3-3  Standard BS EN/EN61000-4-2 BS EN/EN61000-4-3 BS EN/EN61000-4-4 BS EN/EN61000-4-5 BS EN/EN61000-4-6 BS EN/EN61000-4-8 BS EN/EN61000-4-11 BS EN/EN61000-4-11 BS EN/EN61000-4-11	Test Level / Note  Level 4, 15KV air; Level 4, 8  Level 3, 10V/m; criteria A  Level 4, 4KV; criteria A  Level 4, 2KV / Line-Line, Le  Level 3, 10V/m; criteria A  Level 4, 30A/m; criteria A  295% dip 0.5 periods, 30% periods > 95% interruptions  (25°C)	Class A

File Name:XTR-960-SPEC 2025-01-23



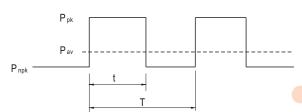


## ■ Peak Power

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

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

t ≤ 5 sec



Pav: Average output power (W)

P<sub>pk</sub>: Peak output power (W)

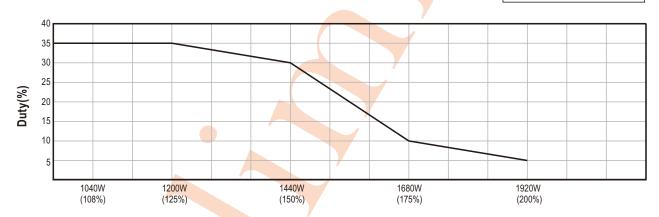
P<sub>npk</sub>: Non-peak output power(W)

Prated: Rated output power(W)

t : Peak power width(sec)

T: Period(sec)





#### Peak output power (W)

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

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

P<sub>pk</sub>= 1920W

t ≤ 5 sec

$$T \ge \frac{5 \text{ sec}}{5\%} \ge 100 \text{sec}$$

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

$$P_{npk} \le 910W$$



# **■** Function Manual

Pin No.	Function	Description
1,2	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.
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. P- Signal is internally connected to -Vo.
5	RC+	Turns the output ON and OFF by electrical singal Remote power ON: Open or keep 2~5Vdc
6	RC-	Remote power OFF: Short or keep<0.5Vdc



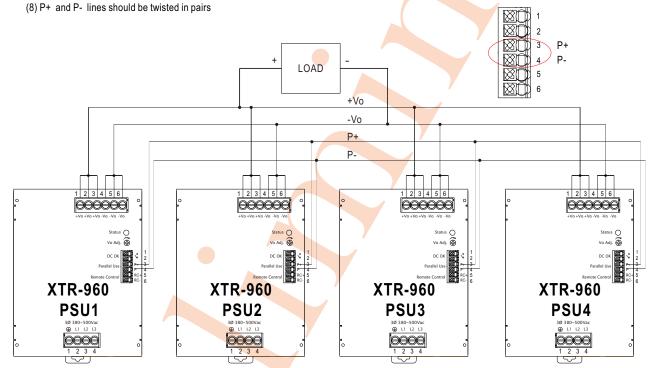


#### 1.Parallel Use

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.



\* Please contact MEAN WELL for more details.

#### 2.DC OK Relay Contact

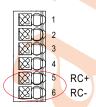
Contact Close	PSU turns ON / DC OK.		DC OK.
Contact Open	PSU turns OFF / DC Fail.		<b>⊗</b>
Contact ratings (max.)	30Vdc/1A,30Vac/0.5A resistive load.		80
Internal circuit of DC_C	External voltage source (The max. Sink is 30Vdd	. ,	

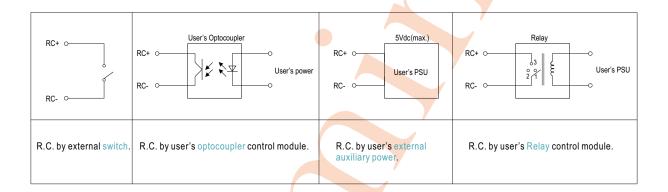


#### 3.Remote ON/OFF Control

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

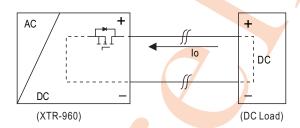
PSU Vo Status	Between RC+ and RC-
Remote power ON	Open or keep 2~5Vdc
Remote power OFF	Short or keep<0.5Vdc





# 4. Protection Against Reverse Voltages from the Load

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

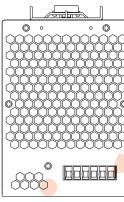


PSU'S ORing FET turn OFF voltage			
MODEL	Max. allowable reverse voltage		
XTR-960-24	<35V		
XTR-960-36	<50V		
XTR-960-48	<63V		



# ■ Mechanical Specification

(Unit:mm , Tolerance ±1mm)



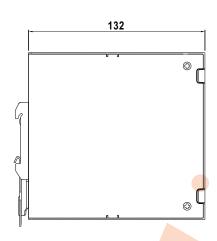
Case No.304

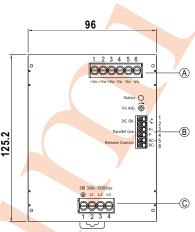
# A: Terminal Pin No. Assignment

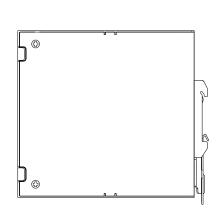
Pin No.	Assignment
1,2,3	DC Output +Vo
4,5,6	DC Output -Vo

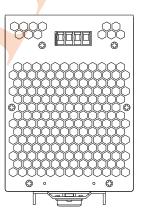
#### B: Control Pin No. Assignment

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









## ${\hbox{$\Bbb C$}}$ : Terminal Pin No. Assignment

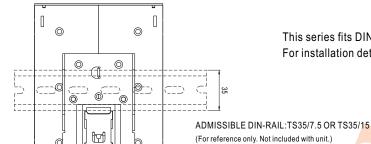
Pin No.	Assignment	
1	FG 🖶	
2	AC/L1	
3	AC/L2	
4	AC/L3	
	-	

## ■ Recommend Wiring

	AC Input T.B	DC Output T.B	Signal connector
Solid Wire	6mm² max.	6mm² max.	1.5mm² max.
A.W.G	18~10 AWG	18~10 AWG	24~16 AWG
Screw Terminal Torque	9 Lb-In	9 Lb-In	1



# ■ Installation Instruction



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