

■ Features

- 85~305Vac input with PFC (277Vac available)
- 30mm ultra slim width
- High efficiency up to 94% and low power dissipation<2W
- 200% peak power capability
- 600% pulse current capability @2ms
- Built-in constant current limiting circuit
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Fanless design, cooling by free air convection
- Over voltage category III (OVC III)
- -40~+85°C wide range operation temperature(>+60°C derating)
- Operating altitude up to 5000 meters
- Built-in DC OK relay contact
- Built-in OR-ing FET
- Ultra low inrush current <10A
- Tool free terminal block (LA Type)
- Conformal coating
- Can be installed on DIN rail TS-35/75 or15
- 5 years warranty

■ Applications

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

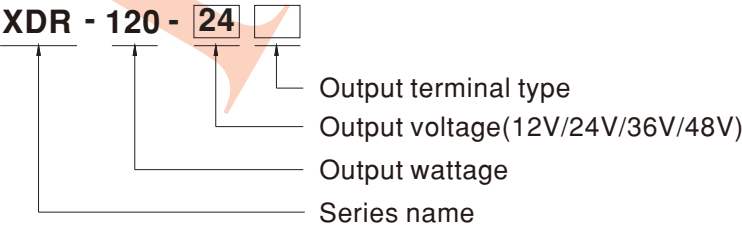
■ GTIN CODE

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

■ Description

The XDR-120 series is a 120W AC/DC high-end ultra slim industrial DIN rail power. Key features of this series include a narrow 30mm casing, optimizing system installation space, and an ultra-wide input range of 85~305Vac suitable for global use. It boasts a maximum efficiency of 94% and a low standby power consumption of <2W for energy savings and carbon reduction. It provides constant current with up to 200% peak power, and can handle instantaneous peak current of 600%. It has a fanless design, ultra-wide operating temperature range of -40 to +85°C (up to +60°C at full load); OVCIII compliance; ultra-low inrush current of <10A, and includes DC OK functions. It also has a built-in OR-ing FET, the internal PCB has a coating for basic moisture and dust protection, and it has multiple terminal blocks for selection. With comprehensive protection functions, complete safety certifications, and a 5-year warranty, the XDR-120 series is a compact, high-performance, and highly reliable DIN rail power supply.

■ Model Encoding

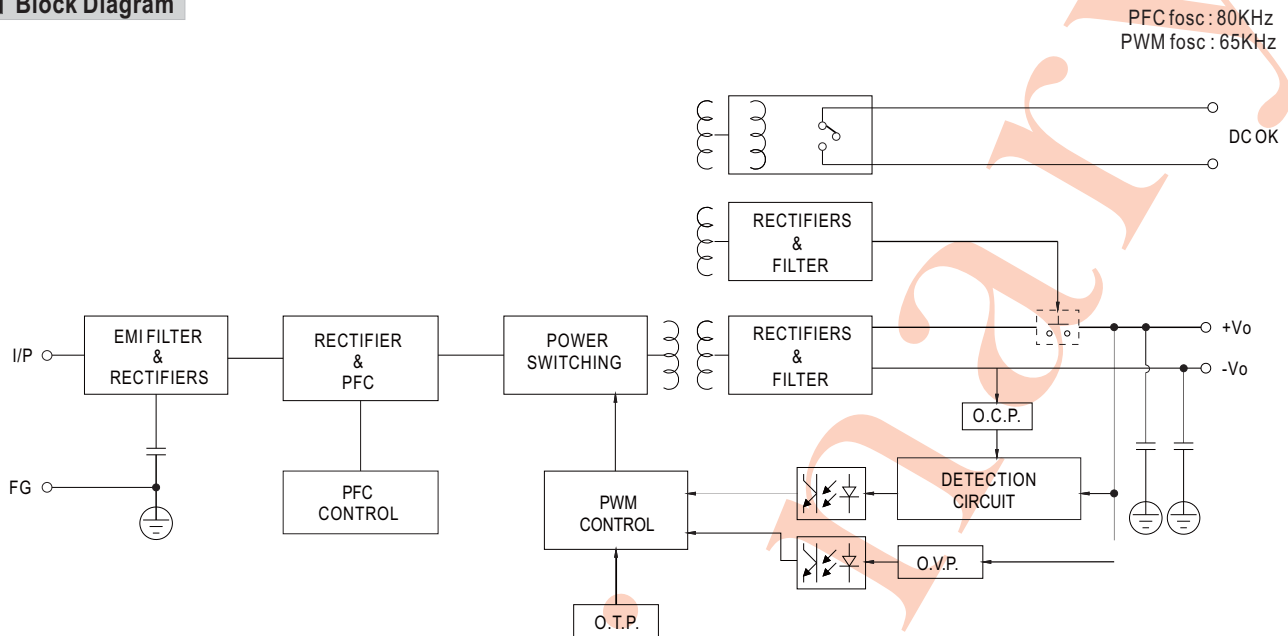


Terminal Type Options		Note
Blank	Screw Terminal	In stock
LA	Lever Actuated	In stock
PI	Push In	In stock

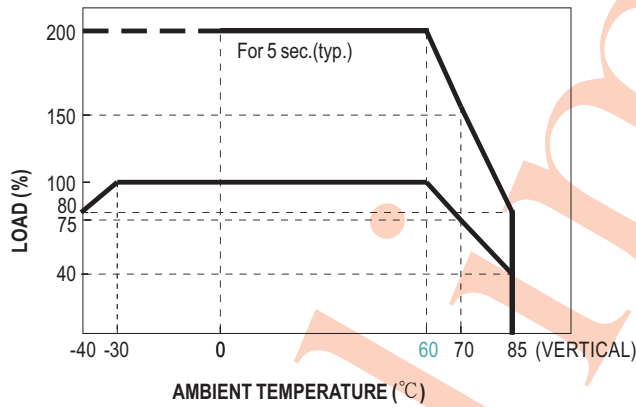
SPECIFICATION

MODEL		XDR-120-12□	XDR-120-24□	XDR-120-36□	XDR-120-48□	
		□ =Blank, LA, PI				
OUTPUT	DC VOLTAGE	12V	24V	36V	48V	
	LOAD CURRENT RANGE	0 ~ 10A	0 ~ 5A	0 ~ 3.33A	0 ~ 2.5A	
	RATED POWER	120W				
	PEAK	CURRENT (5sec.)	20A	10A	6.66A	5A
		POWER (5sec.)	240W			
	RIPPLE & NOISE (max.) Note.2	100mVp-p	100mVp-p	120mVp-p	120mVp-p	
	VOLTAGE ADJ. RANGE	12 ~ 15V	24 ~ 29V	36 ~ 42V	48 ~ 55V	
	VOLTAGE TOLERANCE Note.3	± 1.0%	± 1.0%	± 1.0%	± 1.0%	
	LINE REGULATION	± 0.5%	± 0.5%	± 0.5%	± 0.5%	
	LOAD REGULATION	± 1.0%	± 1.0%	± 1.0%	± 1.0%	
SETUP, RISE TIME	1500ms, 60ms/230Vac 3000ms, 60ms/115Vac at full load					
HOLD UP TIME (Typ.)	20ms/230Vac 20ms/115Vac at full load					
INPUT	AC VOLTAGE RANGE	85 ~ 305Vac				
	DC VOLTAGE RANGE	80 ~ 431Vdc (Derating 50% Load @80Vdc)				
	NO LOAD POWER CONSUMPTION	2W @115Vac & 230Vac				
	FREQUENCY RANGE	47 ~ 63Hz				
	POWER FACTOR (Typ.)	PF>0.95/230Vac PF>0.98/115Vac at full load				
	EFFICIENCY (Typ.)	94%	94%	94%	94%	
	AC CURRENT (Typ.)	2.3A/115Vac	1.2A/230Vac			
	INRUSH CURRENT (Typ.)	COLD START 6A/115Vac 10A/230Vac				
LEAKAGE CURRENT	<1mA / 240Vac					
PROTECTION	OVERLOAD	Normally works within 110 ~ 200% rated output power for more than 5 seconds and then constant current limiting without shutdown, (Vout>30%), recovers automatically after fault condition is removed >200% rated power, constant current limiting with auto-recovery after fault condition is removed				
	OVER VOLTAGE	15 ~ 18V	30 ~ 34V	43 ~ 50V	56 ~ 65V	
	OVER TEMPERATURE	Protection type : Shut down o/p voltage , auto-recovery after fault condition is removed				
FUNCTION	DC OK	Relay Contact Ratings (max.):30Vdc/1A, 30Vac/0.5A resistive load				
	PULSE CURRENT CAPABILITY	6 times rated current for 2ms				
ENVIRONMENT	WORKING TEMP.	-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) on Load output				
	VIBRATION	Component:10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes; Mounting: Compliance to IEC60068-2-6				
	OPERATING ALTITUDE Note.4	5000 meters / OVC II				
	OVER VOLTAGE CATEGORY	III ; altitude up to 2000 meters				
SAFETY & EMC (Note.6)	SAFETY STANDARDS	CSA Class I, DIV2 Group A,B,C,D Hazardous Locations T4; UL61010; DEKRA BS EN/EN62368-1, BS EN/EN61558-1/-2-16, BS EN/EN61010; CB IEC62368-1, IEC61558-1, IEC61010; RCM AS/NZS 62368-1, AS/NZS 61558-1/-2-16; BIS IS13252 (Part 1):2010; KC KC62368-1; BSMI CNS15598-1; CCC GB4943.1; EAC TPTC004 approved				
	WITHSTAND VOLTAGE	I/P-O/P: 4KVac I/P-FG: 2KVac O/P-FG: 1.5KVac O/P-DC OK: 0.5KVac				
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG: 100M Ohms/500VDC/25°C / 70%RH				
	EMC EMISSION	Parameter	Standard	Test Level / Note		
		Conducted	BS EN/EN55032 (CISPR32)	Class B		
		Radiated	BS EN/EN55032 (CISPR32)	Class B		
		Harmonic Current	BS EN/EN61000-3-2	Class A		
		Voltage Flicker	BS EN/EN61000-3-2	-----		
	EMC IMMUNITY	BS EN/EN55035 , BS EN/EN61204-3, BS EN/EN61000-6-2(BS EN/EN50082-2)				
		Parameter	Standard	Test Level / Note		
		ESD	BS EN/EN61000-4-2	Level 4, 15KV air ; Level 4, 8KV contact; criteria A		
		Radiated	BS EN/EN61000-4-3	Level 3, 10V/m ; criteria A		
		EFT / Burst	BS EN/EN61000-4-4	Level 4, 4KV ; criteria A		
		Surge	BS EN/EN61000-4-5	Level 4, 2KV/Line-Line ;Level 4, 4KV/Line-Line-Chassis ;criteria A		
		Conducted	BS EN/EN61000-4-6	Level 3, 10V ; criteria A		
Magnetic Field		BS EN/EN61000-4-8	Level 4, 30A/m ; criteria A			
MTBF		K hrs min. Telcordia SR-332 (Bellcore); K hrs min. MIL-HDBK-217F (25°C)				
DIMENSION	30*125.2*116mm (W*H*D)					
PACKING	Kg; pcs/ Kg / CUFT					
NOTE	1. All parameters NOT specially mentioned are measured at 230Vac 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. 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). 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 power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives. (as available on https://www.meanwell.com/Upload/PDF/EMI_statement_en.pdf) ※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx					

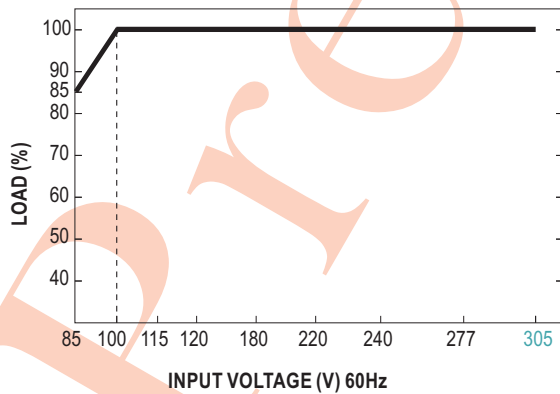
Block Diagram



Derating Curve



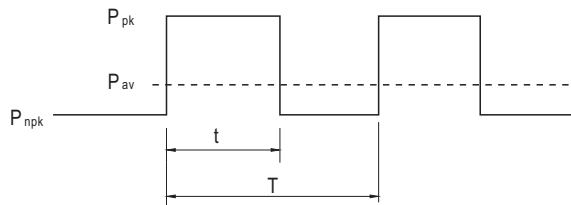
Output derating VS input voltage



■ Peak Power ($\leq 2 \cdot I_o$)

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

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



P_{av} : Average output power (W)

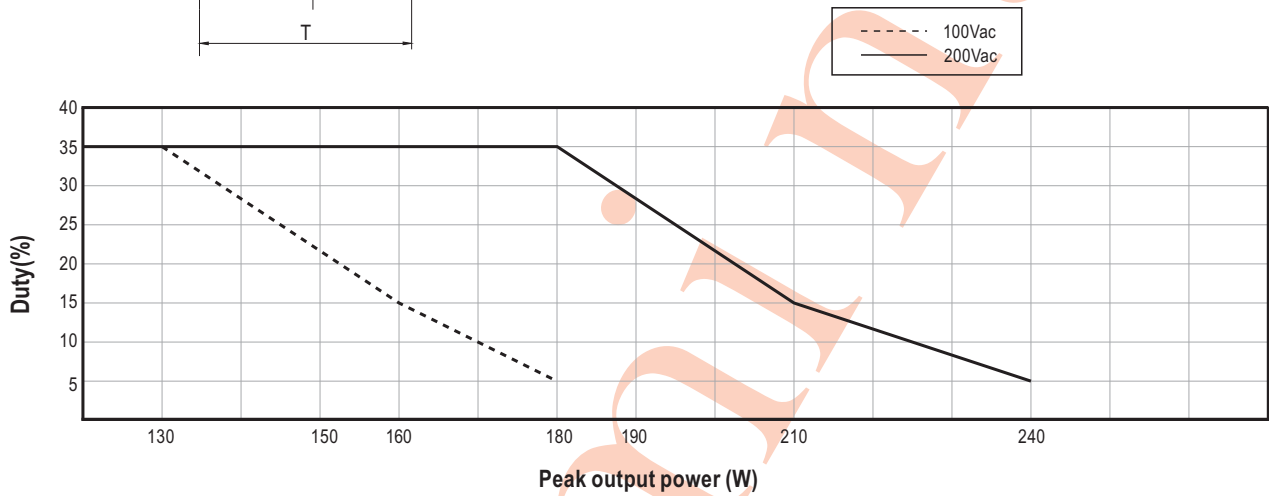
P_{pk} : Peak output power (W)

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

P_{rated} : Rated output power(W)

t : Peak power width(sec)

T : Period(sec)



For example (24V model) :

$V_{in} = 200V$ $Duty_max = 5\%$

$P_{av} = P_{rated} = 120W$

$P_{pk} = 240W$

$t \leq 5 \text{ sec}$

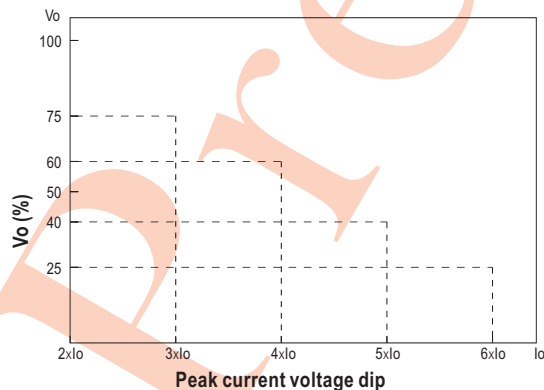
$T \geq \frac{5 \text{ sec}}{5\%} \geq 100 \text{ sec}$

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

$P_{npk} \leq 113.7W$

■ Peak Current Capability ($> 2 \cdot I_o$)

The device can deliver peak currents (up to several milliseconds) which are higher than the specified short term currents.

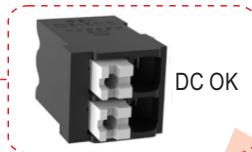


Load	Vo(%)	Time
3xIo	75	25ms
4xIo	60	15ms
5xIo	40	10ms
6xIo	25	2ms

Function Manual

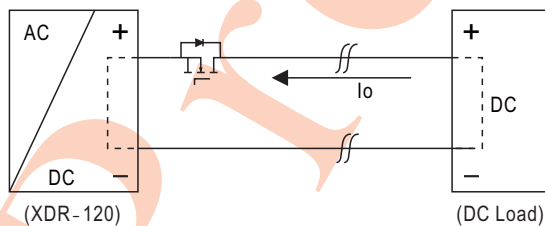
1. DC OK Relay Contact

Contact Close	PSU turns ON / DC OK.
Contact Open	PSU turns OFF / DC Fail.
Contact Ratings (max.)	30V/1A resistive load.



2. Protection Against Inverse Voltages From The Load

Loads such as motors and sensors in deceleration can feed voltage back to the power supply.

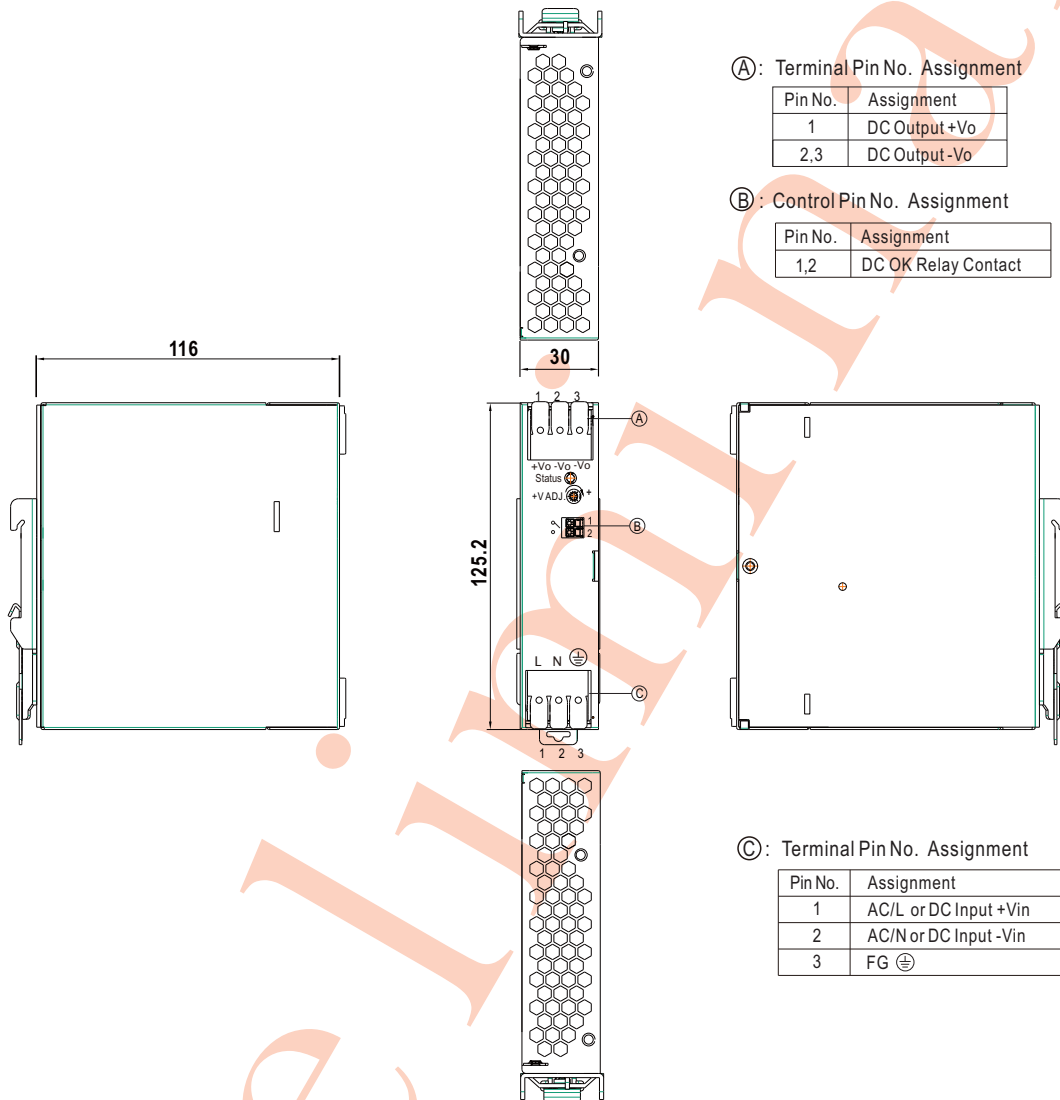


PSU'S Oring FET turn OFF voltage	
MODEL	Max. allowable Inverse Voltage
XDR-120-12	<16V
XDR-120-24	<35V
XDR-120-36	<50V
XDR-120-48	<63V

Mechanical Specification

(Unit:mm , Tolerance $\pm 1\text{mm}$)

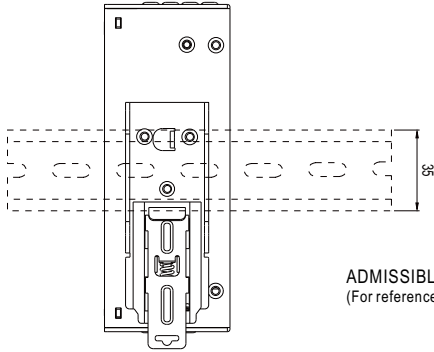
Case No. Unit:mm



Recommend Wiring

	AC Input T.B	DC Output T.B	Signal connector
Solid Wire	6mm ² max.	6mm ² max.	1.5mm ² max.
A.W.G	22~10 AWG	22~10 AWG	24~16 AWG
Screw Terminal	9 Lb-In	9 Lb-In	/

■ Installation Instruction



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

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

■ Installation Manual

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