



User's Manual



CNS15598-1 GB4943.1 TPTC004



## ■ Features

- 85~264Vac input range
- Global certificates in multi-fields  
(ITE 62368-1, Industrial 61558-1/-2-16, 61010)
- 30mm slim width
- High efficiency up to 91% and no load power dissipation 0.6W~1W
- 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~+70°C wide range operation temperature (>+50°C derating)
- Operating altitude up to 5000 meters
- Built-in DC OK relay contact
- Can be installed on DIN rail TS-35/7.5 or 15
- 3 years warranty

## ■ Applications

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

## ■ GTIN CODE

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

## ■ Description

The XDR-120E series is a 120W AC/DC economical 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 85~264Vac suitable for global use. It boasts a maximum efficiency of 91% and a low standby power consumption 0.6W~1W for energy savings and carbon reduction. It has built-in constant current, fanless design, a wide operating temperature range of -40 to +70°C (up to +50°C at full load); OVCIII compliance; built-in DC OK signal. With comprehensive protection functions, complete safety certifications, and a 3-years warranty, the XDR-120E series is a compact, high-performance, and highly reliable DIN rail power supply.

## ■ Model Encoding

**XDR - 120E - 24**

Output voltage(12V/24V/36V/48V)

Economical version

Output wattage

Series name



# 120W AC/DC Economical Ultra Slim Industrial DIN Rail Power **XDR-120E** series

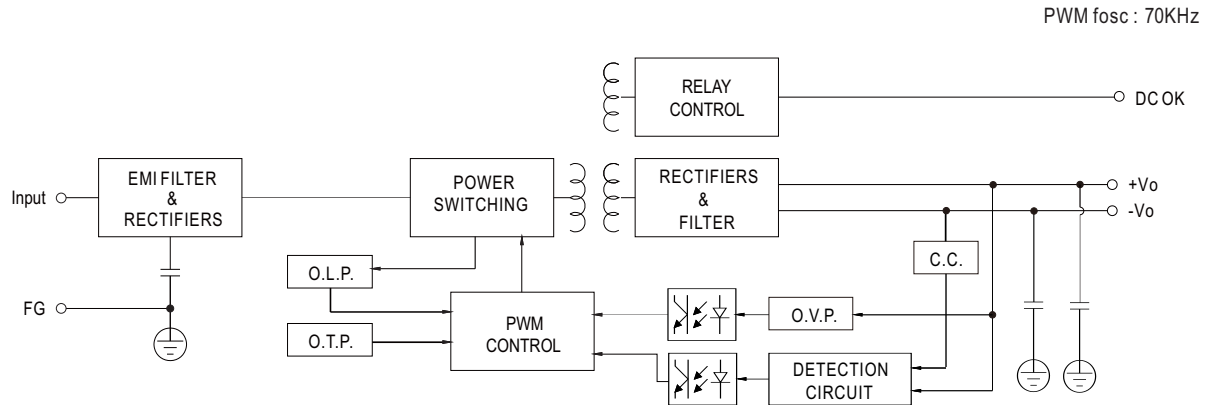
SPECIFICATION		XDR-120E-12	XDR-120E-24	XDR-120E-36	XDR-120E-48
OUTPUT					
DC VOLTAGE		12V	24V	36V	48V
RATED CURRENT		10A	5A	3.33A	2.5A
CURRENT RANGE		0 ~ 10A	0 ~ 5A	0 ~ 3.33A	0 ~ 2.5A
RATED POWER		120W	120W	119.88W	120W
RIPPLE & NOISE (max.)	Note.2	100mVp-p	120mVp-p	150mVp-p	150mVp-p
VOLTAGE ADJ. RANGE		12 ~ 15V	24 ~ 29V	36 ~ 42V	48 ~ 55V
VOLTAGE TOLERANCE	Note.3	±2.0%	±1.0%	±1.0%	±1.0%
LINE REGULATION		±0.5%	±0.5%	±0.5%	±0.5%
LOAD REGULATION		±1.0%	±1.0%	±1.0%	±1.0%
SETUP, RISE TIME		1200ms, 60ms/230Vac      2500ms, 60ms/115Vac at full load			
HOLD UP TIME (Typ.)		16ms/230Vac      8ms/115Vac at full load			
INPUT					
AC VOLTAGE RANGE		85 ~ 264Vac			
DC VOLTAGE RANGE		120 ~ 370Vdc			
NO LOAD POWER CONSUMPTION (Typ.)		0.6W @115Vac    0.9W @ 230Vac	0.8W @115Vac    1W @ 230Vac		
FREQUENCY RANGE		47 ~ 63Hz			
EFFICIENCY (Typ.)		89%	91%	91%	91%
AC CURRENT (Typ.)		2.3A/115Vac    1.3A/230Vac			
INRUSH CURRENT (Typ.)		COLD START    20A/115Vac    40A/230Vac			
LEAKAGE CURRENT		<1mA / 240Vac			
PROTECTION					
OVERLOAD		105-130% rated output power, constant current limiting without shutdown, recovers automatically after fault condition is removed			
OVER VOLTAGE		15 ~ 18V	30 ~ 34V	43 ~ 50V	56 ~ 65V
		Protection type : Shut down o/p voltage, re-power on to recover			
OVER TEMPERATURE		Protection type : Shut down o/p voltage,recovers automatically after fault condition is removed			
FUNCTION					
DC OK RELAY CONTACT		Relay Contact Ratings (max.):30Vdc/1A, 30Vac/0.5A resistive load			
ENVIRONMENT					
WORKING TEMP.	Note.4	-40 ~ +70℃ (Refer to "Derating Curve")			
WORKING HUMIDITY		20 ~ 95% RH non-condensing			
STORAGE TEMP., HUMIDITY		-40 ~ +85℃, 10 ~ 95% RH non-condensing			
TEMP. COEFFICIENT		±0.03% /℃ (0 ~ 50℃)			
VIBRATION		Component:10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes; Mounting: Compliance to IEC60068-2-6			
SAFETY & EMC      Note.7&8&9					
SAFETY STANDARDS	CB	IEC 62368-1, IEC 61558-1/2-16, IEC 61010-1/-2-201			
	TUV	BS EN/EN 62368-1, BS EN /EN 61558-1/-2-16, BS EN/EN 61010-1/-2-201			
	UL	UL/CUL 61010-1/-2-201			
	CCC	GB4943.1			
	BSMI	CNS15598-1			
	EAC	TPTC004 approved			
	KC/BIS	KC 62368-1 and BIS IS 13252 (Part 1) certified, no stock by request ,contact sales for inquires			



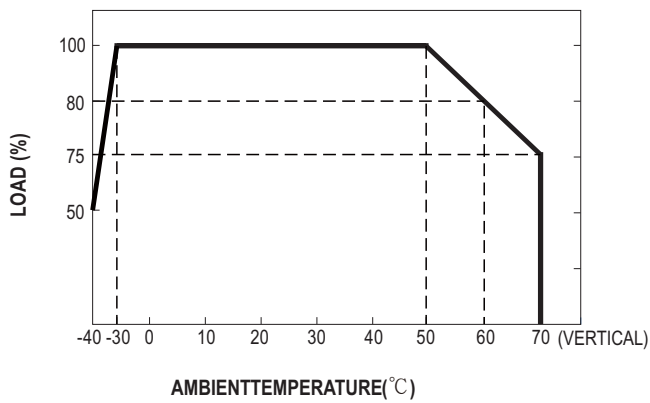
# 120W AC/DC Economical Ultra Slim Industrial DIN Rail Power **XDR-120E** series

SPECIFICATION		XDR-120E-12	XDR-120E-24	XDR-120E-36	XDR-120E-48
SAFETY & EMC					
Note.7&8&9					
OVER VOLTAGE CATEGORY	Note.5	IEC/EN 61558-1/-2-16 (OVC III, altitude up to 2000m ) IEC/EN/UL 61010-1/-2-201 (OVC II, altitude up to 5000m ) IEC/EN 62368-1 (OVC II, altitude up to 5000m )			
SAFETY EXTRA-LOW VOLTAGE(SELV)		IEC/EN 61558-2-16 (SELV ) IEC/EN 62368-1 (SELV / ES1 )			
WITHSTAND VOLTAGE		I/P-O/P: 4KVac I/P-FG: 2KVac O/P-FG: 1.5KVac O/P-DC OK: 0.5KVac			
ISOLATION RESISTANCE		I/P-O/P, I/P-FG, O/P-FG: 100M Ohms/500Vdc/25℃/ 70%RH			
EMC EMISSION		Parameter	Standard	Test Level / Note	
		Conducted	BS EN/EN55032 (CISPR32) / BS EN/EN61204-3 / CNS15936 / KS C 9832	Class B	
		Radiated	BS EN/EN55032 (CISPR32) / BS EN/EN61204-3 / CNS15936 / KS C 9832	Class B	
		Harmonic Current	BS EN/EN61000-3-2	Class A	
		Voltage Flicker	BS EN/EN61000-3-3	-----	
EMC IMMUNITY		BS EN/EN55035 , BS EN/EN61204-3, BS EN/EN61000-6-2(BS EN/EN50082-2), KS C 9835			
		Parameter	Standard	Test Level / Note	
		ESD	BS EN/EN61000-4-2	Level 3, 8KV air ; Level 2, 4KV contact; criteria A	
		Radiated	BS EN/EN61000-4-3	Level 3, 10V/m ; criteria A	
		EFT / Burst	BS EN/EN61000-4-4	Level 3, 2KV ; criteria A	
		Surge	BS EN/EN61000-4-5	Level 4, 2KV/Line-Line ;Level 4, 4KV/Line-Line-Chassis ;criteria A	
		Conducted	BS EN/EN61000-4-6	Level 3, 10V ; criteria A	
		Magnetic Field	BS EN/EN61000-4-8	Level 4, 30A/m ; criteria A	
OTHERS					
MTBF		2223.1K hrs min. Telcordia SR-332 (Bellcore) ; 440.4K hrs min. MIL-HDBK-217F (25℃)			
DIMENSION		30*125.2*116mm (W*H*D)			
PACKING		510g; 24pcs/13.25Kg/1.16CUFT			
NOTE					
1. All parameters NOT specially mentioned are measured at 230Vac input, rated load and 25℃ of ambient temperature.					
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 μ F & 47 μ F parallel capacitor.					
3. Tolerance : includes set up tolerance, line regulation and load regulation.					
4. When the temperature is between -40 °C and -20 °C and the input voltage is between 85V and 90V, the temperature derating curve drops to 40% .					
5. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).					
6. 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.					
7. 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 <a href="https://www.meanwell.com/Upload/PDF/EMI_statement_en.pdf">https://www.meanwell.com/Upload/PDF/EMI_statement_en.pdf</a> )					
8. The Regulatory Compliance Mark (RCM) is applied on a voluntary basis. The equipment meets the relevant IEC or AS/NZS standards, or AS/NZS 3820 where applicable. The use of the RCM mark complies with AS/NZS 4417.1.					
9. Some factory or model may not have the BIS logo, please contact your MEAN WELL sales for more information.					
※ Product Liability Disclaimer : For detailed information, please refer to <a href="https://www.meanwell.com/serviceDisclaimer.aspx">https://www.meanwell.com/serviceDisclaimer.aspx</a>					

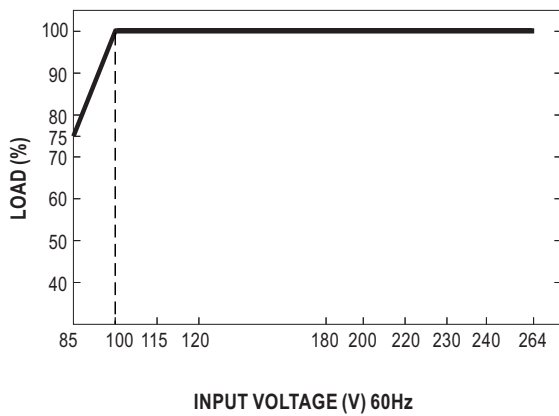
## ■ Block Diagram



## ■ Derating Curve



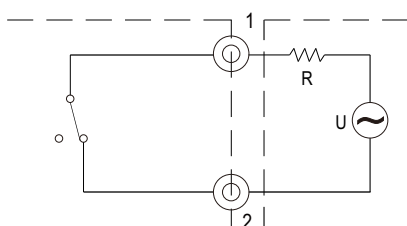
## ■ Static Characteristics



## ■ Function Manual

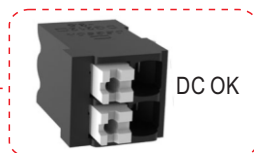
### 1.DC OK Relay Contact

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



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

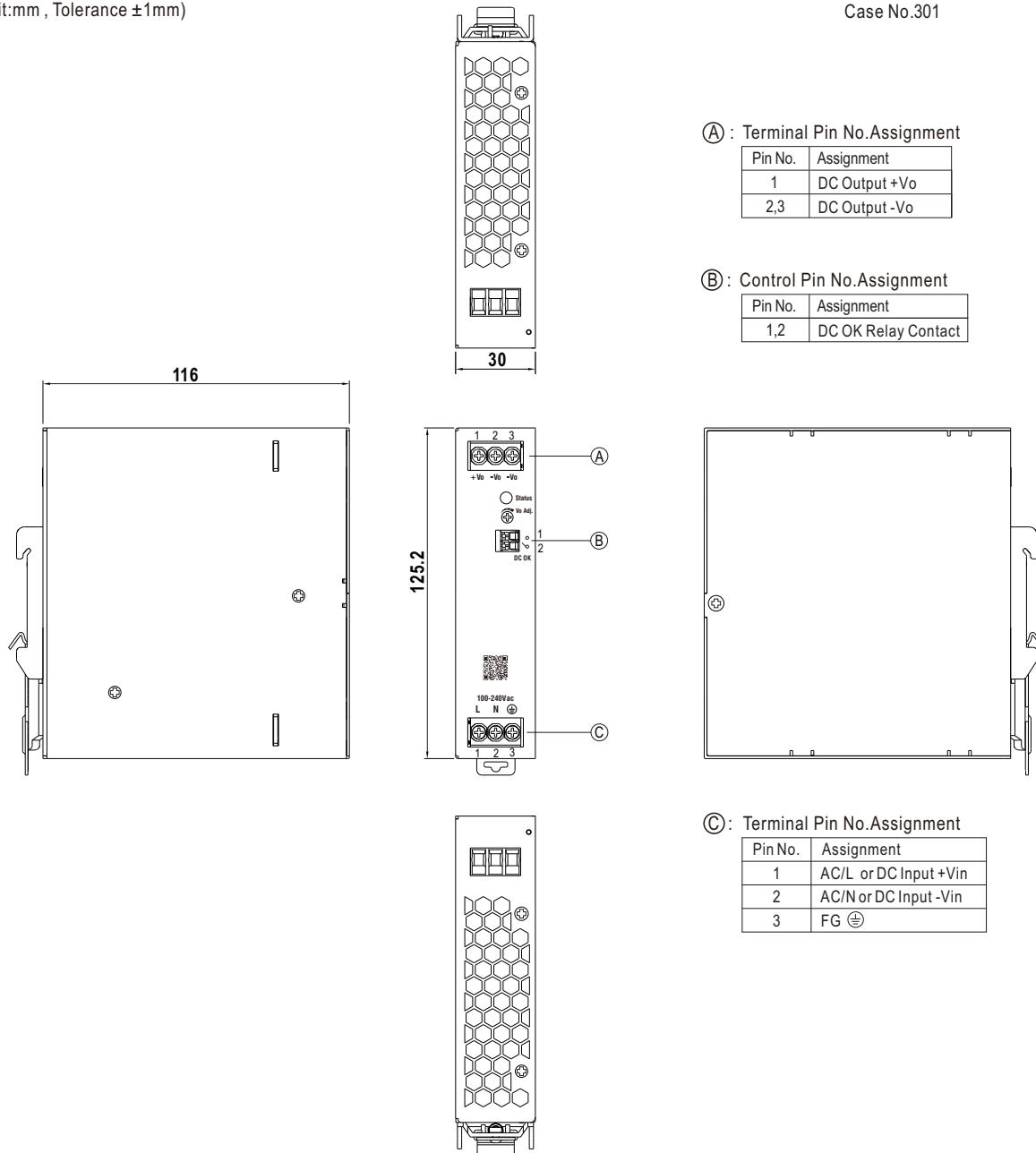
Internal circuit of DC\_OK, via relay contact



## ■ Mechanical Specification

(Unit:mm , Tolerance  $\pm 1$ mm)

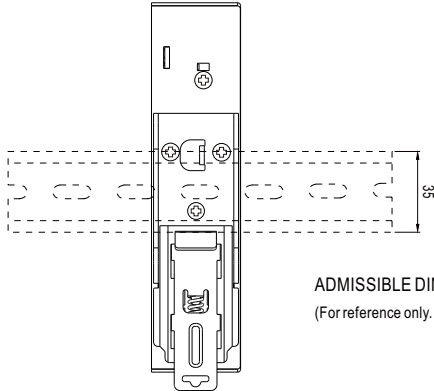
Case No.301



## ■ Recommend Wiring

	AC Input T.B	DC Output T.B	Signal connector
Solid Wire	6mm <sup>2</sup> max.	6mm <sup>2</sup> max.	1.5mm <sup>2</sup> max.
A.W.G	16~10 AWG	16~10 AWG	24~16 AWG
Wire Stripping Length	7~8mm	7~8mm	8~9mm
Screw Terminal Torque	5 Lb-In	5 Lb-In	/

#### ■ Installation Instruction



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

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

#### ■ Installation Manual

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