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

User's Manual



LISTED UL61010 | BS EN/EN62368-1, BS EN/EN61558-1, BS EN/EN61010 | IEC62368-1, IEC61558-1, IEC61010 | AS/NES61558-1, AS/NES62368-1 | IS13252 (By request) | KC62368-1 (By request)

CNS15598-1 | GB4943.1 | TPTC004

Automate | Industrial | Security | Network | Telecom

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℃ 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℃ (up to +50℃ 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

- 24 — Output voltage(12V/24V/36V/48V)
- E — Economical version
- 120 — Output wattage
- XDR — 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				
SAFETY STANDARDS	UL61010; TUV BS EN/EN62368-1, BS EN/EN61558-1/-2-16, BS EN/EN61010; CB IEC62368-1, IEC61558-1, IEC61010; RCM AS/NZS 62368-1, AS/NZS 61558-1/-2-16; BSMI CNS15598-1; CCC GB4943.1; EAC TPTC004 approved; KC KC62368-1 and BIS IS13252 (Part 1):2010 certified, no stock ,contact sale for inquires			

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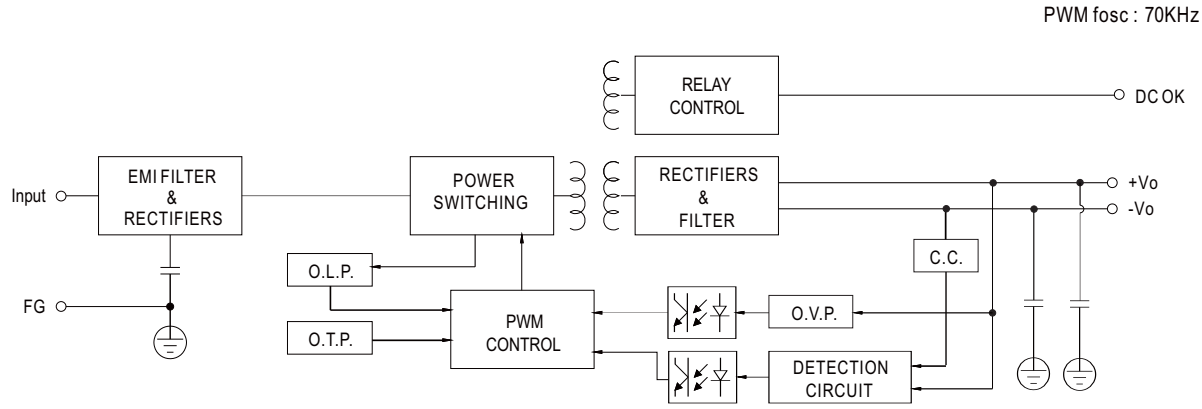
SPECIFICATION	XDR-120E-12	XDR-120E-24	XDR-120E-36	XDR-120E-48
SAFETY & EMC Note.7				
OVER VOLTAGE CATEGORY Note.5	IEC/EN 61558-1/-2-16 (OVC Ⅲ, altitude up to 2000m) IEC/EN/UL 61010 (OVC Ⅱ, altitude up to 5000m) IEC/EN 62368-1 (OVC Ⅱ, altitude up to 5000m)			
SAFETY EXTRA-LOW VOLTAGE(SELV)	IEC/EN 61558-2-16 (SELV) IEC/EN/UL 61010-2-201 (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	Class B	
	Radiated	BS EN/EN55032 (CISPR32) / BS EN/EN61204-3 / CNS15936	Class B	
	Harmonic Current	BS EN/EN61000-3-2	Class A	
	Voltage Flicker	BS EN/EN61000-3-3	-----	
EMC IMMUNITY	BS EN/EN55035 , BS EN/EN61204-3, BS EN/EN61000-6-2(BS EN/EN50082-2)			
	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

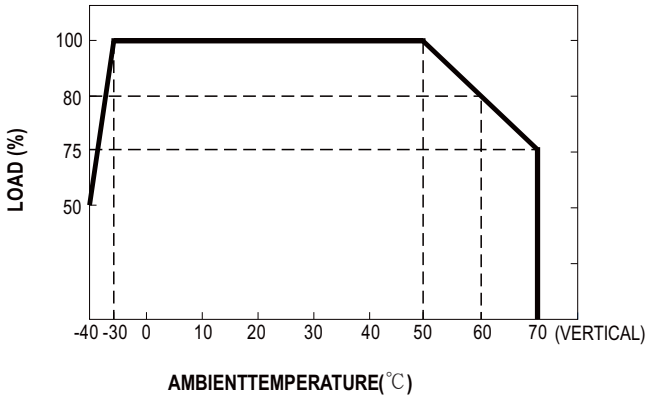
1. All parameters NOT specially mentioned are measured at 230Vac input, rated load and 25℃ of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 μF & 47 μF parallel capacitor.
3. Tolerance : includes set up tolerance, line 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 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

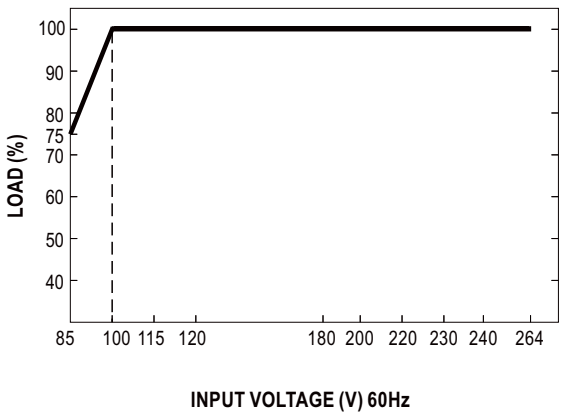
■ Block Diagram



■ Derating Curve



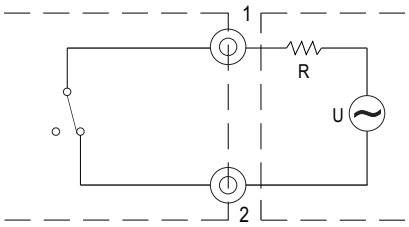
■ Static Characteristics



■ Function Manual

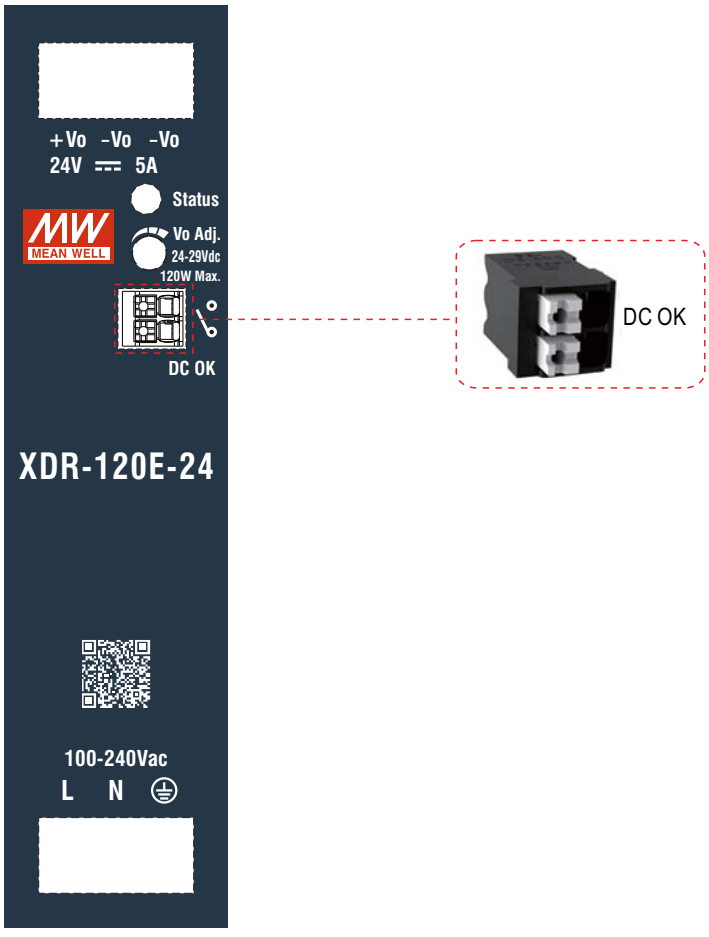
1.DC OK Relay Contact

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)

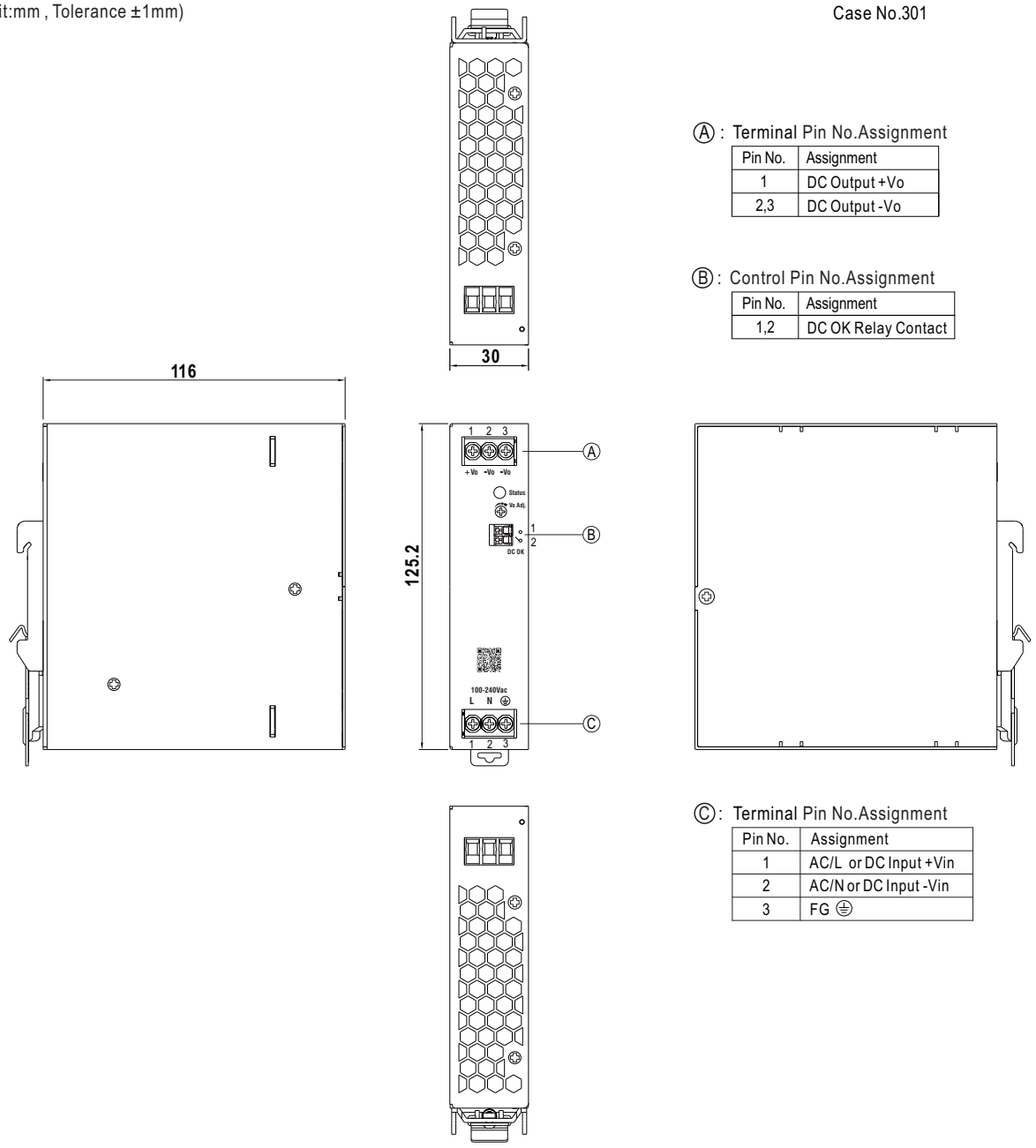
Internal circuit of DC_OK, via relay contact



■ Mechanical Specification

(Unit:mm , Tolerance ±1mm)

Case No.301



Ⓐ: Terminal Pin No.Assignment

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

Ⓑ: Control Pin No.Assignment

Pin No.	Assignment
1,2	DC OK Relay Contact

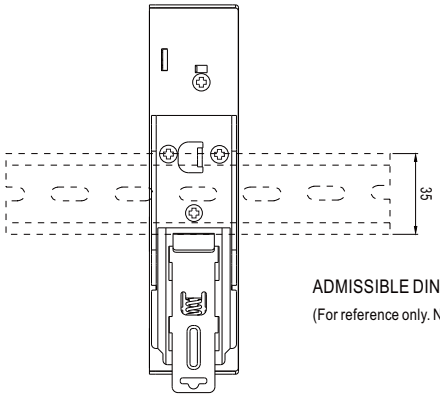
Ⓒ: Terminal Pin No.Assignment

Pin No.	Assignment
1	AC/L or DC Input +Vin
2	AC/N or DC Input -Vin
3	FG ⏚

■ Recommend Wiring

	AC Input T.B	DC Output T.B	Signal connector
Solid Wire	6mm² max.	6mm² max.	1.5mm² 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