

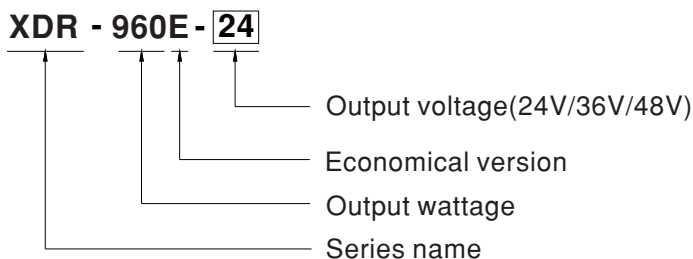
### ■ Features

- 180~264Vac input with PFC
- Global certificates in multi-fields (ITE 62368-1, Industrial 61558-1/-2-16, 61010)
- 96mm slim width
- High efficiency up to 95.5% and no load power dissipation 2.7W~3.6W
- 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~+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

### ■ Description

The XDR-960E series is a 960W AC/DC economical ultra slim industrial DIN rail power. Key features of this series include a narrow 96mm casing, optimizing system installation space. It boasts a maximum efficiency of 95.5% and a low standby power consumption 2.7W~3.6W 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); OVCIll compliance; parallel function capability up to 3840W; built-in DC OK signal. With comprehensive protection functions, complete safety certifications, and a 3-years warranty, the XDR-960E series is a compact, high-performance, and highly reliable DIN rail power supply.

### ■ Model Encoding



### ■ Applications

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

### ■ GTIN CODE

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



# 960W AC/DC Economical Ultra Slim Industrial DIN Rail Power **XDR-960E** series

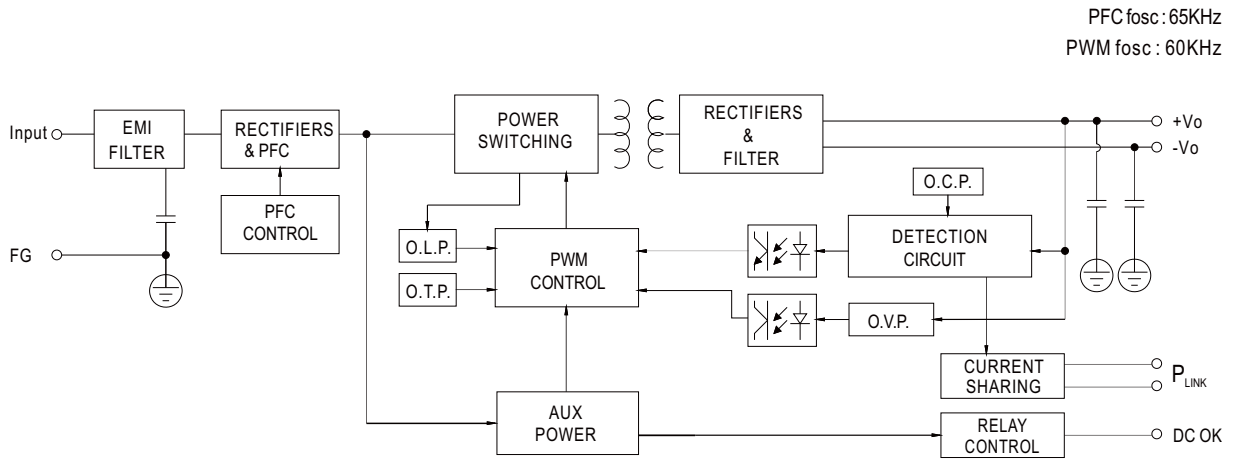
SPECIFICATION	XDR-960E-24	XDR-960E-36	XDR-960E-48
<b>OUTPUT</b>			
DC VOLTAGE	24V	36V	48V
RATED CURRENT	40A	26.6A	20A
CURRENT RANGE	0 ~ 40A	0 ~ 26.6A	0 ~ 20A
RATED POWER	960W	957.6W	960W
RIPPLE & NOISE (max.) <span style="float:right">Note.2</span>	120mVp-p	150mVp-p	150mVp-p
VOLTAGE ADJ. RANGE	24 ~ 29V	36 ~ 42V	48 ~ 55V
VOLTAGE TOLERANCE <span style="float:right">Note.3</span>	± 1.0%	± 1.0%	± 1.0%
LINE REGULATION	± 0.5%	± 0.5%	± 0.5%
LOAD REGULATION	± 1.0%	± 1.0%	± 1.0%
SETUP, RISE TIME	500ms, 50ms/230Vac at full load		
HOLD UP TIME (Typ.)	15ms/230Vac at full load		
<b>INPUT</b>			
AC VOLTAGE RANGE	180 ~ 264Vac		
DC VOLTAGE RANGE	254.5 ~ 370Vdc		
NO LOAD POWER CONSUMPTION (Typ.)	2.7W @ 230Vac	3.6W @ 230Vac	
FREQUENCY RANGE	47 ~ 63Hz		
POWDR FACTOR (Typ.)	PF>0.95/230Vac at full load		
EFFICIENCY (Typ.)	94.5%	95%	95.5%
AC CURRENT (Typ.)	5A/230Vac		
INRUSH CURRENT (Typ.)	COLD START 30A/230Vac		
LEAKAGE CURRENT	<3.5mA / 240Vac		
<b>PROTECTION</b>			
OVERLOAD	105~130% rated output power		
	Hiccup mode when output voltage <30%, recovers automatically after fault condition is removed Constant current limiting without shutdown within 30%~100% rated output voltage, recovers automatically after fault condition is removed		
OVER VOLTAGE	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 temperature goes down		
<b>FUNCTION</b>			
PARALLEL(Droop Mode)	Up to 3840W or (3+1) units;Please refer to Function Manual for more details		
DC OK RELAY CONTACT	Relay Contact Ratings (max.):30Vdc/1A, 30Vac/0.5A resistive load		
<b>ENVIRONMENT</b>			
WORKING TEMP.	-40 ~ +70°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 ~ 50°C)		
VIBRATION	Component:10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes; Mounting: Compliance to IEC60068-2-6		



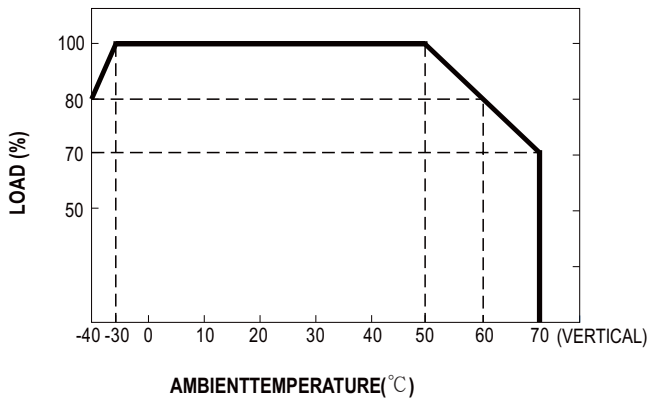
# 960W AC/DC Economical Ultra Slim Industrial DIN Rail Power **XDR-960E** series

SPECIFICATION	XDR-960E-24	XDR-960E-36	XDR-960E-48
<b>SAFETY &amp; EMC</b> <span style="float: right;">Note.6</span>			
<b>SAFETY STANDARDS</b>	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; <b>KC KC62368-1 and BIS IS13252 (Part 1):2010 certified, no stock ,contact sale for inquires</b>		
<b>OVER VOLTAGE CATEGORY</b> <span style="float: right;">Note.4</span>	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 )		
<b>SAFETY EXTRA-LOW VOLTAGE(SELV)</b>	IEC/EN 61558-2-16 (SELV ) IEC/EN/UL 61010-2-201 (SELV ) IEC/EN 62368-1 (SELV / ES1 )		
<b>WITHSTAND VOLTAGE</b>	I/P-O/P: 4KVac I/P-FG: 2KVac O/P-FG: 1.5KVac O/P-DC OK: 0.5KVac		
<b>ISOLATION RESISTANCE</b>	I/P-O/P, I/P-FG, O/P-FG: 100M Ohms/500Vdc/25°C / 70%RH		
<b>EMC EMISSION</b>	<b>Parameter</b>	<b>Standard</b>	<b>Test Level / Note</b>
	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	-----
<b>EMC IMMUNITY</b>	BS EN/EN55035, BS EN/EN61204-3, BS EN/EN61000-6-2(BS EN/EN50082-2)		
	<b>Parameter</b>	<b>Standard</b>	<b>Test Level / Note</b>
	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	
<b>OTHERS</b>			
<b>MTBF</b>	1147.2K hrs min. Telcordia SR-332 (Bellcore) ; 169.9K hrs min. MIL-HDBK-217F (25°C)		
<b>DIMENSION</b>	<b>96*125.2*132mm (W*H*D)</b>		
<b>PACKING</b>	1.93Kg; 6pcs/12.55Kg/1.47CUFT		
<b>NOTE</b>			
<p>1. All parameters NOT specially mentioned are measured at 230Vac input, rated load and 25°C of ambient temperature.</p> <p>2. Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 μ F &amp; 47 μ F parallel capacitor.</p> <p>3. Tolerance : includes set up tolerance, line regulation and load regulation.</p> <p>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).</p> <p>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.</p> <p>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 <a href="https://www.meanwell.com/Upload/PDF/EMI_statement_en.pdf">https://www.meanwell.com/Upload/PDF/EMI_statement_en.pdf</a>)</p> <p>※ Product Liability Disclaimer : For detailed information, please refer to <a href="https://www.meanwell.com/serviceDisclaimer.aspx">https://www.meanwell.com/serviceDisclaimer.aspx</a></p>			

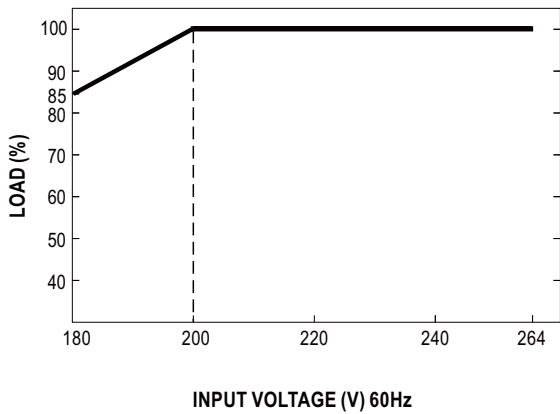
■ Block Diagram



■ Derating Curve



■ Static Characteristics

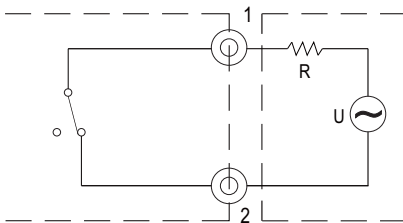


**Function Manual**

Pin No.	Function	Description
1,2	DC OK Relay Contact	Contact Close: PSU turns ON/DC_OK Contact Open: PSU turns OFF/DC_fail
3,4	Paraller Use Link(P <sub>LINK</sub> )	P <sub>LINK</sub> should be short to enable droop parallel use.(Default disable)

**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

**2.Parallel Use**

XDR-960E has the built-in **droop mode current sharing** function and can be connected in parallel, up to 4 units, to provide higher output power as exhibited below :

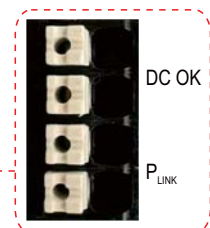
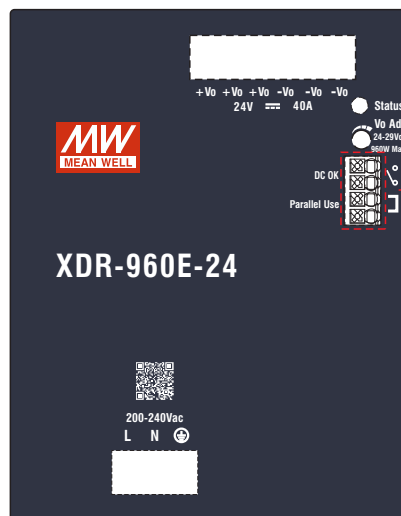
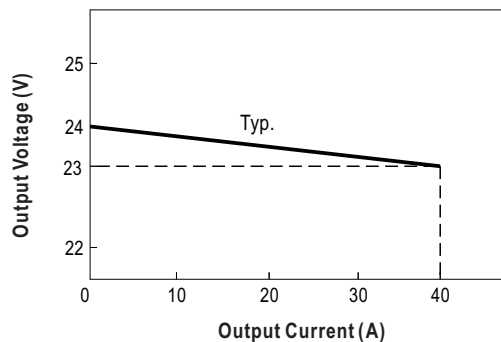
- (1) Difference of output voltages among parallel units should be less than 0.1V.
- (2) The total output current must not exceed the value determined by the following equation (Output current at parallel operation)=(The rated current per unit) x (Number of unit) x 0.9.
- (3) In parallel operation 4 units is the maximum, please consult the manufacture for other applications.
- (4) The power supplies should be paralleled using short and large diameter wiring and then connected to the load.
- (5) When in parallel operation, the minimum output load should be greater than 7% of total output load. (Min. load >7% rated current per unit x number of unit)
- (6) In parallel connection, maybe only one unit (master) operate if the total output load is less than 7% of rated load condition.  
The other PSUs (slaves) may go into standby mode and their output LEDs & relays will not turn on.
- (7) P<sub>LINK</sub> lines should be shorted locally.
- (8) In parallel operation, after overload or short circuit fault occurs, re-power on to recover.
- (8) The "Parallel Use" mode regulates the output voltage in such a manner that the voltage at no load is approx. 4% higher than at normal load.

For example XDR-960E-24:

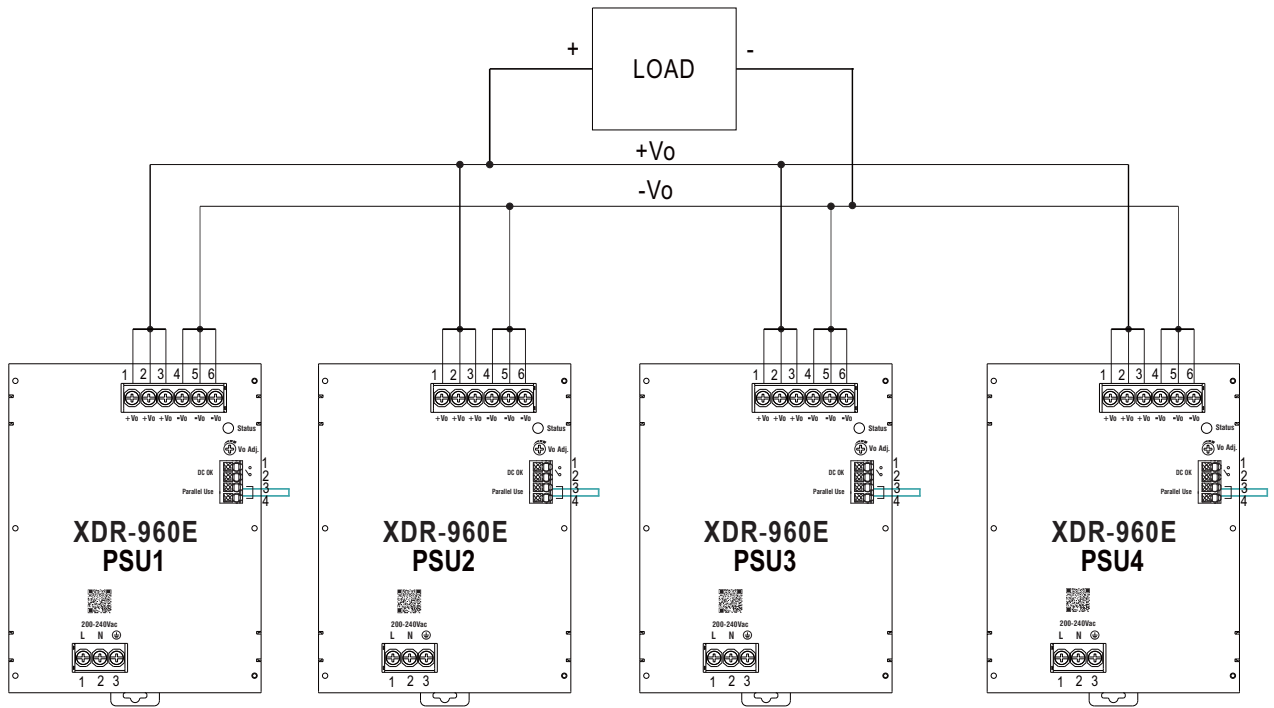
No load output voltage=24V

Normal load output current=40A

0~100% load output voltage=24V~23V



Enable : P<sub>LINK</sub> should be short

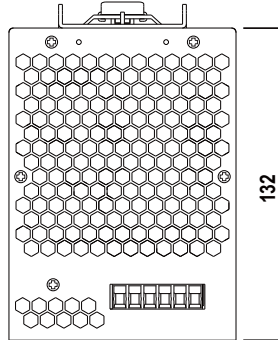


※ Please contact MEAN WELL for more details.

**■ Mechanical Specification**

(Unit:mm , Tolerance ±1mm)

Case No. 304

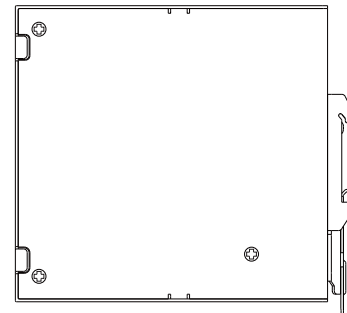
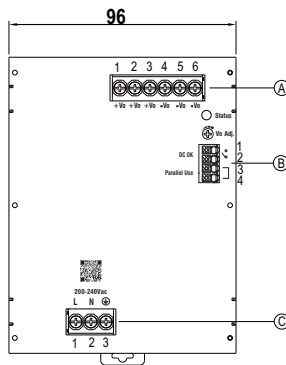
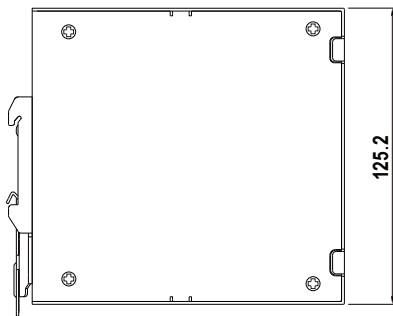


Ⓐ : Terminal Pin No.Assignment

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

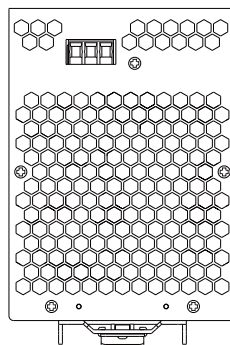
Ⓑ : Control Pin No.Assignment

Pin No.	Assignment
1,2	DC OK Relay Contact
3,4	Parallel Use Link(Current Sharing)



Ⓒ : Terminal Pin No.Assignment

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

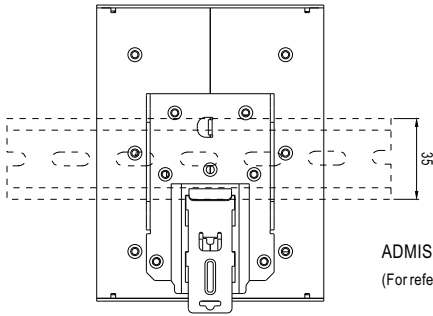


**■ Recommend Wiring**

	AC Input T.B	DC Output T.B	Signal connector
Solid Wire	6mm <sup>2</sup> max.	6mm <sup>2</sup> max.	1.5mm <sup>2</sup> max.
A.W.G	18~10 AWG	18~8 AWG	24~16 AWG
Wire Stripping Length	10~11mm	10~11mm	8~9mm
Screw Terminal Torque	5 Lb-In	5 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>