60W Ultra Wide Input Industrial DIN Rail Power Supply WDR-60 series

User's Manual



AS/NZS62368-1 BS EN/EN61558 LISTED IS13252 (except for 48V) TPTC004

Automate Industrial Security Network Telecom

Features

- 180 ~ 550Vac ultra wide input for 1-phase or 2-phase
- 32mm slim width
- 4.7KVac I/O high isolation(Reinforced isolation)
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Cooling by free air convection
- Can be installed on DIN rail TS-35/7.5 or 15
- -30~+85°C ultra-wide operating temperature (>+60°C derating)
- DC OK relay contact
- DC output voltage adjustable(+20%)
- 3 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

WDR-60 series is a 60W DIN rail power supply with ultra-wide AC input range. It is suitable to be mounted on TS-35/7.5 or TS-35/15 rails. Main features are as following: it can accept 180~550Vac ultra-wide input voltage range for single phase or 2-phase system, easy to install DIN rail type, narrow width (32mm) in slim design, -30~+85°C wide range operating temp, 4.7KVAC high isolation voltage, operation at 2000m altitude, adjustable output voltage (+20% max.), high efficiency, low ripple & noise, complete protections and so on. WDR-60 is compliant with BS EN/EN-61000-6-2 standard regarding immunity for industrial environments. It suitable for industrial automation, surveillance, telecommunication and more applications.

Model Encoding

WDR- 60 -24

- 24 — Output voltage
- 60 — Rated wattage
- WDR- — Series name

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SPECIFICATION

MODEL		WDR-60-5	WDR-60-12	WDR-60-24	WDR-60-48
OUTPUT	DC VOLTAGE	5V	12V	24V	48V
	RATED CURRENT	10A	5A	2.5A	1.25A
	CURRENT RANGE	0 ~ 10A	0 ~ 5A	0 ~ 2.5A	0 ~ 1.25A
	RATED POWER	50W	60W	60W	60W
	RIPPLE & NOISE (max.) Note.2	100mVp-p	120mVp-p	150mVp-p	200mVp-p
	VOLTAGE ADJ. RANGE	5 ~ 6V	12 ~ 15V	24 ~ 29V	48 ~ 57V
	VOLTAGE TOLERANCE Note.3	±2%	±1.5%	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±1.5%	±0.5%	±0.5%	±0.5%
	SETUP, RISE, HOLD UP TIME	1000ms, 70ms, 20ms/400Vac 2000ms, 70ms, 10ms/230Vac at full load			
INPUT	VOLTAGE RANGE Note.4	180 ~ 550Vac or 254 ~ 780Vdc			
	FREQUENCY RANGE	47 ~ 63Hz			
	EFFICIENCY (Typ.)	83.5% / 400Vac	86.5% / 400Vac	89% / 400Vac	90.5% / 400Vac
	AC CURRENT	0.4A/400Vac 0.7A/230Vac			
	INRUSH CURRENT (max.)	COLD START 50A /400Vac 30A/230Vac			
	LEAKAGE CURRENT	<2mA / 530Vac			
PROTECTION	OVERLOAD	105 ~ 135% rated output power Hiccup mode when output voltage <50%, recovers automatically after fault condition is removed Constant current limiting within 50% ~100% rated output voltage, recovers automatically after fault condition is removed			
	OVER VOLTAGE	6.2 ~ 7.2V	16 ~ 18V	31 ~ 37V	58 ~ 60.5V
		Protection type : Shut down o/p voltage, re-power on to recover			
	OVER TEMPERATURE	Protection type : Shut down o/p voltage, re-power on to recover			
FUNCTION	DC OK SIGNAL	Relay contact rating(max.) : 30V / 1A resistive			
ENVIRONMENT	WORKING TEMP.	-30 ~ +85℃ (Refer to "Derating Curve")			
	WORKING HUMIDITY	20 ~ 90% RH non-condensing			
	STORAGE TEMP.	-40 ~ +85℃			
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 60℃)			
	VIBRATION	Component: 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes; Mounting clip: Compliance to IEC60068-2-6			
	OPERATING ALTITUDE Note.5	2000 meters			
	OVER VOLTAGE CATEGORY	Ⅱ; According to EN61558, EN50178, EN60664-1, EN62477-1, EN60204-1; altitude up to 2000 meters			
SAFETY & EMC (Note 7)	SAFETY STANDARDS	UL61010, BS EN/EN61558-2-16, AS/NZS 62368.1, EAC TP TC 004,BIS IS13252(Part1):2010/IEC 609501:2005(except for 48) approved; design refer to GL and BS EN/EN60204-1(By request)			
	WITHSTAND VOLTAGE	I/P-O/P:4.7KVAC I/P-FG:2.5KVAC O/P-FG:0.5KVAC 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)	Class B	
		Radiated	BS EN/EN55032(CISPR32)	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/EN61000-6-2, BS EN/EN61204-3			
		Parameter	**Standard**	**Test Level /Note**	
		ESD	BS EN/EN61000-4-2	Level 3, 8KV air; Level 2, 4KV contact, criteria A	
		Radiated Susceptibility	BS EN/EN61000-4-3	Level 3, 10V/m, criteria A	
		EFT Bursts	BS EN/EN61000-4-4	Level 3, 2KV/5KHz, criteria A	
		Surge	BS EN/EN61000-4-5	Level 4, 2KV/Line-Line, 4KV/Line-Earth, 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	
		Voltage Dips and interruptions	BS EN/EN61000-4-11	>95% dip 0. 5 periods, 30% dip 25 periods, >95% interruptions 250 periods	
OTHERS	MTBF	1900.1K hrs min. Telcordia SR-332 (Bellcore) ; 313.7K hrs min. MIL-HDBK-217F (25℃)			
	DIMENSION	32*125.2*102mm (W*H*D)			
	PACKING	0.5Kg; 28pcs/15.2Kg/1.23CUFT			

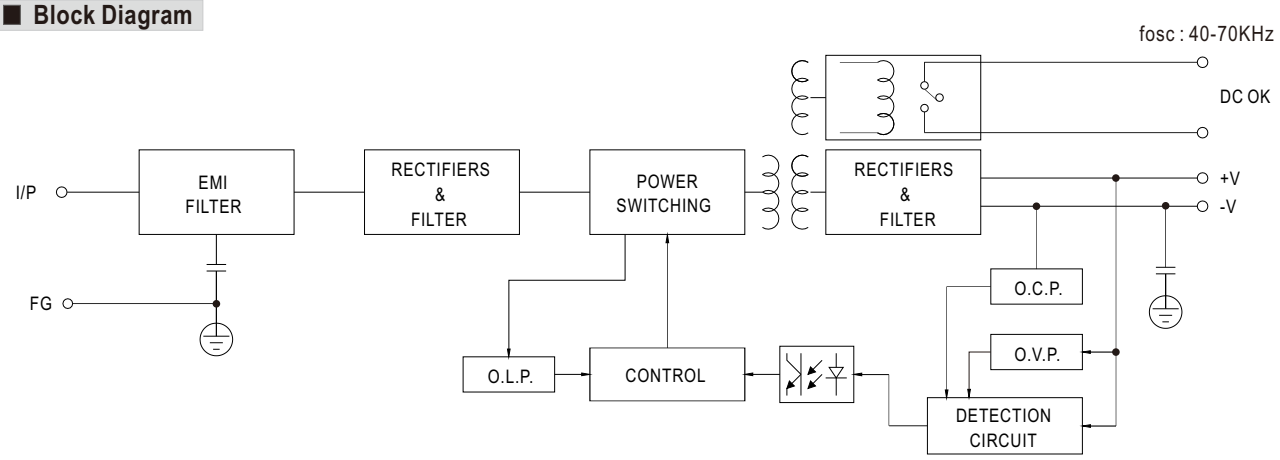
NOTE

1. All parameters NOT specially mentioned are measured at 400VAC 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 0.1μF & 47μF parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. Derating may be needed under low input voltage. Please check the derating curve for more details.
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. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)

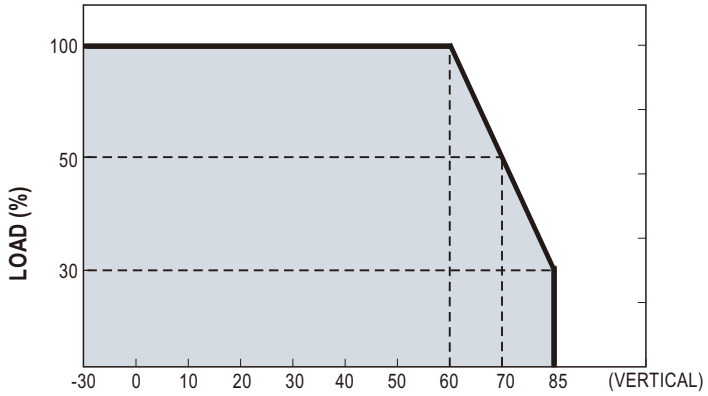
※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

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■ Block Diagram

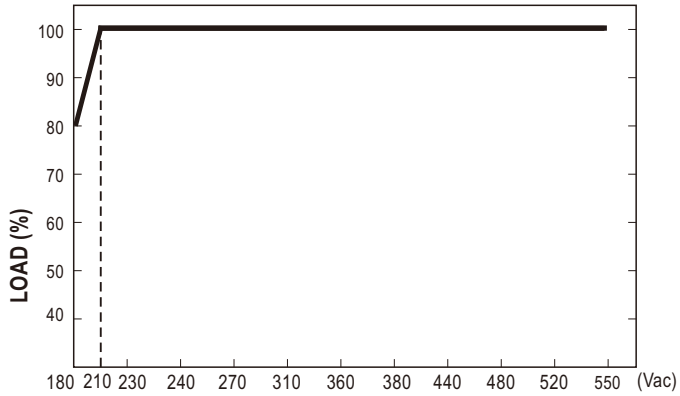


■ Derating Curve



AMBIENT TEMPERATURE (℃)

■ Static Characteristics



INPUT VOLTAGE (VAC) 60Hz

■ DC OK Relay Contact

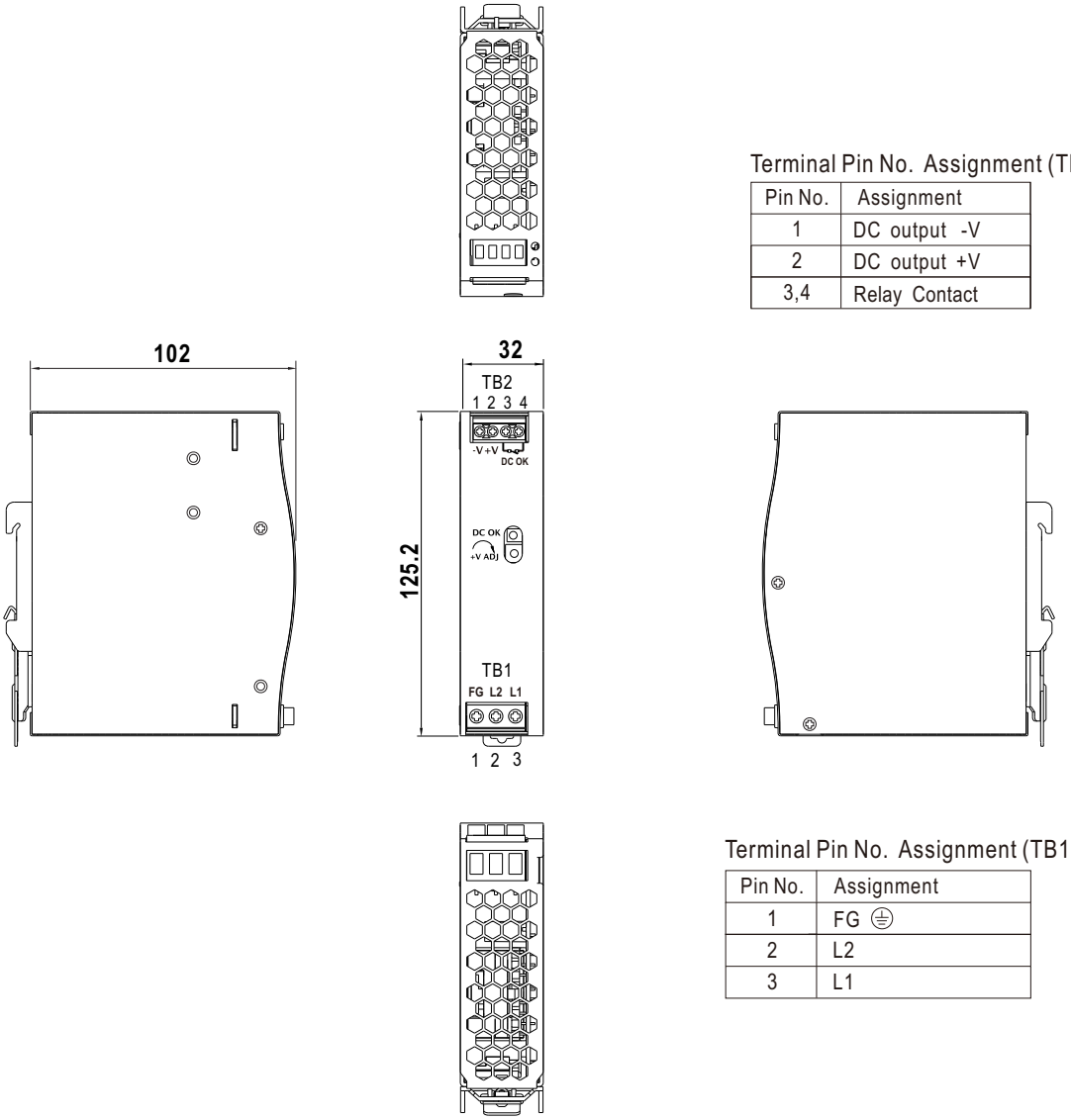
Contact Close	PSU turns ON / DC OK.
Contact Open	PSU turns OFF / DC Fail.
Contact Ratings (max.)	30V/1A resistive load.

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■ Mechanical Specification

(Unit: mm , tolerance ± 1mm)

Case No.221E



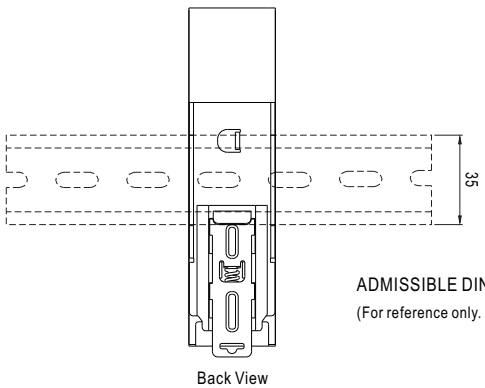
Terminal Pin No. Assignment (TB2)

Pin No.	Assignment
1	DC output -V
2	DC output +V
3,4	Relay Contact

Terminal Pin No. Assignment (TB1)

Pin No.	Assignment
1	FG ⏚
2	L2
3	L1

■ Installation Instruction



Back View

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

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