



User's Manual



Features

- Universal input 90~305VAC (277VAC available)
- All-in-one function with Power supply, DC-UPS, battery charger and status monitoring in ONE compact unit
- Signal and alarms design meet UL2524,NFPA 1221,BS EN/EN54-4 and GB17945 requirement, with adjustable parameters configurable by communication interface
- Form C relay contacts and LED indicators for AC Fail, Battery Low, Charger Fail, and DC-OK
- Load-dependent high speed battery charging
- Built-in MODBus or CANBus protocol
- Protections: Short circuit / Overload / Over voltage / Over temperature(auto derating) / Battery reverse polarity (No damage) / Battery cut off
- Battery low protection / Battery reverse polarity protection
- -30 ~ +70°C wide operating temperature
- Cooling by free air convection
- Can be installed on DIN rail TS-35/7.5 or 15
- Charging curve can be set with SBP-001(only for CANBus model) (Smart programmer sold separately, please refer to: <https://www.meanwell.com/webapp/product/search.aspx?prod=SBP-001>)
- 20~100% charging current adjustable by VR
- 2 or 3-stage selectable by DIP S.W
- Suitable for lead acid and lithium-ion batteries
- 3 years warranty

Description

DRS-480 is a 480W AC/DC DIN rail type security power supply series. In addition to the primary output, there is an additional charger circuit that will automatically adjust charge current depending on the primary output current. DRS-480 accepts the universal input between 90VAC and 305VAC, and supports output 24VDC, 36VDC, and 48VDC nominal systems. With high efficiency up to 93.5%, it can operate with free air convection cooling under -30°C through 70°C ambient temperature. In addition to the key protection features such as overload protection, over voltage protection, battery low voltage disconnect, and battery reverse polarity protection, the DRS-480 also provides Form-C contacts and LED indicator alarm signals for AC-fail, battery low, charger fail, and DC-OK to allow easy integration into security systems that comply with local alarm codes.

Model Encoding

DRS - 480 - 48

Function option(Blank: Built-in MODBus, CAN: Built-in CANBus)

Applications

- Public safety battery back-up (Red box)
- Security system
- Emergency lighting system
- Alarm system
- Uninterruptible DC-UPS system, battery detection system
- Central monitoring system
- Industrial automation

GTIN CODE

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

SPECIFICATION

MODEL		DRS-480-24 <input type="checkbox"/>	DRS-480-36 <input type="checkbox"/>	DRS-480-48 <input type="checkbox"/>
		<input type="checkbox"/> =Blank, CAN		
OUTPUT	OUTPUT VOLTAGE <small>Note.2</small>	24V	36V	48V
	LOAD CURRENT RANGE	0 ~ 20A	0 ~ 13.3A	0 ~ 10A
	BATTERY CURRENT (CC)(max.)	15.4A	10.2A	7.7A
	RECOMMENDED BATTERY CAPACITY(AMP HOURS) <small>Note.3</small>	20 ~ 200AH	13 ~ 133AH	10 ~ 100AH
	TOTAL OUTPUT POWER <small>Note.4</small>	Combined power on all Channels must not exceed 480W, load has priority. 550W peak capability within 5s.		
	RIPPLE & NOISE (max.) <small>Note.5</small>	240mVp-p	360mVp-p	480mVp-p
	VOLTAGE TOLERANCE <small>Note.6</small>	± 1.0%	± 1.0%	± 1.0%
	LINE REGULATION	± 0.5%	± 0.5%	± 0.5%
	LOAD REGULATION	± 0.5%	± 0.5%	± 0.5%
	SETUP RISETIME <small>Note.7</small>	2400ms, 1000ms/230VAC 2400ms, 1000ms/115VAC at full load		
	HOLD UP TIME (Typ.)	16ms/230VAC 10ms/115VAC at full load		
INPUT	VOLTAGE RANGE	90 ~ 305VAC 127 ~ 431VDC		
	FREQUENCY RANGE	47 ~ 63Hz		
	POWER FACTOR (Typ.)	PF>0.95/230VAC PF>0.98/115VAC at full load		
	EFFICIENCY (Typ.)	92.5%	93.5%	93.5%
	AC CURRENT (Typ.)	5.4A/115VAC 2.7A/230VAC		
	INRUSH CURRENT (Typ.)	COLD START 30A/115VAC 60A/230VAC		
PROTECTION	SHORT CIRCUIT	Protection type: Constant current limiting, power will shutdown after 5 sec, re-power on to recover.		
	OVERLOAD	105 ~ 135% rated output power Protection type: Constant current limiting, shutdown output voltage after 5 sec.		
	OVER TEMPERATURE	Automatically drop load with temperature only for bat. load. Protection type : Shut down o/p voltage, recover automatically after temperature goes down.		
	OVER VOLTAGE	Load main output : 32.4 ~ 37.3V	Load main output : 48.6 ~ 55.9V	Load main output : 64.8 ~ 74.5V
	BATTERY CUT OFF	20.9±0.5V	31.3±0.7V	41.8±1V
	REVERSE POLARITY	By internal MOSFET, no damage, recovers automatically after fault condition is removed.		
FUNCTION	FORM-C RELAY	AC FAIL	Signals AC failure and activates when input voltage drops below : 79~89VAC of 120AC, 132~187VAC of 220VAC. Relay contact output, ON : AC OK ; OFF : AC Fail ; max. rating : 30Vdc/1A	
		CHARGER FAIL	Relay contact output, ON : Charger OK ; OFF : Charger Fail ; max. rating : 30Vdc/1A	
		DC OK	Signals normal DC output and activates when output voltage > 90% rated value. Relay contact output, ON : DC OK ; OFF : DC Fail ; max. rating : 30Vdc/1A	
		BATTERY LOW/ ABNORMAL/ DISCONNECTED	Battery low voltage : < 22V±0.3V	Battery low voltage : < 33V±0.4V Battery low voltage : < 44V±0.5V
	BATTERY START	Restart system directly from battery and does not require AC power		
	DC-UPS	UPS switch to battery power within 10ms of AC failure		
	ADJUSTABLE CHARGING CURRENT	20% ~ 100% charging current adjustable by VR		
	BATTERY TEMPERATURE COMPENSATION	The system can change the battery charging voltage by detecting the temperature (Please refer to page 9~10 for more details).		
ENVIRONMENT	WORKING TEMP.	-30 ~ +70℃ (Refer to "Derating Curve")		
	WORKING HUMIDITY	20 ~ 90% RH non-condensing		
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 10 ~ 95% RH non-condensing		
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 50℃) on Load output		
	VIBRATION	10 ~ 500Hz, 5G 10min./1cycle, 60min. each along X, Y, Z axes		
	OPERATING ALTITUDE <small>Note.8</small>	2000 meters / OVC III		
	OVER VOLTAGE CATEGORY	III ; According to Dekra BS EN/EN62368-1; altitude up to 2000 meters		
SAFETY & EMC (Note.10)	SAFETY STANDARDS	UL62368-1, Dekra BS EN/EN62368-1, RCM AS/NZS 62368.1, EAC TP TC 004 approved		
	WITHSTAND VOLTAGE	I/P-O/P: 4KVAC I/P-FG: 2KVAC O/P-FG: 1.5KVAC		
	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	-----
		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 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 3, 1KV/Line-Line ;Level 3, 2KV/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
	FIRE DETECTION AND FIRE ALARM SYSTEM	Compliance to BS EN/EN54-4		