MICROSENS

Data Sheet

DC Power Supplies for PoE applications
DIN-rail mounting

Description

Active network equipment which is supporting the Power-over-Ethernet function, typically requires a powerful 48 VDC power supply. For this particular demanding application MICROSENS offers special power supplies.

Main feature of these power supplies is the immunity against electromagnetic interference, which is important for sensitive applications like VoIP telephony. Further important features are high efficiency and the easy installation with Snap-on for DIN-rails.

The power supplies are available with the levels of 50, 120, 240 and 480 W. The output voltage of 48 V can be increased up to 56 VDC in order to compensate voltage losses on the power supply lines. All devices provide an excellent over voltage and overload protection mechanism.

Features

- Highest reliability and availability
- Power status inform with couloured LED display
- High efficiency
- Wide range input 85..264 VAC or 90..132/180..264 VAC (auto select)
- Adjustable output voltage 48 – 56 VDC or 45 – 55 VDC
- Power ratings 50 W / 120 W / 240 W / 480 W
- Effective electric surge and overload protection
- Parallel operation up to 3 power supplies (only MS700456 / 457 / 458)
- Compact dimensions
- Low weight
- Simple mounting on DIN-rails

Technical Specifications

Type	Compact Power Supplies for Industrial Use	
Input	Rated input voltage	85..264 VAC (only MS700455) 90..132/180..264 VAC (auto select)
	Input frequency (AC)	47-63 Hz
	Input current (115/230 VAC)	1.1/0.7 A (MS700455) 2.8/1.4 A (MS700456) 5.4/2.2 A (MS700457) 7/3.5 A (MS700458)
	DC input voltage range	90-375 VDC (MS700455) 210-370 VDC (MS700456/MS700457) 120-370 VDC (MS700458)
	AC inrush current (115/230 V) at full load	MS700455: 35/50 A MS700456: 24/48 A MS700457: 30/60 A MS700458: 25/50 A
	Power Factor Correction	Meets EN61000-3-2
Output	Rated output voltage	48 VDC
	Adjustment range	MS700455: 48..56 VDC MS700456: 45..55 VDC MS700457/458: 47..56 VDC
	Rated output current	MS700455: 1,05 A MS700456: 2,5 A MS700457: 5 A MS700458: 10 A
	Rated output power	MS700455: 50 W MS700456: 120 W MS700457: 240 W MS700458: 480 W
	Overvoltage protection	125-137,5 % (MS700455) 120-145 % (MS700456/MS700457) 120-130 % (MS700458)
	Overcurrent protection (typ.)	> 120 % (MS700455) 120-145 % (MS700456/MS700457) 120–140 % (MS700458)
	Ripple (20MHz Bandwidth)	< 50 mV or < 100 mV (MS700457)
Efficiency	(typical)	87 % or 90 % (MS700457) 90 % (MS700458)
Hold-up time	(U_{in}=115 V AC) (U_{in}=230 V AC)	> 20 ms (MS700455) > 30 ms (MS700456/457/458)

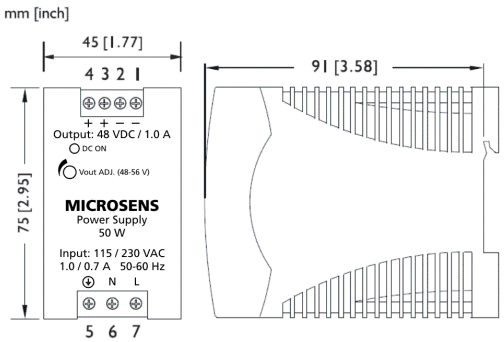
Connections	All wires 0,5 - 2,5 mm² / AWG=24-12 (MS700455) All wires 0,5 - 4 mm² / AWG=24-10 (MS700456/MS700457)	
LED Indicators	Green	DC on
	Red	DC low (only MS700456/457/458)
Safety	IT-equipment	EN60950-1
EMC	Emission	EN55022 class B, EN61000-6-3
	Immunity	EN55024, EN61000-6-2
CE	Low Voltage Directive	2006/95/EC
	EMC	2004/108/EC
	RoHS	2011/65/EU
Withstand voltage	Input to output / 1 min.	3 kVAC
Isolation Resistance	Output to ground 500VDC	> 100 MΩ at 25 °C and 70 % RH
Temperature	Operating	MS700455: -10°C … +70°C MS700456: -35°C … +70°C MS700457: -40°C … +70°C MS700458: -40°C … +70°C
	Storage	MS700455: -25°C … +85°C MS700456: -40°C … +85°C MS700457: -40°C … +85°C MS700458: -40°C … +85°C
Derating	61-70°C	5 % / °C (MS700455) 2.5 % / °C (MS700456/457)
	56-70°C	2.5 % / °C (MS700458)
Rel. Humidity	Non condensing	20..90 % (MS700455) 20..95 % (MS700456/457/458)
Cooling	25 mm clearance on all sides	Convection
Reliability	MIL-HDBK-217F, GF 25°C	> 273.000 h (MS700455)
(MTBF)	Bellcore Issue 6,	> 512.000 h (MS700456)
	Method case 3, GB-GC	> 466.000 h (MS700457)
Dimensions	(B x T x H)	MS700455: 45 x 91 x 75 mm MS700456: 63,5 x 123,6 x 125 mm MS700457: 83 x 126 x 125 mm
Weight		MS700455: 260 g MS700456: 920 g MS700457: 1000 g MS700458: 1920 g
Enclosure material		Plastic (MS700455) Metal (MS700456/457/458)
Mounting	DIN-Rail as per EN50022-35x15/7.5 (Snap-on self-locking spring)	

Redundancy

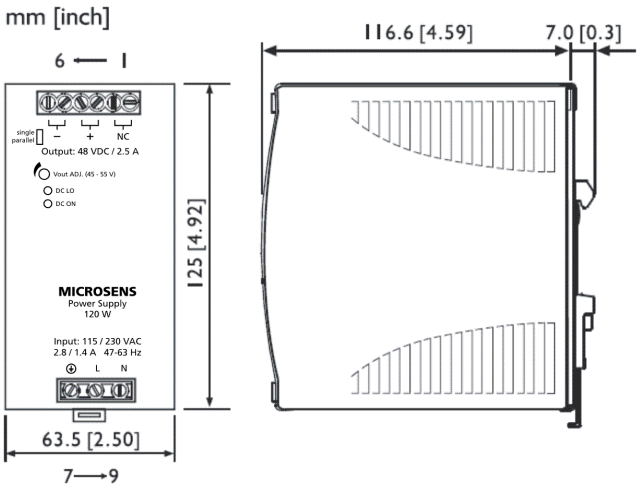
For redundancy it is possible to operate up to 3 devices (only MS700456 and MS700457) in parallel. Ensure that the switch on the front panel is in upper (parallel) position. Ensure that all connecting wires used are the same type, gauge and length. The output voltages must be adjusted to the exact same values. For parallel operation a minimum 10 % load is required. (Loading conditions: 10 to 90 %)

Dimensions and Connections

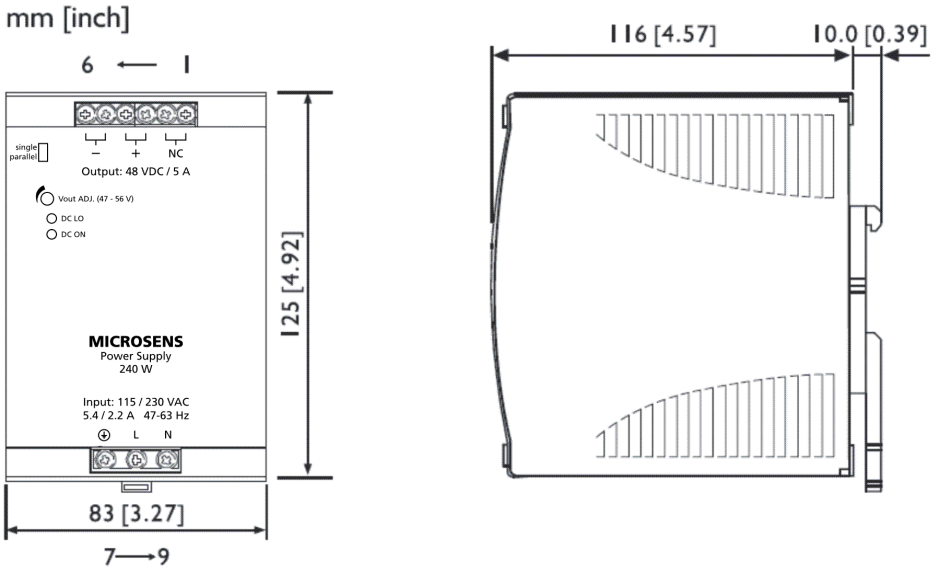
MS700455



MS700456



MS700457



MS700455

Input Connector
5: PE
6: N
7: L

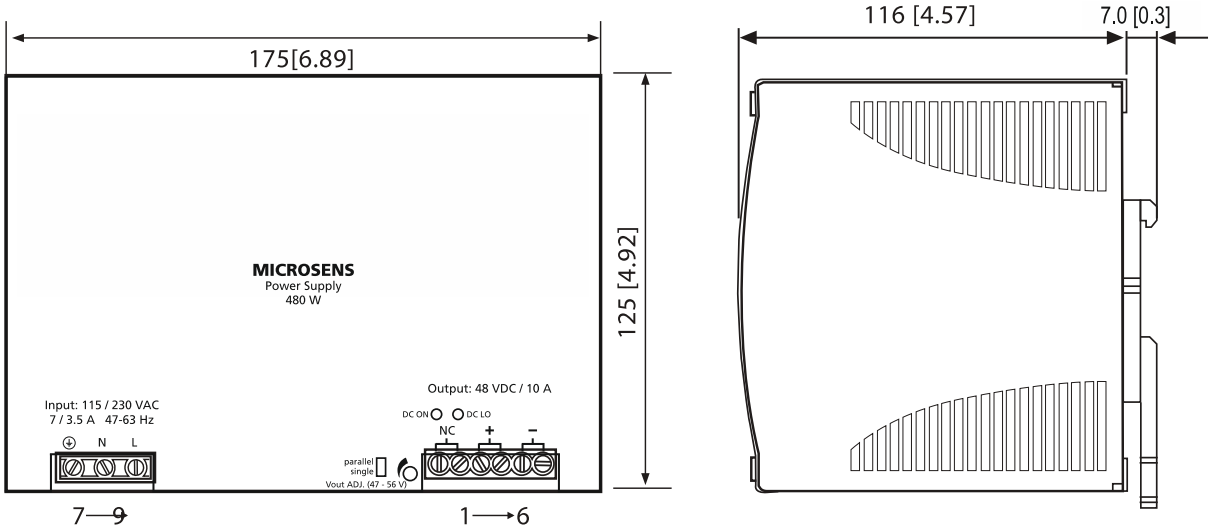
Output Connector
1: VCC-
2: VCC-
3: VCC+
4: VCC+

MS700456/MS700457

Input Connector
7: PE
8: L
9: N

Output Connector
1: NC
2: NC
3: VCC+
4: VCC+
5: VCC-
6: VCC-

MS700458



MS700458

Input Connector
7: PE
8: N
9: L

Output Connector
1: DC Good Relay
2: DC Good Relay
3: VCC+
4: VCC+
5: VCC-
6: VCC-

Ordering Information

Description	Art.-No.
Compact Power Supplies for Industrial Use	
DIN-Rail Power Supply 50 Watt 48 V / 1.05 A, Wide Range 85-264 VAC	MS700455
DIN-Rail Power Supply 120 Watt 48 V / 2.5 A, Wide Range 90-132/180-264 VAC (auto select)	MS700456
DIN-Rail Power Supply 240 Watt 48 V / 5 A, Wide Range 90-132/180-264 VAC (auto select)	MS700457
DIN-Rail Power Supply 480 Watt 48 V / 10 A, Wide Range 90-132/180-264 VAC (auto select)	MS700458