

DR-120-48 & SDR-120-48 Series

120W, 48Vdc Single Output Industrial DIN Rail Power Supply

Product Description

The DR-120-48 & SDR-120-48 series are power supply units for use with the KBC PoE series industrial Ethernet edge switches. They are designed for use in a wide range of operating temperatures in non-environmentally conditioned, industrial applications. Both the DR-120 and SDR-120 units provide 120W at 48Vdc.

The series is available in DIN rail configurations

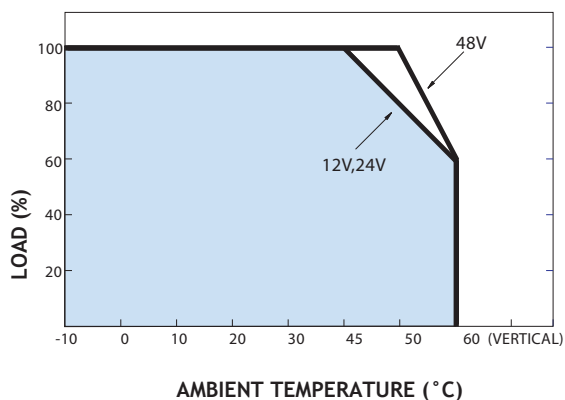
Product Features

- Protections: short circuit, overload, overvoltage & over temperature
- Cooling by free air convection
- Can be installed on DIN rail TS-35/7.5 or 15
- UL 508 (industrial control equipment) approved
- 100% full load burn-in test
- 3 year warranty

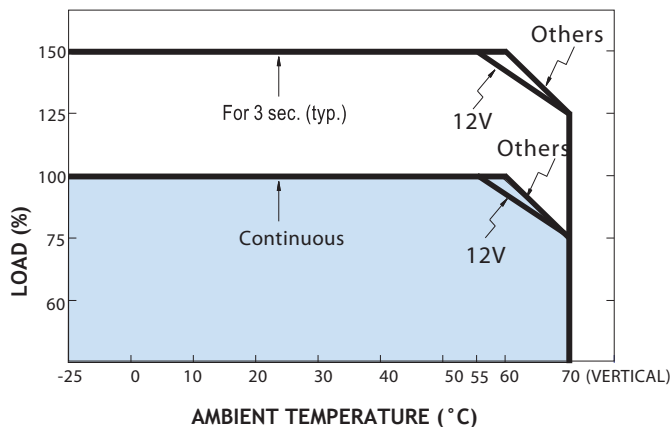


De-rating Curve

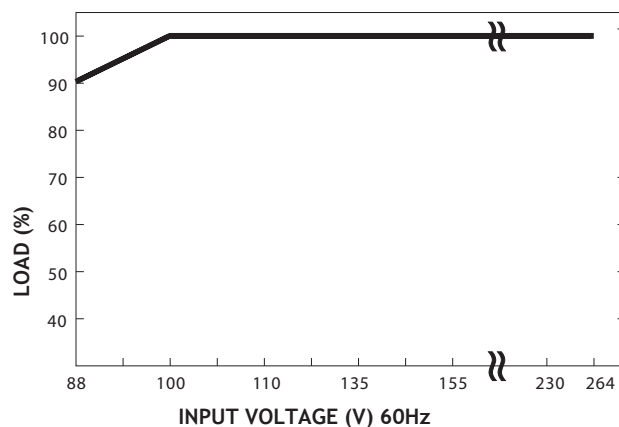
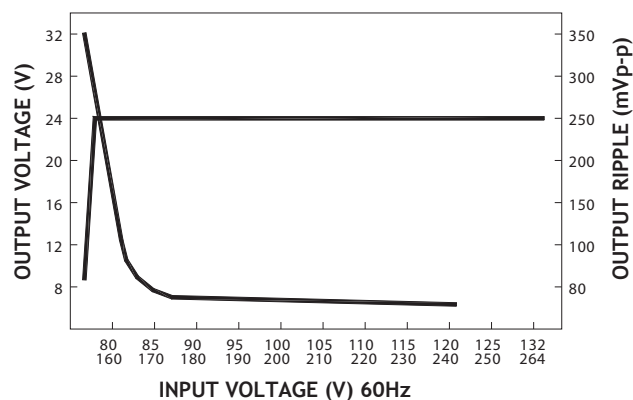
DR-120-48



SDR-120-48



Output De-rating vs Input Voltage



Specifications

Output

DC Voltage	48Vdc
Rated Current	2.5A
Current Range	0-2.5A
Rated Power	120W
Peak Current	3.75A
Peak Power	189W (3 secs max)
Ripple & Noise (max) ⁽¹⁾	100mVp-p
Voltage Adj. Range	48-53Vdc
Voltage Tolerance ⁽²⁾	±1.0%
Line Regulation	±0.5%
Load Regulation	±1.0%
Setup, Rise Time	500ms, 70ms/230Vac
	500ms, 70ms/115Vac at full load
Hold Up Time	36ms/230Vac
	32ms/115Vac at full load

Input

Voltage Range ⁽³⁾	88 ~ 132Vac/176 ~ 264Vac (by switch) 248 ~ 370Vdc
Frequency Range	47 ~ 63Hz
Efficiency (typ)	85%
AC Current (typ)	2.6A/115Vac 1.6A/230Vac
Inrush Current (typ)	cold start 20A/115Vac 40A/230Vac
Leakage Current	<3.5mA/240Vac

Protection

Overload	105 ~ 150% rated output power
Over Voltage	58 ~ 65V Protection type: shut down output voltage, repower on to recover
Over Temperature	90°C ±5°C (TSW1)

Mechanical

Dimensions	66mm x 126mm x 100mm (2.26" x 4.96" x 3.94")
Weight	790g (1lb 11oz)

Environmental

Operating Temperature ⁽⁴⁾	-10° ~ +60°C / 14° ~ 140°F
Operating Humidity	20 to 90% RH non-condensing
Storage Temperature	-20° ~ +85°C / 4° ~ 185°F
Temp Coefficient	±0.03%/°C(0 ~ 50°C) 10 ~ 500Hz, 2G 10 min/1 cycle 60 min each along X, Y, Z axis Mounting: IEC60068-2-6
Mean Time Between Failure (MTBF)	136.8khrs min MIL-HDBK-217F (25°C)

Approvals

UL508
UL60950-1
TUV EN60950-1
EN55011
EN55022 (CISPR22) Class B
EN61000-3-2
EN61000-3-3
EN61000-4-2,3,4,5,6,8,11
EN55024
EN61000-6-2

SDR-120-48

DC Voltage	48Vdc
Rated Current	2.5A
Current Range	0-2.5A
Rated Power	120W
Peak Current	3.75A
Peak Power	189W (3 secs max)
Ripple & Noise (max) ⁽¹⁾	120mVp-p
Voltage Adj. Range	48-55Vdc
Voltage Tolerance ⁽²⁾	±1.0%
Line Regulation	±0.5%
Load Regulation	±1.0%
Setup, Rise Time	1500ms, 60ms/230Vac
	3000ms, 60ms/115Vac at full load
Hold Up Time	20ms/230Vac
	20ms/115Vac at full load

Voltage Range ⁽³⁾	88 ~ 264Vac 124 ~ 370Vdc
Frequency Range	47 ~ 63 Hz
Efficiency (typ)	90.5%
AC Current (typ)	1.4A/115Vac 0.7A/230Vac
Inrush Current (typ)	35A/115Vac 70A/230Vac
Leakage Current	<1mA/240Vac

Overload	Normally works within 110 ~ 150% rated output power for more than 3 secs & then shut down output voltage. >150% rated power, constant current limiting with auto-recovery within 3 secs & shut down output voltage after 3 secs.
Over Voltage	56 ~ 65V Protection type: shut down output voltage, repower on to recover
Over Temperature	95°C ±5°C (TSW: detect on power switch heatsink). Protection type: shut down output voltage, auto-recovery after temperature goes down.

Dimensions	40mm x 126mm x 114mm 1.57" x 4.96" x 4.49"
Weight	670g (1lb 8oz)

Operating Temperature ⁽⁴⁾	-25° ~ +70°C / -13° ~ 158°F
Operating Humidity	20 to 95% RH non-condensing
Storage Temperature	-40° ~ +85°C / -40° ~ 185°F
Temp Coefficient	±0.03%/°C(0 ~ 50°C) Component: 10 ~ 500Hz, 2G 10min/1cycle 60 min each along X, Y Z axes Mounting: IEC60068-2-6
Mean Time Between Failure (MTBF)	289.9khrs min MIL-HDBK-217F (25°C)

UL508
TUV EN60950-1
EN55022 (CISPR22) Class B
EN61000-3-2
EN61000-3-3
EN61000-4-2,3,4,5,6,8,11
EN55024
EN61000-6-2
EN61204-3
SEMI F47, GL

Part Numbers

DR-120-48
SDR-120-48

Standard power supply unit

Extended temperature range power supply unit

For use with the ESUL5P PoE switch - see separate specification sheet for further information

All parameters not specifically mentioned are measured at 230Vac input rated load and 25°C ambient temperature

The power supply is considered a component which will be installed with the final equipment. The final equipment must be re-confirmed to ensure it still meets the EMC directives

1. Ripple & noise are measured at 20MHz of bandwidth by using 12" twisted pair-wire terminated with a 0.1uF & 47uF parallel capacitor

2. Tolerance: includes set up tolerance, line regulation and load regulation

3. SDR-120-48: range de-rating may be needed under low input voltage

4. SDR-120-48: installation clearances: 40mm above, 20mm below, 5mm either side are recommended when loaded permanently with full power. If the adjacent device is a heat source then 15mm clearance is recommended.

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