

POWER SUPPLY 1-PHASE, 48 V DC DIMENSION Q SERIES

QS10.481

PSU 100-240V ac I/P 48V dc 5A 240W O/P

- Output current of 5 A or 10 A
- From 60 mm wide
- Up to 94.3% efficiency
- 50% bonus power
- Maximum performance



PRODUCT DESCRIPTION

The most outstanding features of this Dimension Q Series DIN-rail power supply are the high efficiency and the small size, which are achieved by a synchronous rectification and further novel design details.

With short-term peak power capability of 150% and built-in large sized output capacitors, these features help start motors, charge capacitors and absorb reverse energy and often allow a unit of a lower wattage class to be used.

High immunity to transients and power surges as well as low electromagnetic emission makes usage in nearly every environment possible.

The integrated output power manager, a wide range input voltage design and virtually no input inrush current make installation and usage simple.

Diagnostics are easy due to the dry DC-ok contact, a green DC-ok LED and red overload LED.

Unique quick-connect spring-clamp terminals allow a safe and fast installation and a large international approval package for a variety of applications makes this unit suitable for nearly every situation.

TECHNICAL DATA

INPUT DATA

| | |
|------------------------------------|------------|
| Input voltage ac | 100-240 V |
| Input voltage ac min | 90 V AC |
| Input voltage ac max | 276 V AC |
| Input voltage dc | 110-150 V |
| Input voltage dc min | 88 V DC |
| Input voltage dc max | 187 V DC |
| Inrush current at 120 V ac typical | 4 A |
| Inrush current at 230 V ac typical | 7 A |
| Input voltage range | Wide-range |

| | |
|--|------|
| Power factor at 120 V ac, full load. Typical | 0,98 |
| Power factor at 230 V ac, full load. Typical | 0,92 |
| Number of phases | 1 |

OUTPUT DATA

| | |
|--------------------|---------|
| Output voltage | 48 V DC |
| Output voltage min | 48 V DC |
| Output voltage max | 56 V DC |
| Output current | 5 A |
| Power | 240 W |

EFFICIENCY / LIFETIME / MTBF

| | |
|---|----------|
| Efficiency at 120 V ac, full load, typical | 91,2 % |
| Efficiency at 230 V ac, typical | 90,3 % |
| Efficiency at 230 V ac, full load, typical | 92 % |
| Lifetime at 120 V ac, full load and +40 ° C | 67000 h |
| Lifetime at 230 V ac, full load and +40 ° C | 81000 h |
| MTBF (IEC 61709) 230 V ac, max load, 40 ° C | 606000 h |

DIMENSIONS

| | |
|--------|--------|
| Width | 60 mm |
| Height | 124 mm |
| Depth | 117 mm |
| Weight | 0,9 kg |

OTHER

| | |
|--|--------------------------|
| Approvals | ABS, CB, CE, CSA, GL, UL |
| Hold time at 120 V ac, typical full load | 27 ms |
| Hold time at 230 V ac, typical full load | 28 ms |
| IP class | IP20 |
| Clamp type | Spring-clamp |
| Material protection | Aluminium |
| Supply frequency | 50-60 ±6 % |
| Ripple max | 100 mV pp |
| Series | Dimension Q |
| Power consumption 120 V ac | 2,22 A |
| Power consumption 230 V ac | 1,22 A |

| | |
|----------------------------------|--------|
| Power drop from +60 °C to +70 °C | 6 W/°C |
| Temperature min without derating | -25 °C |
| Temperature max without derating | 60 °C |
| Type Power Supply | AC-DC |
| DC relay output | Yes |
| Active Transient | Yes |

Fig. 6-1 Output voltage vs. output current, typ.

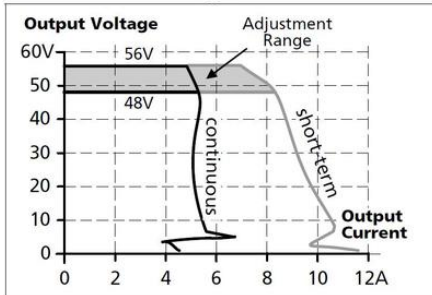


Fig. 15-1 Output current vs. ambient temp.

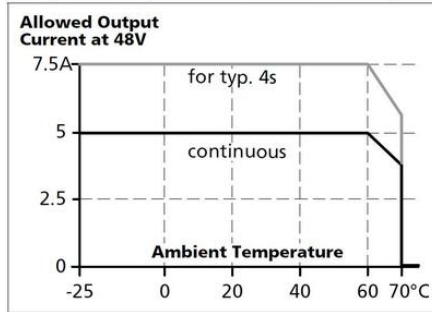


Fig. 9-1 Efficiency vs. output current at 48V, typ.

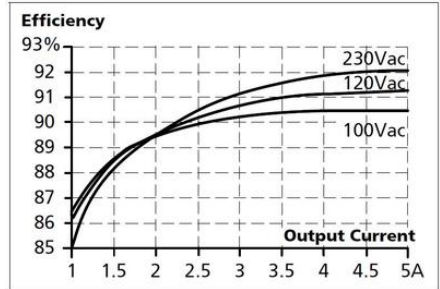


Fig. 9-2 Losses vs. output current at 48V, typ.

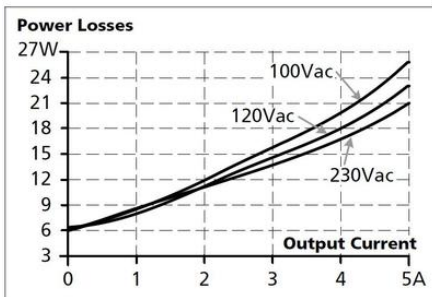
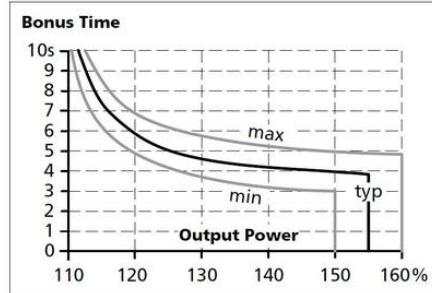


Fig. 6-2 Bonus time vs. output power



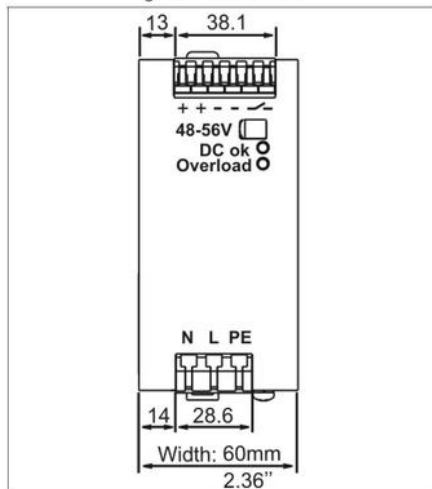
Maximal wire length*) for a fast (magnetic) tripping:

| | 0.75mm ² | 1.0mm ² | 1.5mm ² | 2.5mm ² |
|-------|---------------------|--------------------|--------------------|--------------------|
| C-2A | 58m | 64m | 104m | 143m |
| C-3A | 41m | 53m | 73m | 124m |
| C-4A | 18m | 31m | 54m | 94m |
| C-6A | 10m | 14m | 21m | 33m |
| C-8A | 4m | 6m | 8m | 13m |
| C-10A | 3m | 4m | 7m | 10m |
| B-6A | 19m | 28m | 39m | 75m |
| B-10A | 8m | 12m | 16m | 29m |
| B-13A | 7m | 9m | 13m | 23m |

Fig. 13-1 Front side



Fig. 20-1 Front view



Side view

