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POWER SUPPLY 1-PHASE, 30 V DC DIMENSION Q SERIES

QS10.301
PSU 100-240V ac I/P 30V dc 8A 240W O/P



- Output current of 8 A
- 60 mm wide
- 93 % efficiency
- 100-240 V AC/88-370 V DC
- 50 % bonus power

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. The Q Series is part of the Dimension family, existing alongside the lower featured C-Series.
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.

Output characteristics

TECHNICAL DATA

INPUT DATA

Input voltage ac	100-240 V
Input voltage ac min	85 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	30 V DC
Output voltage min	28 V DC
Output voltage max	32 V DC
Output current	8 A
Power	240 W

EFFICIENCY / LIFETIME / MTBF

Efficiency at 120 V ac, full load, typical	92.6 %
Efficiency at 230 V ac, typical	92.4 %
Efficiency at 230 V ac, full load, typical	93.5 %
Lifetime at 120 V ac, full load and +40 ° C	68000 h
Lifetime at 230 V ac, full load and +40 ° C	71000 h
MTBF (IEC 61709) 230 V ac, max load, 40 ° C	581000 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	22 ms
Hold time at 230 V ac, typical full load	23 ms
IP class	IP20
Clamp type	Spring-clamp
Material protection	Aluminium
Supply frequency	50-60 ±6 %
Ripple max	50 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
Active Transient	Yes
DC relay output	Yes

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

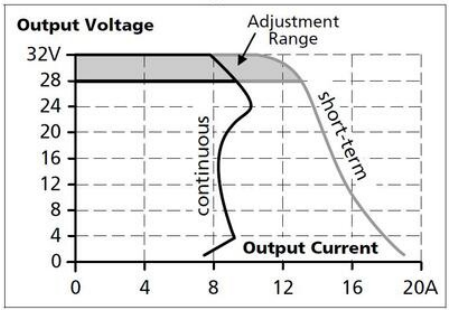


Fig. 6-2 **Bonus time vs. output power**

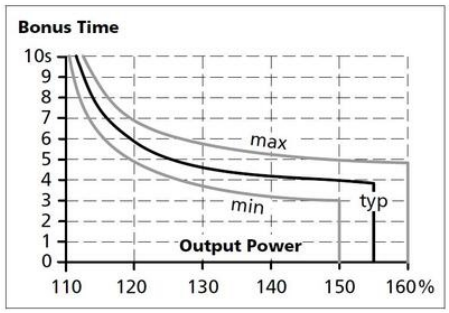


Fig. 15-1 **Output current vs. ambient temp.**

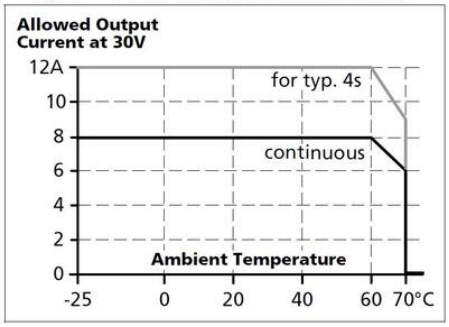


Fig. 9-1 **Efficiency vs. output current at 30V, typ.**

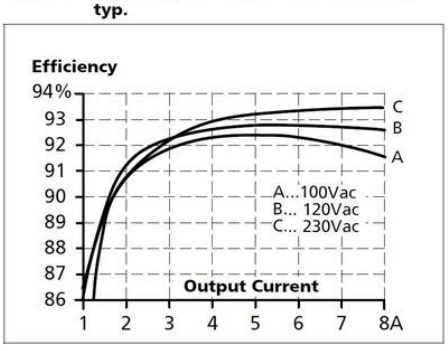
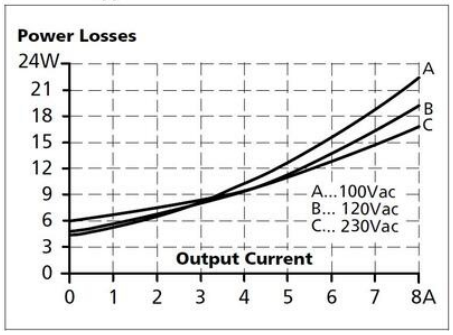


Fig. 9-2 **Losses vs. output current at 30V, typ.**



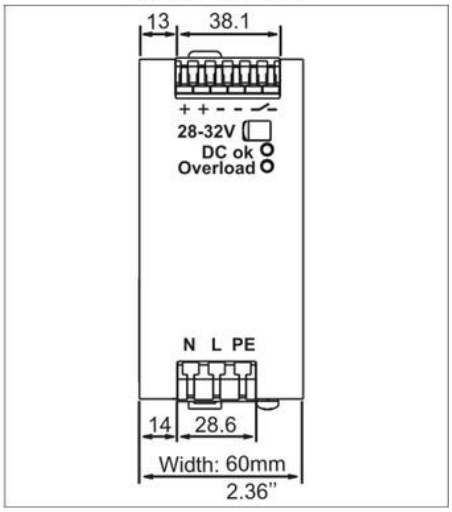
Maximal wire length*) for a fast (magnetic) tripping:

	0.75mm²	1.0mm²	1.5mm²	2.5mm²
C-2A	34m	43m	59m	93m
C-3A	27m	31m	53m	81m
C-4A	18m	24m	43m	54m
C-6A	9m	11m	16m	29m
C-8A	5m	7m	10m	15m
C-10A	4m	6m	8m	13m
C-13A	2m	3m	5m	8m
B-6A	14m	20m	29m	44m
B-10A	9m	11m	15m	33m
B-13A	7m	9m	14m	21m
B-16A	3m	4m	6m	8m

Fig. 13-1 **Front side**



Fig. 20-1 **Front view**



Side view

