OEM Automatic Ltd
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POWER SUPPLY 1-PHASE, 12 V DC DIMENSION Q SERIES

QS10.121
PSU 100-240V ac I/P 12V dc 15A 180W O/P

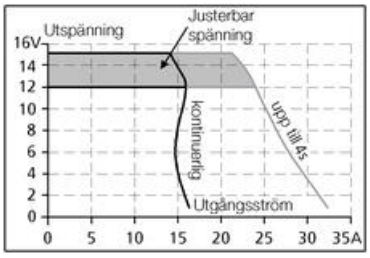
- Output current of 15 A
- Up to 92% efficiency
- Only 60 mm wide
- 100-240 VAC / 88-370 VDC

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.

For a good cooling, we recommend a clearance of 40 mm over 20 mm below. We recommend 5 mm air gap to the sides (15 mm on the sides of adjacent product is a heat source).

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	12 V DC
Output voltage min	12 V DC
Output voltage max	15 V DC
Output current	15 A
Power	180 W

EFFICIENCY / LIFETIME / MTBF

Efficiency at 120 V ac, full load, typical	91.5 %
Efficiency at 230 V ac, typical	90.6 %
Efficiency at 230 V ac, full load, typical	91.8 %
Lifetime at 120 V ac, full load and +40 ° C	65000 h
Lifetime at 230 V ac, full load and +40 ° C	76000 h
MTBF (IEC 61709) 230 V ac, max load, 40 ° C	631000 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	32 ms
Hold time at 230 V ac, typical full load	32 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	1.65 A
Power consumption 230 V ac	0.93 A
Power drop from +60 °C to + 70 °C	5 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.

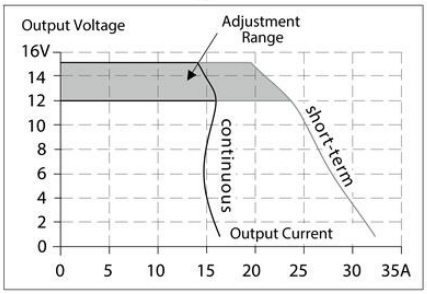


Fig. 15-1 Output current vs. ambient temp.

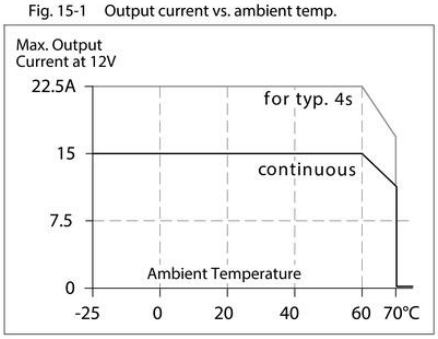


Fig. 9-2 Losses vs. output current at 12V, typ.

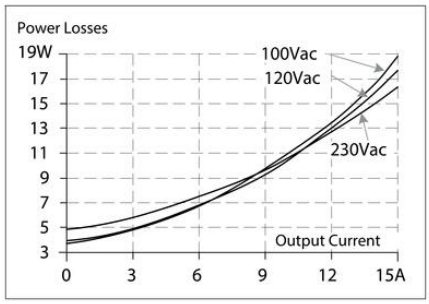


Fig. 9-1 Efficiency vs. output current at 12V, typ.

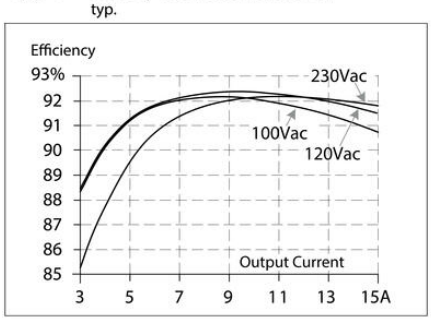
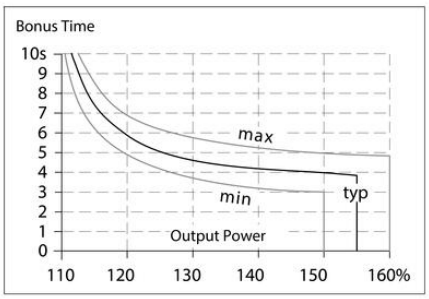


Fig. 6-2 Bonus time vs. output power



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

	0.75mm²	1.0mm²	1.5mm²	2.5mm²
C-2A	11m	15m	22m	35m
C-3A	10m	13m	19m	31m
C-4A	5m	8m	11m	16m
C-6A	1m	2m	3m	5m
B-6A	6m	8m	12m	18m
B-10A	2m	2m	3m	5m
B-13A	1m	1m	2m	4m

*) Don't forget to consider twice the distance to the load (or cable length) when calculating the total wire length (+ and – wire).

Fig. 13-1 Front side

Fig. 20-1 Front view

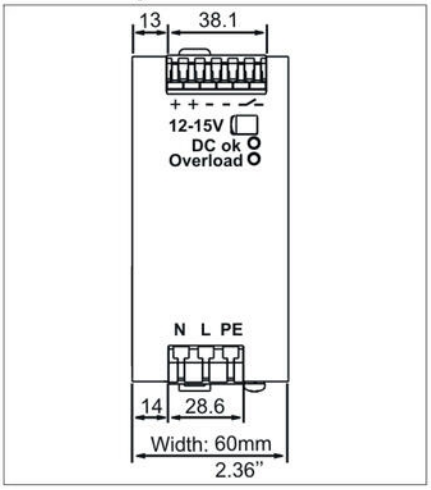
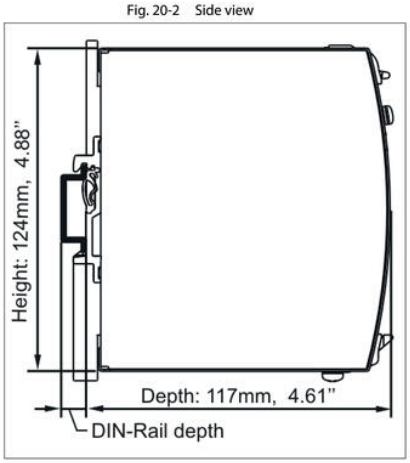


Fig. 20-2 Side view



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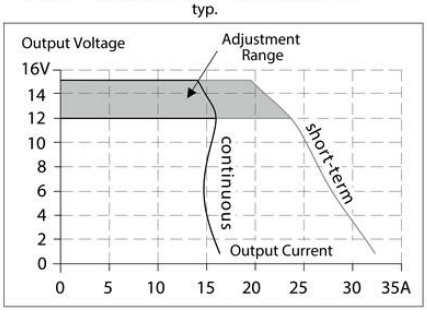

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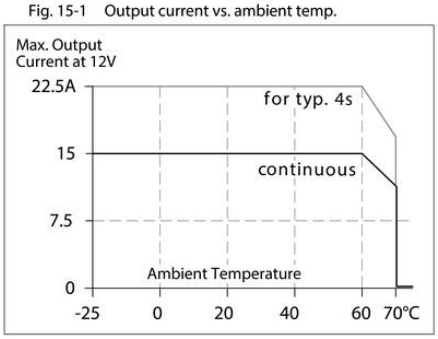


Fig. 9-2 Losses vs. output current at 12V, typ.

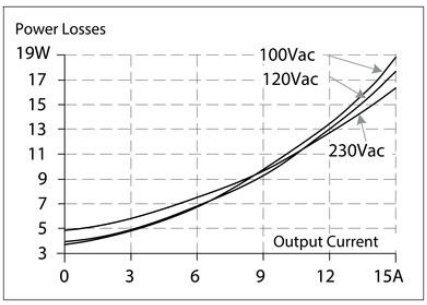


Fig. 9-1 Efficiency vs. output current at 12V, typ.

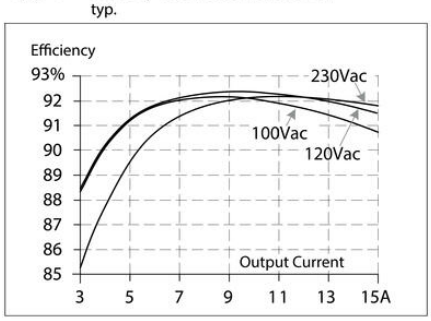
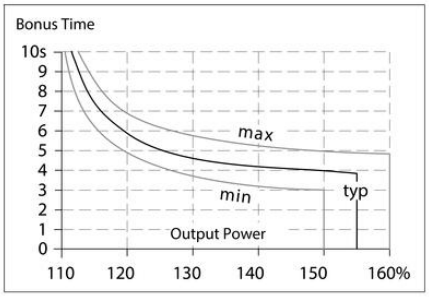


Fig. 6-2 Bonus time vs. output power



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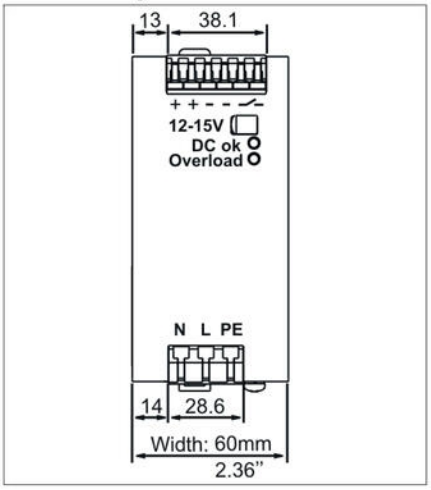

Fig. 20-2 Side view