POWER SUPPLY 3-PHASE, 36 V DC DIMENSION Q SERIES

QT20.361 PSU 3PH 380-480V ac I/P 36V dc 13.3A 480W O/P

- Output current of 13.3 A
- Up to 94.8% efficiency
- · High short-circuit currents
- · Several protective filter
- Maximum performance





Product description

Puls Dimension Q is a series of power supplies with very small construction dimensions and many technical advantages.

The unit has low inrush current (even during warm start), active PFC, which provides a power factor close to one, extended temperature range, as well as active protection against mains transients.

Furthermore, there is a relay output (DC OK) that falls when the output voltage deviates more than 10% from the set value.

The bonus power provides 50% extra reserve with retained voltage which is an advantage when connected loads have high starting currents. The unit also provides a high short-circuit current that simplifies tripping of secondary fuses. Both the bonus power and short-circuit current is limited to 4 seconds to avoid constant overloading of the power supply and wiring.

High efficiency for long life and low temperature.

The power supply can be connected for two-phase operation Within up to +40°C. At higher temperatures, the load current is reduced.

Bonus power

The power supply has bonus power that enables high power outlet with retained 36 V DC for 4 seconds, which is a major advantage when connected loads have high starting currents, such as the case with motors. How often you can use the bonus effect depends on the application. With the following diagram and formula, the repeat time can be calculated for each application. The bonus power is available as soon as the power supply is started and directly after a short circuit.

Bonus power	Operating charcterisitcs	
Po	Nominal load current	
Ppeak	Peak current	
То	Time between bonus power	
Tpeak	Peak current in time	
Operating cycle	Tpeak / (Tpeak + To)	
То	Tpeak - (operating cycle * Tpeak) / operating cycle	

E.g. Nominal load current (Po) is 6.6 A, Po = 50% of In. Peak current (Ppeak) is 16A = 120%. Peak time is 3 seconds.

Draw a vertical line at 120% of duty cycle, where the line crosses the Po = 50% horisontel draw a line to the duty cycle value. In this case, the value is about 0.68. 3- (3x0,68) / 0.68 = 1.41. In this example, one can repeat the bonus effect with a gap of 1.41 seconds.

Specifications

Approvals CB, CE, CSA US, cRUUS, cULUS, GL Clamp type Spring-clamp DC relay output Yes Depth 127 Effect 480 Effect 480 Efficiency At 400 V AC, full load. Typical 94.8 Efficiency At 400 V AC, full load. Typical 22 Input voltage AC 380-480 V Input voltage ac max 552 Input voltage ac min 323 Input voltage ac min 3 Involtage range Wide-range Inrush current at 400 V ac typical 3 IP Class IP20 Material Protection Aluminium MTBF (IEC 61709) 400 V ac, max loan, +40 °C 690000 Number of phases 3 Output voltage 36 Output voltage max 42 Output voltage max 42 Output voltage min 36 Power Cactor at 400 V AC, full load. Typical 0.94 Power Reduction Of 60 To 70 ° C 12 Ripple, max 100	Active Transient	Yes
Depth 127 Effect 480 Efficiency At 400 V AC, full load. Typical 94.8 Efficiency At 400 V AC, Typical 94 Height 124 Hold-up time at 400 V AC, full load. Typical. 22 Input voltage AC 380-480 V Input voltage ac min 323 Input voltage range Wide-range Inrush current at 400 V ac, full load and +40 ° C 51000 Material Protection Aluminium MTBF (IEC 61709) 400 V ac, max loan, +40 °C 690000 Number of phases 3 Output voltage max 42 Output voltage max 42 Output voltage max 42 Output voltage max 36 Power Factor at 400 V AC, full load. Typical 0.94 Power Reduction Of 60 To 70 ° C 12 Ripple. max 100	Approvals	CB, CE, CSA US, cRUus, cULus, GL
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Output Current 13.3 Output voltage 36 Output voltage max 42 Output voltage min 36 Power consumption at 400 V ac 0.79 Power Factor at 400 V AC, full load. Typical 0.94 Power Reduction Of 60 To 70 ° C 12 Ripple. max 100	MTBF (IEC 61709) 400 V ac, max loan, +40 °C	690000
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Output voltage min 36 Power consumption at 400 V ac 0.79 Power Factor at 400 V AC, full load. Typical 0.94 Power Reduction Of 60 To 70 ° C 12 Ripple. max 100	Output voltage	36
Power consumption at 400 V ac 0.79 Power Factor at 400 V AC, full load. Typical 0.94 Power Reduction Of 60 To 70 ° C 12 Ripple. max 100	Output voltage max	42
Power Factor at 400 V AC, full load. Typical 0.94 Power Reduction Of 60 To 70 ° C 12 Ripple. max 100	Output voltage min	36
Power Reduction Of 60 To 70 ° C 12 Ripple. max 100	Power consumption at 400 V ac	0.79
Ripple. max 100	Power Factor at 400 V AC, full load. Typical	0.94
	Power Reduction Of 60 To 70 ° C	12
Series Dimension Q	Ripple. max	100
	Series	Dimension Q

Supply Frequency	50-60 ±6 %
Temperature Range Without Derating From	-25
Temperature Range Without Derating To	60
Type Power Supply	AC-DC
Weight	0.87
Width	65

Fig. 6-1 Output voltage vs. output current, typ. Output Voltage ✓ Adjustment Range 42 36 30 Continuously available
Short-term (4s)
BonusPower 20 (B) 10 **Output Current** 4 8 20 12 16 24A

Fig. 15-1 Output current vs. ambient temp. Allowed Output Current at 24V 30A for typ. 4s 25 20 continuous 15 10 5 **Ambient Temperature** 0 o 20 40 60 70°C -25

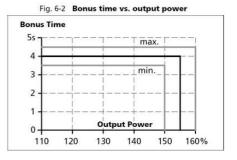


Fig. 9-1 Efficiency vs. output current at 36V, typ.

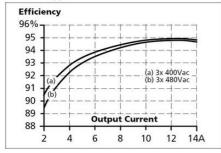
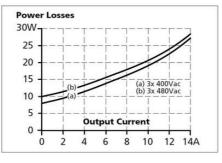
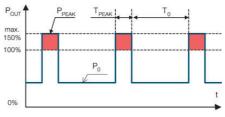
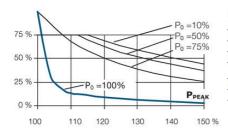


Fig. 9-2 Losses vs. output current at 36V, typ.



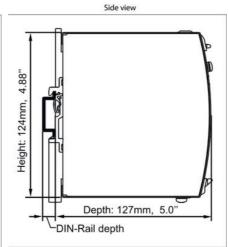




Maximal wire length*) for a fast (magnetic) tripping:

	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm
C-2A	69m	86m	123m	200m
С-ЗА	21m	28m	39m	63m
C-4A	9m	13m	18m	29m
B-6A	11m	16m	24m	33m
B-10A	1m	1m	1m	1m





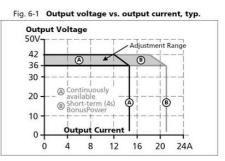
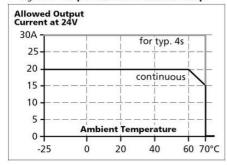
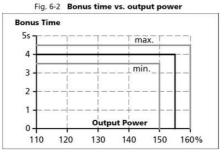


Fig. 15-1 Output current vs. ambient temp.

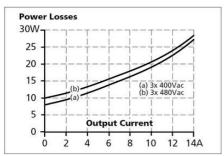


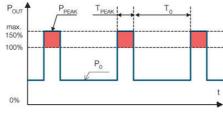


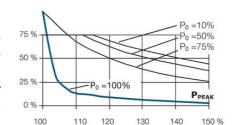
typ. **Efficiency** 96% 95 94 93 (a) 3x 400Vac (b) 3x 480Vac 92 91 90 89 **Output Current** 88 10 6 8 12 14A

Fig. 9-1 Efficiency vs. output current at 36V,

Fig. 9-2 Losses vs. output current at 36V, typ.







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

	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm
C-2A	69m	86m	123m	200m
С-ЗА	21m	28m	39m	63m
C-4A	9m	13m	18m	29m
B-6A	11m	16m	24m	33m
B-10A	1m	1m	1m	1m



