

POWER SUPPLY 3-PHASE, 24 V DC DIMENSION Q SERIES

QT40.241 POWER SUPPLY 24VDC 960W 40A

- Output current of 40 A
- Up to 95.3% efficiency
- Remote Function
- Maximum performance
- Integrated primary fuses



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PRODUCT DESCRIPTION

Pulse Dimension Q is a series power supply with very high performance and reliability.

QT40.241 have built primary fuses that make it possible to connect the unit without the need for intermediate fuses up to 32 A (UL) which saves space and money. The efficiency is high over a wide load range, which results in reduced power consumption and longer life regardless of load current. An average efficiency is 94.7% with a peak value of 95.3%. The power loss at idle is very low, 9.5 W.

The bonus power provides 50% extra reserve with retained 24 V dc (60 A) which is an advantage when connected loads have high starting currents and to bridge temporary current peaks. The bonus power is limited to 4 seconds to avoid constant overloading of the power supply and wiring. In addition to the bonus effect leave the unit a very high short-circuit current (ms) that helps to secondary fuses. See technical data for example.

Active transient ensure operation also in very störrik electrical environment and also has QT40.241 active inrush current protection, which means a very low starting current, even if the unit has been in operation for a longer time. Especially useful for redundant / parallel-connected systems.

Simple diagnostics via DC-OK relay that falls on the output voltage deviates more than 10% from the set value, a green LED indicates DC-OK, Red LED indicates overload.

The unit can also be remote controlled for on / off function, three different connection options available. See the "Technical data". Can be used instead of expensive DC contactors when you need to break up the 24 V side (NB. The remote control function has no safety circuit and therefore should not be used in the security context).

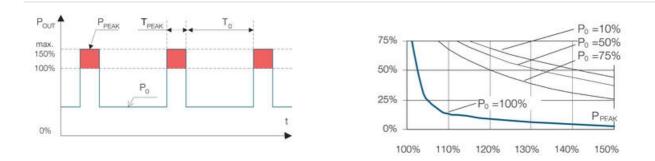
Active PFC reduces power consumption, harmonics close to zero, in addition, the power distribution in phases much smoother at power asymmetry. Bonus power

The power supply has bonus power that enables high power extraction with retained 24 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 bonus power can be utilised 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.

We recommend free space of 40 mm above and 20 mm under the power supply, and 5 mm at the sides.

Bonus power

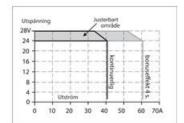
Operating cycle



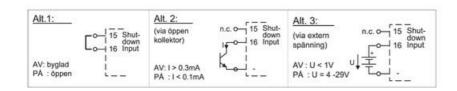
Ро	Nominal load current
Ppeak	Peak current
То	Time between bonus power
Tpeak	Peak current I time
Operating cycle	Tpeak / (Tpeak + To)
To=	Tpeak - (operating cycle * Tpeak) / operating cycle

Example: Peak current (Ppeak) is 50 A =125%. The peak time is 3 seconds. Nominal load current (Po) is 30 A. 30 A =75% of I_{nom} . According to the diagram, the operating cycle is about 0.45. To = 3 - (0.45 * 3) / 0.45 = 3.6. Maximum repeat time of bonus power is 3.6 seconds.

Output characteristic



Remote control function

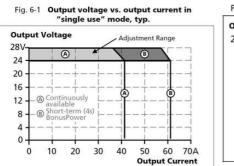


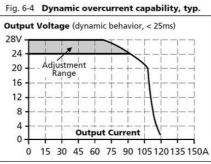
SPECIFICATIONS

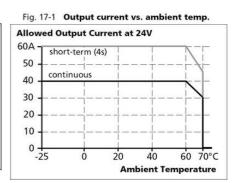
Input voltage range	Wide-range
Number of phases	3
Input voltage AC	380-480 V

Input voltage a max76 V ACInvush current at 400 V ac typical5APower Factor at 400 V AC, full load. Typical6A60 46%Supply Froquency6A60 46%Power consumption at 400 V ac185 AOutput voltage6A0 ACOutput voltage min4V D COutput voltage max6A0 ACOutput voltage max6A0 ACPower Reduction Of 00 To 70 °C6A0 ACRippe. max6A0 ACTomperature Range Without Derating From25 °CProfestor At 400 V AC, full load. Typical6A0 ACProfestor At 400 V AC, full load. Typical6A0 ACPoint At 400 V AC, full load. Typical10 maxPoint At 400 V AC, full Load. Typical10 max		
Invisi nument at 400 Vac typicalSAPower Factor at 400 VAC, full load. Typical088Supply Froquency6x60 45%Supply Froquency185 APower consumption at 400 Vac185 AOutput voltage04 V DCOutput voltage max04 V DCOutput voltage max04 V DCOutput voltage max04 V DCPower Reduction Of 60 To 70* C04 V DCRiple. max000 V DTomperature Range Without Derating From25 °CEfficiency At 400 VAC, full load. Typical030 N DEfficiency At 400 VAC, full load. Typical030 N DEfficiency At 400 VAC, full load. Typical0300 NIthing International Constraints0300 NEfficiency At 400 VAC, full load. Typical0300 NIthing International Constraints0300 NIthing Internati	Input voltage ac min	323 V AC
Power Factor at 400 V AC, full load. Typical0,88Supply Frequency50-60 ± %Power consumption at 400 V ac1.65 APower Supply24 V D COutput voltage24 V D COutput voltage main20 V D CPower Reduction Of 60 To 70 ° C20 V D CRipple. main100 m V pTemperature Range Without Derating From25 °CVoltage main26 °CVoltage main26 °CVoltage main26 °CVoltage main27 °CVoltage main26 °CVoltage main26 °CVoltage main27 °CVoltage main27 °CVoltage main10 °CVoltage main27 °CVoltage main26 °CVoltage main27 °CVoltage main28 °CVoltage main2	Input voltage ac max	576 V AC
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Power Consumption at 400 V ac 1,65 A Power Supply 1,65 A Output voltage 24 V DC Output voltage min 24 V DC Output voltage max 28 V DC Output voltage max 00 A Effect 960 W Power Rauge 07 60 To 70 ° C 24 W //C Ripple. max 100 mV pp Temperature Range Without Derating From -25 ° C Efficiency At 400 V AC, Typical 96.3 % Efficiency At 400 V AC, full load. Typical 95.3 % Efficiency At 400 V Ac, full load. Typical 937000 h Temperature Range Without Derating From 21 V m Efficiency At 400 V Ac, full load. Typical 937000 h Efficiency At 400 V Ac, full load. Typical 100 m Popth 124 mm Rippin 125 ° C Rippin 126 ° C Rippin 5.5 % Efficiency At 400 V Ac, full load. Typical 95.3 % Efficiency At 400 V Ac, full load. Typical 100 m Inform 100 m Efficiency At 400 V Ac, full load. Typical 5.7 % Right 100 m	Power Factor at 400 V AC, full load. Typical	0,88
Type Power Supply AC-DC Output voltage 44 V DC Output voltage min 24 V DC Output voltage max 28 V DC Output voltage max 60 W Output voltage max 40 A Deperted max 40 W CC Power Reduction Of 60 To 70 °C 24 W/C Riple. max 400 M V p Temperature Range Without Denting From 25 °C Efficiency At 400 V AC. Typical 60 °C Efficiency At 400 V AC. Typical 63 % Efficiency At 400 V AC, full load and +0° °C 6300 h Mith 10 mm Tenge At 400 V AC, full load and +0° °C 100 m V p Vieta 100 m V p Fildiency At 400 V AC, full load and +0° °C 6300 h Mith 10 m m Mith 10 m m Fildient 400 V ac, full load and +0° °C 100 m Popeh 10 m m Fildient 400 V ac, full load and +0° °C 100 m Fildient 400 V ac, full load method °C 100 m Popeh 10 m m Fildiency Max 100 m Nore Mared Marcelleleeeeeeeeeeeeeeeeeeeeeeeeeeeeeeee	Supply Frequency	50-60 ±6 %
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Width110 mmHeight124 mmDepth127 mmWeight1,5 kgClamp typeScrew onSeriesDimension QApprovalsCB, CE, CSA, GL, ULDt relay outputYesMaterial ProtectionAurninumKong<	Lifetime at 400 V ac, full load and +40 ° C	69000 h
Height124 mmDepth127 mmWeight1,5 kgClamp typeSrew onSeriesDimension QaApprovalsCB, CE, CA, GL, ULDetail ProtectionYesMaterial ProtectionAuminiumBold-up typeSenseSeriesSenseDimension QaSenseDimension QaSenseDime	MTBF (IEC 61709) 400 V ac, max loan, +40 °C	375000 h
Depth127 mmWeight1,5 kgClamp typeScrew onSeriesDimension QApprovalsCB, CE, CSA, GL, ULDc relay outputYesMaterial ProtectionAuminiumBold-up time at 400 VAC, full load. Typical.25 ms	Width	110 mm
Weight1,5 kgClamp typeScrew onSeriesDimension QApprovalsCB, CE, CSA, GL, ULDc relay outputYesMaterial ProtectionAluminiumHold-up time at 400 V AC, full load. Typical.25 ms	Height	124 mm
Clamp type Screw on Series Dimension Q Approvals CB, CE, CSA, GL, UL DC relay output Yes Material Protection Aluminium Hold-up time at 400 V AC, full load. Typical. 25 ms	Depth	127 mm
SeriesDimension QApprovalsCB, CE, CSA, GL, ULDC relay outputYesMaterial ProtectionAluminiumHold-up time at 400 V AC, full load. Typical.25 ms	Weight	1,5 kg
ApprovalsCB, CE, CSA, GL, ULDC relay outputYesMaterial ProtectionAluminiumHold-up time at 400 V AC, full load. Typical.25 ms	Clamp type	Screw on
DC relay outputYesMaterial ProtectionAluminiumHold-up time at 400 V AC, full load. Typical.25 ms	Series	Dimension Q
Material Protection Aluminium Hold-up time at 400 V AC, full load. Typical. 25 ms	Approvals	CB, CE, CSA, GL, UL
Hold-up time at 400 V AC, full load. Typical. 25 ms	DC relay output	Yes
	Material Protection	Aluminium
IP Class IP20	Hold-up time at 400 V AC, full load. Typical.	25 ms
	IP Class	IP20

Yes







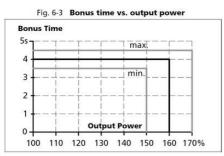


Fig. 11-1 Efficiency vs. output current at 24V, typ. Efficiency

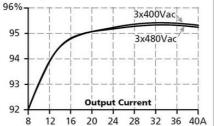
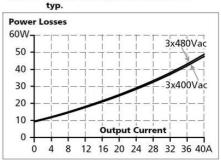


Fig. 11-2 Losses vs. output current at 24V,

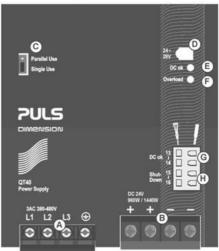


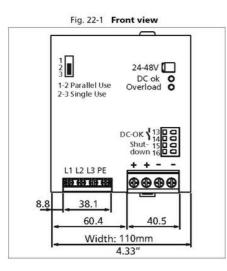
Maximal	I wire length" for a fast (magnetic) tripping:				
	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²	
C-2A	28m	38m	54m	78m	

C-ZA	20111	2011	54111	7011
C-3A	26m	35m	50m	74m
C-4A	19m	26m	38m	58m
C-6A	12m	16m	24m	32m
C-8A	9m	12m	17m	25m
C-10A	7m	10m	15m	21m
C-13A	4m	5m	7m	11m
B-6A	19m	26m	35m	59m
B-10A	11m	17m	26m	37m
B-13A	10m	13m	21m	32m
B-16A	8m	11m	14m	24m
B-20A	4m	6m	8m	14m

Option A:	Co-15 Shut-	Option.8: (via open collector)	n.c. 0-15 Shut- down 16 Input	Option C: (via external n.c. o-15 Shut- voltage
OFF: linked ON : open	L	OFF: 1 > 0.3mA ON : 1 < 0.1mA	Kal:_	OFF: U < 1V U

Fig. 15-1 Front side





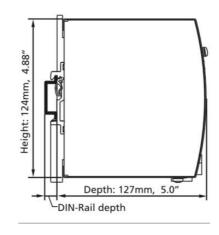
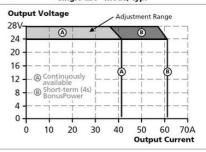
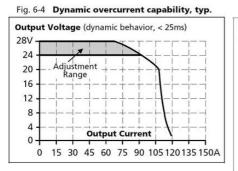


Fig. 6-1 Output voltage vs. output current in "single use" mode, typ.





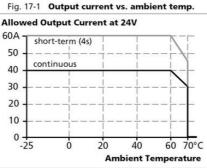


Fig. 6-3 Bonus time vs. output power

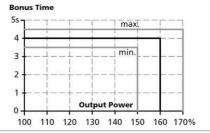


Fig. 11-1 Efficiency vs. output current at 24V,

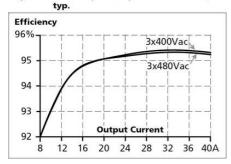


Fig. 11-2 Losses vs. output current at 24V,

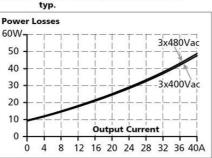


Fig. 15-1 Front side

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

	0.75mm ²	1.0mm ²	1.5mm ²	2.5mm ²
C-2A	28m	38m	54m	78m
C-3A	26m	35m	50m	74m
C-4A	19m	26m	38m	58m
C-6A	12m	16m	24m	32m
C-8A	9m	12m	17m	25m
C-10A	7m	10m	15m	21m
C-13A	4m	5m	7m	11m
B-6A	19m	26m	35m	59m
B-10A	11m	17m	26m	37m
B-13A	10m	13m	21m	32m
B-16A	8m	11m	14m	24m
B-20A	4m	6m	8m	14m

Option A: Construction A: Construction C Construc

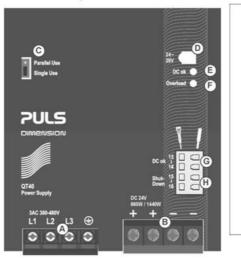


Fig. 22-1 Front view

