Q-LS 500

Output

Capacity (VA)	500,000
Capacity (Watts)	400,000
Current (peak amp) per phase)	2040
Current (peak amp) 1 phase	NA
Nominal voltage range (3 phase)	220V△ / 380V△ / 460V△
	208VY / 380 VY / 400VY / 415 VY / 480VY
Nominal voltage range (1 phase)	NA
Frequency	50, 60 or 400 Hz ± .1%
Frequency tracking	± 5% of the input frequency
Power factor	> 0.8
Wavefrom	High resolution, pure sine wave
Outlets	Terminal block
Single phase output	No
3 phase output	Yes

Input

Current (amp) (208 / 120VAC)	1600
Current (amp) (415 / 380VAC)	900
Current (amp) (480 / 277VAC)	692
Current (max amp) (120/130 VAC)	2000
Current (max amp) (415 / 380VAC)	1125
Current (max amp) (480 / 277VAC)	865
Power factor (12 pulse rectifier)	.75 to .90
Power factor (18 pulse rectifier)	Available
Frequency*	50, 60 or 400 Hz ± 5 %
Input impedance of entire system	750 m ohm

General

Input and output impedance	5%
UPQ power conditioning topology	Five (5) Stages of Isolation and Conversion,
	High Frequency, True On-line digital sine wave
Remote power management	Yes

Voltage Regulation

Input voltage range:	208 to 600 VAC
- Full load without using battery	± 20%
- Half load without using battery	± 25%
Output voltage regulation	± 1%

Isolation

Input to output isolation	Dielectric Strength 5 kv, 120 dB
	common mode attenuation
Common-mode noise rejection	Yes
Normal-mode noise rejection	Yes

Suppression

IEEE 587/ANSI 62.41 (North America)	Yes
IEEE 587/ANSI 62.41 (International)	Yes
Joules (energy absorption)	2200
TVSS MOV joule rating	765 Joules per phase
TVSS low pass filter	750 Hz
Peak surge current (amp)	20000
Multi-stage protection	Yes
Reverse inverter impulse protection	54 joules without batteries
IEC	62040-2
FCC	Class A
EN500091-1	Yes
EN500091-2	Yes
EN 60610 (leakage current)	< 1 mA
CE approval	Yes
Conditioning	Yes
Output THD (linear load)	< 2%
Current THD (6 pulse rectifier)	Maximum of 20%
Current THD (12 pulse rectifier)	Maximum of 9%
Input frequency range	50/60 Hz ± 7 Hz

High Frequency on-Line Inverter

Inverter design	Full bridge
Inverer driver frequency	20 kHz
Inverter regulation	50/60 Hz ± 0.1 Hz
Overload capacity	>110% continuous
Crest factor	3:1
Transfer time	Zero
Overall system efficiency	93%
Efficiency	> 93%
UPQ to bypass/bypass to UPQ	Zero cross transfer, < 4 mSec
	(2 mSecminimum)

Rectifier

6 pulse	110 µs single phase triggering
12 pulse	6.4 kHz pulse width, 80 µs for 1.7
	ms around 11 pulses
Efficiency	0.98
Current limit (amp) (208 / 120VAC)	54

Current limit (amp) (415 / 380VAC)	27
Current limit (amp) (480 / 277VAC)	22

Static Switch

Voltage range	174 VAC - 277VAC (line to neutral)
Frequency range	45 - 55 Hz / 55 - 65 Hz
Efficiency	99.5%
Transfer time - main to inverter	0 ms
Transfer time - inverter to main	0 ms
Transfer time - overload 100%	30 seconds
Transfer time - overload 300%	1 seconds

Battery (standard configurations)

Full load run time 9min/ext. pack)	18 min/(8)B
Half load run time (min/ext. pack)	45 min/(8)B
DC voltage	348 VDC
Recharge time	5 to 8 hours
Battery charger	Constant voltage with current limit
Maximum recharge current (amps)	160
Boost charge	410 / 415 VDC
Float charge	396 / 410 VDC
Battery low voltage	320 / 305 VDC
Battery low stop voltage	295 / 285 VDC
Hot-swappable	Yes

Environmental

Maximum heat dissipation kW	17.4
Maximum heat dissipation BTU/hr	59,392
Operating temperature	32° to 122° F (0° to 50° C)
Humidity	0% - 90% non-condensing
Audible noise	< 65 dBA at 1 meter
Altitude	Less than 6,600 ft 92,000 m)
	above sea level
De-rating temperature to altitude	39° F / 3,281 ft (4° C / 1,000 m)

Physical

WxDxH	130.5 x 32 x 63 in (3314 x 800 x 1600 mm)
Weight in lbs (no battery)	7,875
Weight in kg (no battery)	3,580
Battery pack A/B WxDxH (26 Ah)	21.5 x 32 x 63 in (550 x 800 x 1600 mm)
Battery pack A/B weight (26 Ah)	882 lbs (400 kg) / 1765 (800 kg)
Battery pack C/D WxDxH (88 & 100 Ah)	43.5 x 32 x 63 in (1100 x 800 x 1600 mm)
Battery pack C/D weight (88 & 100 Ah)	2375 lb (1077 kg) / 2500 lbs (1134 kg)

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