

Q-LS 10 to 60 kVA DATA SHEET



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CUSTOMIZABLE LARGE SCALE POWER SYSTEM

POWER CONFIDENCE

The Q-LS 10 to 60 kVA customizable power management systems are known for their innovative Uninterrupted Power Quality (UPQ) technology. These uninterruptible power systems utilize 5-stages of isolation and conversion to filter and regulate dirty input power - transforming it to a pure and consistent sine wave output. The Q-LS Series delivers superior, serviceable, rugged, power conditioning and uninterrupted power for all of your critical, high-power applications.

Why the Q-LS Series is superior:



Highest Quality Power

High-resolution sine wave output



Customizable

Made to meet your voltage input/output requirements



Modular

Rapid replace modules are easily serviced or replaced



Most Reliable

Highest MTBF in its class



Customer Service

System certifications, preventative maintenance, and service plans available

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OUTPUT

Three-phase, split-phase, single-phase inputs or combinations available upon request.

	Q-LS™ 10	Q-LS™ 20	Q-LS™ 30	Q-LS™ 40	Q-LS™ 50	Q-LS™ 60
Capacity (VA)	10,000	20,000	30,000	40,000	50,000	60,000
Capacity (Watts)	8,000	16,000	24,000	32,000	40,000	48,000
Current (peak amp) Per Phase	43	87	130	174	218	260
Current (peak amp) 1 Phase	130	260	390	520	650	NA
Nominal Voltage Range (3-Phase)*	220/380/460 VΔ -- 208/380/400/415/480 VY					
Nominal Voltage Range (1-Phase) *	220/240/120 V, 1p2w or 1p3w					NA
Frequency*	50, 60, or 400 Hz					
Frequency Tracking	± 2.5 Hz of the input frequency					
Maximum Output Frequency Deviation	± 2.5 Hz					
Power Factor	> 0.8					
Waveform	high-resolution pure sine wave					
Output	Terminal block—customer distribution					
Single Phase Output	Yes					No
3-Phase Output	Yes					

INPUT

	Q-LS™ 10	Q-LS™ 20	Q-LS™ 30	Q-LS™ 40	Q-LS™ 50	Q-LS™ 60
Frequency*	50, 60 ± 2.5 Hz					
Power Factor (6-Pulse Rectifier)	0.7 to 0.8					
Power Factor (12-Pulse Rectifier)	0.75 to 0.9					

GENERAL

	Q-LS™ 10	Q-LS™ 20	Q-LS™ 30	Q-LS™ 40	Q-LS™ 50	Q-LS™ 60
Input To Output Impedance	5 %					
UPQ Power Conditioning Topology	Five-stage isolation with true on-line sine wave					
Remote Power Management	Yes					

*Customizable

VOLTAGE REGULATION

	Q-LS™ 10	Q-LS™ 20	Q-LS™ 30	Q-LS™ 40	Q-LS™ 50	Q-LS™ 60
Input Voltage Range*	120 to 690 VAC					
Full Load With Backup	±16%					
Full Load Without Backup	±20%					
Output Voltage Regulation (Normal Mode)	±1%					

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ISOLATION

	Q-LS™ 10	Q-LS™ 20	Q-LS™ 30	Q-LS™ 40	Q-LS™ 50	Q-LS™ 60
Input To Output Isolation	Dielectric strength 5 kV, 120 dB common mode attenuation					
Common-Mode Noise Rejection	Yes					
Normal-Mode Noise Rejection	Yes					

SUPPRESSION

	Q-LS™ 10	Q-LS™ 20	Q-LS™ 30	Q-LS™ 40	Q-LS™ 50	Q-LS™ 60
IEEE 587/ANSI 62.41 (North America)	Yes					
IEEE 587/ANSI 62.41 (International)	Yes					
Joules (Energy Absorption)	2,200					
TVSS MOV Joule Rating	765 joules per phase					
TVSS Low Pass Filter	750 Hz					
Peak Surge Current (amps)	20,000					
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 Voltage THD (Linear Load)	≤ 3%					
Output Current THD (6-Pulse Rectifier)	Maximum of 20%					
Output Current THD (12-Pulse Rectifier)	Maximum of 9%					
Input Frequency Range	50/60 Hz ± 10 Hz					

**Customizable*

HIGH FREQUENCY ON-LINE INVERTER

	Q-LS™ 10	Q-LS™ 20	Q-LS™ 30	Q-LS™ 40	Q-LS™ 50	Q-LS™ 60
Inverter Design	Full H-bridge					
Inverter Driver Frequency	16.5 to 20 kHz					
Inverter Regulation	50/60/400 Hz ± 0.1 Hz					
Overload Capacity	<110% continuous					
Crest Factor	3:1					
Transfer Time	Zero					
Overall System Efficiency	93%		93.5%		94%	
Efficiency	>93%					
Inverter To Reserve / Reserve To Inverter	Zero-cross transfer, < 4 ms (2 ms minimum)					

RECTIFIER

	Q-LS™ 10	Q-LS™ 20	Q-LS™ 30	Q-LS™ 40	Q-LS™ 50	Q-LS™ 60
6-Pulse	110 μs single-phase triggering					
12-Pulse	6.4 kHz pulse width, 80 μs for 1.7 ms around 11 pulses					
Efficiency	98%					
Current Limit (amp) (208/120 VAC)	46	90	136	182	228	272
Current Limit (amp) (415/380 VAC)	22	46	68	92	114	136
Current Limit (amp) (480/277 VAC)	20	39	59	79	98	118

STATIC SWITCH

	Q-LS™ 10	Q-LS™ 20	Q-LS™ 30	Q-LS™ 40	Q-LS™ 50	Q-LS™ 60
Voltage Range	173–277 VAC (line to neutral)					
Frequency Range	47.5–52.5 Hz / 57.5–62.5 Hz					
Efficiency	99.5%					
Transfer Time—Main To Inverter	0 ms					
Transfer Time—Inverter To Main	0 ms					

BATTERY

	Q-LS™ 10	Q-LS™ 20	Q-LS™ 30	Q-LS™ 40	Q-LS™ 50	Q-LS™ 60
Boost Charge	402 VDC					
Float Charge	390 VDC					
Battery Low Voltage	320 VDC					
Battery Low Stop Voltage	295 VDC					
Hot-Swappable	Yes					

*Run time may vary with environment, charge state, and age of batteries.

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ENVIRONMENTAL

	Q-LS™ 10	Q-LS™ 20	Q-LS™ 30	Q-LS™ 40	Q-LS™ 50	Q-LS™ 60
Maximum Heat Dissipation kW	0.65	1.3	1.9	2.6	3	3.5
Maximum Heat Dissipation BTU/hr	2,933	5,865	8,798	11,730	14,663	17,595
Operating Temperature	32 to 104 °F (0 to 40 °C) *					
Humidity	0%–90% non-condensing					
Audible Noise	< 63 dBA at 1 meter					
Altitude	Less than 1,500 m (4,921 ft) above sea level					
De-rating Temperature To Altitude	39 °F / 3,281 ft (4 °C / 1,000 m)					

*A range of 0 to 50 °C is possible with 125% system upsize but will result in shorter battery life.

PHYSICAL

	Q-LS™ 10	Q-LS™ 20	Q-LS™ 30	Q-LS™ 40	Q-LS™ 50	Q-LS™ 60
W x D x H*	Single Wide Cabinet 22 x 32 x 67 in (56 x 82 x 171 cm) Double Wide Cabinet for Q-LS™ 60 (12 pulse only) ; 44 x 32 x 67 in (112 x 82 x 171 cm)					
Weight (Lbs.)*	1050-1400	1200-1400	1300-1500	1600-1700	1900-2100	1950 -2900
Weight (Kg.)*	480-640	550-640	600-700	730-775	875-975	900-1325

*These weights and dimensions are provided as a reference point. Most Q-LS systems are created with customizations that will often cause the system to increase in size or weight significantly more than its standard configuration. Weight variance in the Q-LS systems are significant due to the option of a single cabinet or double-wide cabinet configuration.

POWER INNOVATIONS PUTS POWER IN YOUR HANDS

Specializing in custom, critical, rugged and renewable power applications, we deliver the highest quality uninterruptible power solutions for homes, businesses, and governments worldwide.



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