MISSION-CRITICAL POWER PROTECTION

Modular UPS 480 kVA / 480 kW

Three-phase power protection for critical infrastructure.

The QPG-AC480/60H combines modular power conversion, configurable battery charging and flexible monitoring in a compact cabinet.

Eight power modules included

Cabinet rated 480 kW. Individual module rating remains subject to factory confirmation.

Efficient operation

Up to 96% efficiency in normal operation and battery mode.

15-minute backup target

Proposed 4 × 40 battery bank: 160 batteries, 12 V, 250 Ah each. Runtime at 480 kW requires factory confirmation.



Illustrative cabinet rendering. Final enclosure and installed module arrangement may vary.

440 / 480 V	Up to 96%	1.0
AC input and output	Normal-mode efficiency	Output power factor

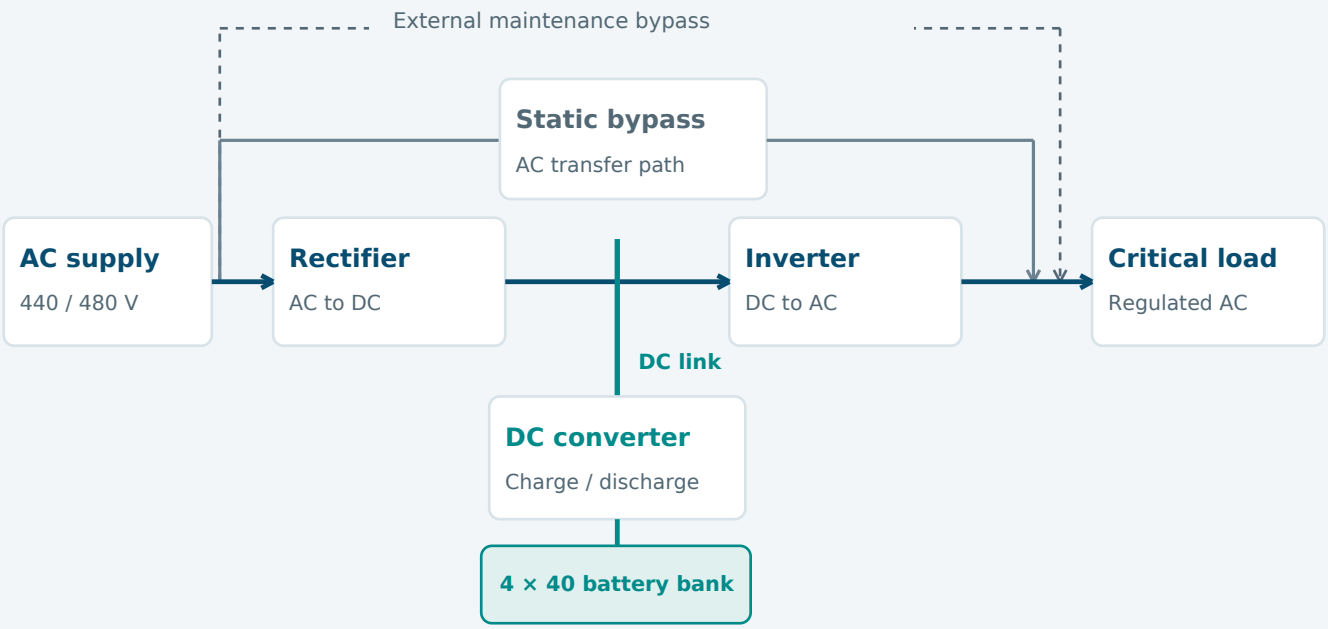
For data centers, industrial controls, communications and other critical AC loads, subject to project requirements.

PRODUCT SPECIFICATIONS / 02

Architecture & backup power

A clear separation between AC power conversion, battery energy storage and bypass supply.

FUNCTIONAL POWER FLOW



Normal AC conversion — Battery connection — Bypass supply

Functional illustration only. Proposed battery strings, DC protection and bypass arrangements require factory approval.

Proposed battery configuration

Four parallel strings of 40 series-connected 12 V, 250 Ah lead-acid batteries (160 total). Nominal bank: 480 V, 1,000 Ah; 480 kWh. Required backup: 15 minutes at 480 kW, subject to factory confirmation.

Monitoring that fits the project

A 7-inch touch LCD and LED indicators provide local status. USB, RS232, RS485 and dry contacts support integration. SNMP, AS400, parallel kit, LBS and SPD are optional.

PRODUCT SPECIFICATIONS / 03

Input, battery & bypass

Model QPG-AC480/60H | All AC voltages below are line-to-line unless stated otherwise.

Ratings and AC input	
Cabinet rated capacity	480 kVA / 480 kW
Power modules supplied	8 modules; 62.5 kVA / 62.5 kW each
Input connection	3P + N + PE
Nominal input voltage	480 / 440 VAC
Input power factor	>0.99
Input current distortion (THDi)	<5% at 25% linear load <2.5% at 100% linear load
Input voltage range	384-528 VAC at full load 288-384 VAC: output derates from 100% to 50%
Input frequency range	40-70 Hz

Proposed battery bank and UPS interface	
Battery arrangement	4 parallel strings × 40 series batteries 160 lead-acid batteries; 12 V, 250 Ah each
Nominal energy / backup target	480 kWh nominal; 15 min at 480 kW required
Nominal battery voltage	±240 VDC; 32-44 batteries configurable
Charging capacity	20% of output power (Pout)
Charging accuracy	±1%

AC bypass	
Nominal bypass voltage	480 / 440 VAC
Voltage acceptance range	Adjustable: -40% to +25% Default: -20% to +15%
Frequency acceptance range	Selectable: ±1 Hz, ±3 Hz or ±5 Hz
Bypass overload capability	125%: continuous operation >125% to <130%: 10 minutes >130% to <150%: 1 minute >150%: 300 ms

PRODUCT SPECIFICATIONS / 04

Output performance

Regulated three-phase AC output for the approved load and operating conditions.

Inverter and AC output	
Nominal output voltage	480 / 440 VAC, line-to-line
Nominal output frequency	50 / 60 Hz
Output power factor	1.0
Output voltage accuracy	±1.0%
Dynamic load response	<5% for a 20%-80%-20% load step
Recovery time	<20 ms for a 0%-100%-0% load step
Output voltage distortion (THDu)	<1.5% with linear load <3% with nonlinear load, according to IEC 62040-3
Inverter overload capability	110%: 1 hour 125%: 10 minutes 150%: 1 minute >150%: 200 ms
Frequency accuracy	0.1%
Synchronization window	Adjustable: ±0.5 Hz to ±5 Hz Default: ±3 Hz
Frequency slew rate	Adjustable: 0.5-3 Hz/s Default: 0.5 Hz/s
Crest factor	3:1
Phase displacement accuracy	120° ±0.5°

Eight power modules are included. Redundancy and remaining output after a module failure depend on the confirmed module rating and operating load.

PRODUCT SPECIFICATIONS / 05

System & operating environment

Efficiency, environmental limits and referenced standards for the specified configuration.

System performance and environment	
Normal-mode efficiency	Up to 96%
Battery-mode efficiency	Up to 96%
Local display	LED indicators + 7-inch touch LCD
Enclosure protection	IP20
Acoustic noise at 3.28 ft	72 dB at 100% load; 69 dB at 45% load
Operating temperature	32-104°F
Relative humidity	0-95%, non-condensing
Altitude	Below 3,281 ft: no stated derating 3,281-6,562 ft: derate 1% per additional 328 ft

Physical specifications	
Cabinet dimensions (W × D × H)	23.62 × 39.37 × 78.74 in*
Power module dimensions (W × D × H)	17.40 × 25.94 × 6.85 in
Power module weight	99.2 lb per module

Referenced standards	
Safety	UL 1778:2014 R4.24 CSA C22.2 No. 107.3-14+G1+G12 (R2024) IEC 62040-1; IEC 60950-1
EMC and immunity	IEC 62040-2 IEC 61000-4-2 (ESD); IEC 61000-4-3 (RS) IEC 61000-4-4 (EFT); IEC 61000-4-5 (surge)

* Cabinet measurements marked with an asterisk are for 2 × 40 batteries.
Measurements for the 4 × 40 battery configuration will be provided if needed.

PRODUCT SPECIFICATIONS / 06

Interfaces & scope of supply

Separate standard equipment, selectable accessories and external installation requirements.

Standard interfaces

USB
RS232
RS485
Dry contacts

Proposed supply package

8 power modules
4 × 40 batteries (160 total)
12 V, 250 Ah per battery
15 min at 480 kW required
Cold-start function and air filter

Optional accessories	
SNMP card	Network monitoring interface
AS400 card	Optional interface card
Parallel kit	Optional parallel-system accessory
LBS	Load bus synchronization option
SPD	Surge protective device option

External switches - not included	
Manual maintenance bypass switch	Not included
Input switch	Not included
Bypass switch	Not included
Output switch	Not included

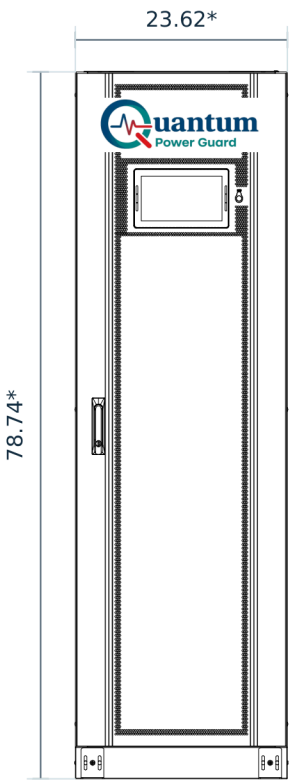
Revised battery configuration is proposed for factory approval. Factory to confirm 15 minutes at 480 kW, battery performance, DC protection, cabling and charging. Cabinets/racks, external switchgear, maintenance bypass and commissioning are per final quotation.

PRODUCT SPECIFICATIONS / 07

Cabinet schematics

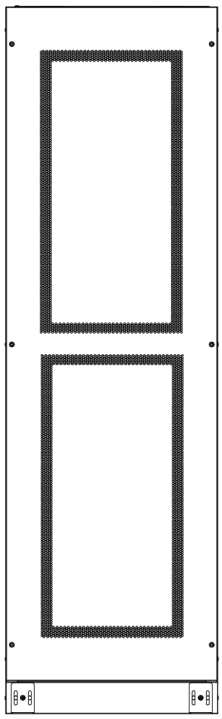
23.62 in W × 39.37 in D × 78.74 in H* | Dimensions in inches.

FRONT VIEW



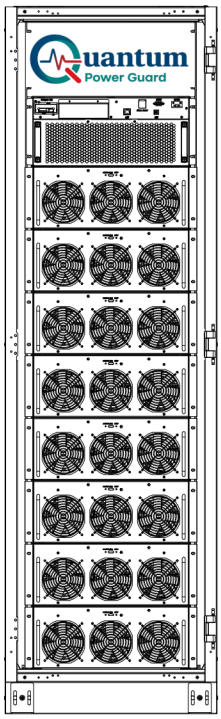
Touch LCD

REAR VIEW



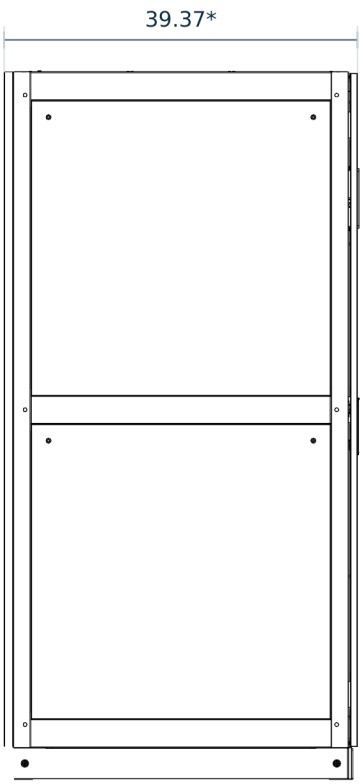
Rear ventilation

DOOR OPEN



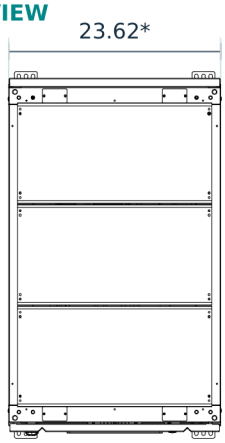
Bypass + 8 power modules

SIDE VIEW

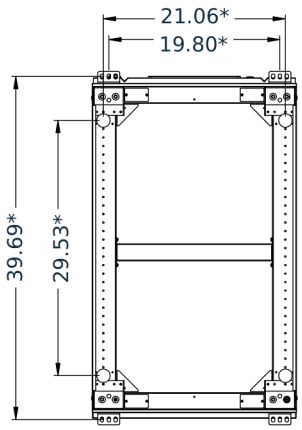


Cabinet depth: 39.37 in*

TOP VIEW



BASE / MOUNTING DETAIL



REFERENCE DIMENSIONS

Cabinet (W × D × H)

23.62 × 39.37 × 78.74 in*

Power module (W × D × H)

17.40 × 25.94 × 6.85 in

Power-module weight

99.2 lb per module

Inches, rounded to two decimals. Elevation views share a common scale; verify mounting with the approved drawing.
* Cabinet measurements shown apply to the 2 × 40 battery configuration.
Measurements for the 4 × 40 battery configuration will be provided if needed.