

# Cat<sup>®</sup> XES120 (60 Hz)

## Compact Energy Storage System



Image shown may not reflect actual configuration.

## Cat<sup>®</sup> Compact Energy Storage System

48 kW (60 kVA)  
127.9 kWh  
60 Hz 208/120V

### Features & Benefits

#### Key Benefits

- Easy integration with standard generating set to provide hybrid solution
- On-board controller works to optimize genset operation which can lead to reduced fuel consumption and lower associated greenhouse gas emissions
- Automatic switching between generating set power and stored energy
- Avoids low load operation of generating set
- Reduces generating set runtime, extending the time between servicing
- Provides extended periods of silent power
- Minimal maintenance
- Integrates with renewable energy sources

#### Control Panel

- Electronic control panel provides power metering and protective relaying
- Graphical display (7 in) denotes text alarm / event descriptions, set points, inverter and battery monitoring and is visible in all lighting conditions
- Simple, user-friendly interface and navigation
- Home screen displaying status and real time power distribution
- Generator set monitoring, remote control, and timer function (up to 3 per day)
- Battery monitor displaying historical and instantaneous information
- Load monitor displaying historical and instantaneous information
- Auxiliary load timer function (up to 3 per day)
- Solar and maintenance charge status
- System information and set-up
- Alarms and shutdowns

#### Weather-proof Enclosure

- Provides excellent weather protection
- Rugged galvanized steel baseframe
- Powder coated painted panels
- Lifting eye(s) and fork pockets for easy maneuverability
- Locks on all access doors
- Doors on each side of the enclosure provides clear access to routine service and maintenance needs
- Two front doors provide access to power distribution and control panel access
- Access panels on each side provide access to battery racks
- Exterior emergency stop (E-stop) button

#### Asset Monitoring and Management

- Requires data subscription
- Includes telematics hardware for remote monitoring across cellular network
- Two-way communication for remote control and equipment monitoring
- Customer-defined, equipment-based, real-time status updates and alerts
- Flexible and customer-configurable user interface
- Fleet management
- GPS provides asset locations and geo-fencing

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## Technical Data

Inverter	
Nominal Rating @ 25°C	48 kW (60 kVA)
Frequency	60 Hz
Voltage	208/120V
Passthrough current (Genset only)	200A
Max combined current (Genset+XES)	250A
Max load before genset start (fast)	Configurable 38.4 – 43.2 kW / delay 0 – 30s
Max load before genset start (slow)	Configurable 36.0 – 40.8 kW / delay 60 – 600s
Overload	1.5 x Rated for 30s
Short-circuit current	2 x Rated current
Inverter derate @ 30°C	96%
Inverter derate @ 40°C	90%
Inverter derate @ 50°C	82%

Battery	
Nominal capacity @25°C	127.9 kWh
Typical charge time @25°C	3.7 h
Battery chemistry	Lithium Iron Phosphate (LFP)
Battery system voltage	48 Vdc
Cycle life (80% DoD)	6000 cycles
Maintenance charge interval	< 3 Weeks

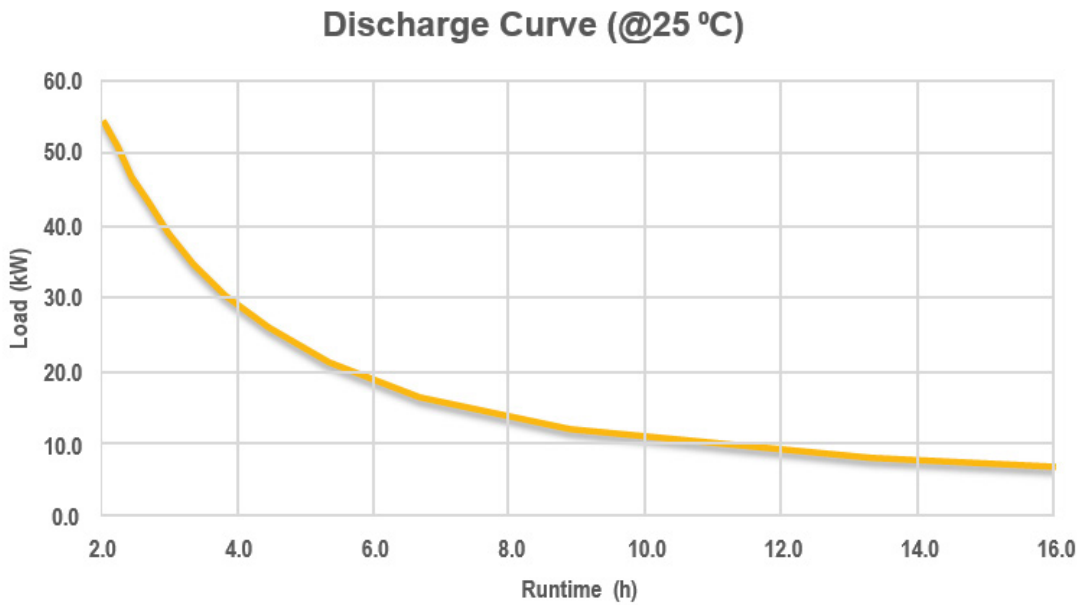
Mechanical	
Cooling	Variable speed force air cooling
Ingress rating	IP55 / NEMA 3
Operating temperature range (charge)	0 to +50°C (32 to 122°F)
Operating temperature range (discharge)	-10 to +50°C (14 to 122°F)

Options	
Solar MPPT charger (4.9 kWp)	Yes
Battery space heater	Yes
Overvoltage protection	Standard on 60 Hz models

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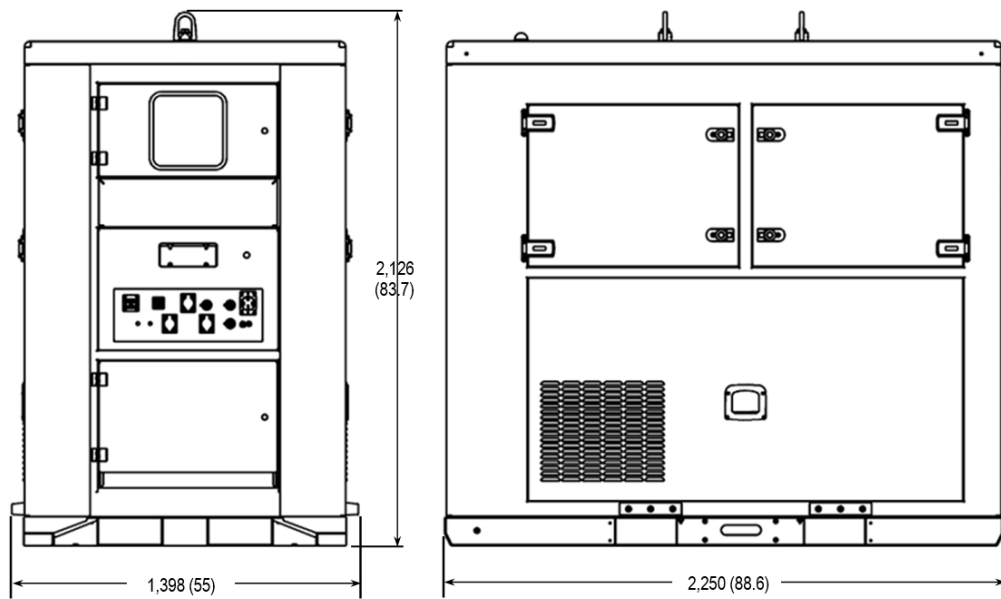


## Discharge Curve



## Layout for General Dimensions

Dimensions in millimeters (inches)



## Weight and Dimensions

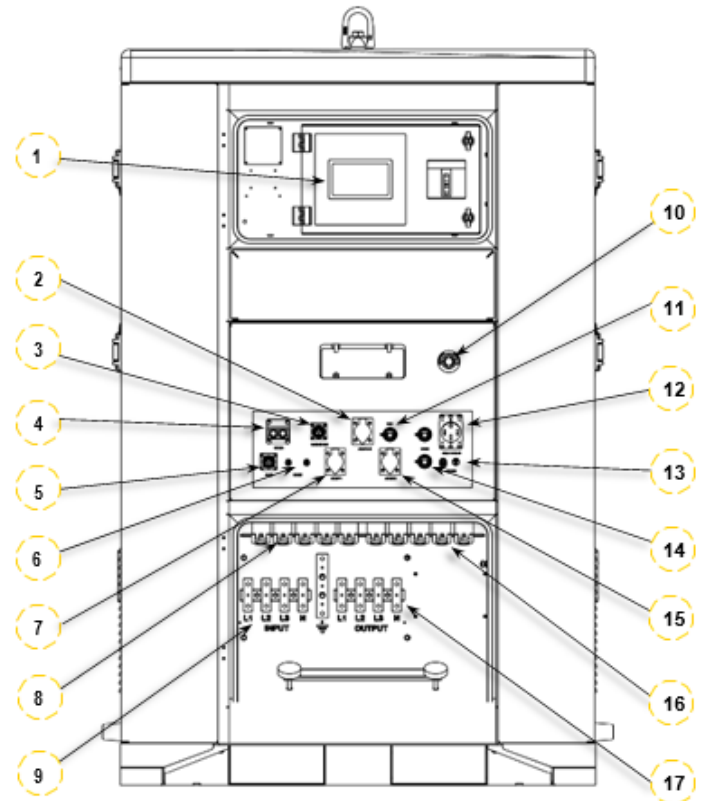
Length mm (in)	Width mm (in)	Height mm (in)	Weight kg (lb)
2,250 (88.6)	1,398 (55)	2,126 (83.7)	2,700 (5,952)

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## Control Panel and Power Distribution Layout

Item	Description
1	ESS Controller
2	NEMA 5-15P Maintenance Charge Inlet
3	Cascade Connector
4	DC Connector
5	RS485
6	Remote Genset Start
7	NEMA 5-20R Outlet
8	Cam Type Input Connectors
9	Input Busbars
10	Emergency Stop
11	RJ45 Connector (WAN)
12	NEMA 14-50R Outlet
13	Solar Input Connectors
14	RJ45 Connectors (for Inverter)
15	NEMA 5-20R Outlet (Auxiliary)
16	Cam Type Output Connectors
17	Output Busbars



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