

1.2 Electrical Requirements

NOTICE

In China, all cables used to provide system power and ground must be CCC certified.

NOTICE

Only WYE connected power source are currently permitted, due to current system (generator) design.

All system components obtain their power from the Power Distribution Unit (PDU) under the system table. **Providing power and ground wires to the PDU are the responsibility of the customer.** As an aid, wire sizes for various lengths of the power supply cable are shown in the following tables.

WARNING

PE CABLES SHALL HAVE THE DIAMETER NOT LESS THAN THE POWER SUPPLY CONDUCTOR, AND SHALL HAVE AN IMPEDENCE NOT MORE THAN 0.1 OHMS.

1.2.1 System Electrical Requirements

1.2.1.1 System Power Specifications

PARAMETER	JEDI GENERATOR - 50kW												
Input Voltage	380/400/440/480 VAC WYE 3-Phase and ground without neutral												
Required Power Source	WYE Distribution												
Daily Voltage variations	+/- 10% (VAC) In this range, the generator will operate without any de-rating in accuracy.												
Line Impedance	<p>The apparent line impedance guaranteed by the customer should be equal or less than the values indicated below, according to the voltage value and the commercial power of the generator.</p> <table> <tr> <th>Voltage range (V)</th><th>Line Impedance (ohms)</th></tr> <tr> <th>3 phase</th><th>50kW</th></tr> <tr> <td>380</td><td>0.15</td></tr> <tr> <td>415</td><td>0.18</td></tr> <tr> <td>440</td><td>0.20</td></tr> <tr> <td>480</td><td>0.24</td></tr> </table> <p>Note: 400-480 VAC impedance values are based on IEC 601-2-7 standard. Values are interpolated from values in standard.</p>	Voltage range (V)	Line Impedance (ohms)	3 phase	50kW	380	0.15	415	0.18	440	0.20	480	0.24
Voltage range (V)	Line Impedance (ohms)												
3 phase	50kW												
380	0.15												
415	0.18												
440	0.20												
480	0.24												
HV cable length	8 m												
HV cable type	IB EEC: 22 mm cable de Lyon (≤ 150 pF/m) USA: 22 mm DSI (≤ 165 pF/m) EEC: 16 mm Claymount (≤ 165 pF/m) HV cable connector = Federal standard												
Ground Wire	#8 AWG												
Inrush current	600 A												

Table 5-1 System Power Specifications

PARAMETER	JEDI GENERATOR - 50kW
Normal Frequency	50/60Hz
Daily frequency variation	47~63Hz

Table 5-1 System Power Specifications

1.2.2 Recommended Power Supply

PDU Power Supply cable is offered by the customer, and also can be ordered from GE (S39222KP). Wire size for various lengths of the Power Supply cable are shown in [Table 5-5](#).

Note: Power cable should be flexible enough to allow generator to roll back into table.

PARAMETER Input Voltage Wire Size Length	THREE PHASE GENERATOR - 50kW							
	380 VAC		400 VAC		440 VAC		480 VAC	
15 m (50 ft.)	10 mm ²	(#8 AWG)	10 mm ²	(#8 AWG)	10 mm ²	(#8 AWG)	10 mm ²	(#8 AWG)
30 m (150 ft.)	16 mm ²	(#6 AWG)	16 mm ²	(#6 AWG)	16 mm ²	(#6 AWG)	16 mm ²	(#6 AWG)
46 m (200 ft.)	22 mm ²	(#5 AWG)	22 mm ²	(#5 AWG)	22 mm ²	(#5 AWG)	22 mm ²	(#5 AWG)
60 m (100 ft.)	30 mm ²	(#3 AWG)	30 mm ²	(#3 AWG)	30 mm ²	(#3 AWG)	30 mm ²	(#3 AWG)

Table 5-2 Minimum Wire Size 50 kW

Phase	3	3	3	3
Nominal Line Voltage (Vac)	380	400	440	480
Voltage Range (Vac)	+/- 10%	+/- 10%	+/- 10%	+/- 10%
Momentary Line Current (Amp)	110	110	110	110
Continuous Line Current (Amp)	7	6.7	6	5.5
Power Demand (kVA)	70	70	70	70
Frequency	47/53Hz and 57/63Hz			

Table 5-3 kVA Load Characteristics 50 kW

1.2.3 Recommended Wall “Circuit-Breaker” Ratings

Power / Voltage	50 kW
380 V	110 A / 600 V
400 V	105 A / 600 V
440 V	95 A / 600 V
480 V	88 A / 600 V

Table 5-4 Wall Breaker Parameter (Theoretical Current Values)

Note: The main circuit breaker supplied by the customer must be sized in accordance to local regulations.
Shunt trip circuit breaker required.