

Qty	Description	Manufacture	Cat#
162	Solar Module	Helios	6T-250
162	Ballast Racking 15"	Renusol	56077-01
6	Combiner Boxes	Midnite Solar	MNVP6-10A
6	PV Inverter	Eaton	PV260
1	Xantrex	Schneider	XW6048 120240 60
8	Battery 3 Cell Modules	Deka	AVR95-17
1	Battery Rack	Deka	

**Siegel Building  
IIT**

June 2, 2012

PV Array Size 20174.346 Watts (STC Rating)  
 Battery Size 40000.000 Watts-Hrs  
 Critical Load (Inverter) 6000.000 VA  
 Peak Sun Hrs/Day 4.400 Hrs/Day

**PV Array System**  
 Module Open Circuit Voltage = 37.400 Volts  
 Module Short Circuit Current = 8.720 Amps  
 Module Watts = 249.066 Watts  
 Number of Modules = 81.000  
 MPP Voltage = 30.300 Volts  
 MPP Current = 8.220 Amps  
 Modules in Series = 9  
 Number of Parallel Systems = 9  
 PV Array Voltage (PVA  $V_{oc}$ ) = 336.600 Volts  
 PV Array Current (PVA  $I_{sc}$ ) = 78.480 Amps  
 PV Array Current (PVA  $I_{sc}$ )/PV Inverter = 26.160 Amps  
 Maximum OCP Amps = 40.875 Amps  
 Wire Sizing Amps = 40.875 Amps

Average kWh/Day Produced = 109.567 kWh/Day

**Panel Specification Model:**  
 Helios 250W Monocrystalline Solar Pnl 6T-250

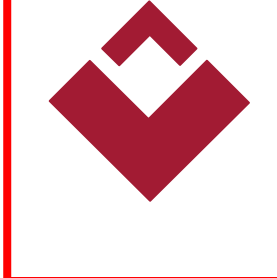
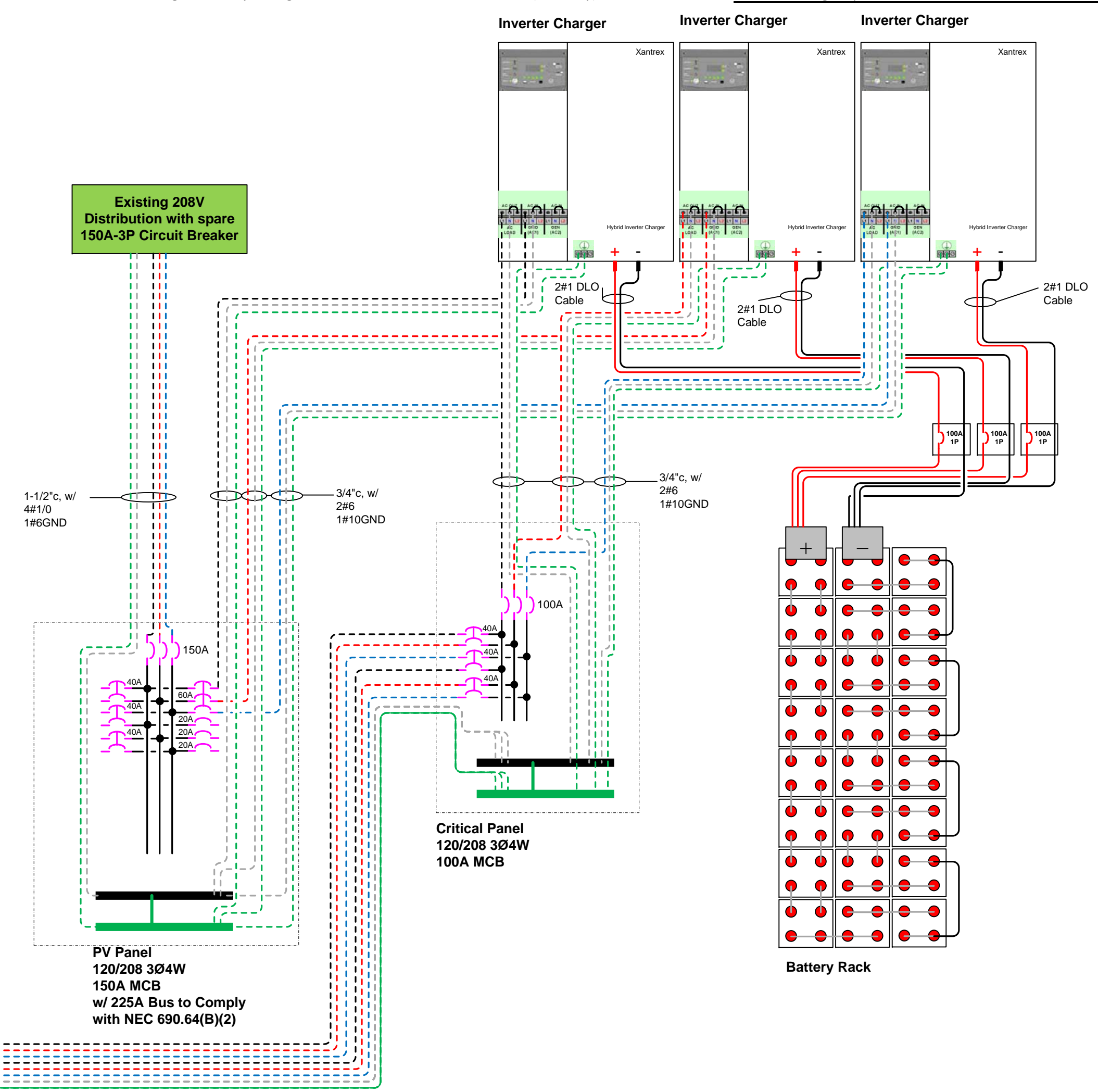
**Battery System**  
 DC System Voltage = 48.000 Volts  
 DC System Amp-Hrs = 833.333 Amp-Hrs  
 Battery Nominal Voltage = 6.000 Volts  
 Battery Nominal Charge Voltage = 6.900 Volts  
 Battery Amp-Hrs (1.83vpc @ 24 hr) 911.667 Amp-Hrs (Estimated)  
 Batteries in Series = 8  
 Number of Parallel Systems = 1  
 Number of Batteries = 8  
 Average kWh/Day Storage = 43.760 kwh (for 1 day)

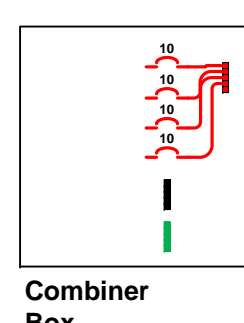
**Inverter/Charger**  
 Continuous Power = 6000.000 VA  
 Surge Power = 12000.000 VA  
 DC Input Voltage - Lower Limit = 44.000 Vdc  
 DC Input Voltage - Upper Limit = 64.000 Vdc  
 Max Output Current = 37.500 Amps  
 Max Charging Current = 100.000 Amps  
 Charging Voltage = 55.200 Vdc  
 Number of Inverter/Chargers = 1

**Inverter Charger Specification Model:**  
 Xantrex XW Series XW6048 120/240 60  
 Xantrex configuration: ACLOAD: Standard 120/240 1P-3W System. AC1 Configured as a 120V 1P input. See Xantrex User Manual 975-240-01-01.

**PV Inverter**  
 Nominal AC Power 6000 W  
 MPPT Voltage Range - Lower Limit = 105 Vdc  
 MPPT Voltage Range - Upper Limit = 500 Vdc  
 PV Array Voltage = 336.600 Vdc  
 Max DC Current = 32 amps  
 PV Array Current = 78.480  
 Minimum Number of PV Inverters = 3  
 Number of PV Inverters Used = 3  
 Integral AC Output Disconnect Size Yes  
 Integral DC Input Disconnect Size Yes  
 PV Inverter Continuous DC Current Size = 40.875 Per NEC 690.8 (A)(1) & (B)(2)

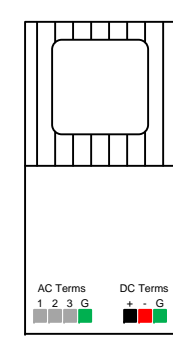
**Inverter Charger Specification Model:**





Combiner Box

DC Label  
**0-600V DC**



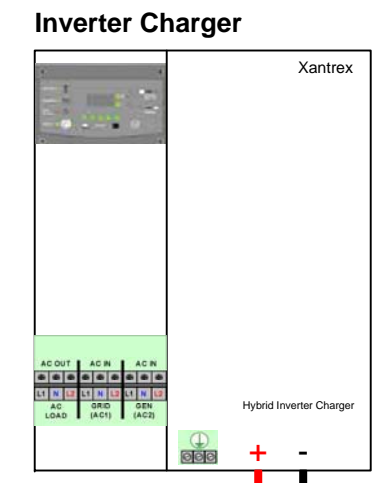
PV Inverter

DC Disconnect Label

PHOTOVOLTAIC POWER SOURCE	
RATED MPP CURRENT	24.66 Amps
RATED MPP VOLTAGE	272.70 Volts
MAX SYSTEM VOLTAGE	340.88 Volts @ -40F
MAX CIRCUIT CURRENT	26.16

Inverter Label and Battery Location Label

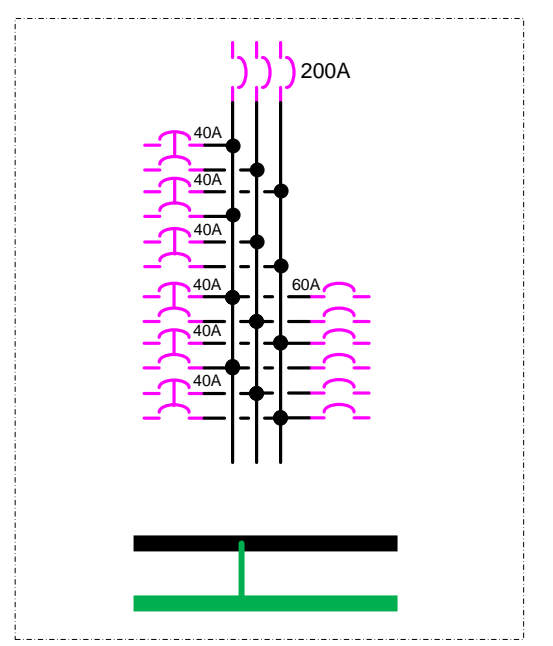
WARNING  
ELECTRICAL SHOCK HAZARD  
IF A GROUND FAULT IS INDICATED,  
NORMALLY GROUNDED CONDUCTORS  
MAY BE UNGROUNDED AND ENERGIZED.



Inverter Charger

Inverter Label and Battery Location Label

WARNING  
ELECTRICAL SHOCK HAZARD  
IF A GROUND FAULT IS INDICATED,  
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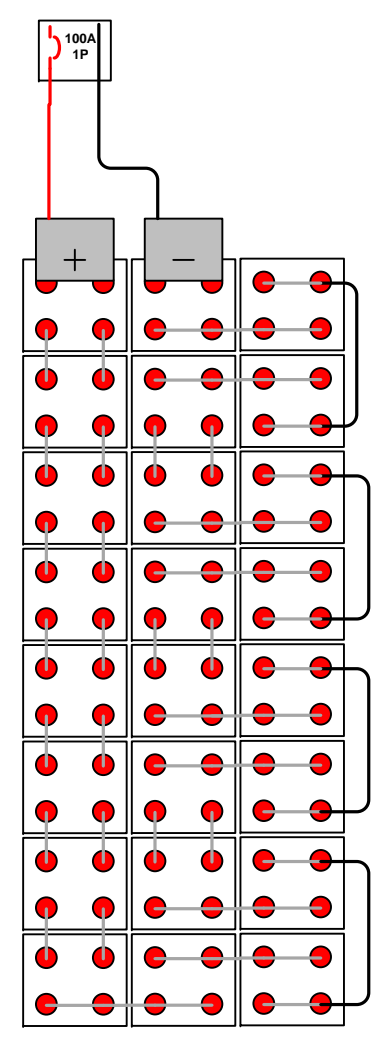
PV Panel  
120/208 3Ø4W  
200A MCB  
w/ 400A Bus to Comply with NEC 690.64(B)(2)

Inverter OCPD and AC Disconnect

AC POINT OF CONNECTION	
SOLAR PV SYSTEM	
AC OUTPUT CURRENT	24.66 Amps
NOMINAL AC VOLTAGE	120/208 Volts
BATTERY INVERTER	
AC OUTPUT CURRENT	37.50 Amps
NOMINAL AC VOLTAGE	120 Volts
THIS PANEL IS FED BY MULTIPLE SOURCES (UTILITY, SOLAR AND BATTERY INVERTER)	

PV System Disconnect Breaker Label (QTY-3)

**PV SYSTEM DISCONNECT**



Battery Rack

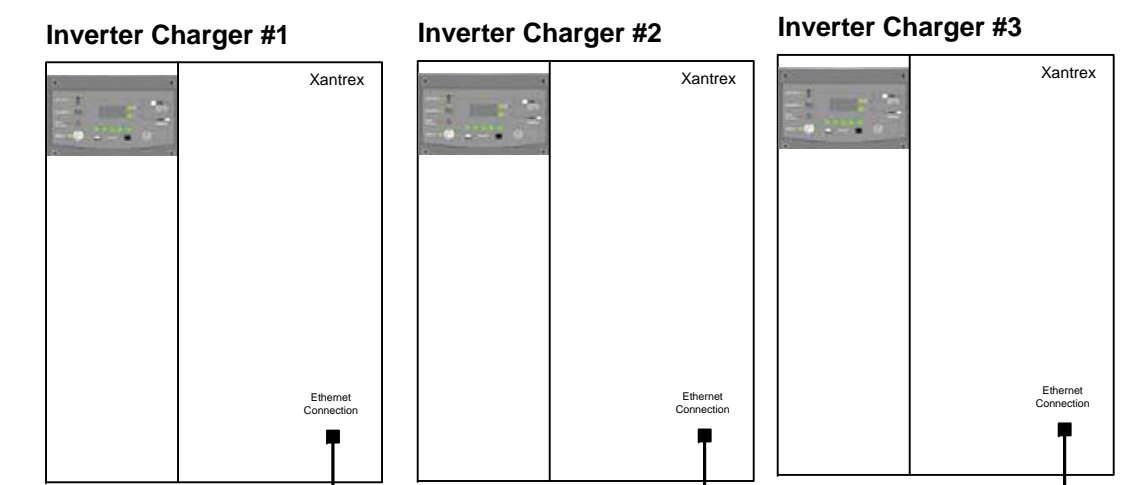
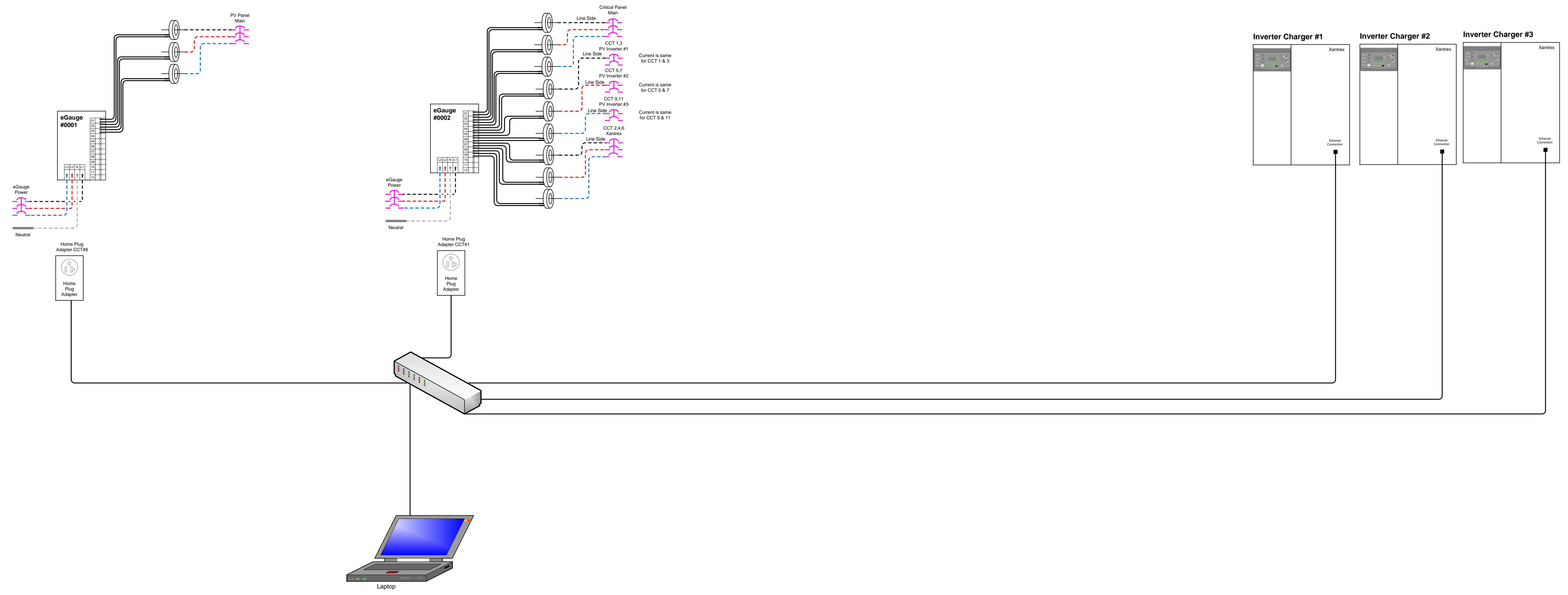
Existing 208V  
Distribution with spare  
150A-3P Circuit Breaker

Inverter Label and Battery Location Label

WARNING  
ELECTRICAL SHOCK HAZARD  
IF A GROUND FAULT IS INDICATED,  
NORMALLY GROUNDED CONDUCTORS  
MAY BE UNGROUNDED AND ENERGIZED.

Inverter OCPD and AC Disconnect

AC POINT OF CONNECTION	
SOLAR PV SYSTEM	
AC OUTPUT CURRENT	24.66 Amps
NOMINAL AC VOLTAGE	120/208 Volts
BATTERY INVERTER	
AC OUTPUT CURRENT	37.50 Amps
NOMINAL AC VOLTAGE	120 Volts
THIS PANEL IS FED BY MULTIPLE SOURCES (UTILITY, SOLAR AND BATTERY INVERTER)	



Inverter Charger #1

Inverter Charger #2

Inverter Charger #3