

Use ILSCO GHI-4DBT Ground Lug Rated for Outdoor Operation. Connect Mounting Rail to EGC Per Manufacturers Instructions Typ.

Ironkridge Mounting Rail Serves as Ground Bus

PV Panel and Rack Grounding per Ironkridge UL2703 Integrated Ground Application Typ. - Reference Ironkridge Installation Instructions

Calculation of Electrical Parameters

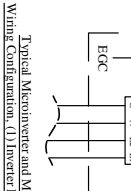
- AC Conductors From PV Array to Subpanel
 - Branch Circuit A
 - Nominal PV Array Output Current = 1.0A (per Module) x 13 (Modules) = 13.0A
 - Minimum PV Array Output Current = 1.0A x 1.25 = 1.25A (Use 20A and #8 AWG is OK per 2013 NEC Table 310.15(B)(16) and 240.4(D))
 - Branch Circuit B
 - Nominal PV Array Output Current = 1.0A (per Module) x 11 (Modules) = 11.0A
 - Minimum PV Array Output Current = 1.0A x 1.25 = 1.25A - Use 15A CB and #10 AWG is OK per 2013 NEC Table 310.15(B)(16) and 240.4(D))
 - Branch Circuit C
 - Nominal PV Array Output Current = 1.0A (per Module) x 10 (Modules) = 10.0A
 - Minimum PV Array Output Current = 1.0A x 1.25 = 1.25A - Use 15A CB and #10 AWG is OK per 2013 NEC Table 310.15(B)(16) and 240.4(D))

- Maximum System Voltage:
 - Open Circuit Voltage (Voc) = 0.1131%/C
 - Open Circuit Voltage (Voc) = 40.4V
 - Cell Temperature Tested at 25°C
 - Lowest Exposed Temperature in Emerald Hills, CA = -4.4°C
 - Change in Temperature = 29.4°C (25°C to -4.4°C)

- Find Maximum System Voltage:
 - 0.1131%/C x 29.4°C = 3.3%
 - 40.4V x 1.033 = 41.7 V Per Module

- AC Conductors From Subpanel to Service Entrance Panel
 - 34 Microamperes x 1.0A ea = 34A x 1.25 = 42.5A - Use 50A Ckt Bkr
 - Terminals are Rated for 75°C
 - Conductor is #8 - Ampacity = 50A
 - Ambient Temp Correction = 1.0
 - Fill Deration = 1.0
 - Adjusted Ampacity = 50A x 1.0 x 1.0 = 50.0A - OK ≥ 50A CB
- AC Grounding
 - Equipment Grounding Conductor Sized per NEC 690.45, 250.122 Use #10 EGC

Note - Unless Otherwise Specified:
 Provide Warning Labels per NEC and Local Jurisdiction Requirements
 Ungrounded Photovoltaic System



To New Subpanel See Sheet 5

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|---------|-------------------------------------|------------------|
| Project | Yeung Residence Photovoltaic System | |
| Address | [Redacted] | |
| Date | Dec 29, 2015 | Drawing Title |
| Sheet | 5 of 6 | System Schematic |
| Rev | 1 | Signed |
| | | KC |