

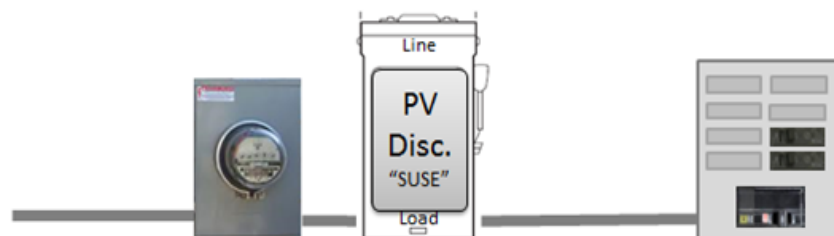
Micro-inverters Fed from a DC Bus System.

Utility interactive Micro Inverter Requirements

UL 1741, 690.4(B), 705.4
Installed per Manufactures Spec., 110.3
Point of Interconnection 705.12

Point of Interconnection to AC

Point of Interconnection requirements 705.12
Supply Side 705.12(A)
Load Side 705.12(D)



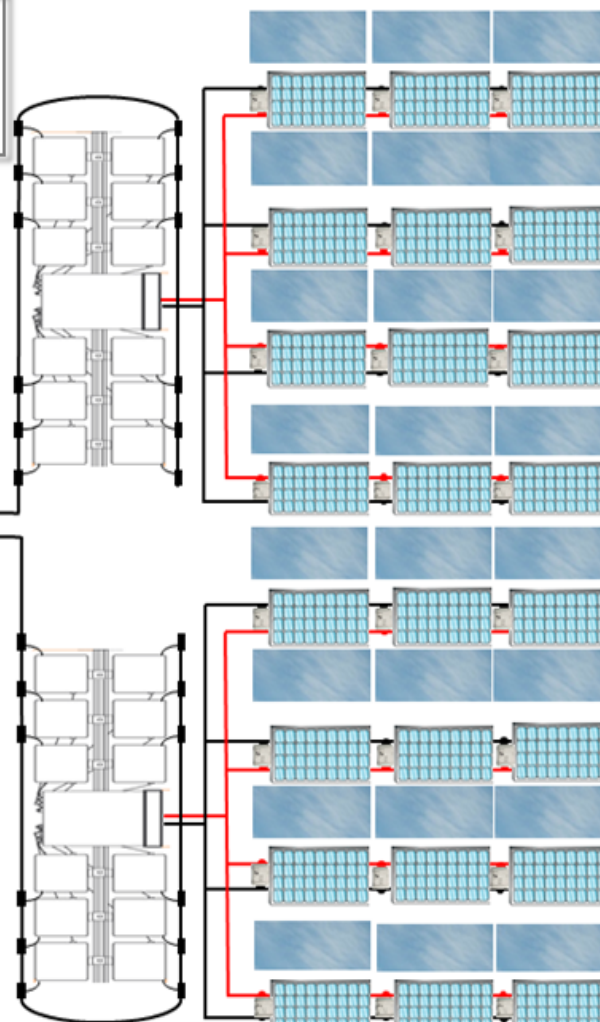
Supply Side Connection Service Disconnect

Supply Side connection requirements 705.12(A), 705.31
Must meet the requirements for Service Disconnect
Grounding and Bonding per Article 250
Marking and Rating per Article 230

See page provided for NEC labeling requirements

Grounding of Array

EGC requirements 690.43 & 110.3(B)
Fittings over 250 volts 250.97
Sizing and routing 690.45, 250.134(B) & 300.3(B)
GEC Requirements 690.47, 250.50 & 250.58



Wire Management and Conductors

Exposed PV conductors operating @>30 volts 690.31(A)
Identification and Grouping. 690.31(B)
PV Dc conductor Color Coding 200.6, 210.5(C), 215.12(C)
Inside Building Metal raceway to first readily accessible disconnect 690.14, 690.31(G)
PV DC circuits sizing 690.8(A) (5)

Micro-inverters at the Modules.

Utility interactive Micro Inverter Requirements

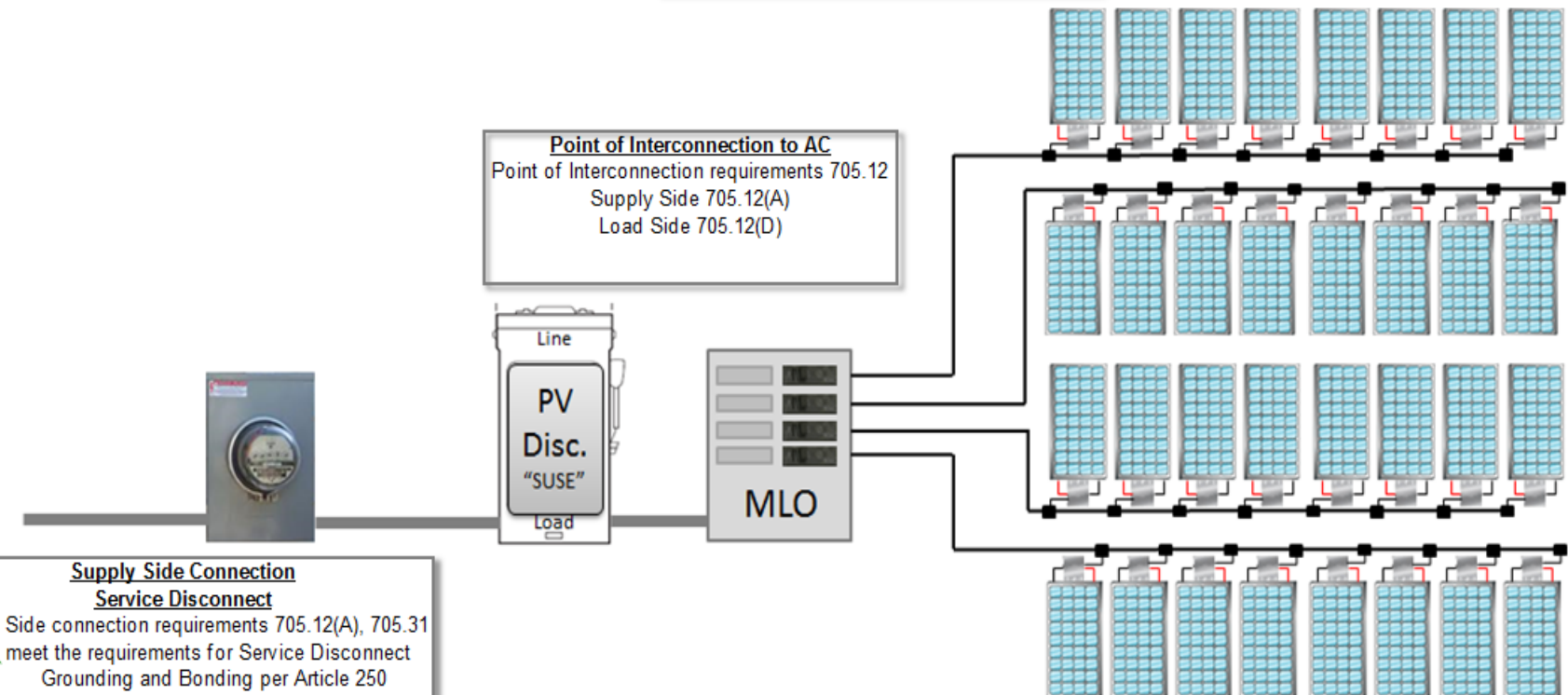
UL 1741, 690.4(B), 705.4
Installed per Manufactures Spec, 110.3
Point of Interconnection 705.12

Grounding of Array

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GEC Requirements 690.47, 250.50 & 250.58

Point of Interconnection to AC
Point of Interconnection requirements 705.12
Supply Side 705.12(A)
Load Side 705.12(D)

Supply Side Connection
Service Disconnect
Supply Side connection requirements 705.12(A), 705.31
Must meet the requirements for Service Disconnect
Grounding and Bonding per Article 250
Marking and Rating per Article 230



See page provided for NEC labeling requirements

Wire Management and Conductors

Inside Building Metal raceway to first readily accessible disconnect 690.14, 690.31(G)
Inverter Output circuits sizing 690.8(A)(2) & (B)(1)

String System with PV Output Circuits and Overcurrent Protection at DC Combiner.

Grounding of Array

EGC requirements 690.43 & 110.3(B)
Fittings over 250 volts 250.97
Sizing and routing 690.45, 250.134(B) & 300.3(B)
GEC Requirements 690.47, 250.50 & 250.58

Overcurrent Protection of DC circuits

OCPD rated DC 110.3(A), 690.9(C) & (D)
PV Source Circuits & Output Circuits 690.9(A) & (B)
No OCPD in grounded conductor 690.9(E)

Point of Interconnection to AC

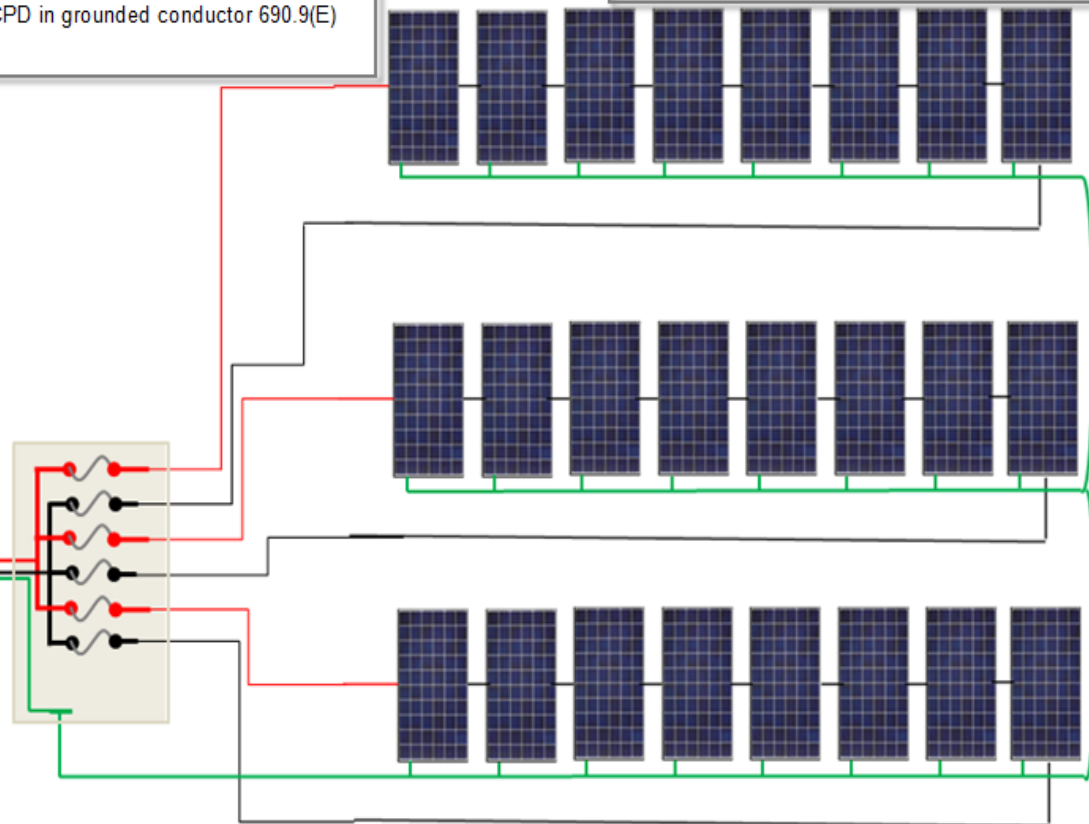
Point of Interconnection requirements 705.12
Supply Side 705.12(A)
Load Side 705.12(D)



Supply Side Connection Service Disconnect

Supply Side connection requirements 705.12(A), 705.31
Must meet the requirements for Service Disconnect
Grounding and Bonding per Article 250
Marking and Rating per Article 230

See page provided for NEC labeling requirements



Wire Management and Conductors

Exposed PV conductors operating @ >30 volts 690.31(A)
Identification and Grouping. 690.31(B)
PV Dc conductor Color Coding 200.6, 210.5(C), 215.12(C)
Inside Building Metal raceway to first readily accessible disconnect 690.14, 690.31(G)
PV DC circuits sizing 690.8(A) (5)

**String System without PV Output Circuits no
Overcurrent Protection Required.**

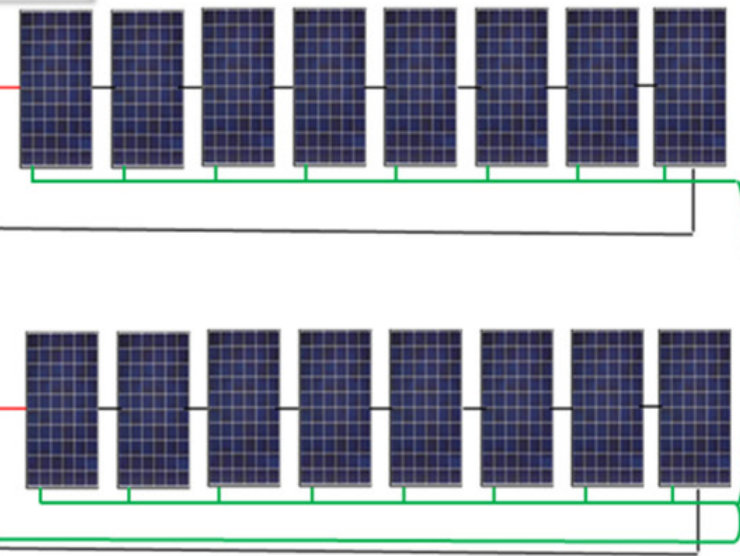
Overcurrent Protection of DC circuits
OCPD rated DC 110.3(A), 690.9(C) & (D)
PV Source Circuits & Output Circuits 690.9(A) & (B)
No OCPD in grounded conductor 690.9(E)

Grounding of Array
EGC requirements 690.43 & 110.3(B)
Fittings over 250 volts 250.97
Sizing and routing 690.45, 250.134(B) & 300.3(B)
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Point of Interconnection to AC
Point of Interconnection requirements 705.12
Supply Side 705.12(A)
Load Side 705.12(D)



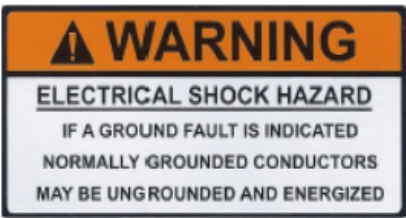

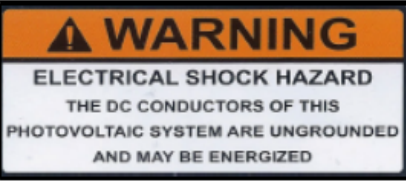

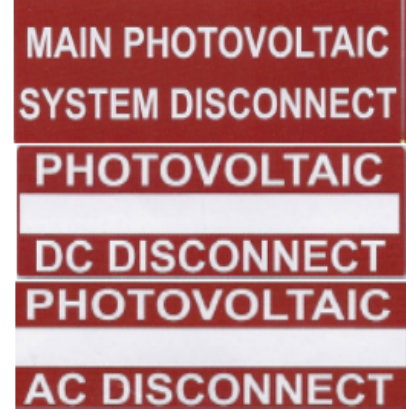
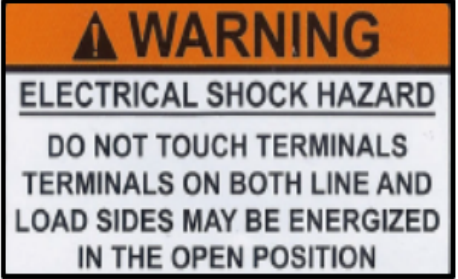

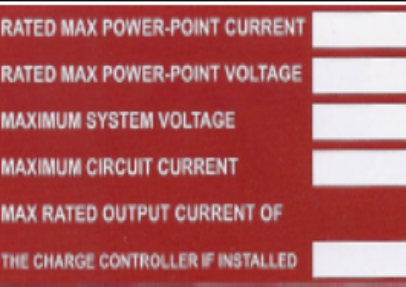



Supply Side Connection
Service Disconnect
Supply Side connection requirements 705.12(A), 705.31
Must meet the requirements for Service Disconnect
Grounding and Bonding per Article 250
Marking and Rating per Article 230



Wire Management and Conductors
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PV Dc conductor Color Coding 200.6, 210.5(C), 215.12(C)
Inside Building Metal raceway to first readily accessible disconnect 690.14, 690.31(G)
PV DC circuits sizing 690.8(A) (5)

See page provided for NEC labeling requirements

NEC Labeling Requirements

Section	Location of Label	Label Text and Appearance		Location of Label	Label Text and Appearance
690.5(C)	Shall appear on the utility-interactive inverter or be applied by the installer near the ground-fault indicator at a visible location		690.54	All interactive system(s) points of interconnection with other sources shall be marked at an accessible location at the disconnecting means as a power source and with the rated ac output current and the nominal operating ac voltage.	
690.35(F)	Shall be labeled with the following warning at each junction box, combiner box, disconnect, and device where energized, ungrounded circuits may be exposed during service.		690.56(B) 690.4(D) 705.10 705.12(D)(3)	A permanent plaque or directory, denoting all electric power sources on or in the premises, shall be installed at each service equipment location and at locations of all electric power production sources capable of being interconnected.	
690.13(B) 690.15	Each PV system disconnecting means shall be permanently marked to identify it as a PV system disconnect.		690.17(E)	Where all terminals of the disconnecting means may be energized in the open position, a warning sign shall be mounted on or adjacent to the disconnecting means.	
			705.12 (D)(2)(3)(b)	A permanent warning label shall be applied to the distribution equipment adjacent to the back-fed breaker from the inverter.	
690.53	A permanent label for the direct-current PV power source indicating the information specified in (1) through (5) shall be provided by the installer at the PV disconnecting means.		705.12 (D)(2)(3)(c)	Permanent warning labels shall be applied to distribution equipment	
			690.56(C)	Buildings or structures with both utility service and a PV system, complying with 690.12, shall have a permanent plaque or directory. Stating:	
690.31(G)(3)	The following wiring methods and enclosures that contain PV power source conductors shall be marked: (1) Exposed raceways, cable trays, and other wiring methods (2) Covers or enclosures of pull boxes and junction boxes (3) Conduit bodies in which any of the available conduit openings are unused		690.31(G)(3)	Where circuits are embedded in built-up, laminate, or membrane roofing materials in roof areas not covered by PV modules and associated equipment, the location of circuits shall be clearly marked.	