The PV Modules must have a small hole drilled in the frame. Then a wire must be threaded through each hole. The wire starts at the Apollo Cabinet at Connection “F” on the yellow Citel Surge Protection Device. The wires make a complete circuit and comes back to connection “C” on the same Citel device.
GROUND PV MODULE FRAMES

EARTH GROUND SYSTEM WITH RING OF GROUND RODS CONNECTED TOGETHER. EACH GROUND ROD CONNECTION MUST BE LESS THAN 5 OHMS.

PV ARRAY

Wire loop threaded through each PV module frame for theft alarm.

APOLLO COMBINER BOX

RUN WIRES IN CABLE TRAYS
RUN GND WIRE BACK TO OUR CABINET GND

STAGE 1: 75KA MOVs CITER DS72US-120G

STAGE 2: 20KA MOVs

STAGE 3: 10uH 50A COMMON MODE CHOKEs

STAGE 4: 5KA TRANSIENT VOLTAGE SUPPRESSORS

40KA MOVs ON 48V LOAD

APOLLO SOLAR PVT CABINET
48VOLT POSITIVE GROUND

MULTIPLE PV INPUTS FROM INDIVIDUAL COMBINER BOXES. APOLLO 50A SPD ON EACH PV INPUT.

APOLLO T86HV MPPT CHARGE CONTROLLER

50A +

50A 48V OUT TO LOAD

ALUMINUM CHASSIS GND

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1  BLOCK DIAGRAM FOR THE LOW CURRENT WIRING

As shown in the Block Diagram above, all system wiring from the location of the PV array is protected with a Surge Protection Device (shown in Yellow) as soon as it enters the Apollo Solar panel. The external wires are meant to be connected directly into the input terminals on the Citel SPDs. The Terminal labels shown on the Block Diagram should be followed.

2  WIRING OF LOW CURRENT INPUTS

23 F. J. Clarke Circle  
Bethel, Connecticut 06801 USA  
Apollo Solar, Inc.  
Phone: +1 203 790-6400  
www.ApolloSolar.com  
fax: +1 203 792-0300
The connection labels for the low current wiring is shown in the photo at the left.

The Citel SPDs are not upside down. The terminals dictate this orientation.

The Ground wires for the SPDs are all in place and must not be removed.

TORQUE VALUE FOR ALL CITEL DLAH SPD SCREWS = 0.5 N-m (4.4 in-lbs)