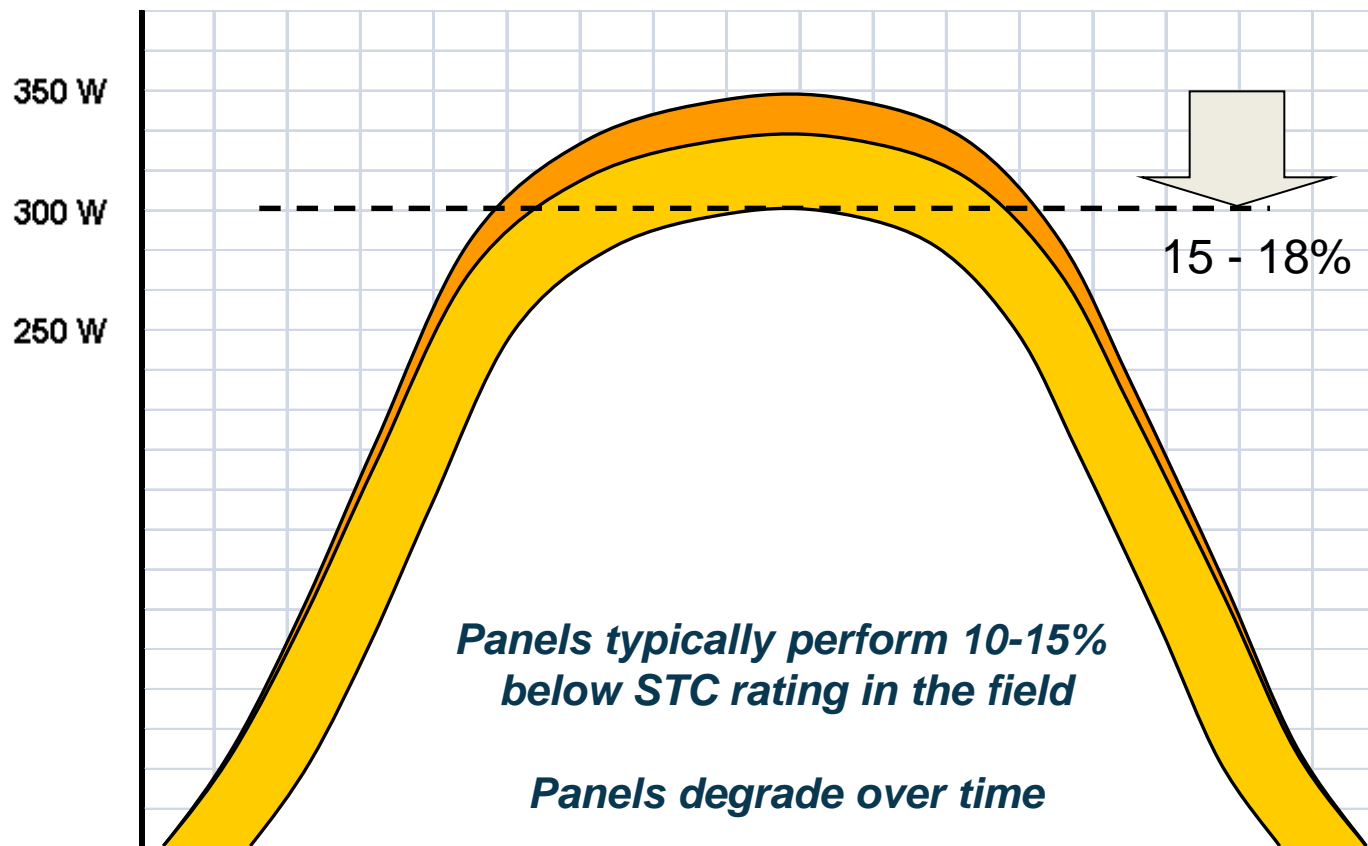


The logo for LeadSolar features the word "Lead" in a bold, black, sans-serif font, followed by "Solar" in a grey, sans-serif font. The letter "S" in "Solar" is replaced by a green circular icon containing a white sun with rays, and a grey curved line below it, suggesting a solar panel or a path.

LeadSolar

*LS-600 Microinverter  
Residential System Design*

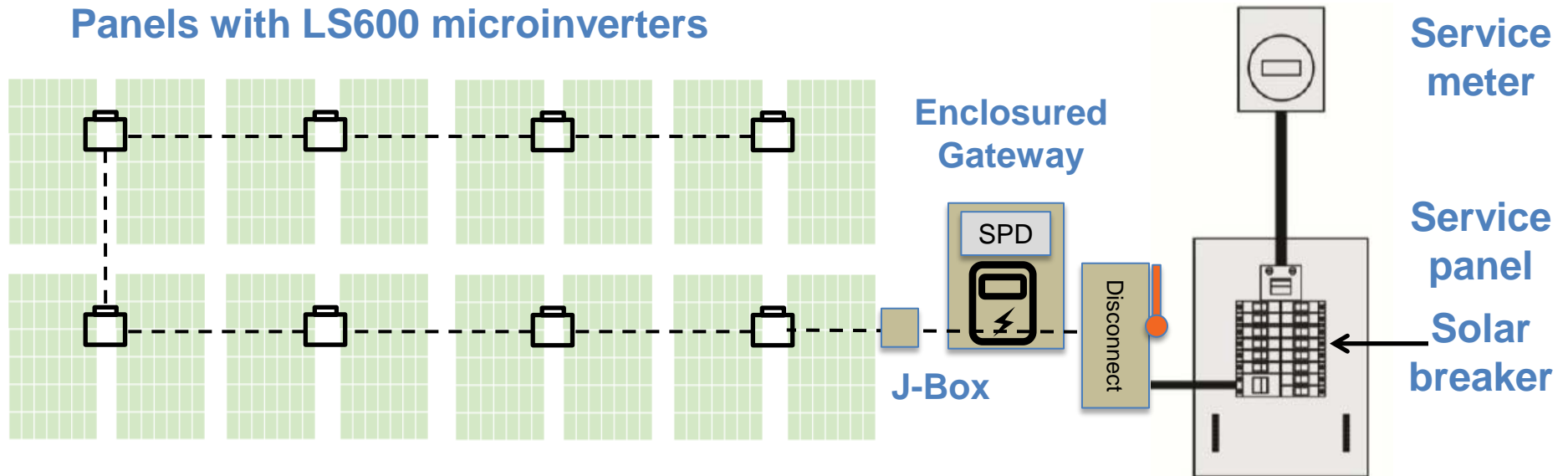
- Evaluate the site's energy needs to obtain the total kWh (kilowatt hours) needed for offset.
- Determine the PV DC system size using programs such as PVWatts. <http://pvwatts.nrel.gov/pvwatts.php>
- Select the PV panel. Optimal performance is obtained with STC 230-350W panels (60 or 72 cell) for LS600.
- Determine the number of panels needed:  
$$\text{DC kW system size} \div \text{STC panel rating}$$
- Determine the number of inverters required:  
$$\text{Panels} \div 2$$



Panels are typically oversized by 15-18% of inverter capacity with respect to their STC rating.

- Unlike string inverter based DC strings, LeadSolar microinverters connect to form AC branch circuits.

## Panels with LS600 microinverters

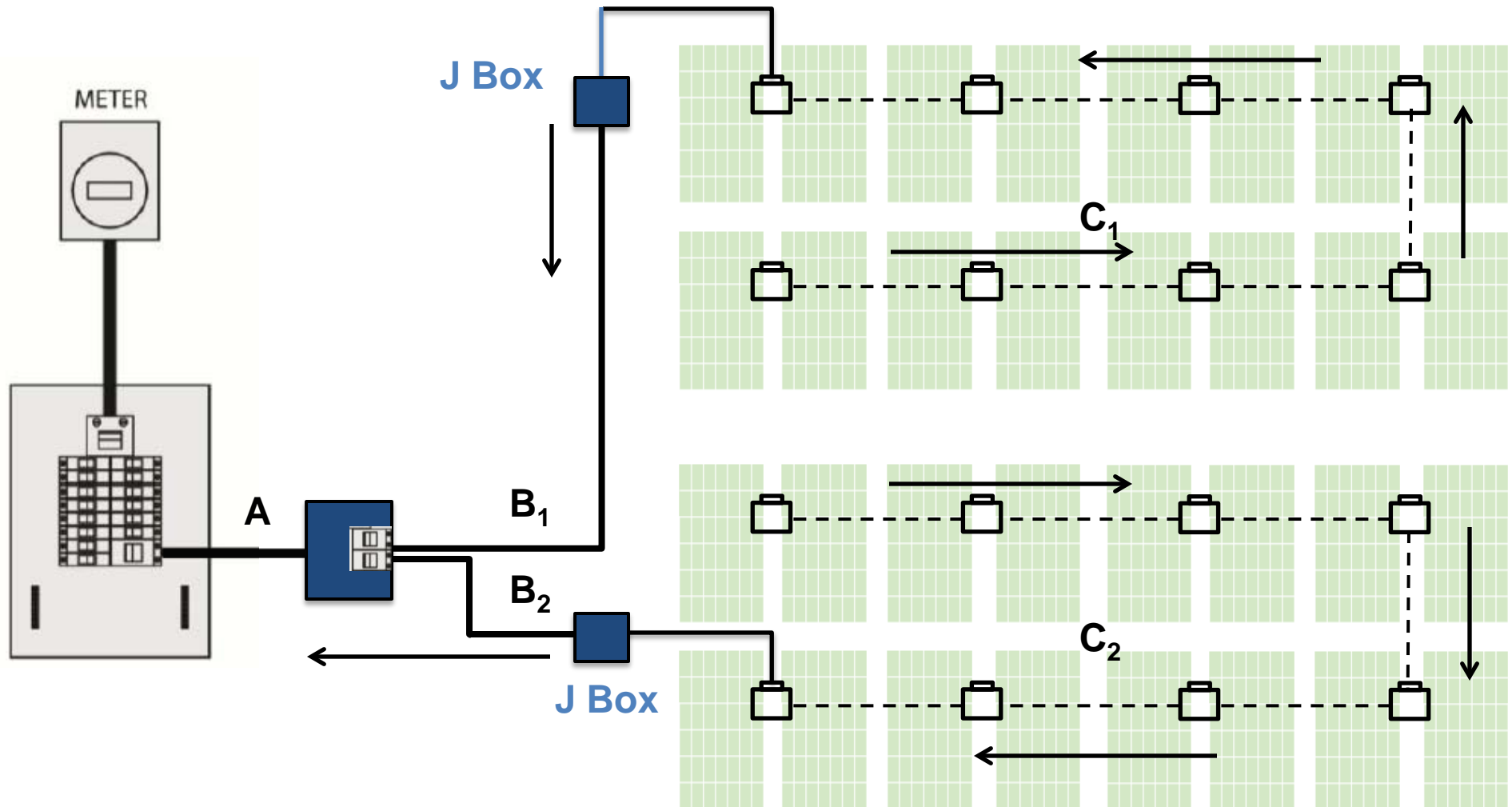


- For residential applications, LeadSolar recommends the panels be configured into 20 A branch circuits.
- This will support up to 16 panels (8 microinverters)
- A 15A breaker can support 6 microinverters.
- LeadSolar also recommends installing a Surge Protection Device

- 100 A service panel  $\Rightarrow$  supports one 20 A branch circuit
- 200 A service panel  $\Rightarrow$  typically supports two 20 A branch circuits\*
- Dual branches to be combined in a subpanel with a 40 Amp. breaker in the main service panel.
- Micros are sequentially connected directly or via an extension jumper if additional length is needed.
- The last micro in the branch terminates with an end cap.
- The PV system and electrical connections must be described by a Single Line Diagram (SLD).

\*Additional branch circuits requires either 225V bus bar , downsizing main breaker, or use of a Generation Meter Adapter on supply side of electrical panel.

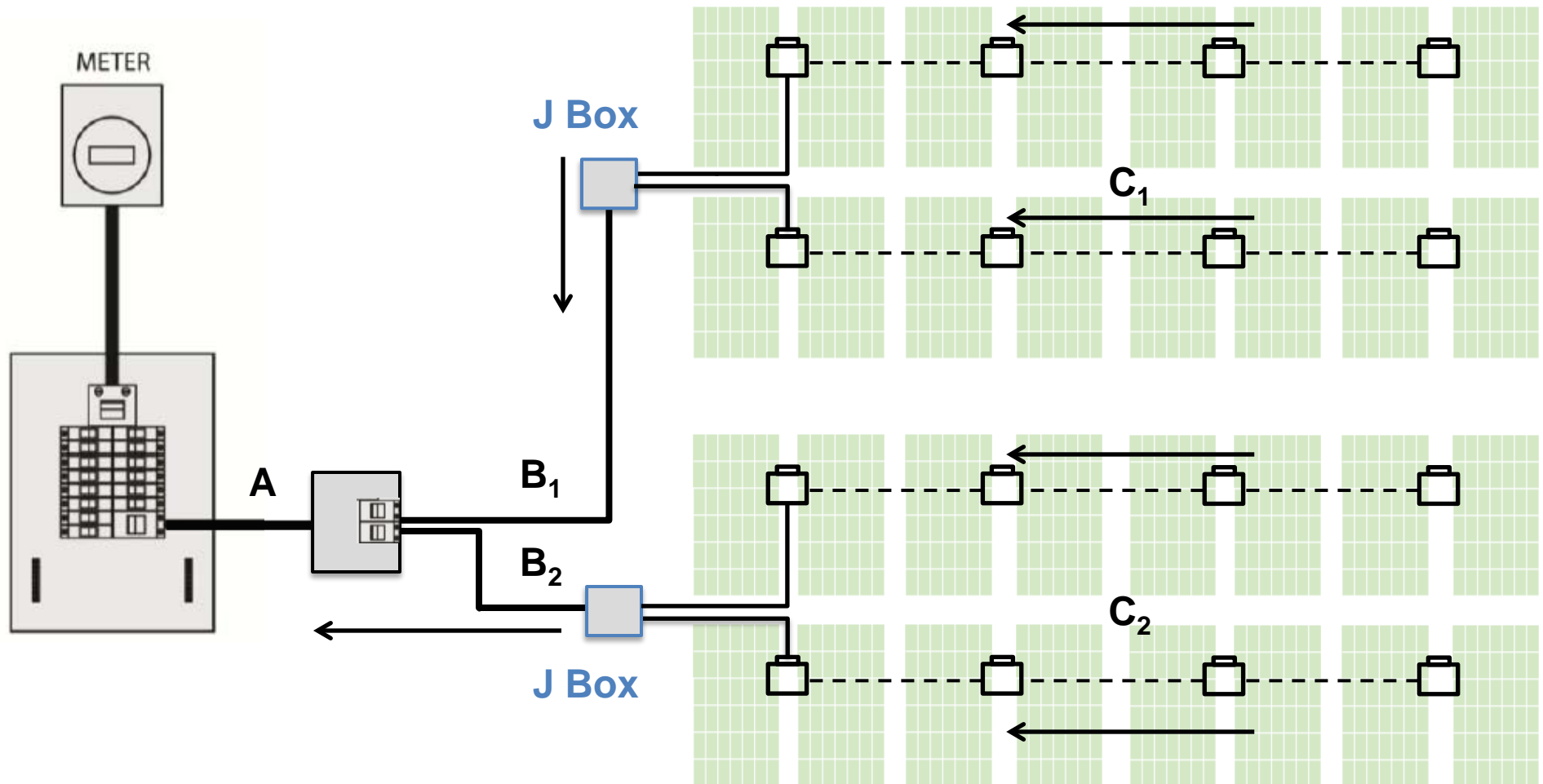
# Voltage Rise



Total of all voltage rises from last inverter to main service panel for each branch must not exceed 2%:  $A + B_1 + C_1 < 2\%$  and  $A + B_2 + C_2 < 2\%$

For full branches  $A + B : < 50$  ft for #12 AWG or  $< 75$  ft for #10 AWG

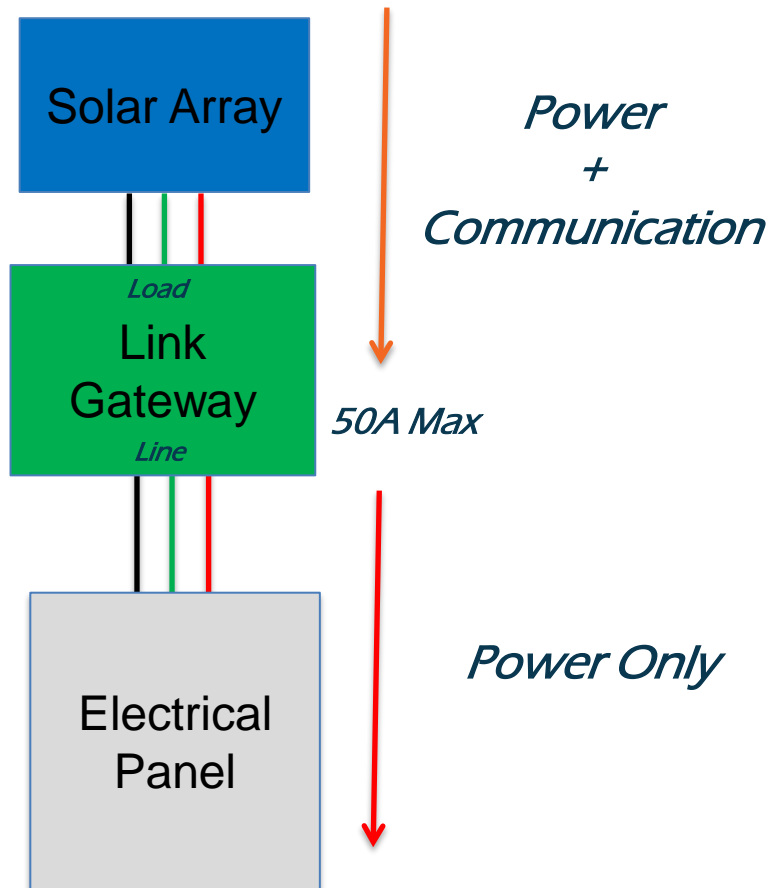
# Voltage Rise – Center Tap



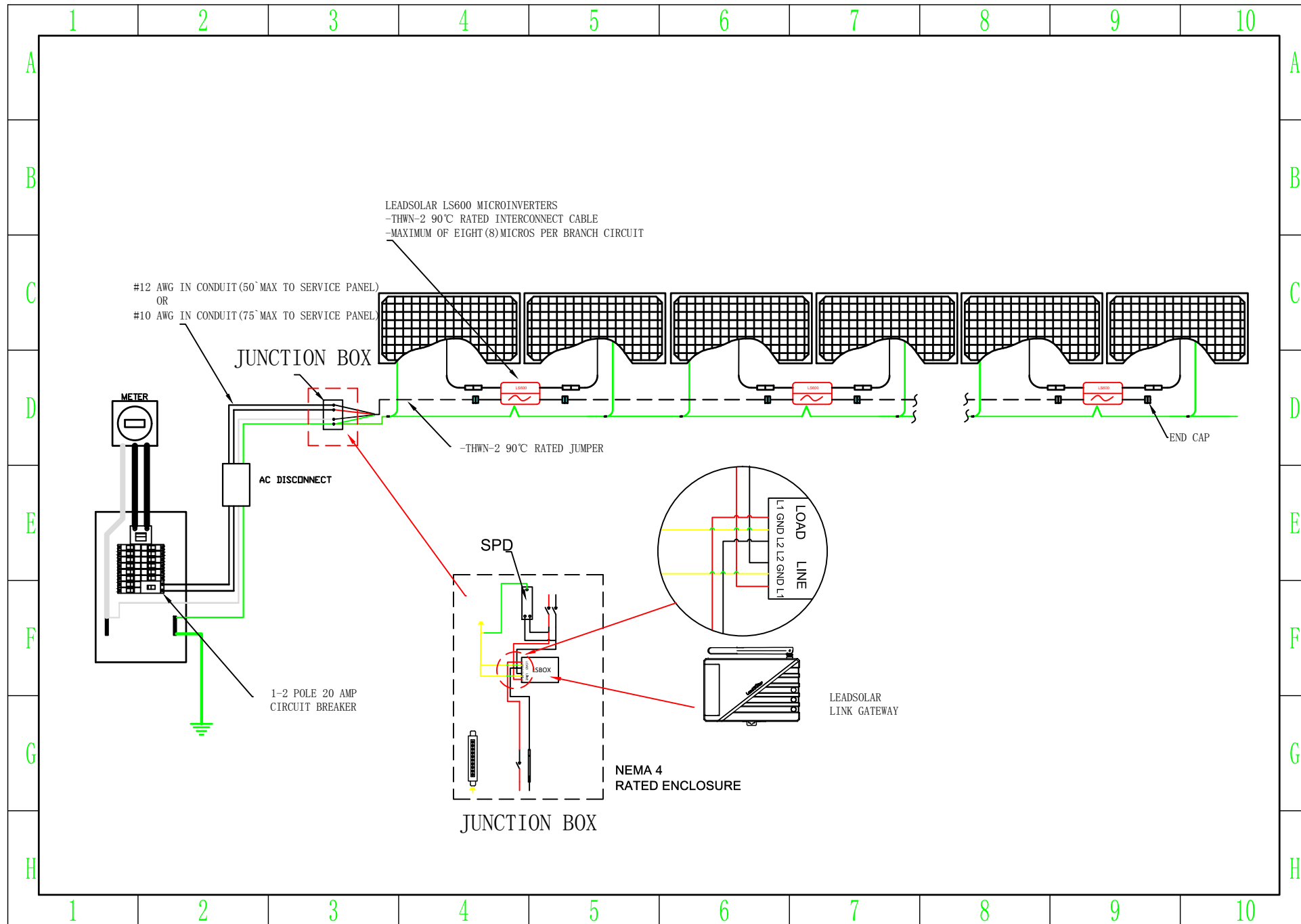
For full branches and  $A + B > 75$  ft, center tap to the branch circuits and #10 AWG recommended (up to 100 ft).

# Gateway installation

- Link Gateway installed in series with array
- Supports up to 50A thru current (25 micros)







LEADSOLAR LS600 MICROINVERTERS  
 -THWN-2 90°C RATED INTERCONNECT CABLE  
 -MAXIMUM OF EIGHT (8) MICROS PER BRANCH CIRCUIT

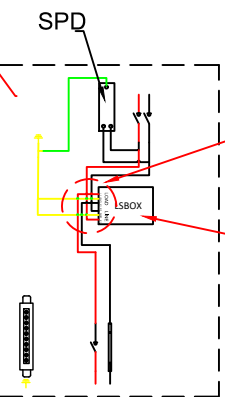
#12 AWG IN CONDUIT (50' MAX TO SERVICE PANEL)  
 OR  
 #10 AWG IN CONDUIT (75' MAX TO SERVICE PANEL)

JUNCTION BOX



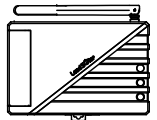
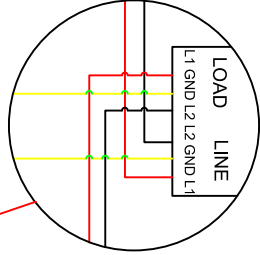
AC DISCONNECT

1-2 POLE 20 AMP  
 CIRCUIT BREAKER



NEMA 4  
 RATED ENCLOSURE

JUNCTION BOX



LEADSOLAR  
 LINK GATEWAY

-THWN-2 90°C RATED JUMPER

END CAP

