

Plug-in Solar

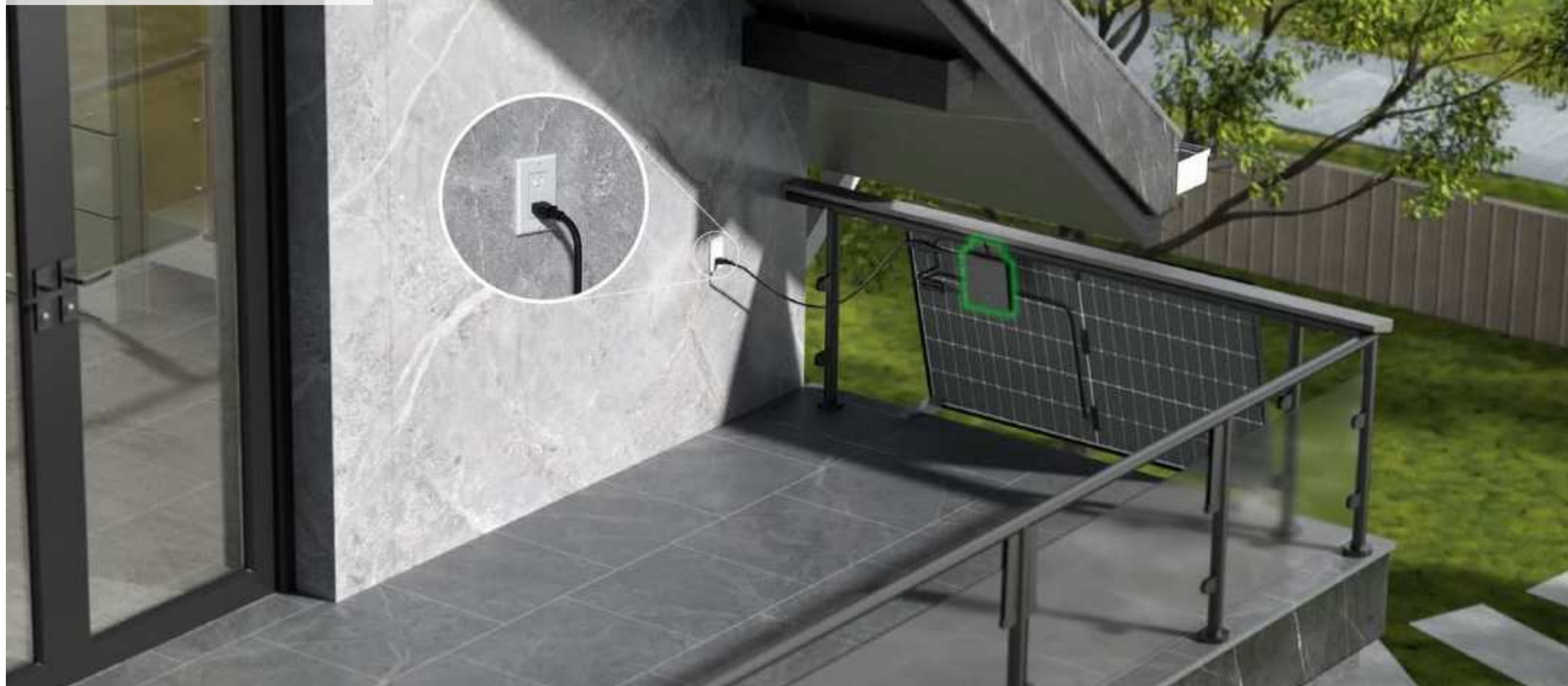
Presented to the
Alberta Renewable Energy Alliance

by Steven Fahey, October 2026



Plug-in Solar

or “Balcony Solar”
or “Plug-in PV”



Plug-in Solar

- How it works
- What devices can be used
- Is it allowed?
 - Where? When?
- Who is using it?
- Safety questions
- Innovation opportunity

I think this will be coming to Canada (and Alberta) fairly soon, so I want people to be aware of it and able to take advantage of it when it does arrive.

Plug-in Solar

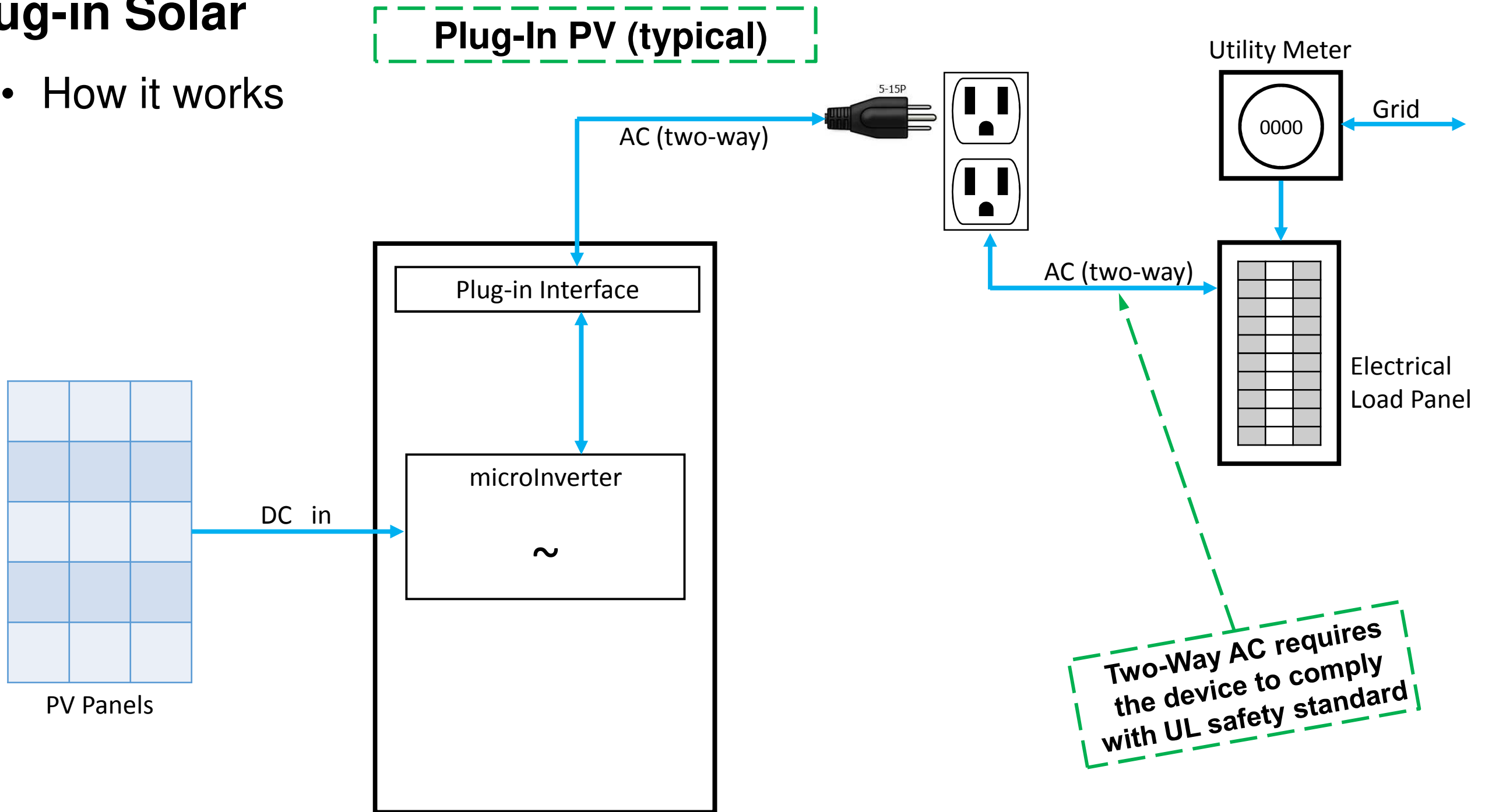
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Refer to ANSI Y14 for interpretation.						Sparweb Aeronautics Inc. www.sparweb.ca Calgary Canada	
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0	07 OCT 2026	INITIAL ISSUE	S. FAHEY	R. HALL	A. HOGG	NONE	0
REV.	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED	Drawing Number	
VERSION CONTROL						1 OF 1	

Plug-in Solar

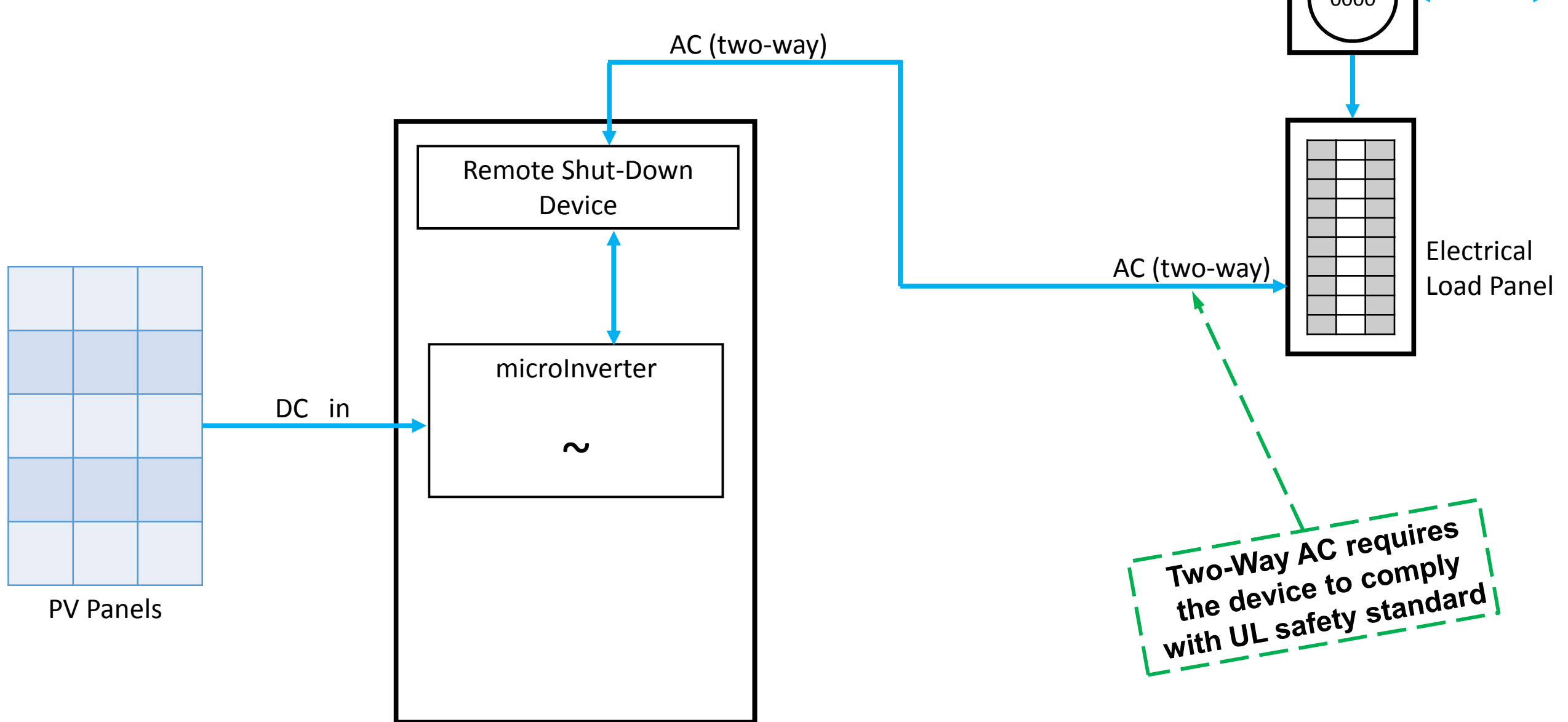
- How it works



Plug-in Solar

- How it works

Hard-Wired PV (typical)

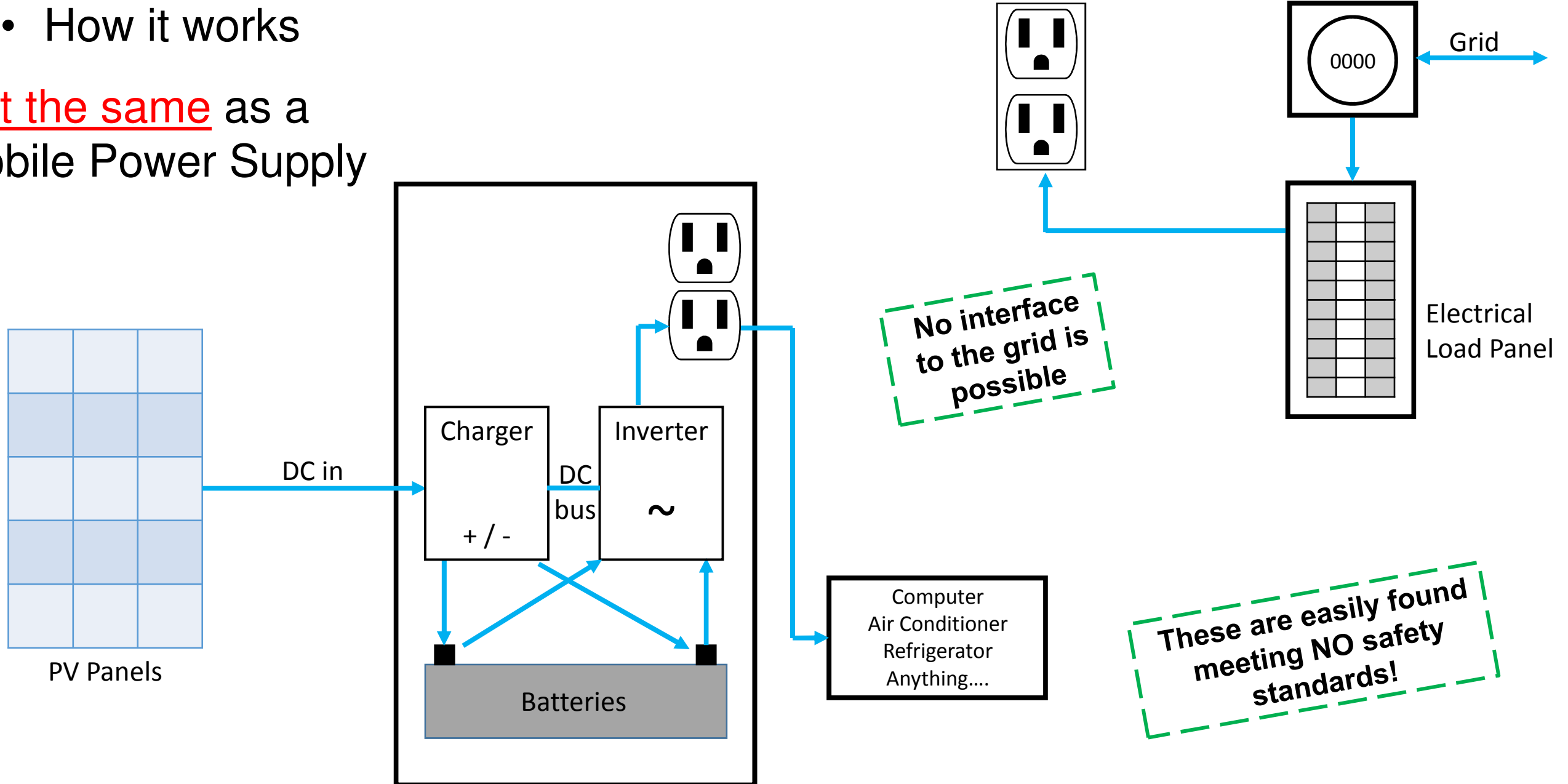


Plug-in Solar

- How it works

Not the same as a
Mobile Power Supply

Portable PV / Inverter

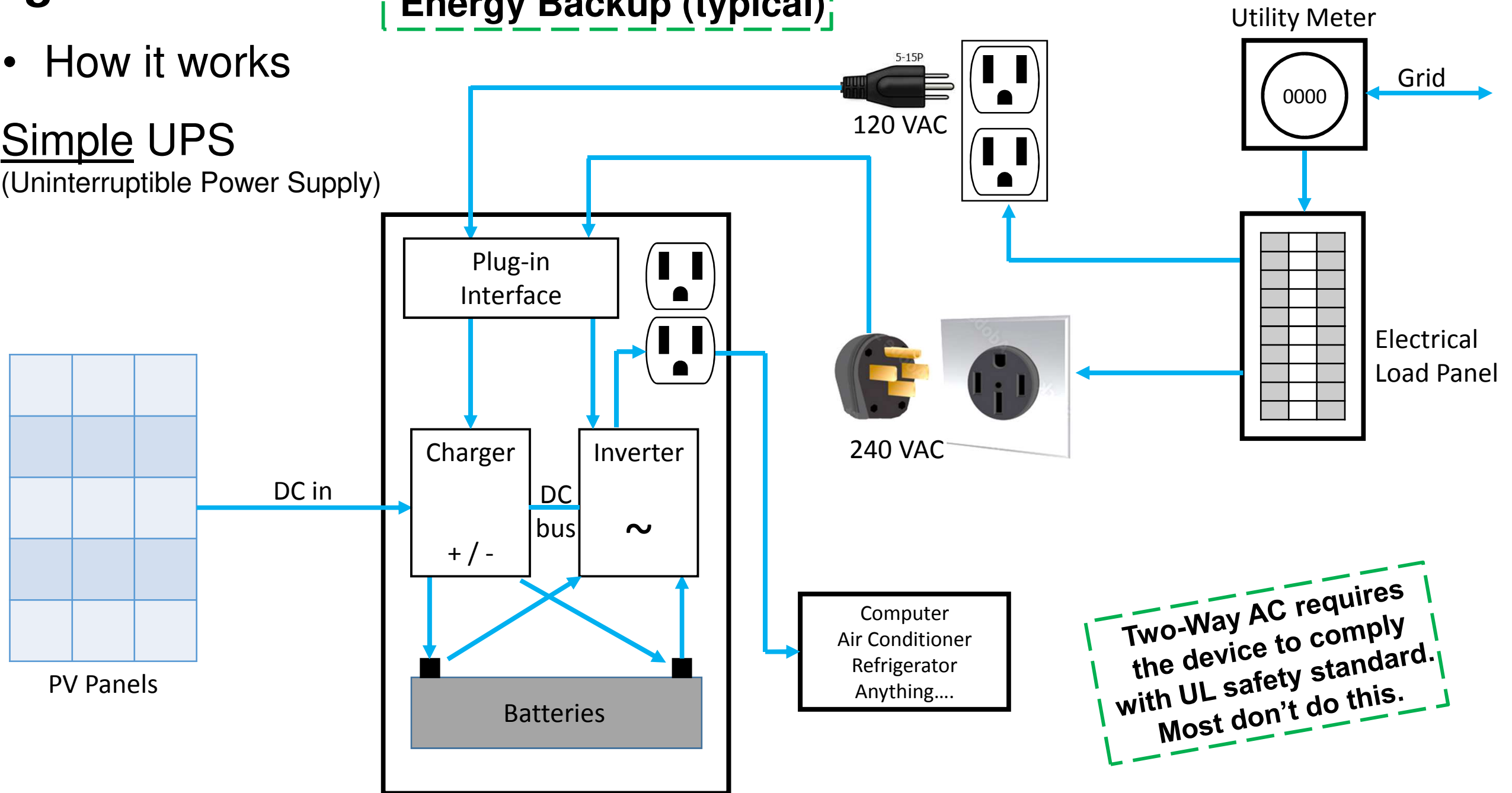


Plug-in Solar

- How it works

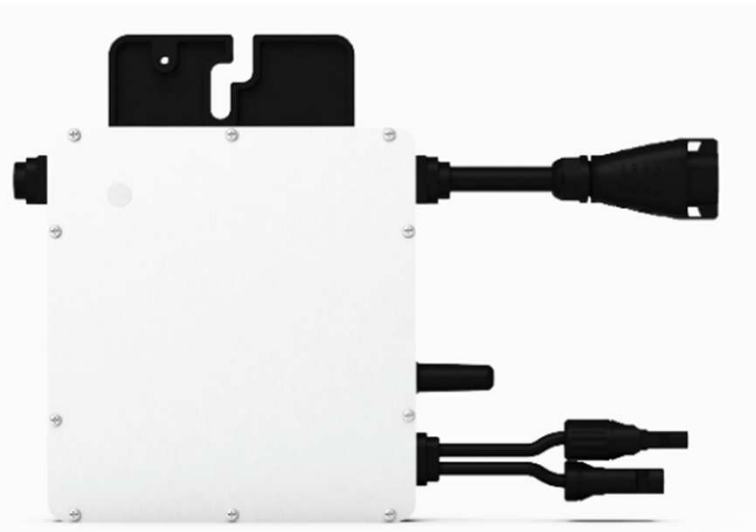
Simple UPS

(Uninterruptible Power Supply)



Plug-in Solar

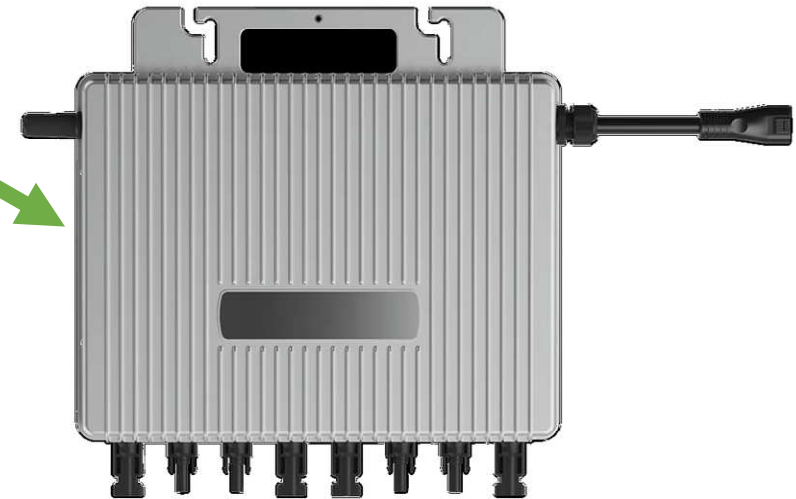
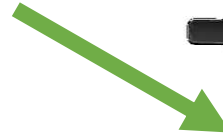
- What devices can be used



This gets changed to this



Yea, see the big difference??



Manufacturers	Plug-in PV Exports to Grid	Hard-Wired PV Exports to Grid	UPS Export to Grid?
AP System	EZ1	QS1, DS3	QS1 + ELT (yes)
Hoymiles	HiFlow	HM, HMS series	HAS + LB10D (yes)
Northern Electric	BDM-1200-LV	BDM-500/-2000	- -
EcoFlow	Stream	- -	Delta (NO)

(not an actual endorsement of these products)

- - ignoring equipment designed and sold in the EU, which is not compatible with North America.

Plug-in Solar

- Is it allowed?
 - Yes, especially in Europe, now hit by record high electricity prices:
 - Since 2019, Germany had a national law enabling “balcony solar”.
 - The UK passed a national law enabling it this year.
- In the USA, states have more powers:
 - State powers control interconnection to the grid. *(Like our provinces do)*
 - Utah passed the first plug-in solar law in 2025.
 - ~~4~~ 5 / 6 other US states have done the same in 2026 (and counting).
 - Dozens of other states are in the process, due to complete in 2027.

Plug-in Solar

- Is it allowed?
 - Canada and its provinces have not enabled Plug-in Solar, yet.
 - There is a petition to get the provincial and federal governments to start.
 - <https://www.pluginsolarpower.ca/>
 - Please visit their site and give them your encouragement.
 - Sign the petition, and send a pre-formatted letter to your MLA.
- Provinces can enable the exemption to feed-in regulations.
 - In Alberta, a change (or exemption) to AUC Rule 24 is needed.
- The federal government can facilitate the creation of new standards.
 - CSA standards, based on the US example (Underwriter's Labs).
 - This process may already be under way:
 - <https://scc-ccn.ca/standards/notices-of-intent/ul-standards-engagement/standard-safety-interactive-plug-pv-pipv>

Plug-in Solar

- Who is using it?
- About 1 million people in Germany have registered a plug-in Solar unit.
- Balcony solar is often more subtle than a professionally installed array.
- You can find it by sneaking around Google street-view.



Meanwhile...

- There are neighborhoods in Germany where every 4th roof has solar panels.
- There are also MANY apartment blocks with roofs covered in solar!
- You know solar is a hit when the landlords want solar on their buildings.

Plug-in Solar

- Who is using it?

Before plug-in solar, the only people who could benefit from installing solar on their homes were people who OWN their homes.

- People who rent houses/apartments, even condominium owners, had few options
- Community organizations also become obstacles to installing solar.
 - Home-owner associations
 - Condo boards
- They have to balance many interests, making solar hard to support.
- Landlords expect to get all of the benefits of a professional solar installation.
 - Because they own the building, not the tenant, and the solar installation is a permanent part of the building, once installed.

Plug-in Solar

- Who is using it?

Changes to law are needed to enable Plug-in Solar technology.

Many barriers have already been put up against installing solar.

Changing laws means that “you cannot forbid” Plug-in Solar.

- Renters can bypass the landlord.
- Condo owners can bypass the HOA.
- Tenants of apartments usually have electric needs 1/2 to 1/3 of owners of a fully detached house. A smaller solution is suitable for their needs.
- People who own houses and want to offset most or all of their electricity use will still benefit from a professionally-installed large array.

QUESTIONS?

