

ZERO EXPORT

- ✓ Zero backfeed
- ✓ Zero risk
- ✓ Total compliance

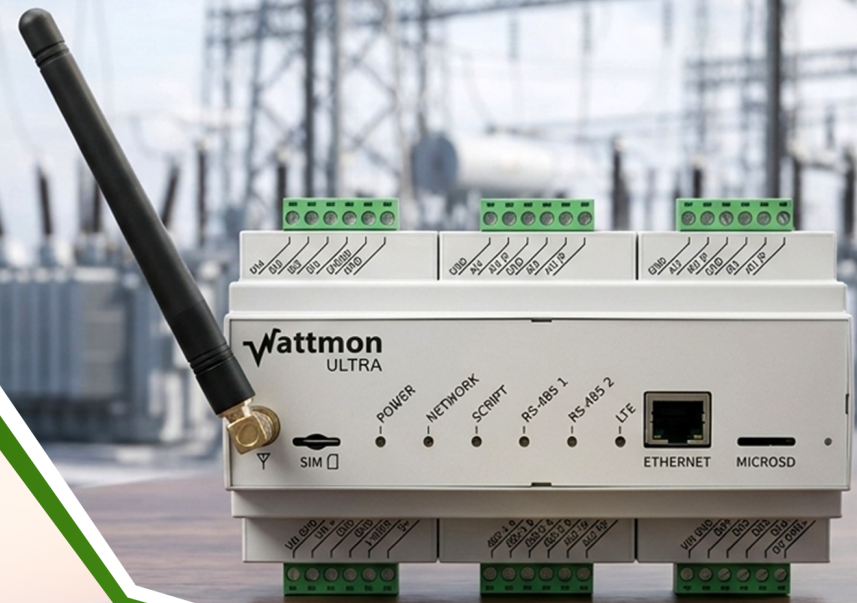


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01 Zero Export Overview

A power-controlling device that ensures that the excess power production from the solar plants does not go back into the grid is called a zero-export device, or ZED for short.

Zero Export Devices are installed at the solar plants where the plant owners do not have the approval to backfeed excess solar production to the grid from their DISCOM.



02 ZED Product Range



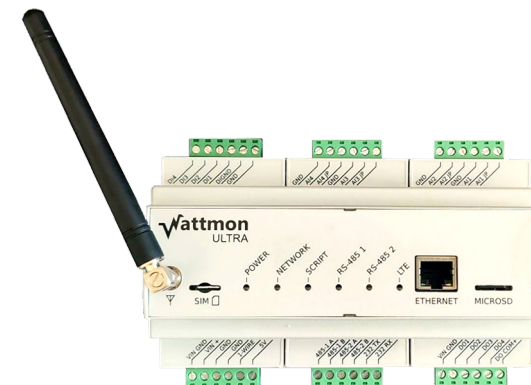
LAN Only



4G Only



LAN & 4G
Combo



LAN, 4G & WIFI

[Datasheets Link](#)

03 Why Zero Export

Traditional Solar plants are often designed to send excess power back to the grid.

- » **Client Pain Point:** Unwanted export leading to reduced ROI or compliance issues.
- » **Regulatory Hurdles:** Net metering policies are changing, export charges, and limitations exist in some regions.
- » **Grid Limitations:** Overload, voltage fluctuations, safety concerns for utility workers.

04 Working Mechanism

Key Components

- » **Solar Inverter(s):** Modern solar inverters that can communicate with an external ZED via MODBUS.
- » **Current Transformers (CTs)/Smart Energy Meter:** The system's 'eyes' are CTs (Current Transformers) or a smart bi-directional meter, precisely measuring real time power flow where your site connects to the grid.
- » **Zero Export Device (ZED)/Controller:** This is the "brain" of the system. It's a microcontroller or dedicated device that receives data from the CTs/meter and communicates with the solar inverter(s).

Step-By-Step Zero Export Mechanism

1. Monitor Power Flow:

Current Transformers (CTs) or a smart meter are installed at your main grid connection point. They continuously measure whether your site is importing power from the grid or potentially exporting power to it.

2. Analyze Data:

The Zero Export Device (ZED) receives this real-time data. It compares the solar power being generated with your site's immediate power consumption.

3. Command Inverter:

If the ZED detects that solar generation exceeds your site's load (meaning you're about to export power), it instantly sends a "throttle down" command to the solar inverter.

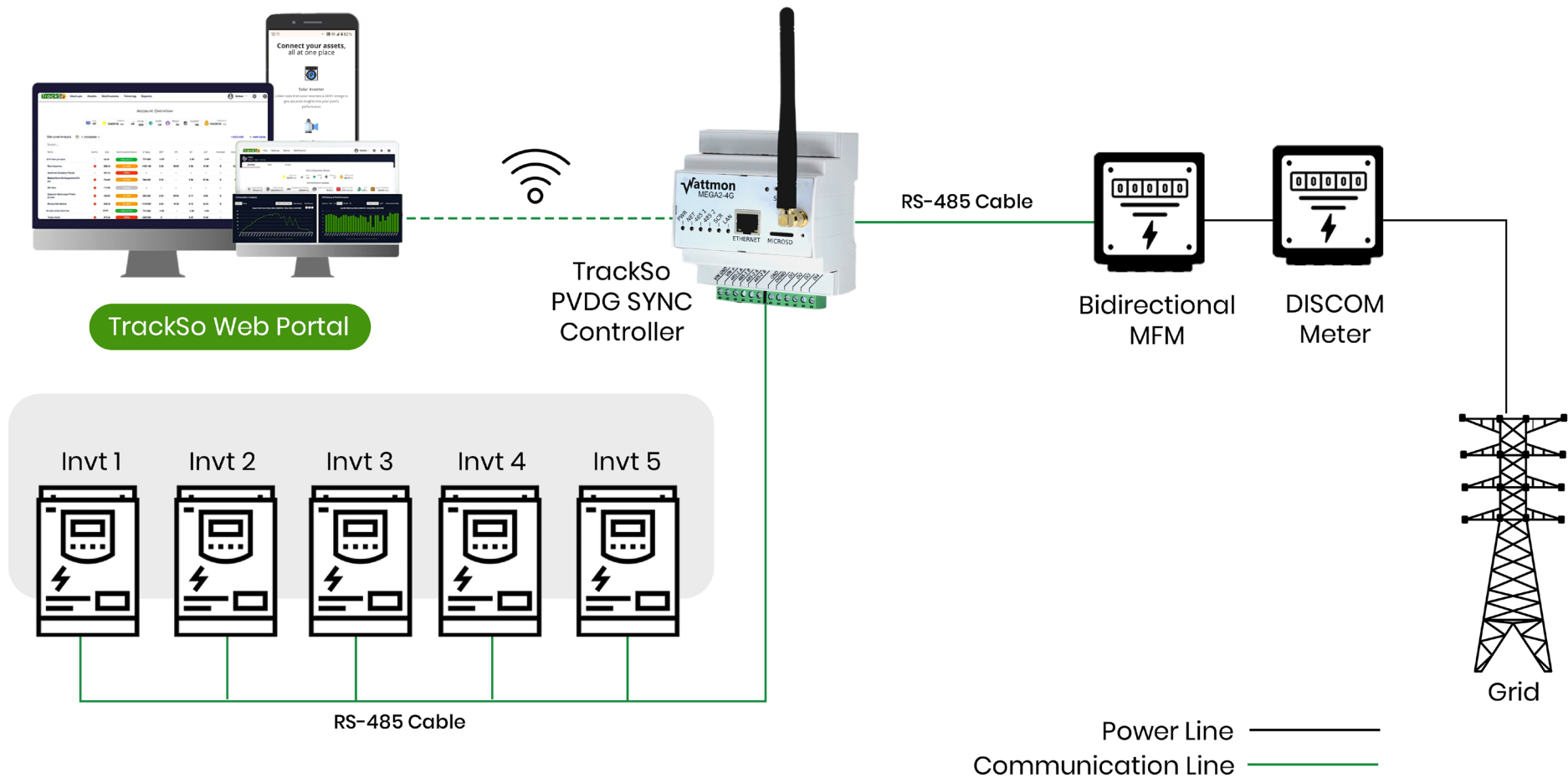
4. Maintain Balance:

This process is continuous and dynamic. As your site's power demand fluctuates throughout the day, the ZED constantly adjusts the inverter's output to ensure all solar power is consumed on-site, maintaining a perfect balance with zero export.

5. Data Sending and Storage:

The ZED not only controls inverters but also collects data from the solar plant and sends it to the TrackSo dashboard for remote monitoring. In cases where the data needs to be stored locally, TrackSo ZED has inbuilt storage for the same.

Single line Diagram



05 Features

- » **Precise Power Management:**
Highly accurate measurement and control.
- » **Scalability:**
Adaptable for various system sizes (from commercial to industrial).
- » **Compatibility:**
Works seamlessly with major inverter brands.
- » **Remote Management:**
Access system performance and adjust settings remotely.
- » **Data Reporting:**
Along with zero grid export control, get comprehensive insights into energy generation, consumption, and savings.
- » **Robust Hardware:**
Built for long-term performance in diverse environments.

06 Benefits

Guaranteed Compliance:

Avoid penalties due to the export of power to the grid.

More Profits:

Maximized ROI from solar investment.

Cost Savings:

Reduced solar plant operational costs. And most importantly, get your peace of mind.

07 100+ Compatible Brands

 Green and Effective		 powering tomorrow	 your solar engine	 SHIFTING THE LIMITS
		 new energy		 Power and productivity for a better world™
		 One with the Sun		
				
				

08 Case Study

Problem Statement:

The solar plant with 250 kW DC capacity with 5 inverters, was stuck in the final stages of commissioning as the net metering wasn't approved. And if EPC waited for the approval, the client would have lost thousands of units of production.

Struggles:

No support from the inverter manufacturer
Approval from DISCOM was uncertain

Solution:

Comprehensive TrackSo ZED setup

Hardware Integration:

Installed the ZED, which was connected to the inverters, grid MFM(bi-directional), which smartly monitored and controlled the generation of the inverters as per the load requirements and prevented excess power from back-feeding into the grid. (Check the diagram)

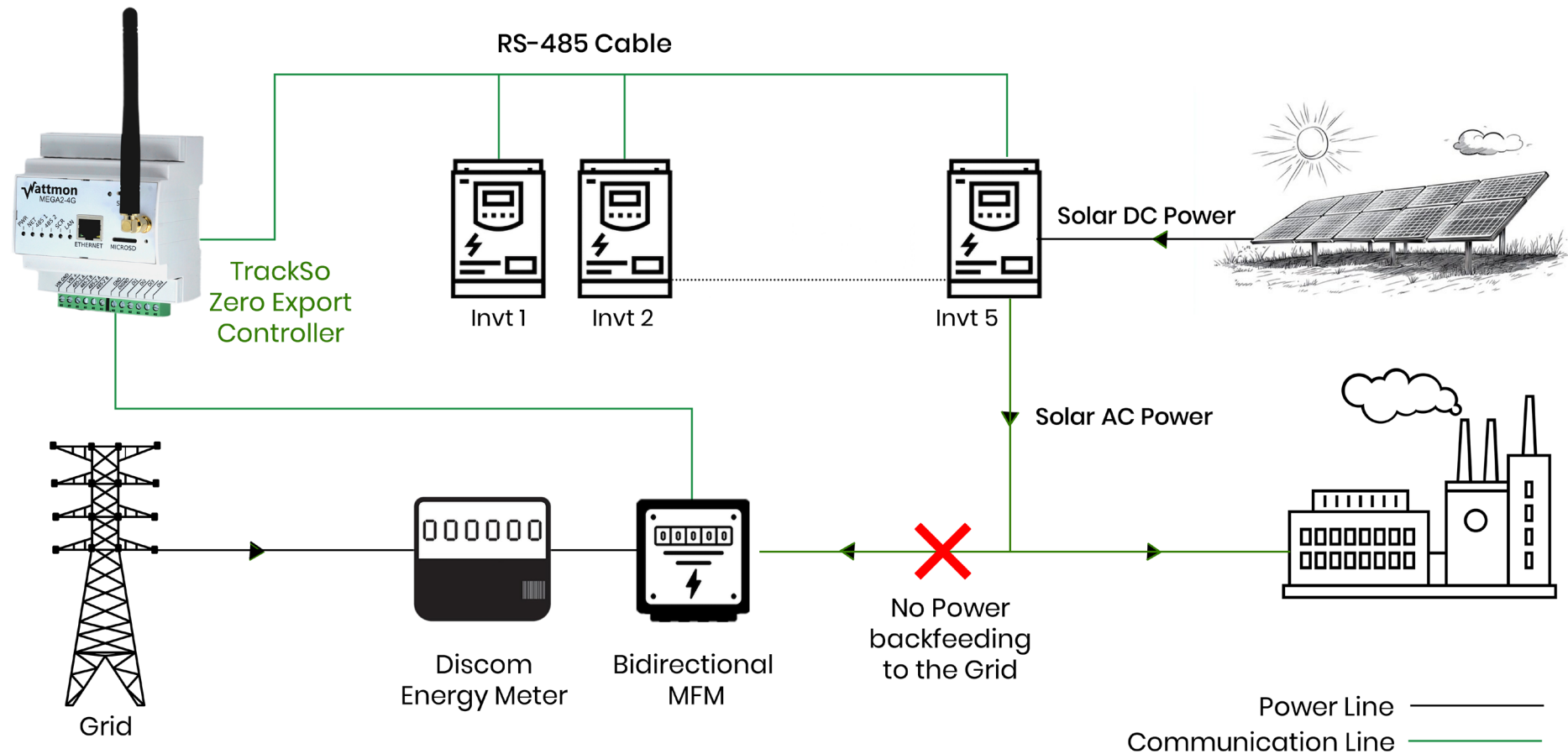
Dashboard Integration:

TrackSo's centralized dashboard helped to unify the data from all the multiple brands of inverters, meters, and WMS in one single portal, which made it easier to analyze everything.

Proactive Alerts:

Instant alarm notifications via SMS/Email were set up to ensure timely updates of plant failures.

Diagram



Results:

TrackSo's ZED successfully prevented any unwanted export of solar power to the grid, ensuring full compliance with local regulations and saving approx INR 35000 per month in penalty.

THANK YOU

CONTACT US

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