



Solar power conversion and data solutions for safety, performance and best lifecycle cost



C&I Inverter, Data for complete RSD Solution

September 2023



www.northernep.com



NEP Expanded RSD Solution

Inverters – “NEPTUNE” Platform

RSD Ready C&I inverters

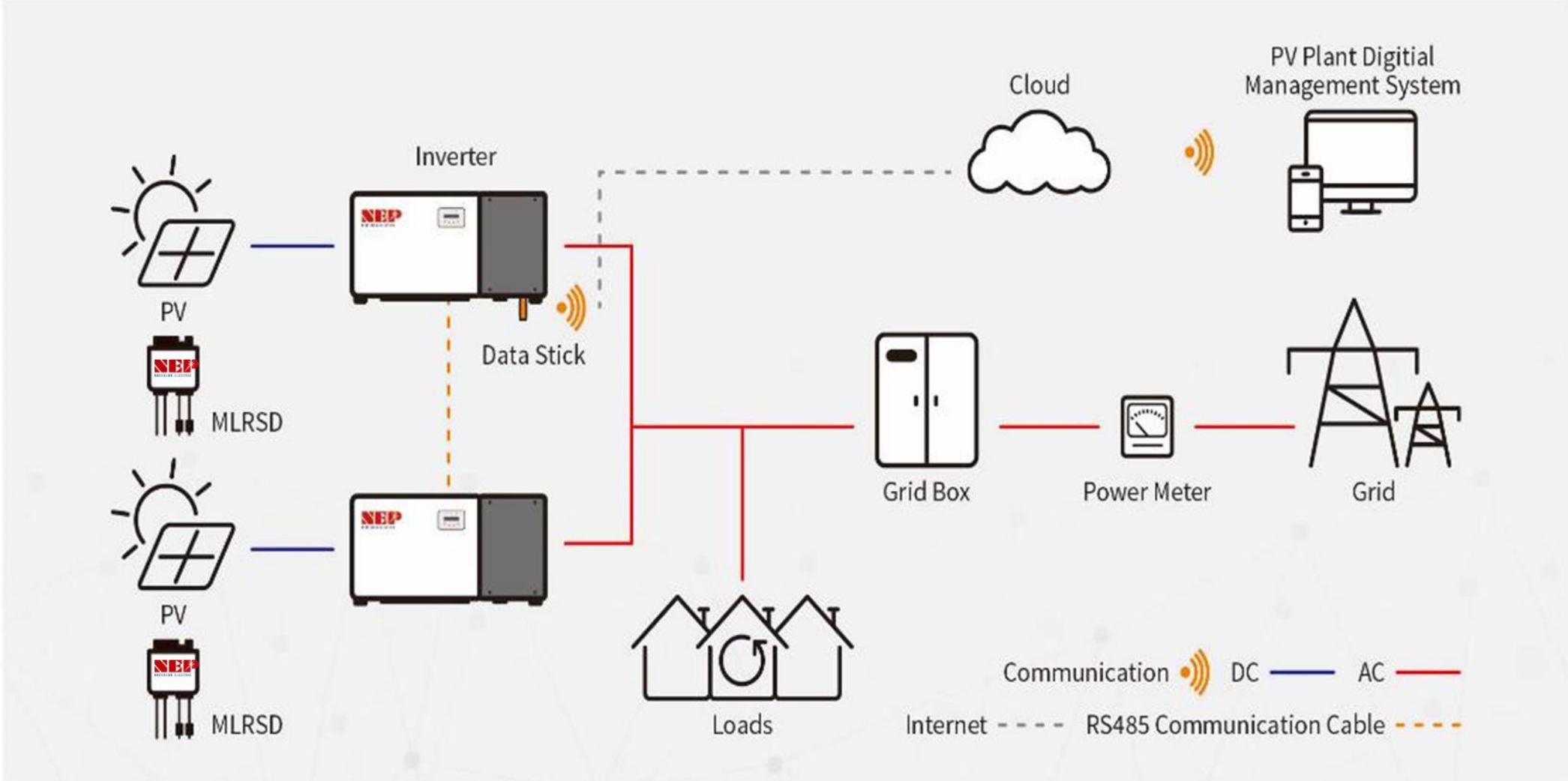
Data, Communications – “Galaxy” Solutions

Hardware

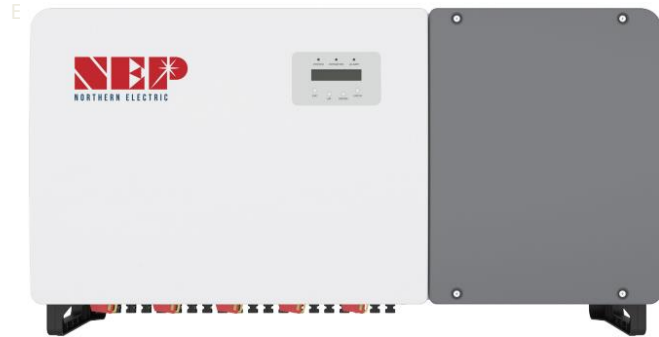
Integration

Smart phone and Web data

Complete RSD + Inverter + Data Solution... All from NEP



Inverters for any and all C&I Rooftops

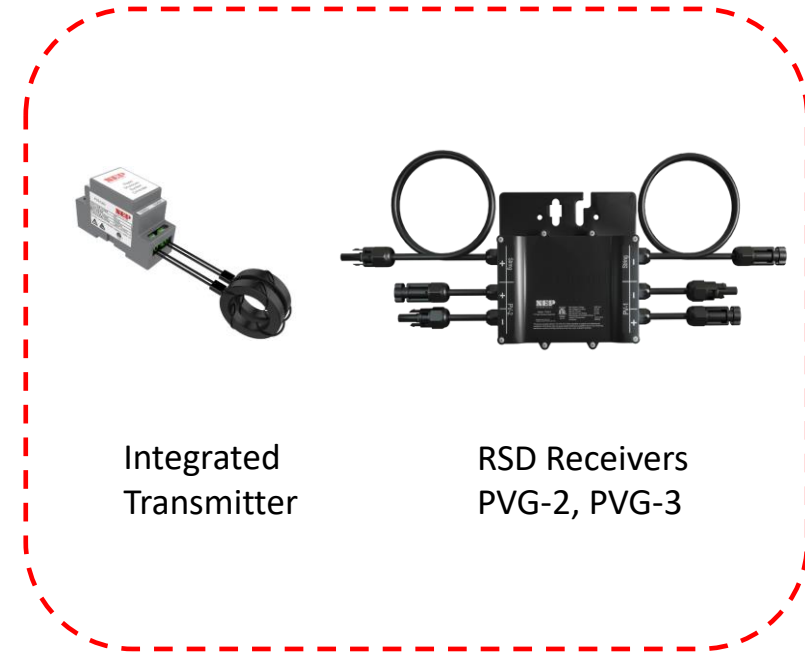


NEP-75KW
NEP-100KW

+



NEP-33KW
NEP-50KW
NEP-30KW-208Vac



Integrated
Transmitter

RSD Receivers
PVG-2, PVG-3

- Elegant wire-box integration of NEP transmitter
- NEP Gateway inside wire-box
- No supplemental RSD related enclosures necessary
- NEP warranty wrap

NEPTUNE 75KW, 100KW

Flexible, Efficient

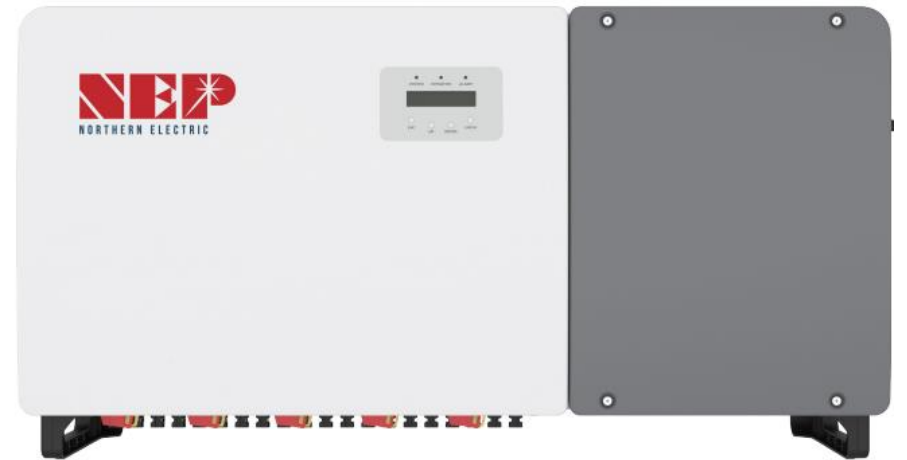
- High Power level, in one unit – up to 150kWdc
- 10 MPPT's per 100kW
- 8 MPPT's per 75kW
- Maximum efficiency 98.8% (CEC efficiency 98.3%)
- Up to 150% DC/AC ratio
- 32A Max input current for high power modules

Smart

- Intelligent string monitoring, smart I-V curve scan
- Remote firmware upgrade with simple operation

Global Inverter Leader Partner with NEP

- Solis, #3 world wide



NEPTUNE 75KW, 100KW

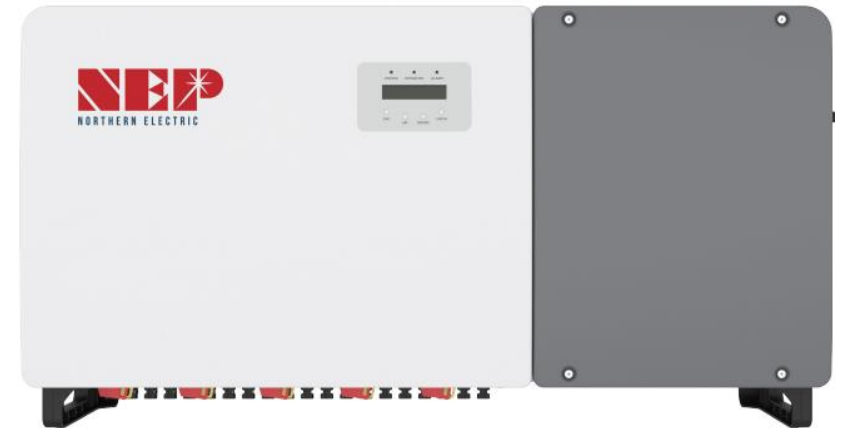
Tough and Safe

- Type 4X, C5 Anti-Corrosion Level
- Built-in PID recovery for better module performance
- AFCI protection, proactively reduces fire risk
- Globally recognized component brands for longer life

Economical

- DC side supports "Y" connector
- Support aluminum wire to reduce cost
- Approx. 3.3 Cents/Wdc, DDP NEP USA NEP warehouse

USA Inventory Nov, 2023



NEP-33KW

NEP-50KW

NEP-30kW-208Vac

USA Inventory Dec, 2023

Similar Features, compared to 75/100kW Models

High Efficiency

6-8 MPPT's

UL1741-SB etc.

Fully integrated NEP RSD Transmitter

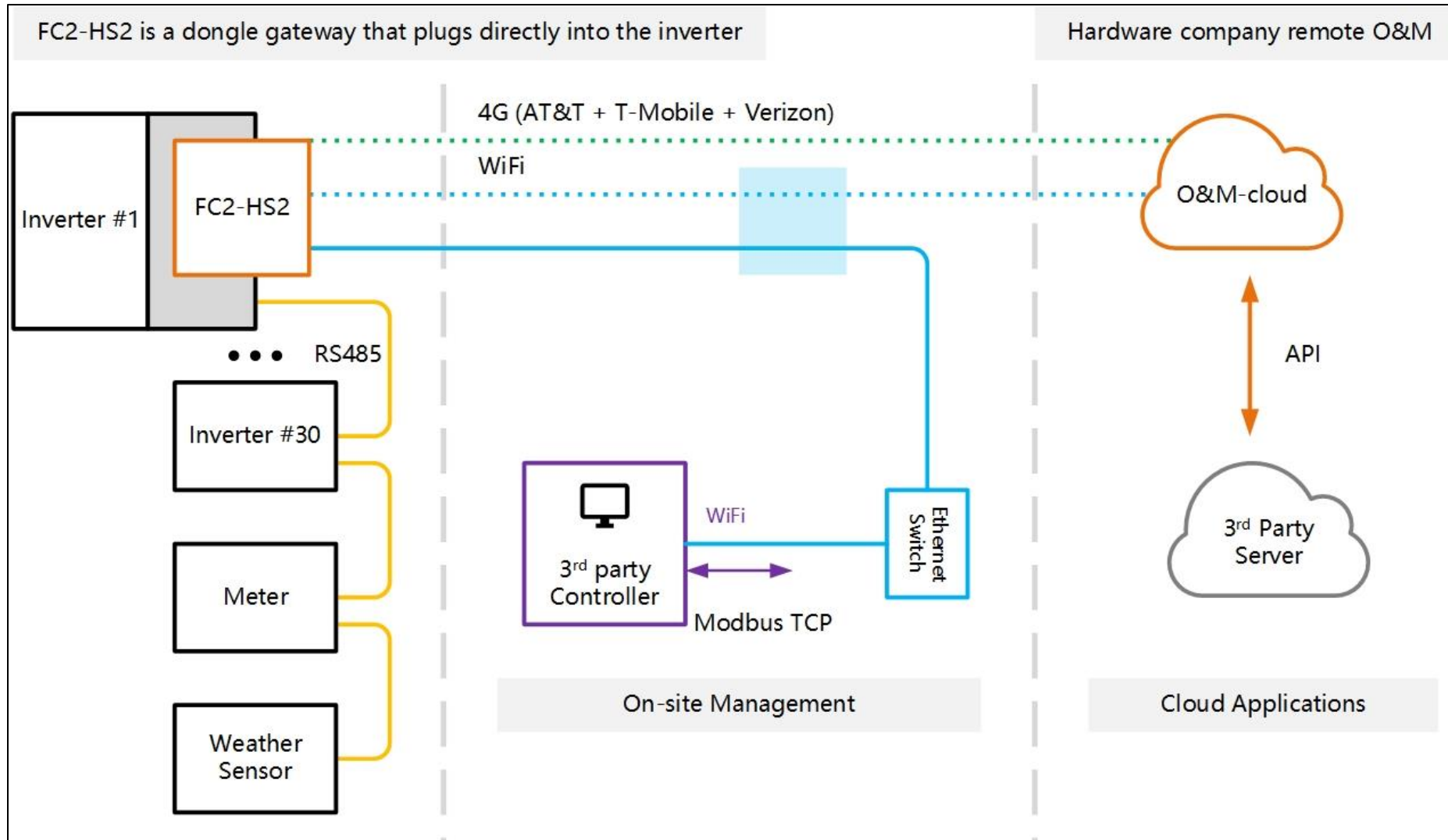
Integrated Data Gateway

Integrated optional Cellular connectivity

High power, 30kW with 208Vac output



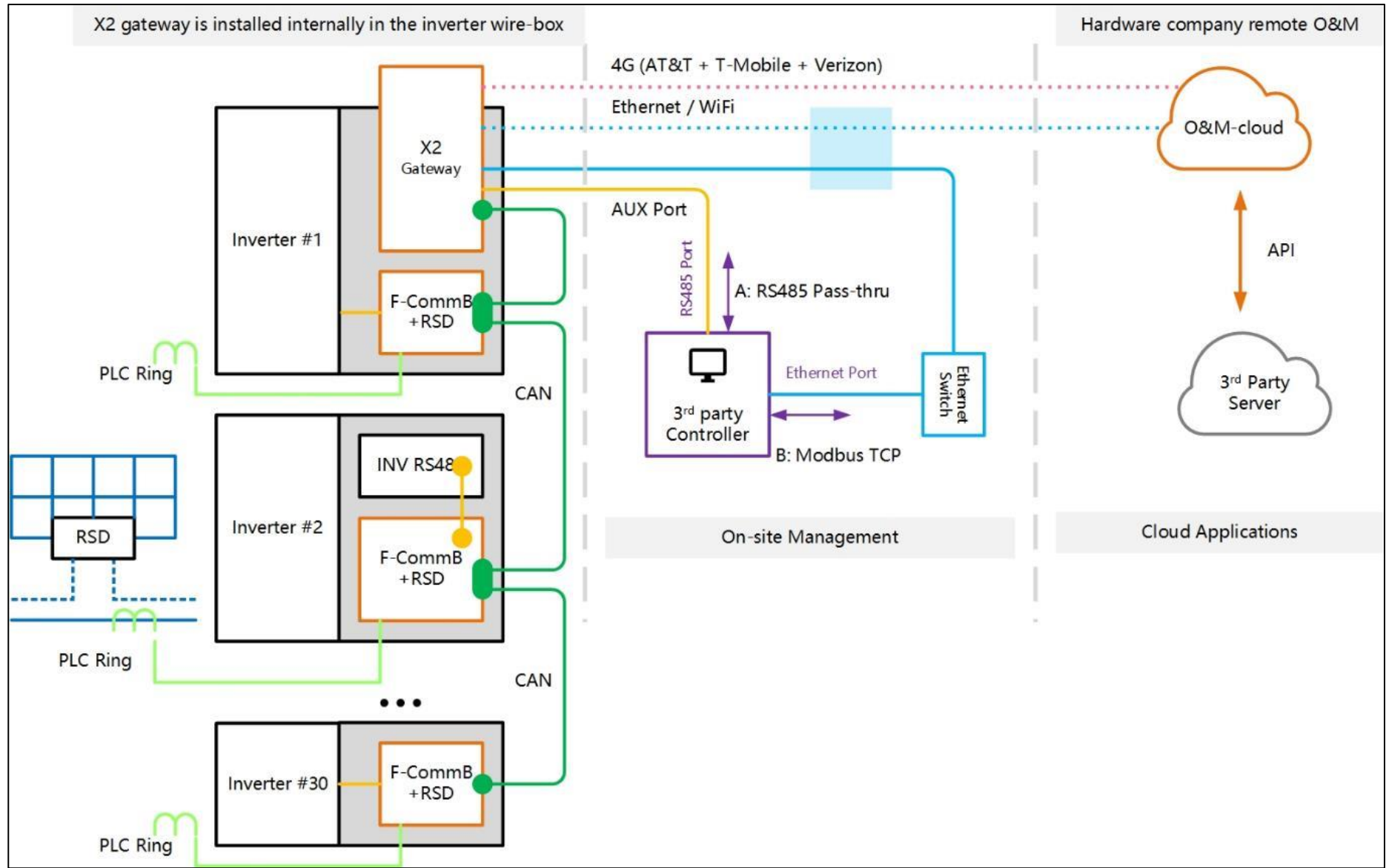
“Galaxy” Data, Communications Solution – (non-RSD example)



The "Smart Link" function of the APP allows users to automatically match complex hardware scenarios with just one click.

* Architecture example with no RSD functions

“Galaxy” Data communications – Rapid Shutdown Architecture

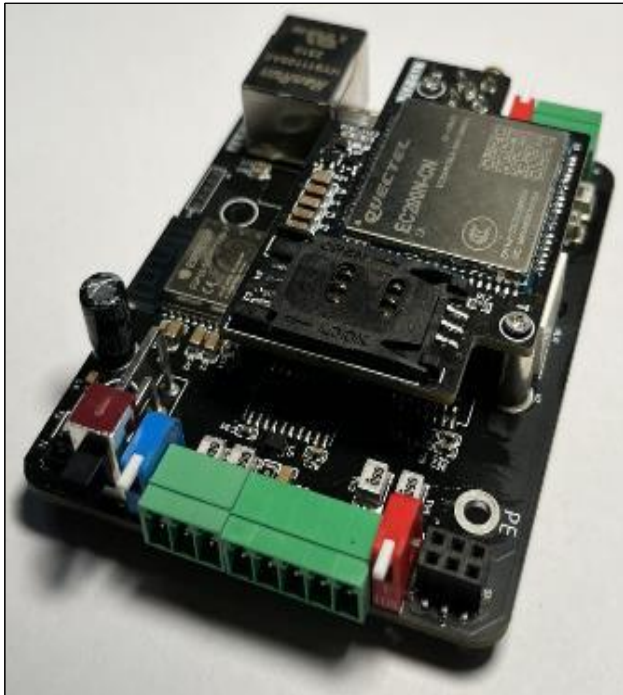
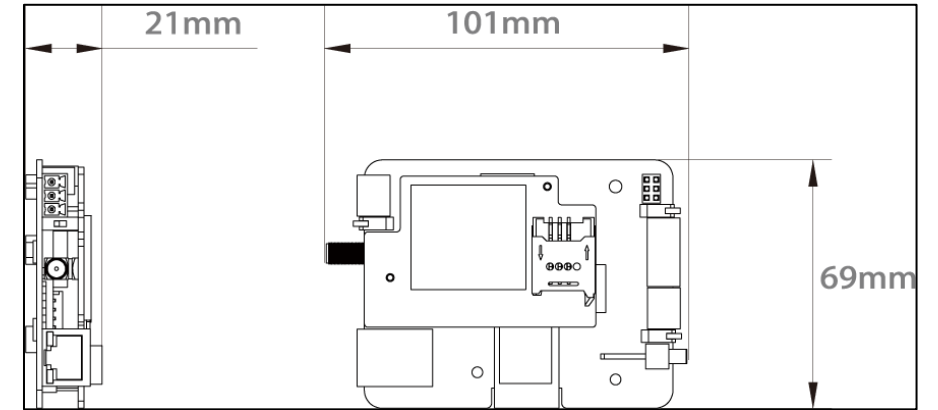


Gateway
+
Comm Board

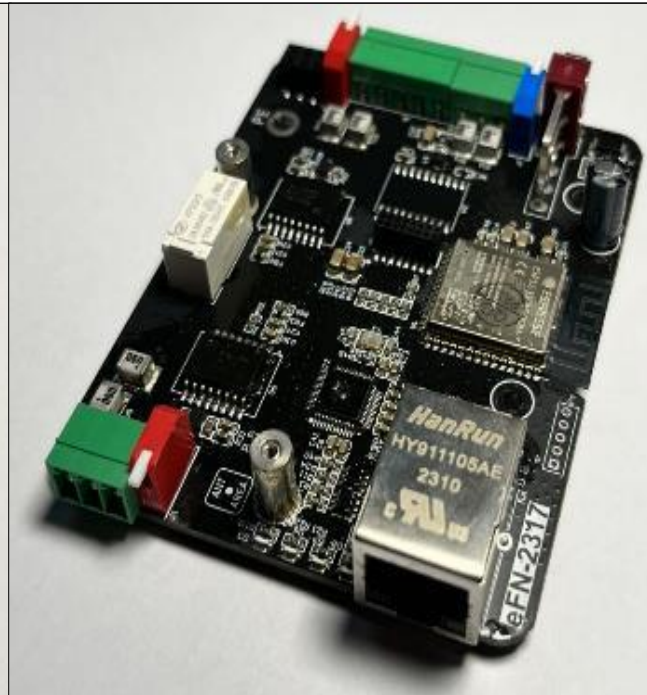
Inside inverter
wire-box

“Galaxy” Data hardware – Field integrated in NEPTUNE wire-boxes

- Gateway communications boards
- High-performance response to real-time control of large sites
- Automated inverter commissioning
- Energy production management
- Smart Panel Level Monitoring
- Optional Cellular (wifi, Ethernet standard)
- RSD and Inverter data



With Cellular



Gateway



option for DAS box installation

Example shown
“Maxi” assembly
For 75/100kW
models

“Galaxy” Data – Web Portal for Inverter and RSD Device Data

- Inverter performance data
- PV Module data
- RSD Device data

The screenshot shows the 'Galaxy' web portal interface. At the top, there is a search bar for site name, gateway SN, and inverter SN. The main navigation menu includes Dashboard, Sites, Overview, Production, Revenue, Panel, Event, Notifications, IV Curve, Kiosk View, System Setting, and Log System. The 'Panel' section is active, displaying monitoring data for inverter 5202231000002. The interface shows a grid of data points for various inverters, with a tooltip for inverter 01000018 showing 334.7 Wh and 327.39 W. A 'Max: 338.86 W' indicator is visible at the top right of the grid.

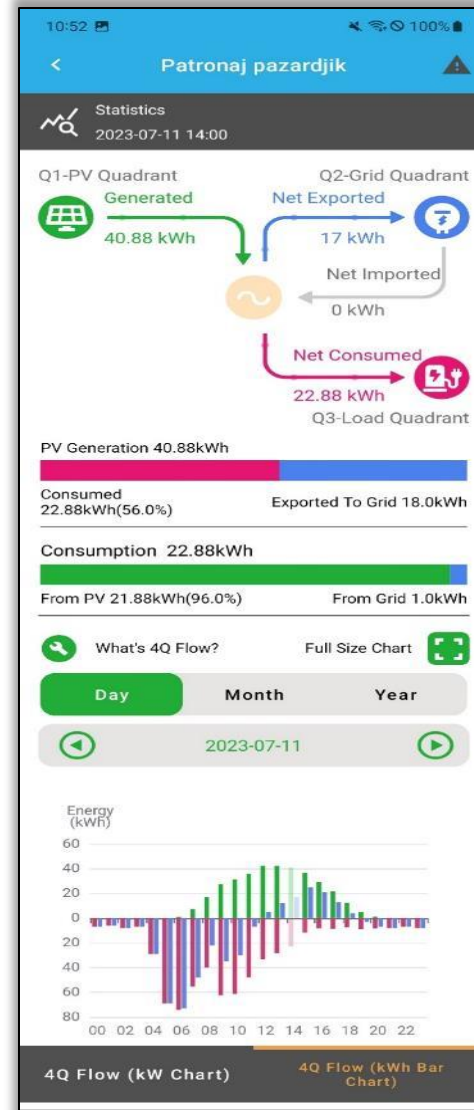
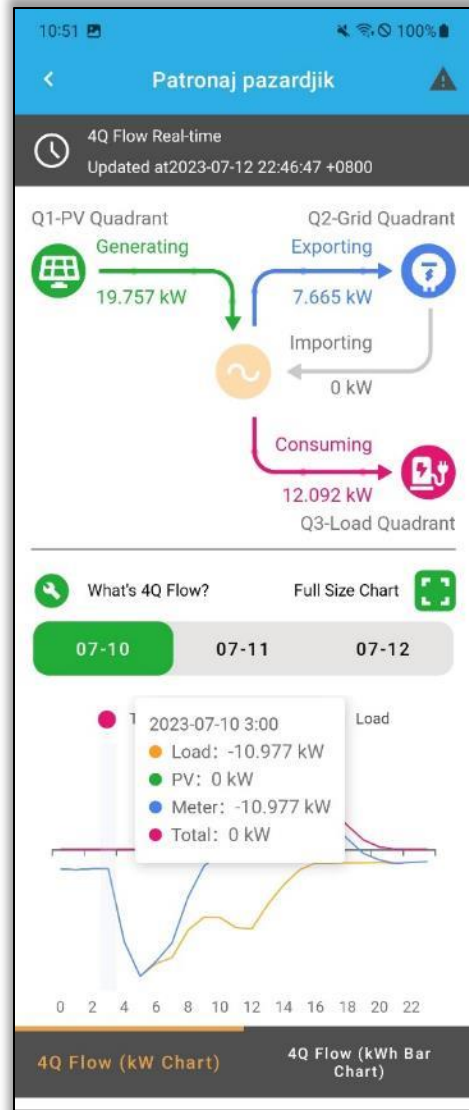
The screenshot shows the 'Galaxy' web portal interface with a focus on energy production and CO2 offset data. The top navigation bar includes Overview, Energy Production, Weather & Map, Report, Alert, and Layout. The main content area displays several key metrics:

- Gateway: 20011000012399
- Modules: 88
- Version: 20170969-09-5.1
- Status: **OK**
- Energy Production (KWh): **206.2**
- Total Production (MWh): **194**
- Total CO2 Offset (T): **209**

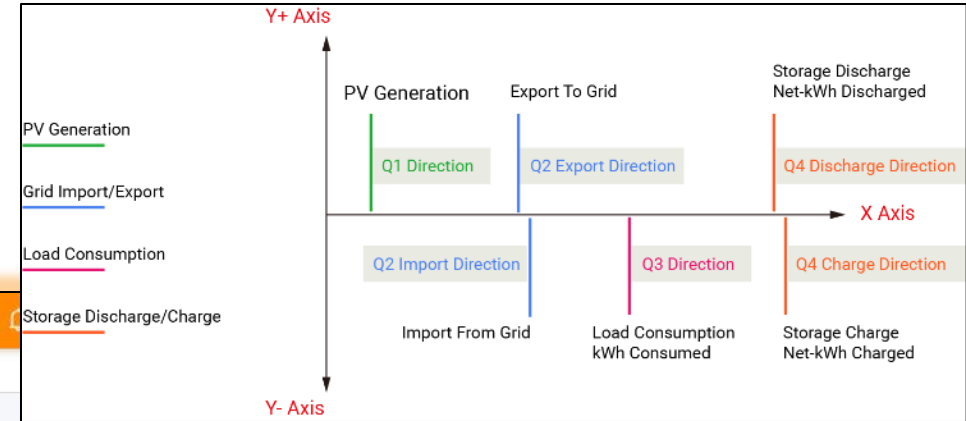
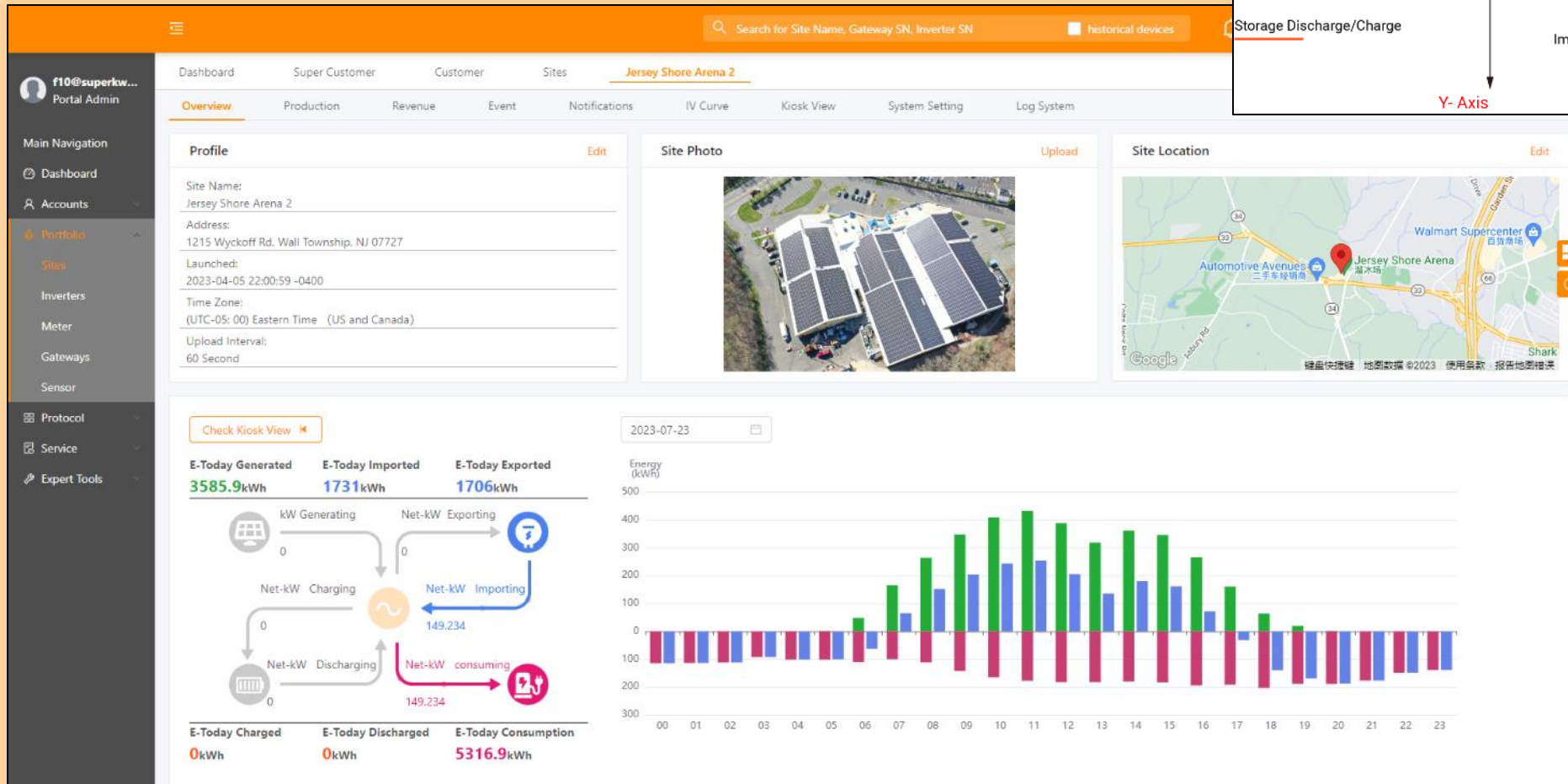
Additional metrics include Energy Generated Equivalent To (3228188 hours, 329530 bbl) and Co2 Offset Equivalent To (17090408 trees, 721333 miles). A progress bar for Inverter Real-time Production (W) shows a value of 87 out of 190. The bottom section displays a grid of data points for Zone 1, with a tooltip for device 0X110250A0 showing 475.8 W.



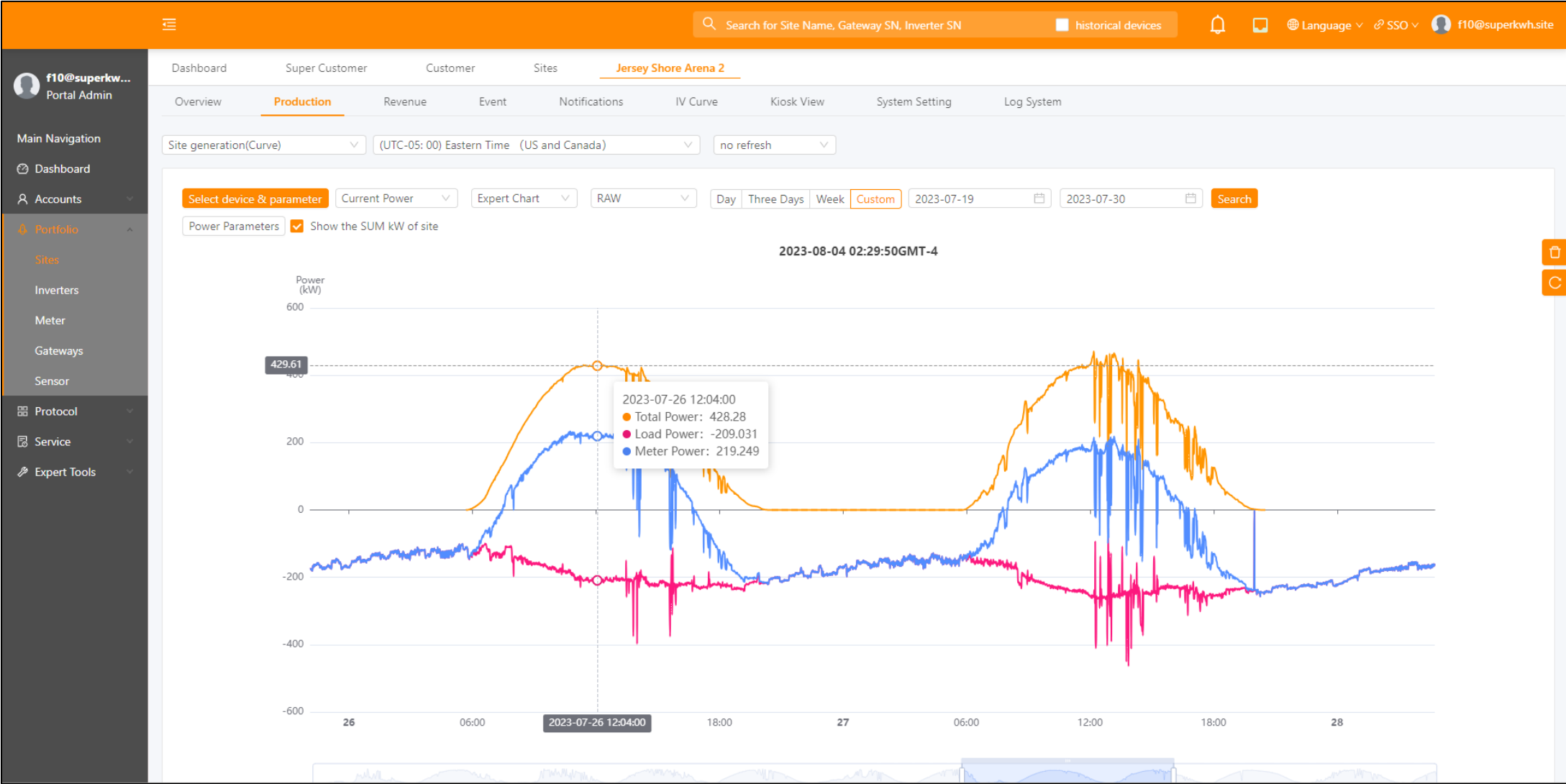
“Galaxy” Data – Smart phone App for commissioning and mobile data



“Galaxy” Data Example



“Galaxy” Data Example



Why? Why NEPTUNE and Galaxy Solutions for your C&I Rooftop?

Lower risk... Complete Solution from NEP

Warranty wrap for total solution

Elegant integration of hardware and data communications

Smart, efficient, less labor, fewer parts/connections

Ideal Product range for any C&I roof

Perfect power increments; 33, 50, 75, 100kW

Powerful 208Vac, 30kW

Confident Commissioning

Granular, PV level data visibility

RSD function confirmation

IV Curve trace testing setting

Thermal auto-RSD

Performance and Safety Assurance

Know for sure that our RSD is working correctly

Site level data for efficient diagnostics, service action

