STI Control

Take control of your PV tracker power plant

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Tracker Smart Controllers
One every two rows, one per dual-row tracker

System Network Controller
Each one can manage 200 solar trackers

Intelligent Weather Controller
At least two weather stations regardless the plant size
COMMUNICATIONS SYSTEM
TRACKER SMART CONTROLLER

- Weipu connector for PV panel input
- Anti condensation valve
- Weipu connector for RS485 input/output
- Battery
- Housing

Power supply:
- Grid-powered
- Self-powered with auxiliary panel

Communication:
- Wired RS485
- Wireless Zigbee

Additional components:
- Fuse holder
- Weipu connector for DC motor output
- Emergency stop button
- Self-powered PCB
TRACKER SMART CONTROLLER

PV panel → Printed Circuit Board → Battery pack → DC motor
STI Control – 30 to 60°

Widest range of operating temperature on the market.

No obsolescence

Same PCB for a quick & cost-effective battery exchange.

Adaptability

Auxiliary PV module and battery autonomy adjusted to project needs.

Accelerating cycle tests

Reduction of power peaks to prolong motor lifespan.
INTELLIGENT WEATHER CONTROLLER

1. Can accommodate a pyranometer, anemometer, wind vane, and any other device.
2. Self-powered with PV module with 2-day autonomy.
3. Back-up system with 7-day autonomy.
4. Internal log of the last 7 days, even during the construction of the PV plant.
INTELLIGENT WEATHER CONTROLLER

WIND ALARM

Alarm activation time

Wind measure

Alarm deactivation time

Wind Alarm

Safe position counter

Safe position state

15 min

20 min
COMMUNICATIONS ARCHITECTURE

- PC
- SCADA
- INVERTER 1
- INVERTER 2
- INVERTER 3
- Gateway
- SNC 1
- SNC 2
- Gateway
- Gateway
- Tracker Smart Controllers
- IWC
STI Norland has developed a smartphone application for an easy connection with its dual-row solar trackers.
BACKTRACKING
Inverters report a notable energy production difference before and after applying the improved backtracking algorithm. This algorithm is adapted to specific land irregularities and targets each solar tracker individually to boost the global energy generation of the PV plant.
The algorithm analyzes clouds’ thickness and density to adjust the position of the tracker.
SMARTTRACKING ENERGY PRODUCTION

- Monofacial solar tracker
- Bifacial solar tracker
- Horizontal pyranometer
- Tilted pyranometer
- Albedometer
- String inverter
- Tracker algorithm optimization
- 3D Backtracking
- Big data / IA
- Smart Tracking