



An Intelligent Tracking Solution of Data Acquisition, Online Analysis, Remote Control, Intelligent Operation.

Large Scale Solar Photovoltaic Plants

Remote monitoring and cluster control software Smart and intelligent O&M to improve efficiency and reduce cost for Solar PV Plants.

Trina Smart Cloud is a next-generation smart tracker control system that enables PV power plant owners and authorized operators to monitor and securely control their PV systems. This enhanced control system increases production yield and enables reliable operation across a wide range of weather conditions. Create "intelligent, efficient, safe and reliable" centralized intelligent operation and maintenance tracking solutions, and ultimately achieve the maximum value of power station owners and operators.



Numerical solar tracker solution

- Visualization of real-time status and performance of the trackers overall and all their components.
- Data acquisition from inverter and cleaning robot.
- Display the detailed running status of each device.



Comprehensive and systematic monitoring system

- Remote monitoring for live status.
- Visualization of alarms and events of each device.
- Get notifications of tracking system alarms and events in real-time.
- Monitor the system availability.



Real-time rapid data analysis and processing

- Curve comparison and analysis of different index data of each device by day, month, and year.
- Graphs and online analysis tracking system data in real-time.
- Rapid formation of performance data reports to improve decision-making.



Intelligent and precise control

- Remote centralized control operation mode and target angle of TCU.
- Control trackers position individually or in groups sending angle set points.
- Diagnostic and fault analysis capability.



Centralized intelligent O&M

- Get recommendations for predictive maintenance based on performance data analytics.
- Using database and SuperTrack algorithm, perceive and predict operation status of each device.
- Combined with the forecast meteorological data, adjust to the target angle in advance to realize the functions of wind protection, snow protection and self-cleaning in rainy days.
- Improve the operation efficiency and reduce the maintenance cost.

Product Functionality Tiers

The functionalities also can be adjusted and selected according to customer configuration

Functionality Tiers		Basic	Standard	Premium
Data Acquisition	Tracker-NCU			
	Tracker-TCU			
	Inverter	x	x	x
	PV string			
	Transformer			
Data Transfer	Weather station			
	Tracker-NCU			
	Tracker-TCU			
	Inverter	x	x	x
	PV string			
Statistics analysis	Transformer			
	Power generation		x	x
	Cumulative irradiation			
Control and Command	PR			
	Control function of working mode and target angle of NCU and TCU		x	x
Smart O&M	Integrated cleaning robot			
	Big data analysis of massive historical operation data			x
	Combined with historical data for intelligent prediction of tracker running state			

Hardware Parameter List

Description	Hardware
Server	
CPU	Main frequency: 3.2GHz, 8 cores, 15MB cache, 16 threads
Memory	≥16GB DDR4ECC
Hard disk	≥2TB
Network card	2 to 4 * 1GbE network card (100 / 1000M adaptive)
Size	2U rack type, including installation kit
Workstation	
CPU	Main frequency: 3.2GHz, 6 cores, 12MB cache, 12 threads
Memory	8GB DDR4
Hard disk	500GB
Network Security	
Network Communications	Firewall, Network Isolation Device
	Gateway, Switch
ELSE	UPS, Synchronous Clock, Communication Cable, Power Supply Row

* Example of configuration. The device list and parameters will be changed based on user's actual requirements on site.



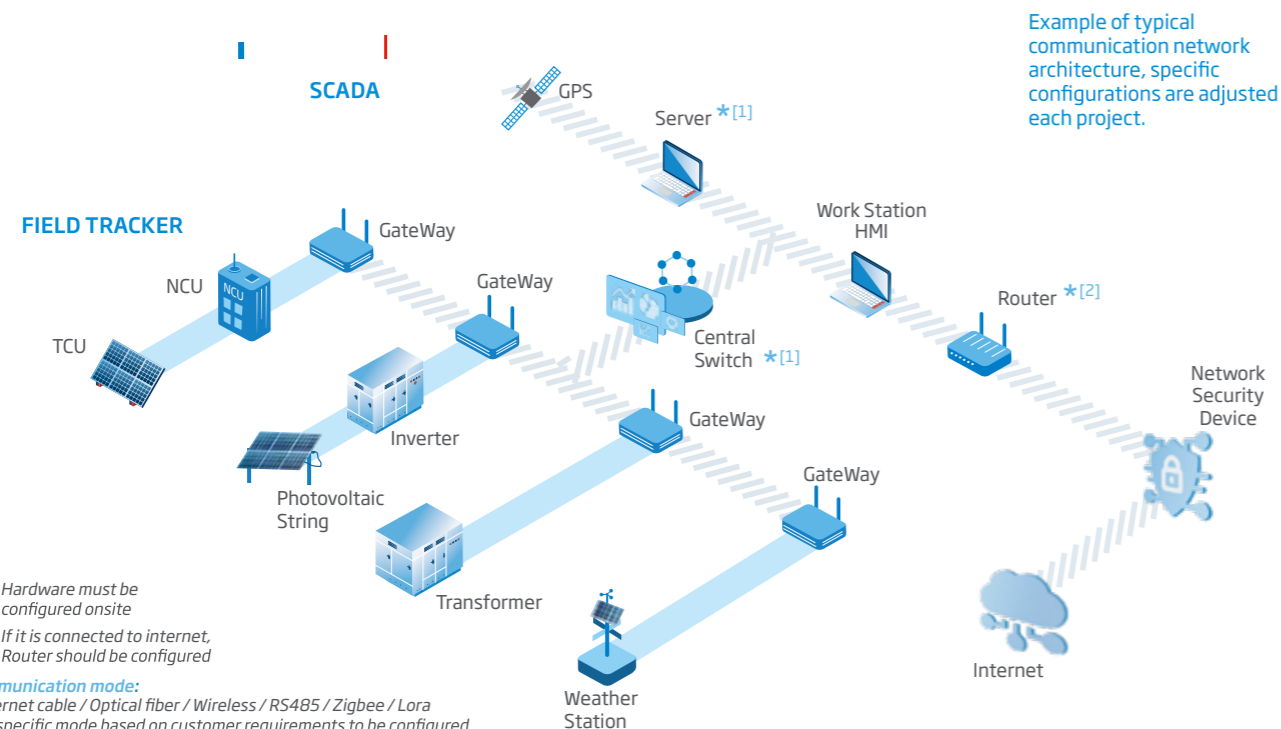
Protected with **advanced security**, industrial firewall and user authentication, against intrusions and cyber-attacks.



Designed for **extensive connectivity**, with a modern architecture and an efficient engineering, the solution enables easy system integration as well as accessibility anytime, anywhere.

Network Architecture

User-friendly software, easy to integrate into other platforms



Rapid Delivery and Short Site Commissioning

Trina Smart Cloud is delivered pre-configured from the factory, with tested and pre-installed software, and requires minimal engineering before installation and commissioning onsite. From pre-project survey, demand analysis, system design, hardware procurement to final deployment and commissioning.

