



# Suntrack Network Control Unit

# A Management System Just for Trackers



**Suntrack maintenance contract program "Guaranteed Availability Plan" (GAP program) offers customers a customized maintenance/service program with a guaranteed contract price, as well as guaranteed tracker availability.**

**Highly trained and skilled technicians utilize computerized maintenance management techniques that are assigned to manage equipment at its most efficient operating potential for maximum economic life. What that means to you, is that our products are effective, reliable & total cost management.**

**Modbus Master "Tracker Network Management System" implementation allows us to give you a full service for tracker controller alarm monitoring ,wind speed strategy for safety allows, clock time update among other services .**

# Management System Benefits



**Enhanced tracker availability (99.5%) and performance (against theoretical geometric efficiency)**

**Consolidates parts and service responsibilities to one source**

**Costs are controlled; budgeting is easier**

**Reduced customer on-site administrative management effort of equipment**

# Levels of Service



**Tracker Network Management system installation and test**

**Controllers installation commissioning acceptance (tracker parameters, networking performance, tracker performance-efficiency)**

**Maintenance technicians training for preventive maintenance**

**Warranty period full certification**

**GAP Plan (remote Monitoring & parts and service coverage )**

# Tracker Field Options



**Wind speed management**

**Network quality measurement (inlet power)**

**Onsite parts and inventory (including control & management)**

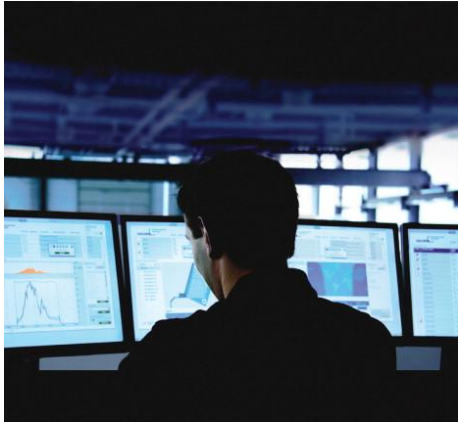
**Remote Management & monitoring (internet)**

**Monthly reporting (status, availability, etc.)**

# Tracker Network Management System at Power Plant Site



Solar field SCADA at site  
(not belonging to this Tracker Network Management)



Modbus -RS485 (copper/zigbee)  
Network



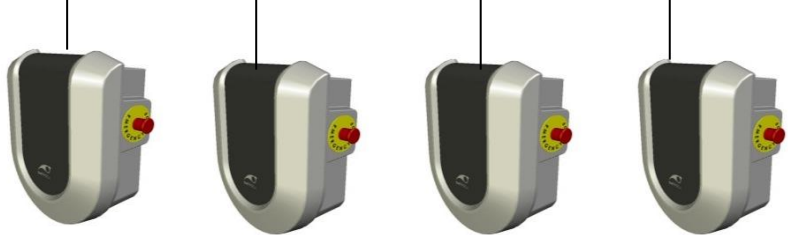
Local Network Master



Windmeter at site



Datalogger+Gateway  
Ethernet/GPRS



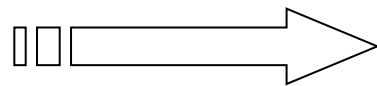
Modbus Slave 1  
Modbus Slave 2  
Modbus Slave 3  
Modbus Slave n 6

# Remote Monitoring



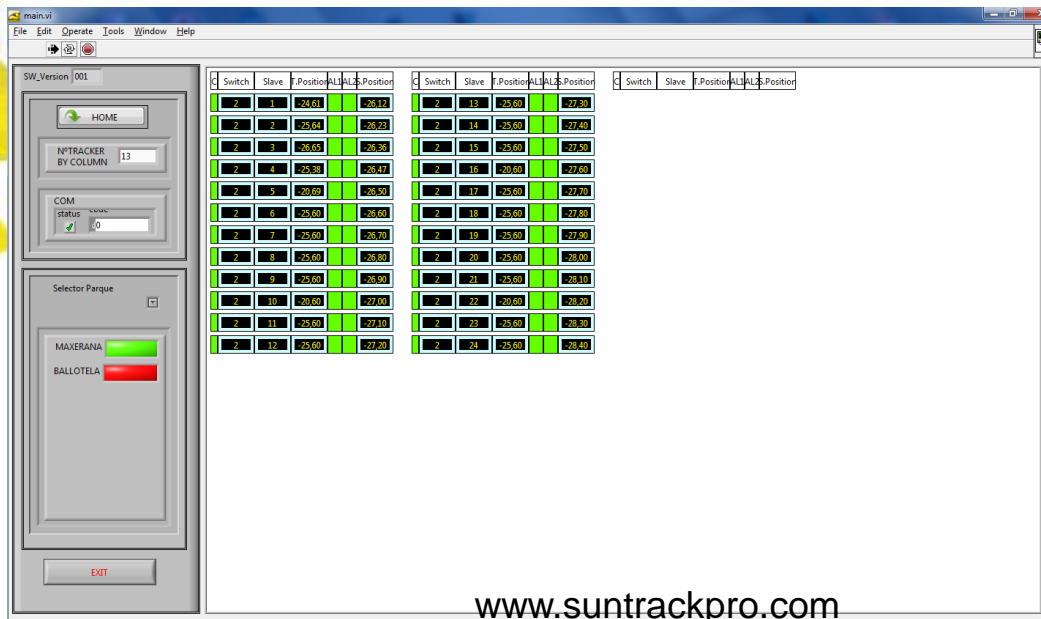
Internet Network

Web Server



Dashboard for Apple & Android terminals

Remote Data Acquisition Sw Application





SW\_Version 001

HOME

N°TRACKER BY COLUMN 13

COM status code 00

Selector Parque

MAXERANA

BALLOTELA

EXIT

C	Switch	Slave	T.Position	AL1	AL2	S.Position
2	1		-24,61			-26,12
2	2		-25,64			-26,23
2	3		-26,65			-26,36
2	4		-25,38			-26,47
2	5		-20,69			-26,50
2	6		-25,60			-26,60
2	7		-25,60			-26,70
2	8		-25,60			-26,80
2	9		-25,60			-26,90
2	10		-20,60			-27,00
2	11		-25,60			-27,10
2	12		-25,60			-27,20

C	Switch	Slave	T.Position	AL1	AL2	S.Position
2	13		-25,60			-27,30
2	14		-25,60			-27,40
2	15		-25,60			-27,50
2	16		-20,60			-27,60
2	17		-25,60			-27,70
2	18		-25,60			-27,80
2	19		-25,60			-27,90
2	20		-25,60			-28,00
2	21		-25,60			-28,10
2	22		-20,60			-28,20
2	23		-25,60			-28,30
2	24		-25,60			-28,40

C	Switch	Slave	T.Position	AL1	AL2	S.Position



# Tracker Management System Capabilities



**Wind speed surveillance & actuation locally**

**Clock synchronization & update**

**Broadcast orders to trackers:**

- **Change parameters**
- **safety/cleaning position commands**
- **remote firmware upgrade,etc**

**Remote access to each controller**

**Alarms upload (power down, comms error etc)**

**Availability reports**

**Other required customized information**

# Service Proposals



**Standard contract: When Suntrack controllers are purchased, included in the price of the goods + Tracker Network Management System**

- **Invoicing: 90% Ex-works**
- **10% pending until PAC (provisional acceptance test)**
- **PAC on site with Suntrack technician, including performance check, wind strategy implementation, networking check & monitoring installation.**
- **Full access to web server application.**

**GAP Plan (remote Monitoring & parts and service coverage)  
Standard Contract services and...**

- **Remote management & monitoring service outsourcing**
- **Onsite parts and inventory (including control & management) .**
- **Monthly reporting**
- **Guaranteed availability of 99.5% of the power plant**

# Hardware



**Suntrack 32 Modbus Master for cabinet and TCP gateway and Zigbee gateway**

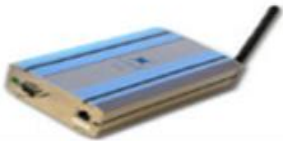
- RS485



**Power supply +UPS+ Battery**



**Protections and connections**



**Internet Router + GPRS (Optional)**



**Display (optional)**

# Labor Tasks



**Modbus master installation**

**Tracker network configuration and comissioning (Not included: Ethernet adaptors and copper wires to trackers if RS485)**

**Windmeter, alarms etc test son site**

**Local interface for tracking groups etc.**

**Parameters update. Clock, etc.**

**If required , router IP connection and test (It depends on GPRS contracts)**

# Contact Information



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