

# Solar Tracker

**sunOrbit®**  
**iMorePV®**



**Visualization control / Dual-Axis Technology /  
Auto Tracking / Gyro Calibration / DIN-Rail Mounting**





Solar radiation [W/m2]

0.0

Wind [km/h]

0.0

Temperature [degreeC]

0.0

Trackers mode

TRACKING OK

NTP status : Synced 2016/08/22 16:22:45

SMTP status : Waiting

Weather status : Disabled

GMT time : 2016/08/22 08:29:13

Solar time + MI\* : 16:32:41

Solar sunrise time : 05:30:46

Solar sunset time : 18:22:25

sunOrbit's voltage : 15.3 V

Sum of currents : 0.000 A

AE azimuth : -88.25 degree

AE elevation : 155.45 degree

PM hour angle : 1.19 degree

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30		

Winter mode

Off

On

Emergency mode

Normal

Forced

Wind mode

Normal

Forced

Snow mode

Normal

Forced



# 1 About

- What is JDA Solar Tracker Controller?

# 2 Features

- Visualization control
- Simple & Fast installation
- Automation technology

# 3 Applications

- Drive and positioning of Dual Axis Solar Trackers
- Integration of JDA equipment into existing control technology



Visualization Solar System interface: **SunOrbit**® For large-scale systems, plants and PV power utility station, the standardized data interface requires customized monitoring solutions and needs to link systems & components into one joint control system. In the field of automation technology, **SunOrbit**® Server sets new communication standard. It enables simple and exact data could be swiftd between products and applications. JDA Control equipment with the benefits of SunOrbit Solar Server can be easily integrated into compatible system.

### **Professional**

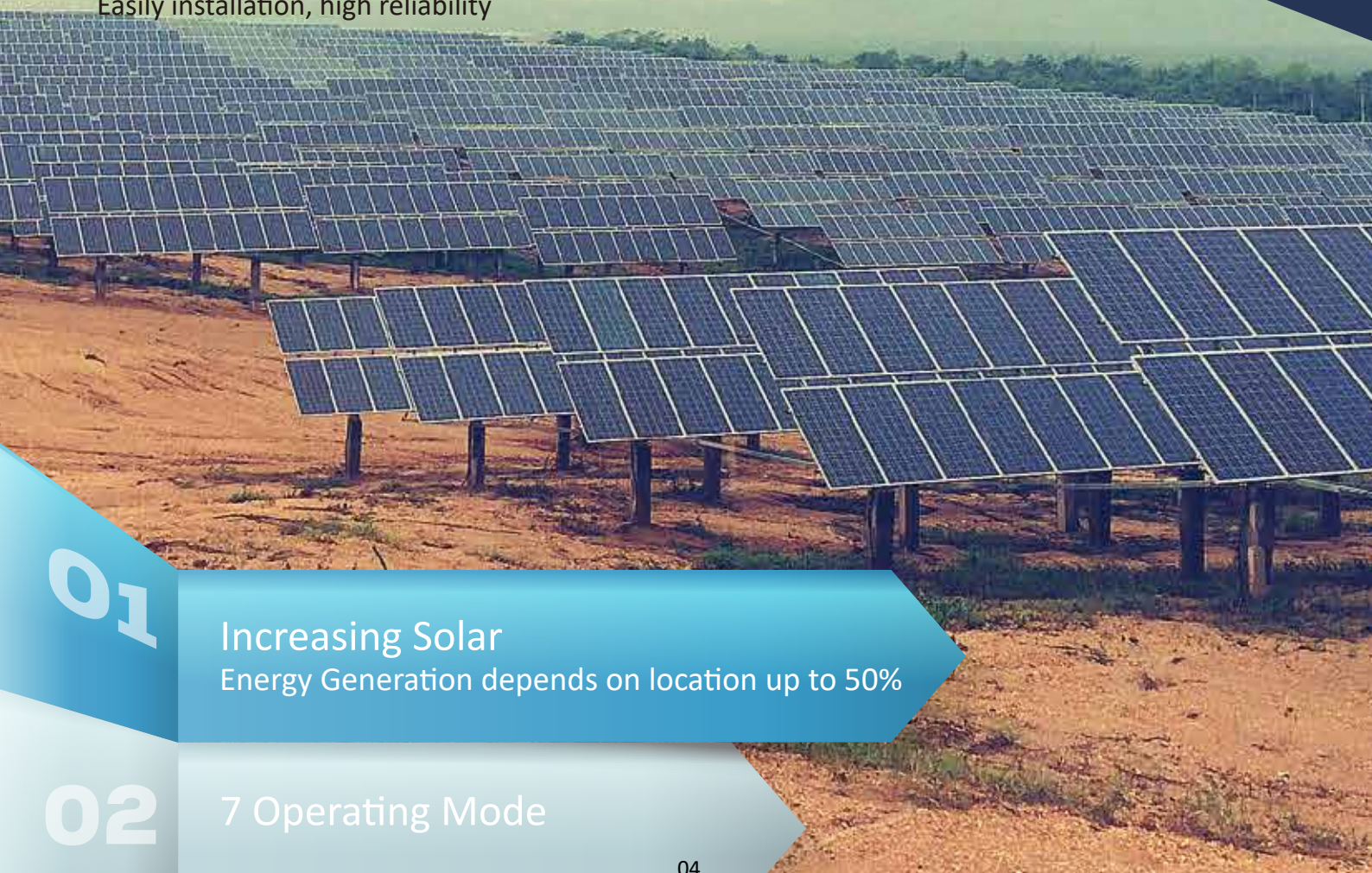
Human-Machine Interface: By providing information, alerts, commands and other tools, an HMI connects the user with the process being controlled.

### **Flexible**

Data interface is a widely accepted protocol due to its ease of use and reliability.

### **Technology**

Easily installation, high reliability



01

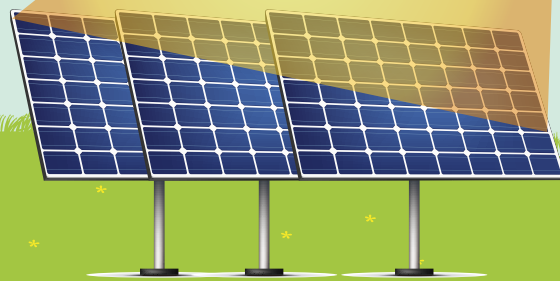
Increasing Solar Energy Generation depends on location up to 50%

02

7 Operating Mode

## BACKTRACKING

Backtracking algorithm is one way to enhance the performance of **SunOrbit®** and **iMorePV®**, developers can to fine-tune modules' positions during periods of low solar height, like early morning and late afternoon - as shadows can affect the modules' production levels.



## SNOW MODE

When there is snow outside, **SunOrbit®** and **iMorePV®** can still hold snow at steep angles. This mode can play important roles in the task of avoiding snow from staying on roofs with PV panel.



## WIND MODE

When there is too high wind outside, **SunOrbit®** and **iMorePV®** tracker needs to be moved into the wind safe position that we call wind mode. wind parameters depending on specified value.



Large-scale plants and PV power utility stations require customized monitoring solutions and need to link systems and components into one joint control system. SunOrbit® Server set new communication standard in the field of automation technology, that enables simple and reliable data exchange between products and applications. With the SunOrbit® Server, JDA Control equipment can be very easily integrated into compatible systems.

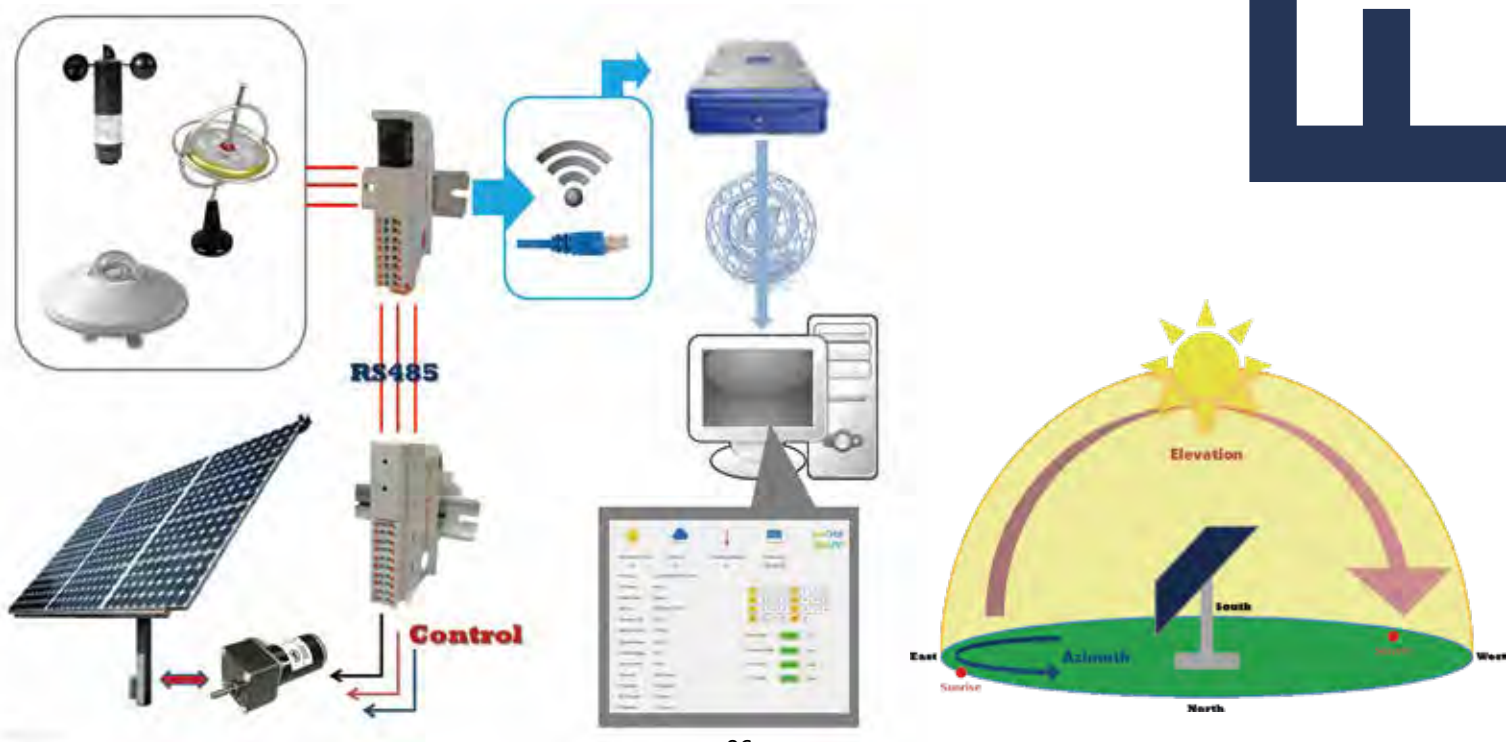
### Professional

Visualization, control and monitoring of large-scale plants  
 Integration of JDA Control equipment into existing control technology.

### Flexible

Data interface in accordance with the communication standards in the field of automation technology. Simple and fast installation, high reliability.

## AUTO TRACKING





# Solar Applications

# sunOrbit®



## Visualization Solar System interface: SunOrbit®

For large-scale systems, plants and PV power utility station, the standardized data interface requires customized monitoring solutions and needs to link systems & components into one joint control system. In the field of automation technology, SunOrbit® Server sets new communication standard. It enables simple and exact data could be swiftd between products and applications. JDA Control equipment with the benefits of SunOrbit® Solar Server can be easily integrated into compatible system.

### **Professional**

Human-Machine Interface: By providing information, alerts, commands and other tools, an HMI connects the user with the process being controlled.

### **Flexible**

Data interface is a widely accepted protocol due to its ease of use and reliability.

### **Technology**

Easily installation, high reliability

Specifications



Technical Capabilities	
<b>Communication</b>	
Communication with Enigma Analytics	Ethernet
PC communication	Ethernet
Tracker communication	RS485 or Zigbee
<b>Interfaces</b>	
Analog and digital Inputs	4
Ethernet	10/100 Mbit, RJ45
RS485	2 Pin Connector
<b>Max. number of controlled devices</b>	
Solar Tracker	256
<b>Max. communication range</b>	
Ethernet	*100 m
RS485	*1000 m
<b>Power supply</b>	
Power supply (Isolated, SMPS)	External Power Supply
Input voltage	12VDC – 24 VDC
Power consumption	Max. 2W
<b>Angle Control</b>	
accuracy	±0.1 °
<b>Environmental conditions in operation</b>	
Ambient temperature	-40 °C ... + 70 °C
Relative air humidity	0 % ... 99 %, non-condensing
<b>Memory</b>	
Internal	1 MB
External	SD card 8 GB(Support to 32GB)
<b>General data</b>	
Dimensions(W/H/D)in mm	113.3/77/18.9
Weight	100 g
Protection	IP65 with enclosure
Mounting options	DIN rail mounting
Status display	LEDs
<b>Languages</b>	
Software language	English, Tradition Chinese
Language versions manual	English, Tradition Chinese
<b>Features</b>	
Operation	Integrated Web Server(Internet browser)
Housing	Optional

\* : depending on cable quality

Specifications

# iMorePV®



Solar Positioner iMorePV® for Dual Axis Tracking  
New iMorePV® with better communication, usability and accuracy sets a new positioning accuracy standards. The new generation of positioners driver with easy installation, safe operation, simplified assembly concept and RS485 plant communication is ideally fitly in mid-sized & large independent grids. Solar Positioner iMorePV® with the SunOrbit® Server creates through, integrated system for monitoring, diagnosis and configuration of PV plant.

## **Professional**

Drive and positioning of Dual(or 2 Single) Axis Solar Trackers.

## **Flexible**

Data interface is a widely accepted protocol due to its ease of use and reliability.

## **Technology**

Easily installation, high reliability

## **Reliable**

Direct communication with the SunOrbit® Solar Server via RS485 Service Interface. According to grid safety management, the product meets the requirements of the EU Medium-Voltage Directive.

Specifications

Technical Capabilities	
<b>Operation</b>	
Geometrical and coordination Operation	Dual Axis Positioner
Type	Slave Positioner
<b>Communication</b>	
Tracker communication	RS485 or Zigbee ( bluetooth with Gyro)
<b>Interfaces</b>	
RS485	2 Pin Connector(Grounding Option)
<b>Max. number of controlled devices</b>	
Motor	2
<b>Max. communication range</b>	
RS485	*1000 m
<b>Power supply</b>	
Power supply (Isolated, SMPS)	External Power Supply
Input voltage	24 VDC +/- 10%
Power consumption	Max. 2W
<b>Environmental conditions in operation</b>	
Ambient temperature	-40 °C ... + 70 °C
Relative air humidity	0 % ... 99 %, non-condensing
<b>General data</b>	
Dimensions(W/H/D)in mm	113.3/77/18.9
Weight	100 g
Protection	IP65 with enclose
Mounting options	DIN rail mounting
Status display	LEDs
Hall signals	1 Hall signals per Axis
End switches	1 Switches per Axis(one required, one optional)
Manual buttons	1 Joystick
Upgrading	In The Field by RS485 MODBUS
<b>Languages</b>	
Software language	English, Tradition Chinese
Language versions manual	English, Tradition Chinese
<b>Features</b>	
Operation	Integrated Web Server(Internet browser)
Housing	Optional

\* : depending on cable quality

Specifications

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