

SOLAR THERMAL / PV FULL-SCENARIO SOLUTION



ABOUT BWESENSING

BWESENSING is a national-level "Little Giant" enterprise specializing in the R&D, manufacturing, and sales of inertial sensors. Recognized as a National High-Tech Enterprise, the company also operates a postdoctoral workstation, the Wuxi Inertial Sensing Engineering Technology Center, and has participated in the drafting of multiple national standards. With more than 100 related intellectual property rights, BWESENSING has built strong expertise across the entire value chain—from chips and modules to integrated systems—with fully independent R&D and supply chain control. Headquartered in Binhu District, Wuxi, Jiangsu Province, the company has established branches in Beijing, Chengdu, Hangzhou, Shenzhen, Muscat, and Abu Dhabi. By integrating industry, academia, and research, BWESENSING delivers reliable, high-performance, and fully controllable inertial sensing solutions for global customers, and is currently preparing for IPO listing.



SPECIALIZED, REFINED, UNIQUE, AND INNOVATIVE ENTERPRISE

TOP 20 EMERGING SENSOR COMPANIES

LOW-SPEED AUTONOMOUS DRIVING ALLIANCE

IOT INNOVATION AND INTEGRATION DEMONSTRATION ENTERPRISE

INDUSTRIAL METROLOGY WORKSTATION

2018 WORLD INTERNET OF THINGS EXPOSITION GOLD AWARD

PATENTS FOR INVENTIONS



6 NATIONAL-LEVEL TALENTS

973 CHIEF 1

PROFESSOR/
DOCTORAL FELLOW 5

18 PHDS

OVER 50% OF R&D STAFF

Manufacturing capacity



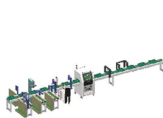
Fully Automatic Screen Printing Machine



SMT machine



Reflow soldering machine



Flexible Production Line



Three-axis High-precision Rotary Table



Temperature-controlled Turntable



High & Low Temperature Compensation Chamber

Solar Thermal Industry Cases——



Zhabuye High-Altitude Trough Solar Thermal Power Station, Xizang

World's first 4,500-m high-altitude isolated-grid trough solar thermal plant.

- Configuration: 40MW trough CSP+35MW PV+20MW/40MWh energy storage
- Challenges: Extreme low temp, strong UV, salt-lake saline-alkali corrosion
- Operation: -40°C~85°C wide temp, long-term unattended



Luneng Haixi 50MW Tower Solar Thermal Power Station

A national pioneer solar thermal demonstration project with 4,400 inclination sensors, running stably for 7 years.

- Configuration: 188m heat-absorption tower+4,400 heliostats+12-h heat storage
- Challenges: Gobi high-temp & strong wind, high-precision heliostat tracking
- Value: Stable long-term power supply under desert extreme conditions



Golmud Multi-Energy Complementary Scenario

World's first multi-energy complementary project integrating wind, solar thermal, PV and energy storage.

- Challenges: Multi-energy coupling regulation, complex-condition adaptation and long-term stable monitoring
- Application value: Stabilize power fluctuation & support grid peak-frequency regulation

PV Industry Cases——



Qingdao Jiaoheshangshang Agricultural PV Project

A key rural revitalization project in Qingdao with integrated agro-fishery-forestry complementary PV development.

- Configuration: 40MW PV array + PV greenhouses, multi-mode complementary power generation
- Challenges: PV support settlement monitoring, greenhouse structural safety & long-term O&M monitoring
- Application value: Realize power generation above panels and planting below for dual-benefit development

PRODUCT INTRODUCTION

Modbus Single Axis Inclinometer

BWM417H MODBUS

- Single axis inclination measurement
- Resolution: 0.001°
- Power supply: 9-35V
- Dimension: L90*W40.5*H26 (mm)
- Highest accuracy: 0.01°
- Range: ±180°
- Output: RS232/RS485/TTL optional
- IP67 Protection level



Dual Antenna Intelligent Positioning Terminal

BW-GI100

- RTK accuracy: Plane 0.8cm + 1ppm; Elevation 1.5cm + 1ppm;
- PPP accuracy: Plane 25cm; Elevation 25cm;
- Orientation accuracy (0.6m baseline): ±0.5°(1σ), ±1°(2σ)
- Mainboard dimension: L40×W80×H12.6 (mm)
- Power supply: 5V DC
- Operating temperature: -40°C~+70°C



High-precision Modbus Dual Axis Inclinometer

BWS2700E

- High accuracy 0.001°
- Biaxial inclination measurement
- Cross axis error: 0.001°
- Baud rate 2400~115200 adjustable
- Temperature drift: 0.0007°/°C
- Wide voltage input: 9-36V DC
- Output frequency 5~100Hz adjustable
- OEM customization accepted



Modbus Dual Axis Inclinometer

BWL327S

- Dual axis tilt measurement
- Resolution: 0.01°
- Power supply: 9-36V
- Volume: L55*W37*H24 (mm)
- Highest accuracy: 0.1°
- Range: ±90°
- Output: RS232/RS485/TTL optional
- IP67 protection level



Low Cost Inclination Sensor Module

MSK100

- Dual-axis inclination measurement
- Measuring range: ±180° (X-axis), ±90° (Y-axis)
- Maximum accuracy: 0.5°
- Rated voltage: 3~5V
- Output: TTL
- Baud rate: 2400-115200
- Wide operating temperature: -40°C~+85°C
- Attitude stability: 0.5°
- Operating current: < 3mA
- Bare-board dimension: 17×17×3 mm



Modbus Single Axis Inclinometer

MSK217S

- Single axis inclination measurement
- Resolution: 0.03°
- Power supply: 9-35V
- Dimension: L55*W37*H24 (mm)
- Highest accuracy: 0.3°
- Range: ±180°
- Output mode: RS232/RS485/TTL opti
- IP67 Protection level



Current output Single axis inclinometer

BWK218

- Single axis inclination measurement
- Resolution: 0.02°
- Power supply: 12-36V
- Size: L90*W40.5*H26 (mm)
- Highest accuracy: 0.2°
- Range: ±180°
- Output: 4-20mA/0-20mA/0-24mA optional
- IP67 protection level



Low Cost Inclination Sensor Module

FD827

- High accuracy: 0.005°
- Dual-axis inclination measurement
- Cross-axis error: 0.005°
- Baud rate: 2400~115200 adjustable
- Temperature drift: 0.0003°/°C
- Wide voltage input: 9-36VDC
- Output frequency: 5~100Hz adjustable
- OEM customization supported



High-precision CAN Dynamic Inclinometer

BW-FDVG525E

- High level EMC protection
- Static accuracy: 0.01°
- Nonlinear compensation, quadrature compensation
- Special offset tracking algorithm to eliminate drift
- Dynamic roll & pitch accuracy: 0.1°
- Wide temperature range: -40°C~+85°C
- High-performance Kalman filter algorithm
- Dimension: L97*W63*H27.2 (mm)



High Precision Dynamic Inclination Sensor

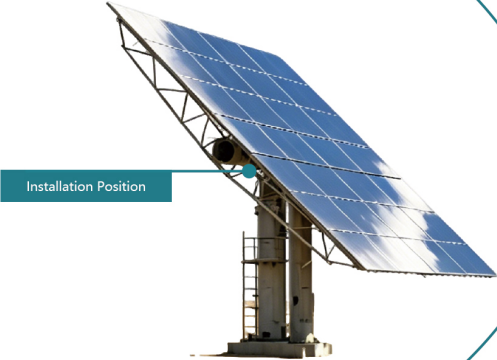
BW-FDVG528E

- High level EMC protection
- Accuracy: ±0.02°
- Nonlinear compensation, quadrature compensation
- Special offset tracking algorithm to eliminate drift
- RS485
- Analog output
- High-performance Kalman filter algorithm
- Dimension: L104*W62*H50 (mm)



CORE PRODUCT APPLICATION CASES

SOLAR THERMAL POWER GENERATION SCENARIO



Installation Position

Scenario: Tower / Trough Solar Thermal Power Station



Modbus Single Axis Inclinator
BWM417H



Dual Antenna Intelligent
Positioning Terminal BW-GI100

·High-precision sun-tracking attitude control for heliostats
·Operating status monitoring of mirror-field transmission mechanisms, heat absorbers & heat collectors

PV POWER GENERATION SCENARIO



Rear Side of PV Panel

Scenario: Centralized / Distributed PV Power Station



Current Output Single-Axis
Inclination Sensor
BWK218



Modbus Dual Axis Inclinator
BWL327s

·Closed-loop Angle Control for Tracking Brackets
·Structural Stability Monitoring & Deformation Early Warning of Supports

Core Competitiveness of BWSENSING Products——

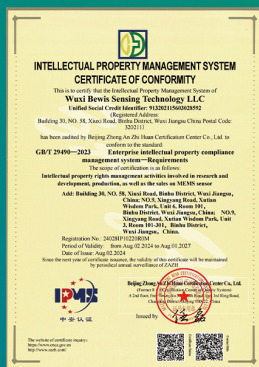
- ### CORE PRODUCT ADVANTAGES

 - Supports automatic error correction, self-calibration and remote upgrade, reducing commissioning and maintenance costs for solar-thermal and PV projects.
 - Adopts full-range & full-temperature compensation and filtering algorithms for stable measurement under extreme conditions.
 - Fully-localized with multi-interface compatibility, tailored for structural monitoring of new energy projects.
- ### CORE PROJECT VALUE

 - **Solar Thermal :** High-precision attitude control for heliostats and collectors to ensure power generation stability.
 - **PV:** Monitors support inclination and settlement, adapting to complex environments for long-term safe operation.
 - **Domestic Industrial-grade Reliable Solution:** Independent R&D provides reliable long-term support for new energy projects.



COMPLIANCE MANAGEMENT SYSTEM



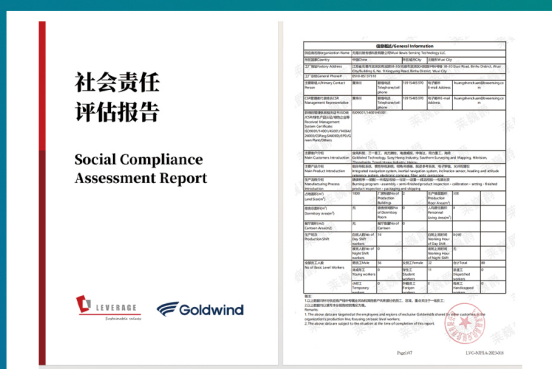
INTELLECTUAL PROPERTY MANAGEMENT SYSTEM CERTIFICATION



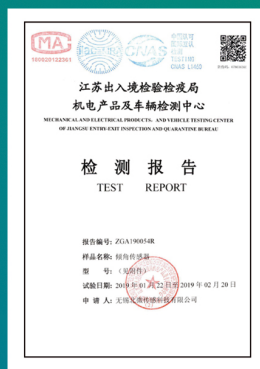
ENVIRONMENTAL MANAGEMENT SYSTEM CERTIFICATION



ENVIRONMENTAL MANAGEMENT SYSTEM CERTIFICATION



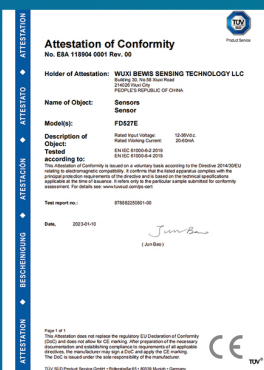
SOCIAL RESPONSIBILITY ASSESSMENT REPORT



TEMPERATURE TEST REPORT



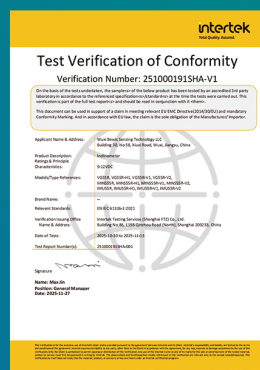
ISO26262



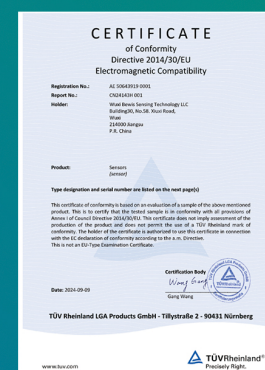
FD527E-CE CERTIFICATION



RoSH



MULTIPLE REDUNDANT CE CERTIFICATION



TÜVRheinland



Wuxi City, Jiangsu Province, China



+86 189 2129 2620



sales@bwsensing.com



www.bwsensing.com

