

# HIGH-TECH SOLAR TRACKERS

MS-1E TRACKER



1-AXIS AZIMUTH





## PRODUCTS AND SERVICES

**mecasolar** is a company dedicated to the **design, manufacture and distribution of 2-axes, 1- axis seasonal solar trackers and fixed structures**, with cutting-edge technology, enabling solar photovoltaic energy production to be increased. World-leading **mecasolar** trackers and fixed structures are the **securest, sturdiest, most efficient and profitable** on the market.

**mecasolar** is strongly committed to serving customers. To fulfil the needs of customers, **mecasolar** offers a range of supplementary services:

- **Structure custom design adjusting to the project's needs** regarding **structural loads** as well as **electrical design**.
- **Support and management** regarding **construction work, low and medium voltage, and configuration of modules and inverters**: our engineering department is at all times ready to help customers.
- We adapt to the project management's requirements, **planning deliveries according to** customers' needs and managing **the logistics of the project in a comprehensive, coordinated way**.



### MS-1E TRACKER

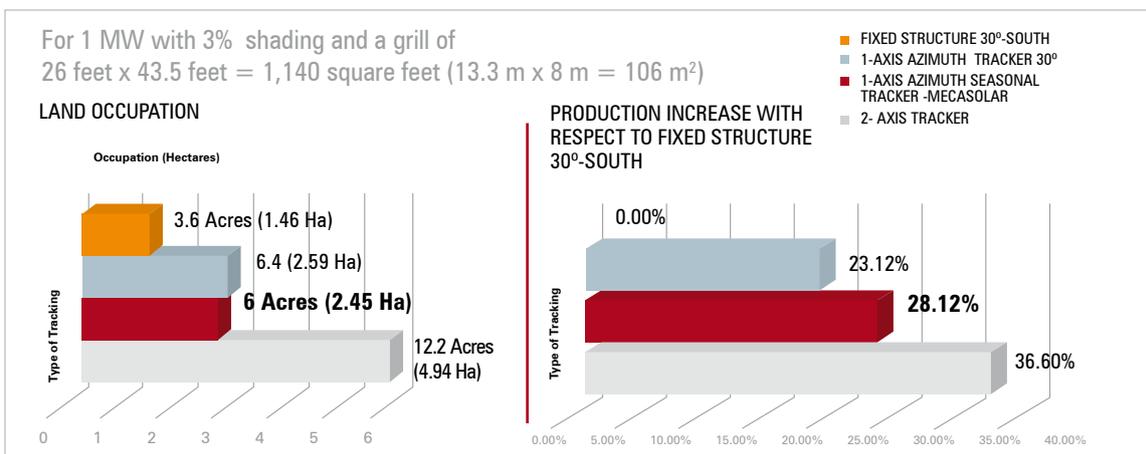
- Metal structure and grill for 15.36 kWp (Sixty-four 240 Wp modules) panels.
- Automatic tracking with PLC in a fully wired independent panel, including motor guards, PLC power supply, varistors, etc.
- Three-phase gear motor for azimuth axis.
- Hook-up connection cabinet for storing protectors.

## EXPERIENCE





## COMPETITIVE ADVANTAGES



### MULTI-POWER AND MULTIPLE MANUFACTURER FLEXIBILITY

The design of the omega panel support structure provides the **mecasolar** tracker with incredible **FLEXIBILITY** when it comes to installing different panels made by various manufacturers. The system can handle a maximum power of 15.36 kWp.

### MANUALLY ADJUSTABLE POLAR TILT

The plots occupied by the MS-1E TRACKER are very similar to the plots occupied by the traditional NON-seasonal 1-axis solar tracker, which results in a **greater return on investment**.

### FOUNDATION

Foundation on surface footing -13 cubic yards- that does not require any excavation. It is only necessary to clean off the terrain, removing the top layer of vegetation and levelling the ground.

### OUTPUT / THREE PHASE CONNECTION

Each of the three phases is connected to each one of the 3 inverters. This feature reduces losses due to wiring and provides a more balanced power output. Upon any damage in any of the 3 phases, 2/3 of the installation is still productive.

### INDEPENDENT CONTROL

Each **mecasolar** solar tracker comes equipped with an independent PLC controller, which works to monitor solar movements, to handle the prevailing weather conditions and to perform remote operations.

### STURDY, EASY TO INSTALL, REDUCED MAINTENANCE, AND LOW POWER USAGE

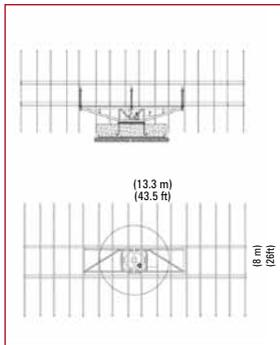
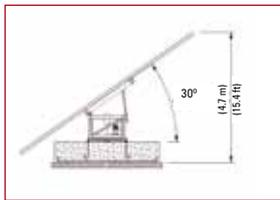
The **mecasolar** tracker motors consume less energy per year (40 kWh/year), resulting in reduced maintenance. Likewise, the robustness of their design and fabrication guarantees the investment over the long term. Furthermore, the easy installation reduces labour costs and time spent on the construction project.

## TECHNICAL SPECIFICATIONS

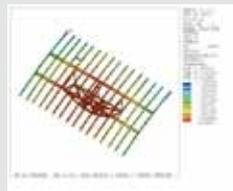
Tracker axis	1-AXIS: Azimuth (vertical)
Module maximum surface	1,140 square feet (106m <sup>2</sup> )
Grillsizes	43.5 feet x 26 feet (13.3 m x 8 m)
Maximum Photovoltaic Power	15.36 kWp (depending on the efficiency of the modules)
Azimuthdrive	By gear motor and cogged crown wheel
Azimuth rotation angle	Vertical axis: -120 ° to +120 °
Tilt Actuator	Manual micrometric screw
Motor consumption	40 kWh / year
Motor operating voltage	380 V Three-phase
Structure	Hot dipped galvanized steel structure
Structure design	Base structure on cogged crown wheel
Weight without modules, and without foundation	4,630 lb (2,100kg)
Electrical cabinets and PLC Protection	Metal, weathertight, fully wired IP55. Includes PLC, wired to motor and protection

Electrical supply cabinet	Metal, weathertight, fully wired IP66. Includes AC overvoltage protection, PIAs and differential (only for MS-1E TRACKER 15+)
Tracking technology	Independent Astronomical programming of PLC
Monitoring	On-site, Ethernet, Internet (OPTIONAL)
Modules to be installed	Any type of PV modules Module holder profile not required
Maximum weight of modules	3,307 lb (1,500 kg)
Wind protection system	Weather vane position at speeds greater than 60 km/h
Foundation	Circular surface footing, 13 cubic yards (10m <sup>3</sup> ) concrete with mesh. Optional anchor bolts, direct bolt anchoring
Standard Compliant with	EUROCODE 0 EUROCODE 1 EUROCODE 3 CE
Maintenance	Annual revision of electrical and mechanical parts to maintain the lifetime warranty

## STRUCTURE DIAGRAM



Checking of 1-axis tracker using finite element programme



ISO 9001:2008



ISO 14001:2004



OHSAS 18001:2007



### HEADQUARTERS

Pol. Ind. Santos Justo y Pastor, s/n,  
31510 Fustiñana, Navarra  
ESPAÑA

Tfno.: (+34) 902 107 049  
(+34) 948 840 993  
Fax: (+34) 902 108 402  
(+34) 948 840 702

mecasolar@mecasolar.com

### GRECIA

Αχιλλέα Σαμοθράκη 27,  
Θεσσαλονίκη,  
TK 54248

Ελλάδα  
Tfno.: (+30) 2310 799 209  
Fax: (+30) 2310 570 597  
hellas@mecasolar.com

### INDIA

Ground floor, Ismail Building,  
D. N. Road  
Flora Fountain,  
Mumbai -400001

INDIA  
Tfno.: (+91) 022 - 4348 4019  
Fax: (+91) 022 - 4348 4001  
india@mecasolar.com

### USA - CANADA

3410 Industrial BLVD, Suite 102  
West Sacramento, 95691 CA  
USA

Tfno.: (+1) 916 374 8722  
Fax: (+1) 916 374 8063  
usa@mecasolar.com  
canada@mecasolar.com