



ST 2000
Tracking system

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ST 2000 TRACKING SYSTEM

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THE ADVANTAGES OF OUR TRACKER AT A GLANCE

SOLID GALVANISED STEEL
CONSTRUCTION,
OWN WEIGHT OF 1,000 KG

LONG-LIFE BALL SLEWING RING WITH
HIGH LOADING RESERVE AND LIGHT
RUNNING

INTERNAL CABLING PROVIDING PROTECTION
FROM SABOTAGE AND WEATHERING

FAULT-FREE OPERATION PROVIDED BY A
BUFFERED POWER SUPPLY

"MADE IN GERMANY" ENSURES HIGH
QUALITY AND SHORT DELIVERY TIMES

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ACTIVE STORM PROTECTION MOVES THE MODULE SURFACE TO AN ALMOST HORIZONTAL POSITION TO PROTECT THE SYSTEM WHEN A CONFIGURABLE WIND SPEED IS REACHED

INTEGRATED MONITORING SYSTEM FOR CENTRALISED FUNCTION MONITORING OF ALL TRACKERS IN A PARK INSTALLATION

MODULAR DESIGN ENSURES RAPID INSTALLATION AND SIMPLE SERVICING

FLEXIBLE MODULAR SYSTEM FOR ALL MODULE TYPES AND ANY SURFACE AREA UP TO 47 M²

ASTRONOMICAL DECENTRALISED CONTROL SYSTEM ELIMINATES ALL SENSOR PROBLEMS AND UNIFIES PERFECT TRACKING WITH HIGH OPERATIONAL RELIABILITY

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The tracking of photovoltaic modules generates a considerable gain from up to 40% per year on average compared to fixed installations. For this reason Solar-Trak has developed tracking systems ST 2000.

Since middle of 1997 we develop and manufacture solar tracking systems. Our Solar-Trak tracking systems align solar modules in either one or two planes to the sun. They work independently, reliably and maintenance-free.

The tracking systems are available for use with a single photovoltaic module (PV module) up to multi module arrays with up to 8,820 Wp. The model ST 2000 has as well been designed for solar parks and is intended for professional long term use.

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MECHANICAL CONSTRUCTION

All elements are proper calculated and of heavy duty design due to the possible wind forces. The mast and the swivel tilt joint are made of hot galvanized steel, the frame for the photovoltaic modules (PV modules) are manufactured of aluminium. The used materials resist the corrosion and are carefully selected for many years of service even in a harsh environment.

The module carrier is constructed for the use of framed modules; due to its modular design it can accommodate modules of almost all available dimensions. The swiveling joint has its origin in the heavy mechanical engineering area and allows rotary movements from more than 270°. The solar energy is thereby optimally collected during all seasons.

The tracker is service-friendly. The control and electronic, azimuth drive with gearbox and linear drive modules can be quickly and easily replaced in the field without dismounting the system.

CONTROL UNIT

Every tracker is equipped with a self-sufficient astronomical control unit. This control unit calculates the exact position of the sun and follows its path regardless of external influences. The module surface is always perfectly aimed to the sun and instantly ready to generate power even with quickly varying cloudiness.

The control system offers extensive configuration and monitoring features. Integrated function monitoring protects the system in the case of malfunctions and can be remotely queried over the data bus via a central server. When connected to the Internet, the system can be monitored and controlled from anywhere in the world. Snow dumping, backtracking and any desired parking position are easy to perform.

ELECTRICAL SYSTEM

All connecting cables run inside the mast where they are well protected. An inverter can be installed on the rotating head or mast if desired. This results in especially simple and elegant cabling.

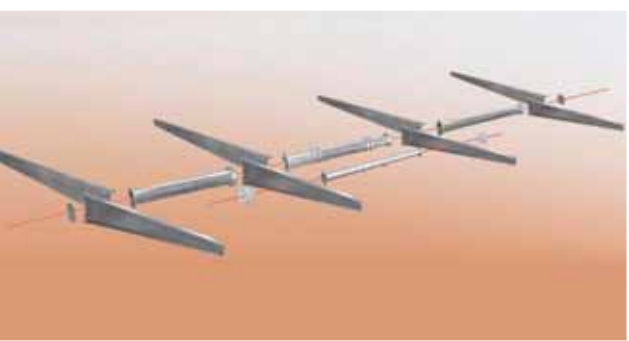
The operating voltage of the tracking system is 24 volt. Two batteries 12 V each are placed in the swivel head on top of the mast. A charger keeps the batteries constantly fully charged. So each tracker is autonomous and able to move into storm position even in bad weather conditions or power failure.

TECHNICAL DATA

Mast's height/flange:	3.000 mm or 4.000 mm, a mast extension is optional
Mast:	conical, 8 angularly, hot-dip galvanized steel
Control:	microprocessor, exact astronomical calculation of the suns position, sensorless
Operating voltage:	24 V DC
Current:	standby < 25mA, operation approx. 1500mA
Power consumption:	on average 4 Watt, maximum 10 Watt
Monitoring:	serial interface, Can Bus, failure memory
Azimuth angle:	> 270 °
Elevation angle:	12° to 78°
Payload:	max. 800 kg
Module surfaces width:	up to 7.600 mm
Module surfaces height:	up to 6.800 mm
Total module surface:	from 20 m ² to 47 m ²
Electric connection:	attachment for terminal box in the mast
Wind speed:	statically calculated according to DIN 1055-4 systems for all wind areas available max. 162 km/h to 42 m ² possible
System weight:	800 - 1000 kg depending on size

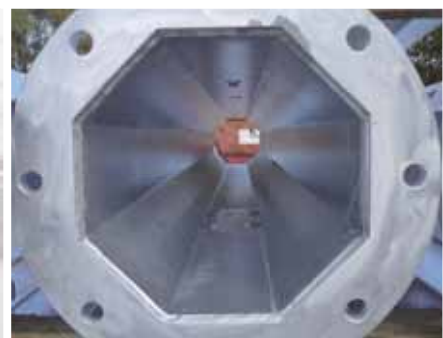
All data are typical data. Solar-Trak reserves the right of engineering changes.

ST 2000



TRANSPORT & INSTALLATION

The modular design not only provides efficient manufacture but also a compact transport volume and easy installation. This results in low transport costs and efficient installation.



MADE IN GERMANY

Our systems are fully manufactured in Germany using the latest machines. This ensures high quality and short response times.

All systems are designed and constructed according to the static loading specifications of the latest European standards. On request, we can also provide material test reports on the steel used.

