



SOLAR TRACKERS

SUNRIDER® SR 1 Axis – Single Row – 1V

GENERAL FEATURES

Tracker type	1Vx60	1Vx90
Number of modules	60	90
Tracking range	+/-55°-60°	
Tracker length*	60 [m]	90 [m]
Tracker width*	2,4 [m]	
Maximum Height*	1.1 [m]	
Module area per tracker	120 [m ²]	180 [m ²]
Number of piles per tracker**	9	11
Peak power per tracker*	26.4 [Kwp]	39.6 [Kwp]
Number of trackers per MWp*	38	26
Number of piles per MW*	342	286
Continuous Slope tolerance [N-S]	15%	
Backtracking	Optional	

INSTALLATION

Working hours per tracker per pair of workers (Including modules)	1 tracker / day
Working hours per MWp	< 800 h
Special tools	Not necessary
Type of foundation	Direct pile + pre-drilling
Ramming and stake out	3 min / pile

* Value may change depending on panel power and dimensions.

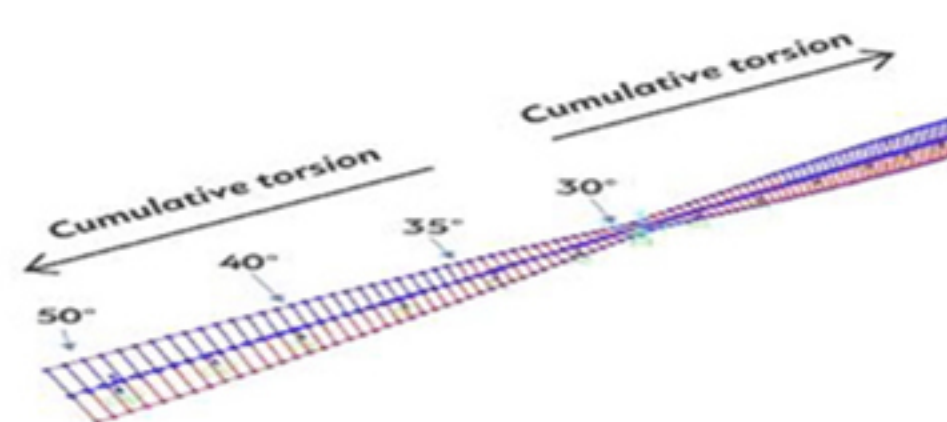
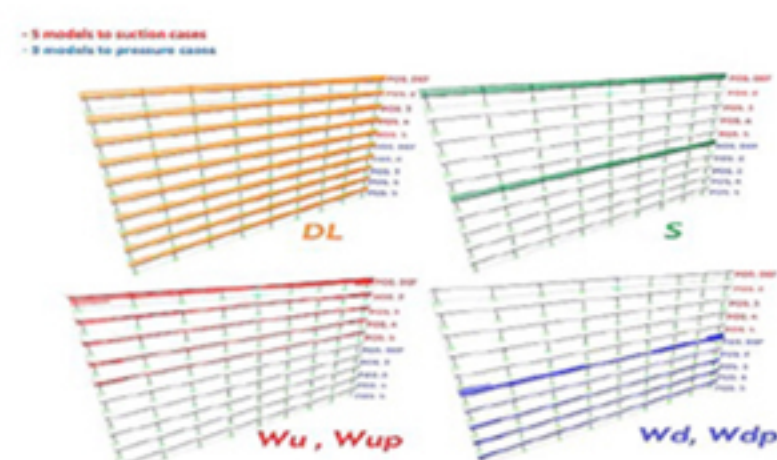
** Number of piles depends on maximum wind speed and terrain category according to Eurocode.

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CALCULATION CRITERIA

Structural standards	EUROCODE/USA STANDARD
Maximum design wind speed (ten minute speed at 10m height) *	33 [m/s]
Maximum design wind speed (3 second gust at 10m height) *	50 [m/s]
Initial defense position windspeed (3 second gust at 3m height)	18 [m/s]
Wind period of return	25 years



MOTOR FEATURES

Motor technology	Spinning module. Brushless motor.	
Motor power supply voltage	24VDC	
Motor type	DC	
Motor speed regulation	PWM	
Continuous operation power	0.15 [kW]	
Continuous operation Lifetime	25000 h	
MTBF (Mean Time Between Failure)	>6 years	
Tracker type	1Vx60	1Vx90
Consumption [kWh/ tracker day]**	0.015	0.02
Consumption [kWh/ tracker year]**	5	7.5
Consumption [kWh/ MWp year]**	165	245

* Maximum design speed depends on location and terrain category according to Eurocode.

** Consumption data is an estimation as it depends on Weibull wind distribution.

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CONTROL

TCU supply type	Power grid (AC)	Battery (DC)	String (DC)
Communication system protocol	Cable NCU-TCU	Cable NCU -Wireless (Zigbee)	
Controller	Microprocessor ATxmega128A3U		
Tracking algorithm	NREL Algorithm implemented in C		
Angular electric precision	<0.05°		
Encoders	No		
Operational temperature and height	-20° to +70°C. <2500m		
Maximum Consumption	700 [mWh]		
Master (block)	Up to 200 u. / block		
Annemometer type	Analogic		
Measuring	4-20mA		
Quantity	1 per RSU		
Precision	1.1 m/s & 2%		
Battery type (technology)	LifePO4		
Battery capacity	6400 [mAh]		
Load Voltage	29.2 V (max VDC)		
Back Up Power	2-3 days (100% SOC)		
Battery lifetime	>10 years (80% SOC)		
Solar module power	60 [Wp]		

