APEX CUSTOMER TECHNICAL DATASHEET | REV E

ApexTracker S1 Single-Axis System

Single-axis tracker package for utility PV projects with stow strategy, drive control and terrain-aware design review.

APPLICATION
Utility-scale single-axis tracking PV projects

TRACKING
+/-60 deg typical tracking range with project-specific wind-stow strategy

WIND
Up to 47 m/s review basis

Advantages

Apex Advantage

Any Scale, Any Solution. Apex provides project-ready mounting structures, optimized BOM support, engineering documentation and dependable material control for global PV projects.

Reliable Structures. Faster Project Review. Global PV Support.

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Single-axis tracker package for utility PV projects with stow strategy, drive control and terrain-aware design review.

TRACKING
+/-60 deg typical tracking range with project-specific wind-stow strategy

WIND
Wind stow by project design

DRIVE
Slewing drive with controller package

WARRANTY
12-year product warranty

Design Envelope

Parameter	Min	Max	Condition
Tracking	-60 deg	+60 deg	Drive/stow strategy by row design
Wind review	Project	47 m/s basis	Terrain and stow position required
Row geometry	By module	By torque tube	Module count and row length reviewed
Control	IP65	LoRa/RS485	Communication by project

Core Specification

Item	Specification
Application	Utility-scale single-axis tracking PV projects
Tracking	+/-60 deg typical tracking range with project-specific wind-stow strategy
Wind	Up to 47 m/s review basis; final stow strategy by terrain, code and tracker row design
Module Fit	TOPCon, HJT, PERC, bifacial and large-format framed modules by clamp review

Materials / Compliance / Warranty

Item	Specification
Material	HDG steel torque tube, posts and drive components; Zn-Al-Mg coated parts by BOM
Design Basis	ASCE 7-16 / 7-22; IBC 2021 / 2024; EN 1991 / EN 1993 / EN 1999; AS/NZS 1170; JIS C8955 / GB 50009 by project
Warranty Profile	Structure: 12-year limited; design life target: 25-year; drive/control terms by order scope.

Apex engineering support: layout drawing, structural calculation basis, optimized BOM, packing list and material documentation.

PROJECT DESIGN INPUT SHEET

Project Design Input Sheet

Site wind profile	Snow zoning
Module datasheet	**Corrosion class C3/C4/C5**
Terrain slope map	Row length
Stow wind speed	Communication plan

Engineering Output Definition

Item	Specification
Design load envelope	Wind, snow and seismic basis defined for project review.
MTO / BOM	Material take-off and component list prepared by layout.
Drawing pack	Layout, section/detail drawings and installation reference by order scope.
Tracker logic	Stow position, drive/control scope and communication interface defined.

Tracker Model Focus

Torsion tube, drive torque, stow wind strategy, row length and terrain adaptation are checked during project engineering.

Engineering calculation entry

Submit design inputs to define load envelope, model assumptions, MTO and drawing pack.

Request Apex EPC review for load envelope, structural assumptions, MTO and drawing pack.

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Engineering Technical Controls

Item	Specification
Wind	Up to 47 m/s review basis; final stow strategy by terrain, code and tracker row design
Tracking	+/-60 deg typical tracking range with project-specific wind-stow strategy
Drive	Slewing drive with controller package; LoRa / RS485 communication by project
Protection	IP65 control package basis
Material	HDG steel torque tube, posts and drive components; Zn-Al-Mg coated parts by BOM
Design Basis	ASCE 7-16 / 7-22; IBC 2021 / 2024; EN 1991 / EN 1993 / EN 1999; AS/NZS 1170; JIS C8955 / GB 50009 by project
Warranty Profile	Structure: 12-year limited; design life target: 25-year; drive/control terms by order scope.

Communication Method	LoRa wireless communication or 485 bus (Modbus protocol)	System Daily Power Consumption	≤0.1Kwh

Structure

Component Details

Post
Material :
Q235B/ Q355B
(Hot-Dip Galvanized)

Controller
Material :
Q235B
(Hot-Dip Galvanized)

Motor
Spec :
7-9 inches

Putter Spindle Fastener
Material :
Q235B
(Hot-Dip Galvanized)

Bearing base
Material :
Q235B
(Hot-Dip Galvanized)

Putter
Customized according to actual needs

Tilt Sensor
Material :
Q235B
(Hot-Dip Galvanized)

Angle Steel
Material :
Q235B/ Q355B
(Hot-Dip Galvanized)

Motor Base
Material :
Q235B/ Q355B
(Hot-Dip Galvanized)

Putter Post Fastener
Material :
Q235B
(Hot-Dip Galvanized)

Bearing Sleeve
Material :
Q235B
(Hot-Dip Galvanized)

U-shaped support
Material :
Zn-Al-Mg Coating Stee
Q355B
(Hot-Dip Galvanized)

U-shaped Rail
Material :
Zn-Al-Mg Coating Stee
Q355B
(Hot-Dip Galvanized)

Spindle
Spec :
120*120, 140*140
Material :
Q355B(Hot-Dip Galvanized)

Installation Guide

Install the Posts according to design drawings

Install the Motor Base&Bearing bases on the Posts

Install the Motor in the Motor base

Install the Bearing Sleever on the Bearing bases

Install the Spindle through the Bearing Sleever&Motor

Install the Putter Spindle Fastener in the Spindle

Install the Putters

Install the U-shaped Rail

Install the Controller

Install the modules,then installation is done