

PAIRAN Box Solar Tracker Controller

This controller is designed to replace the former Control Unit of Dual Axis Solar tracker's, without to change the enclosure box of original Pairan Controller. We 've managed to develop a new Controller that can replace the former Pairan Controller replacing only a damaged pcb card with a new Datalabs developed Controller.

The Pairan Box is packaged with a set of software modules to make it a complete solar tracker controller. It may operate in a field of other Pairan Box managed trackers.

1. Supports dual-axis, up to two single-axis, roll-and-tilt, or dual-axis synchronous trackers.
2. Calculates solar position using an NREL solar position algorithm instead of relying on irradiance sensors.
3. Can issue commands to assume Stow, Storm or Clean positions.
4. Extensive fault handling and recovery in case of electro-mechanical failure.
5. Management of remote software updates, parameters for motor operation, and range limits.
6. Monitoring of operational details and fault analysis.
7. Automatic storm detection.
8. Integrated Datalabs software installed in PC with access to controller parameters and status.
9. Tracker positional feedback through encoder for Azimuthal and Pitch
10. Manual control of Storm and Clean mode.

Datalabs controllers calculate the sun's position using the current longitude, latitude, and time of day, and position the tracking solar PV system to face the sun directly. Datalabs Controller detects storm conditions throw the wind sensor of PAIRAN tracker and safely park the solar tracker horizontally, keeping the system safe.



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