

FXCX2Px

Field Supervisory Solar Tracker Controller

The FXCX2Px Solar Tracker Controller is based on the CX2x hardware with software designed to manage a field of up to 14 additional PVTRK™ solar tracker controllers, in addition to operate one dual-axis, or two single-axes, solar trackers. It is ideally suited for commercial sites managing PVTRK controllers and coexisting with other FXCX2Px controllers. The FXCX2Px system features ready-to-use Internet connectivity with support both on on-board webserver and remote management through Lauritzen's central Valhalla server.

Features

- Supports dual-axis, up to two single-axis, roll-and-tilt, or dual-axis synchronous trackers.
- Manage a field of 14 PVTRK solar tracker controllers in addition to the solar tracker controller embedded within the FXCX2 controller.
- Calculated solar position using NREL solar ephemeral algorithm.
- Automatic storm detect with parameterized average or peak wind speed threshold. Broadcast of local weather data to other FXCX systems.
- Parameterized fixed positions for Stow, Storm or Clean positions.
- Tracker calibration mode, on-sun, south and/or horizontal
- Extensive fault handling and recovery in case of electro-mechanical failure.
- Manual control of Storm and Clean mode.
- Automatic AC-power fail detection
- Support of Service Mode for tracker movement.
- Tracker positional feedback through encoder, integrated or external inclinometer.
- Optional monitoring of solar energy production.
- Optional monitoring of solar irradiation or temperature probes.
- Parameterized geographic location, or automatic geographic location acquisition through external GPS radio.
- Integrated local webserver with access to controller parameters and status.
- Integrated support for iPhone Heimdal or Android app.



- Integrated support to remote worldwide monitoring and remote control with Valhalla central server.

Description

One Parameterized Controller, Many Applications – The FXCX stand-alone solar tracker controller can be used in a wide range of solar tracker applications through an extensive set of parameters. It is being used in new applications, but can also be used in the retrofit market.

Dual-Axis Trackers – One FXCX controller is capable of managing a single dual-axis tracker through the integrated two motor channels. The tracker can either be of the traditional azimuth/elevation type, roll (east-to-west) and elevation type, or dual-axis-synchronous (dual-slewing drives with sandwiched wedge).

Single-Axis Trackers – One FXCX controller is capable of managing up to two single-axis solar trackers through the two integrated motor channels. The tracker(s) can either rotate around the North/South, East/West or Polar Axis.

Communication – Using the integrated Ethernet interface, the FXCX controller is not only Internet capable, but have complete back-end, and remote support through Lauritzen’s Valhalla server and website, including remote control, monitoring, and software updates.

Controller Network – Using the integrated RS485 interface, the FXCX controller is ready to communicate across a 4000ft field to up to 14 other PVTRK configured solar tracker controllers.

Local Control – Basic local tracker control can be done through onboard push-buttons, or more extensively through the iPhone/Android app Heimdal. The local integrated webserver can also be used to define controller parameters and/or monitoring.

Electrical Ratings

Parameter	Min	Typ	Max	Units
Controller Voltage Supply	8	24	70	V
Controller Power Consumption		0.4	1.0	W
Motor Voltage Supply	10	24	40	V
Motor Current	NA	3	10	A

Thermal/Mechanical Characteristics

Parameter	Min	Typical	Max	Units
Storage Temperature	-40	40	120	°C
Operating Temperature	-10	40	70	°C
Controller Dimensions		155 x 160		mm
Controller Weight		0.275		kg

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