Lauritzen Inc.
Bringing new ideas to renewable energy

DX3Px

Single-Axis Solar Tracker Controller

The DX3Px platform is designed specifically to serve the solar industry for single-axis solar tracking applications. It is capable of withstanding both high and low temperatures, voltage spikes on both supplies and control inputs, and extensive diagnostic indicators.

Features

- Internal 3-axis inclinometer
- Support for external Inclinometer
- Motor soft start and stop. Short circuit-detect and current control.
- Support for implied or external motor limit switches, or inclinometer based absolute limit switch.
- Support for external Emergency Stop switch
- Optically isolated primary RS485 interface for commercial field intra communication, or
- Wireless 2.4 GHz IEEE Std. 802.15.4 interface
- Extensive instant LED hardware diagnostics
- Push buttons for Reset, ServiceMode, Calibration, East/West.

Description

One Platform, Multiple Applications – With the integrated inclinometer (tilt sensor), the DX3 offers an absolute minimum controller configuration for single-axis trackers. When mounted on a tracker, the inclinometer directly provides all required feedback, thus reducing interface cables to two; power supply and motor power. The DX3 slave controller is intended to be used in a field of solar trackers where a CX3 based master controller is present. The master/slave communication interface features either a RS485 wired, or wireless interface.

Communication – Using the integrated RS485 or wireless interface, the DX3 controllers are, with the support of a CX3 field controller, capable of complete remote support through Lauritzen's Valhalla server and website, including remote control, monitoring, and software updates.

Modulated Power Output - The DC motor driver contains circuitry to regulate motor power and detect overloads, prevent burn out, and extend the life of the motors. The integrated current sensing can also be used to detect implied motor limit switches. Both motor voltage and current are recorded by the platform which can be downloaded for monitoring

Low Voltage Power - To ease installation, the controller is operated by a single 24V DC power supply.

Sensory Inputs - for inputs the CX platform has support for two external limit switches, or a dual channel encoder, one stop button, and external inclinometer interface. The encoder inputs can be either reed switches or Hall sensors.

Hardware Options

Version	Description
TMDX3	RS485 communication interface
TWDX3	Wireless communication interface

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

Lauritzen Inc.
www.lauritzen.biz
Lauritzen Inc.
1725 Pilgrim Ave. Mountain View, Ca 94040