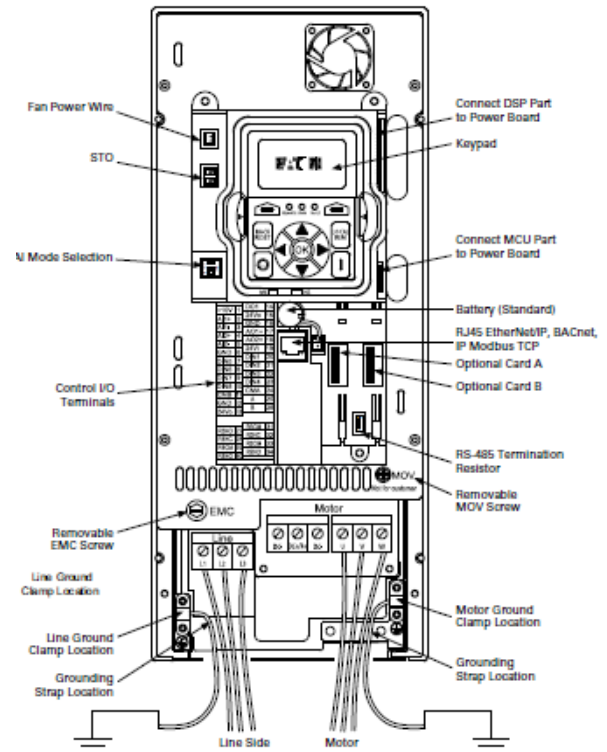


PowerXL DG1 Sales Stand Demo Overview

Introduction

The PowerXL DG1 Sales Stand Demo is designed to give users the functionality of the control module without the full drive by supplying 24VDC to the control board. This document is designed to explain the functionality of the DG1 Sales Stand Demo and step through the procedure of putting a control module into Virtual Mode for use in the demo.



Functionality of Sales Stand Demo

This demo is designed to simulate a fully line-powered PowerXL DG1 adjustable frequency drive with finger-safe 24VDC power. A small fan which is powered by an analog output is used to simulate a full-size three-phase industrial motor. The demo stand also features the following: full DG1 software functionality, communication and PC tool capabilities, external fault and jog inputs, and a ready light and speed potentiometer. Five training exercises have been developed to walk through the demo. These can be found in document MZ040005EN.



Powering Business Worldwide

Putting a Control Board Into Virtual Mode

For a new control board to properly function in the Sales Stand Demo, it must be in Virtual Mode. This will remove the drive faults that occur because there is no power module connected to the control module.

The following steps walk through the process of putting the control board into Virtual Mode.

- 1) Open a Modbus communication program (ex. ModScan, MobusMAT, CAS Modbus Scanner, etc.)
- 2) Once open, initialize communication settings as follows:
 - a. Slave ID:
 - i. For KEYPAD Port: 18 (on Modbus Poll tab)
 - ii. For A/B Terminals: 01
 - b. Port: Change to the COM port determined through Device Manager (i.e. COM5)
 - c. Baud Rate:
 - i. For KEYPAD Port: 38400
 - ii. For A/B Terminals: 19200
 - d. Parity: EVEN
 - e. Stop Bits: 1
- 3) Once the communication port is set up, the following messages are required to place the control module into Virtual Mode.
 - a. Command 1
 - i. For KEYPAD PORT: 12420501(67D8)
 - ii. For A/B TERMINALS: 01420501(635C)
 - iii. Note - (XXXX) this is the CRC check sum, if using the terminal block connection at an address other than 1 then a different value is required.
 - b. Command 2:
 - i. For KEYPAD PORT: 120606970001(FBCD)
 - ii. For A/B TERMINALS: 010606970001(F96E)
 - iii. Note - (XXXX) this is the CRC check sum, if using the terminal block connection at an address other than 1 then a different value is required.
- 4) Once these messages are sent the control module will click like it is resetting and it will be in the Virtual Mode.

Control Options/Ability

The Sales Stand Demo when configured into the Virtual Mode will remove the drive faults that are present when there is no power section connected to it. With this, the controller will accept a start command and indicate that it is in a run mode, with the ability to change the speed reference. The motor current and DC-Link voltage levels seen in the monitor menu on the keypad are preset values. Please note, the fan on the display stand is being fed off an analog output to be a representation of what would occur with a power section connected. It is not a true replica of a motor and it could potentially spin based off how the parameters are setup.

Additional control options and network testing can be demonstrated through the Sales Stand Demo to provide a user with an initial demonstration of the product's capabilities.

- Ethernet IP, Modbus TCP Communication to PLC
- Modbus RTU, BACnet MS/TP Communication to PLC
- Additional I/O Option and Communication Protocol demonstration through 2 expander board slots
- Safe Torque Off (STO) circuit operation
- On board process control operations

Once a demonstration is performed, the control board can be set back to defaults without taking the control board out of the Virtual Mode. This is done by setting parameter P21.1.3 to "Reload Defaults VM". Please note, be sure to choose "Reload Defaults VM", not "Reload Defaults".

Wiring of Sales Stand Demo

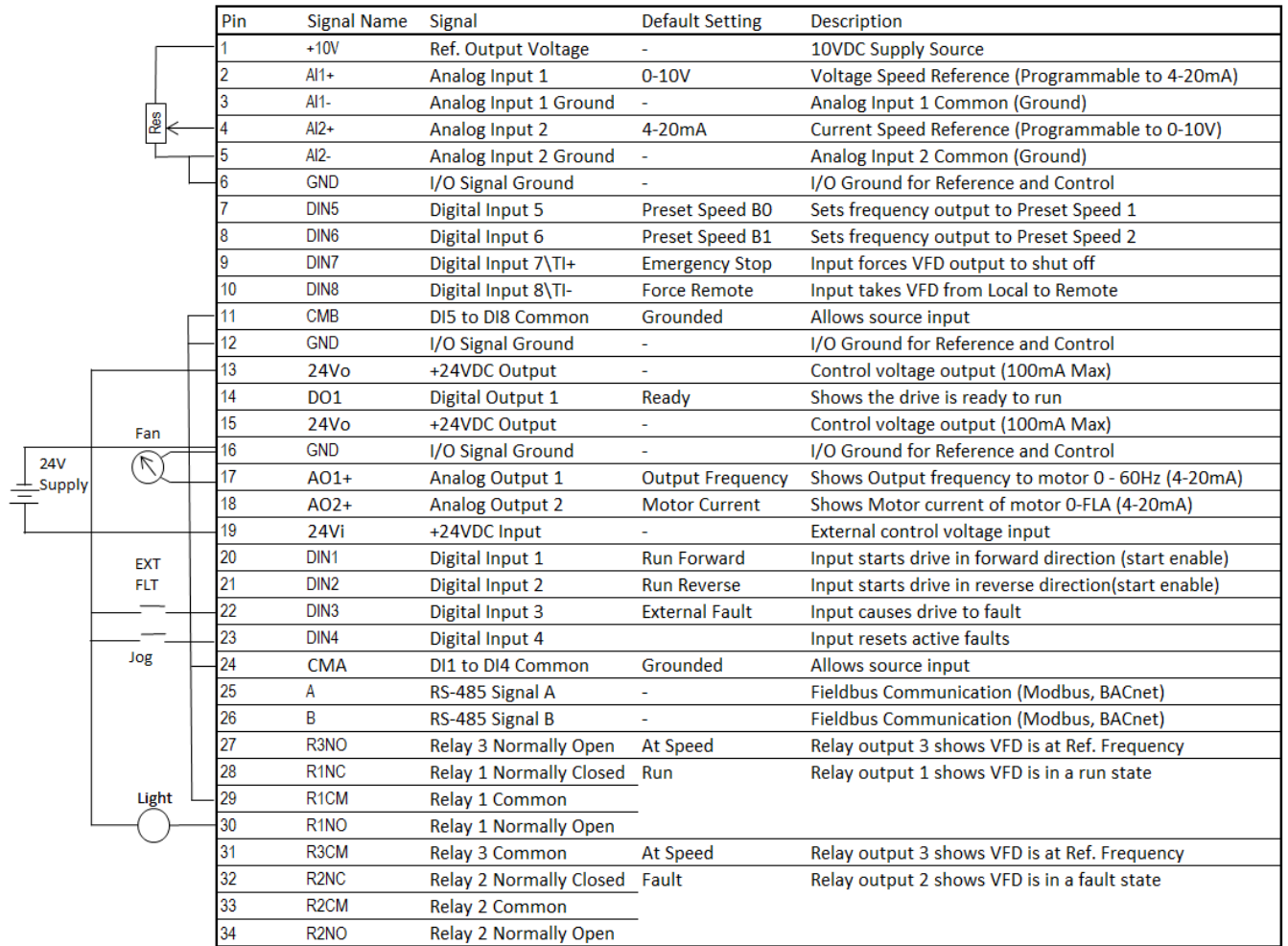


Figure 1: PowerXL DG1 Sales Stand Demo Control Wiring

Additional Help

In the US or Canada: please contact the Technical Resource Center at 1-877-ETN-CARE or 1-877-326-2273 option 2, option 6.

All other supporting documentation is located on the Eaton web site at www.eaton.com/Drives

