

# Control module display stand



The PowerXL DG1 powered control module display stand is designed to be a compact, interactive sales and training tool. It simulates a fully line-powered PowerXL DG1 variable frequency drive with finger-safe 24 Vdc power with a small fan powered by an analog output to simulate a full-size three-phase industrial motor. Five demonstration exercises have been provided in this document to walk through the product functionality.

## Display stand features

- 24 Vdc powered control module and motor
- Full DG1 software functionality
- Communication and PC Tool capabilities
- External fault and jog inputs
- Ready light and speed potentiometer

### Verify Initial Configuration

1. **P:** Parameters → **P1:** Basic Parameters → **P1.13:** Local Reference → Set to "AI2"
2. **P:** Parameters → **P3:** Digital Input → **P3.8:** Fault Reset → Set to "DigIN:ForceOpen"
3. **P:** Parameters → **P4:** Analog Outputs → **P4.1:** AO1 Mode → Set to "0-10 V"
4. **P:** Parameters → **P5:** Digital Outputs → **P5.2:** RO1 Function → Change to "**Ready**"
5. Upload the parameters to the keypad by following the pathway below (60 second upload).  
[**P:** Parameters → **P21:** System → **P21.1:** Basic Settings → **P21.1.4:** Up to Keypad → Change to "**YES**"]
6. Press LOC/REM button if in remote mode, then press the OK key (Remote light will be off).

### Pilot Device Control

1. Press green START key and adjust potentiometer between 30 and 60 Hz to change the motor's speed.
2. The white LED light is set to display a "Ready" signal. Change the reference to "External Fault."  
[**P:** Parameters → **P5:** Digital Outputs → **P5.2:** RO1 Function → Change to "**External Fault/Warning**"]
3. Press the red EXT FLT, which will stop the motor and display a fault message. The LED light will illuminate with the fault.
4. Clear the external fault by pressing-and-holding the "BACK/RESET" button on the keypad for 2 seconds.

### Keypad Speed Control

1. Change the speed reference from potentiometer to the keypad:  
[**P:** Parameters → **P1:** Basic Parameters → **P1.14:** Local Reference → Change to "Keypad"]
2. Set the keypad reference frequency by following the below pathway:  
[**O:** Operate → **R12:** Keypad Reference → Change to a value between "40-60 Hz"]
3. Press the green START key to start the motor and adjust the keypad reference to 30 Hz, then press STOP.
4. Follow Steps 1 and 2 to reset the speed reference to "AI2" and the keypad reference back to "0.00 Hz"



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## **⚠ WARNING**

**DO NOT RESET THE DEMO TO USE DEFAULT PARAMETER VALUES. THIS WILL CAUSE THE SOFTWARE TO RESET, REMOVING THE SPECIAL SIMULATION FUNCTIONALITY OF THIS DEMO.**

### Favorites and Multi-Monitoring Menus

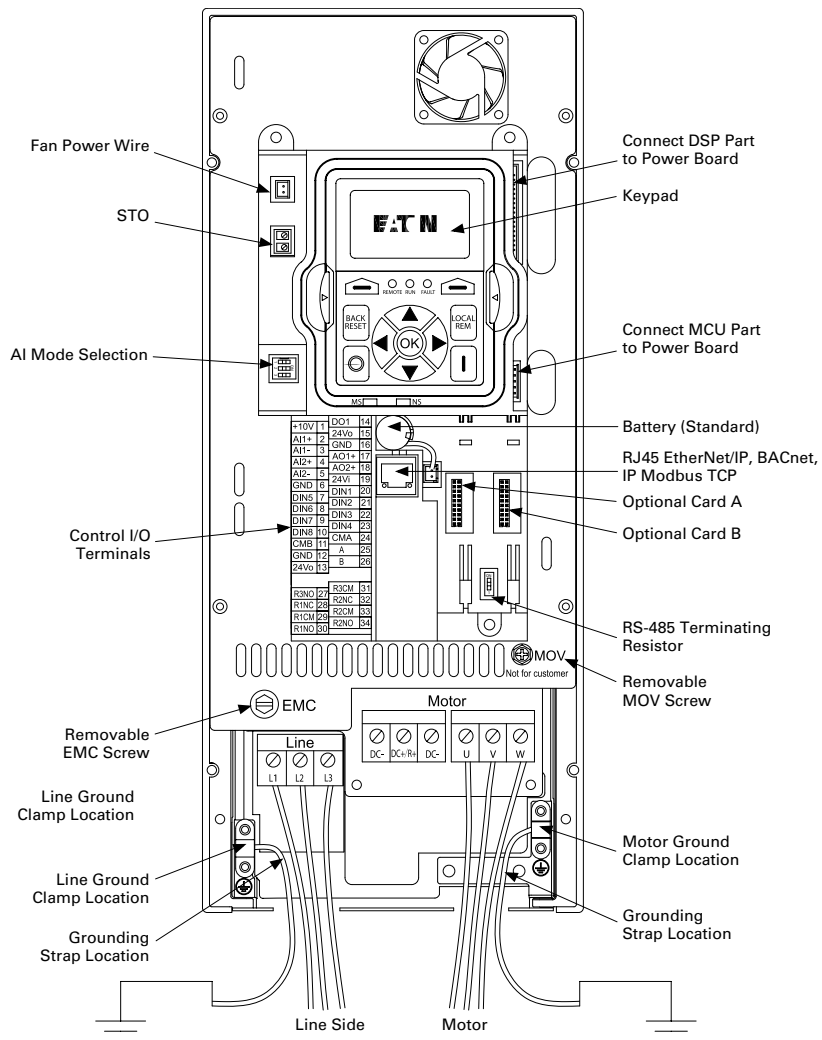
1. Navigate the parameter menu and add the following to favorites using the left-soft key:  
[**P1.1**: Min Frequency / **P21.1.14**: Fan Control / **P1.3**: Acceleration Time / **P9.3**: External Fault]
2. Go to the Main menu, then use the arrow keys to view the Favorites menu.
3. Delete the parameters from the Favorites menu for future demos by using the left soft key.
4. Navigate to the Multi-Monitoring menu and change the default references to those listed below:  
[**M**: Monitor → **M46**: Multi-Monitor → Change all three default values to:  
**M9**: Unit Temp. / **M16**: Input Status / **M20**: Relay Status]
5. Reset the multi-monitoring values to [**M1**: Output Freq / **M2**: Freq Ref / **M3**: Motor Speed].

### Safe-Torque OFF and Keypad Parameter Download

1. Locate the YELLOW terminals on the control module. Disconnect the terminal block from the unit.
2. A Safety-Torque OFF fault should occur because the STO circuit was opened due to the terminal removal. Replace the terminal and reset the fault by using the "BACK/RESET" button.
3. Download the parameter set that was uploaded in section one by following the pathway below:  
[**P**: Parameters → **P21**: System → **P21.1**: Basic Settings → **P21.1.5**: Down from Keypad → Change to "YES"]

### Control terminal layout

+10V	1	DO1	14
AI1+	2	24Vo	15
AI1-	3	GND	16
AI2+	4	AO1+	17
AI2-	5	AO2+	18
GND	6	24Vi	19
DIN5	7	DIN1	20
DIN6	8	DIN2	21
DIN7	9	DIN3	22
DIN8	10	DIN4	23
CMB	11	CMA	24
GND	12	A	25
24Vo	13	B	26
R3NO	27	R3CM	31
R1NC	28	R2NC	32
R1CM	29	R2CM	33
R1NO	30	R2NO	34



Additional documentation and product training is available at [www.eaton.com/DG1](http://www.eaton.com/DG1)

For technical support, contact EatonCare at 1-877-ETN-CARE (386-2273) x2 x6 x3

Follow us on social media to get the latest product and support information.



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