Human-centered
Robotics & Vision Lab.

Linear Actuator
jrk Motor Controller(pololu)

2019.07.20

Young-gi Kim

Dept. of Electronics, Information & Communications
Daejeon University(HRVL)

Product

Glideforce LACT12P-12V-05 Light-Duty Linear Actuator with

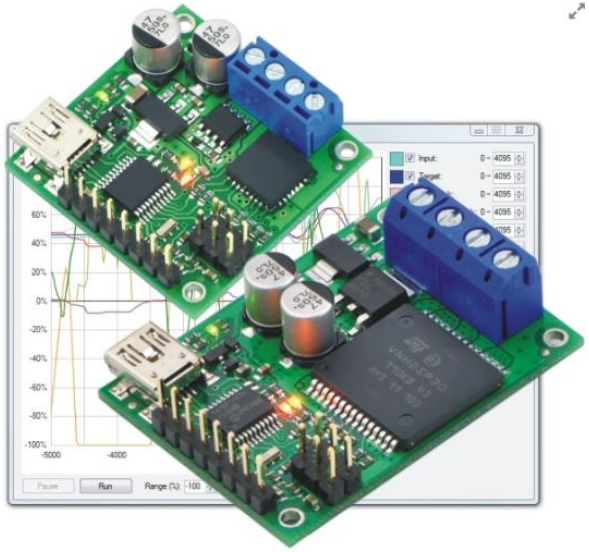
Pololu item #: 2327 **10** in stock
Brand: Concentric

Price break	Unit price (US$)
1	129.95
5	123.45

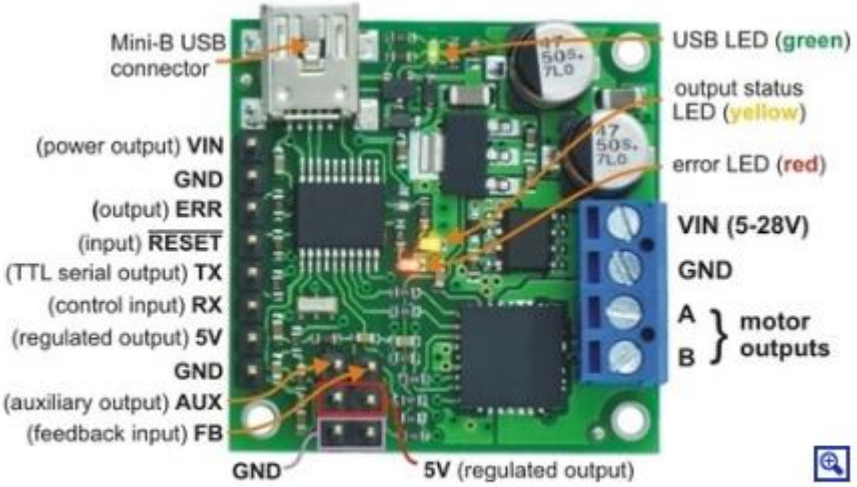
Quantity: 1 Add to cart

Add to wish list

Connecting a linear actuator with feedback to a jrk 21v3 motor controller.



Pololu jrk 21v3 and 12v12 USB motor controllers with feedback.



Pololu jrk 21v3 USB motor controller with feedback, labeled top view.

https://www.pololu.com/product/2327
https://www.pololu.com/product/1394

jrk software install

https://www.pololu.com/docs/0J38/3.a - install manual

1. Download the jrk drivers and configuration software (5MB zip)
2. Open the ZIP archive and run *setup.exe*. If the installer fails, you may have to extract all the files to a temporary directory, right click *setup.exe*, and select "Run as administrator". The installer will guide you through the steps required to install the Pololu Jrk Configuration Utility, the jrk command-line utility (JrkCmd), and the jrk drivers on your computer.
3. During the installation, Windows will ask you if you want to install the drivers. Click "Install" (Windows 10, 8, 7, and Vista) or "Continue Anyway" (Windows XP).

jrk Configuration utility initialize

https://www.pololu.com/product/2327

jrk configuration utility Program Setup

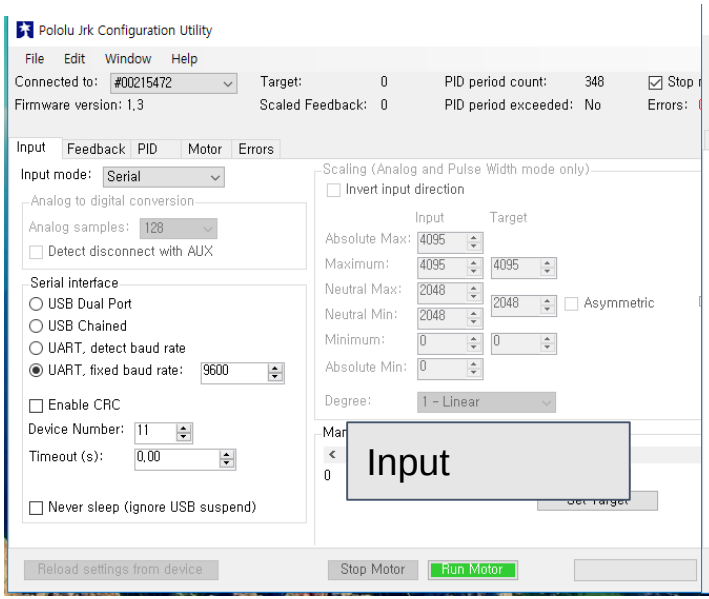
1. If you have not already, read through the Jrk G2 Motor Controllers User's Guide and download its drivers and configuration software.
2. Before connecting power and your actuator to your Jrk, confirm that it is working by connecting your Jrk to a PC with a USB cable and launch the configuration utility. The red LED should be on, and the green LED should be flickering quickly.
3. Download the appropriate settings file for your linear actuator:
   - for versions with the **5:1** gear ratio: Jrk 21v3 settings file for use with LACTxP-12V-5 (2k txt)
   - for versions with **10:1 or 20:1** gear ratios: Jrk 21v3 settings file for use with LACTxP-12V-10 or LACTxP-12V-20 (2k txt)

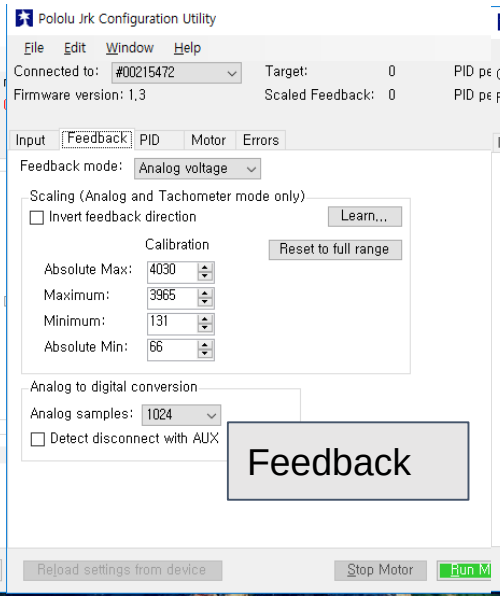
Setup file

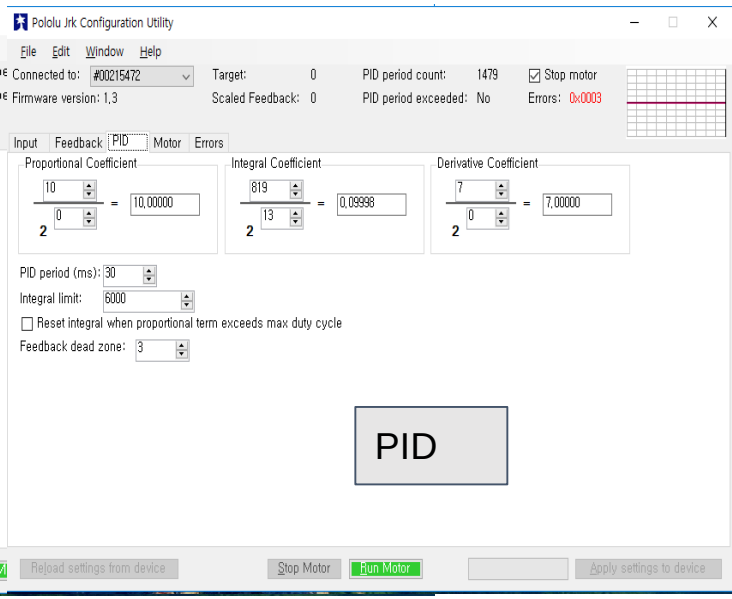
Note: These same settings files will work also with the Jrk G2 24v13 if you open them with a text editor and change the "product" field near the top from "21v3" to "24v13".

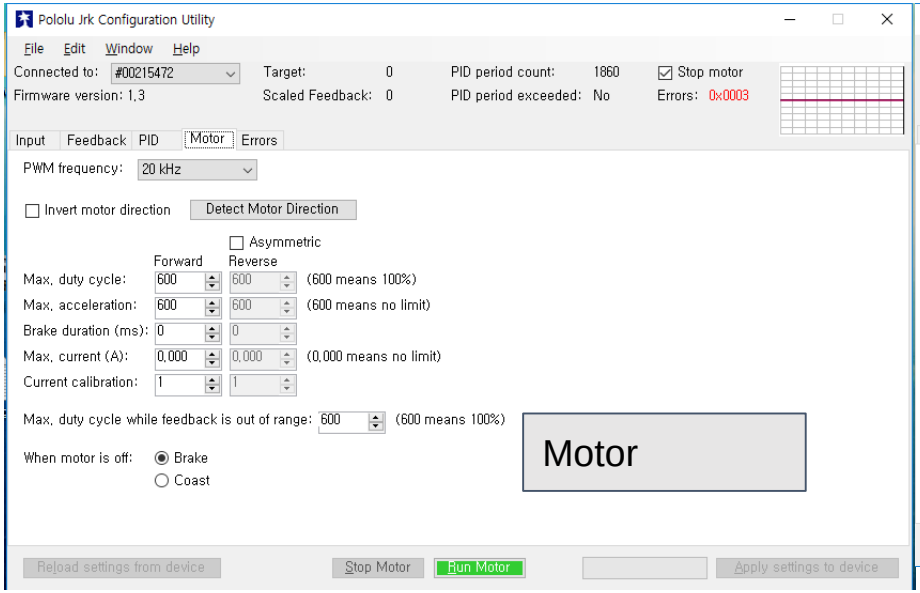
4. In the configuration utility, choose File → Open settings file (Ctrl + O), and navigate to the location of the settings file you downloaded in step 3.
5. Click on the PID tab of the configuration utility and verify that the proportional and derivative coefficients are not zero. If they are zero, the settings file was probably not loaded properly and you should try performing the previous step again.
6. Click "Apply settings".
7. With your power supply off and USB disconnected, connect your linear actuator to your Jrk using the connections shown in the picture above.
8. Turn on power, plug in USB, and reconnect to the configuration utility (use the "Connected to" drop down box if the configuration utility doesn't automatically reconnect to your Jrk).
9. On the Status tab, move the slider around to change the target position and get your actuator to move the target position.
10. The settings in these files should work fairly well with any length Glideforce light-duty actuator that has a feedback potentiometer (model LACTx**P**-12V). However, to ensure you can control your actuator across its full stroke, you should recalibrate the feedback. Instructions for doing this can be found in the analog feedback section of the Jrk G2 User's Guide.

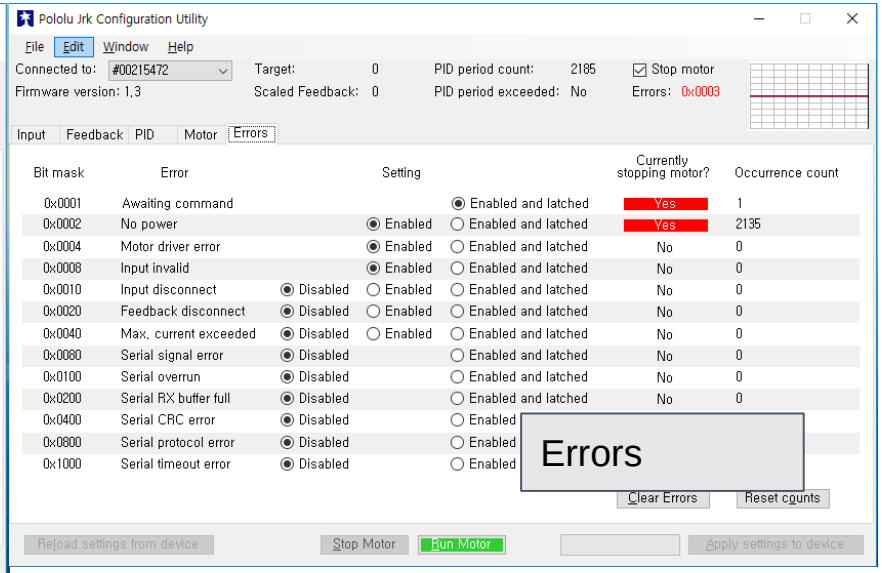
jrk Configuration utility initialize





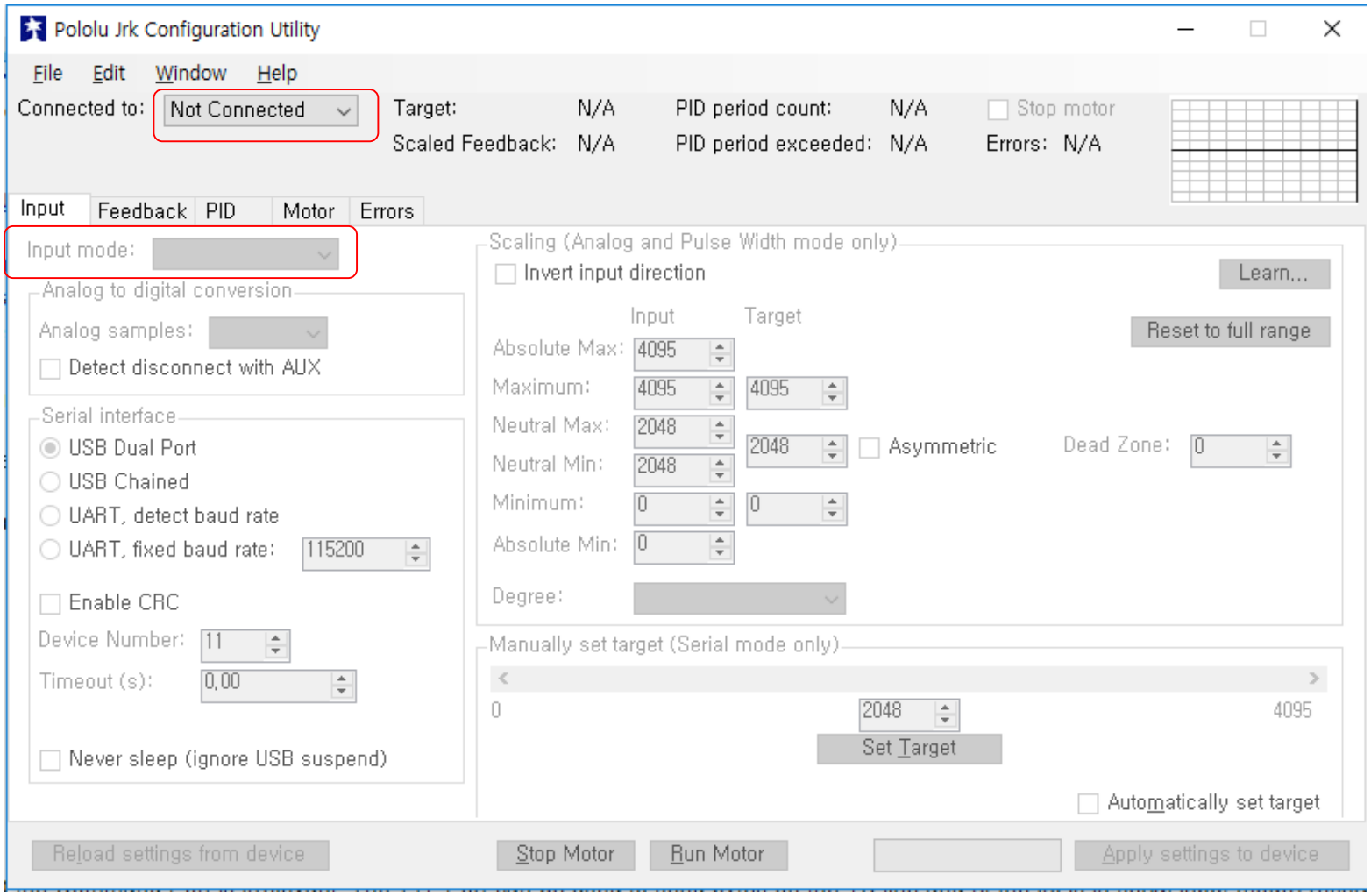




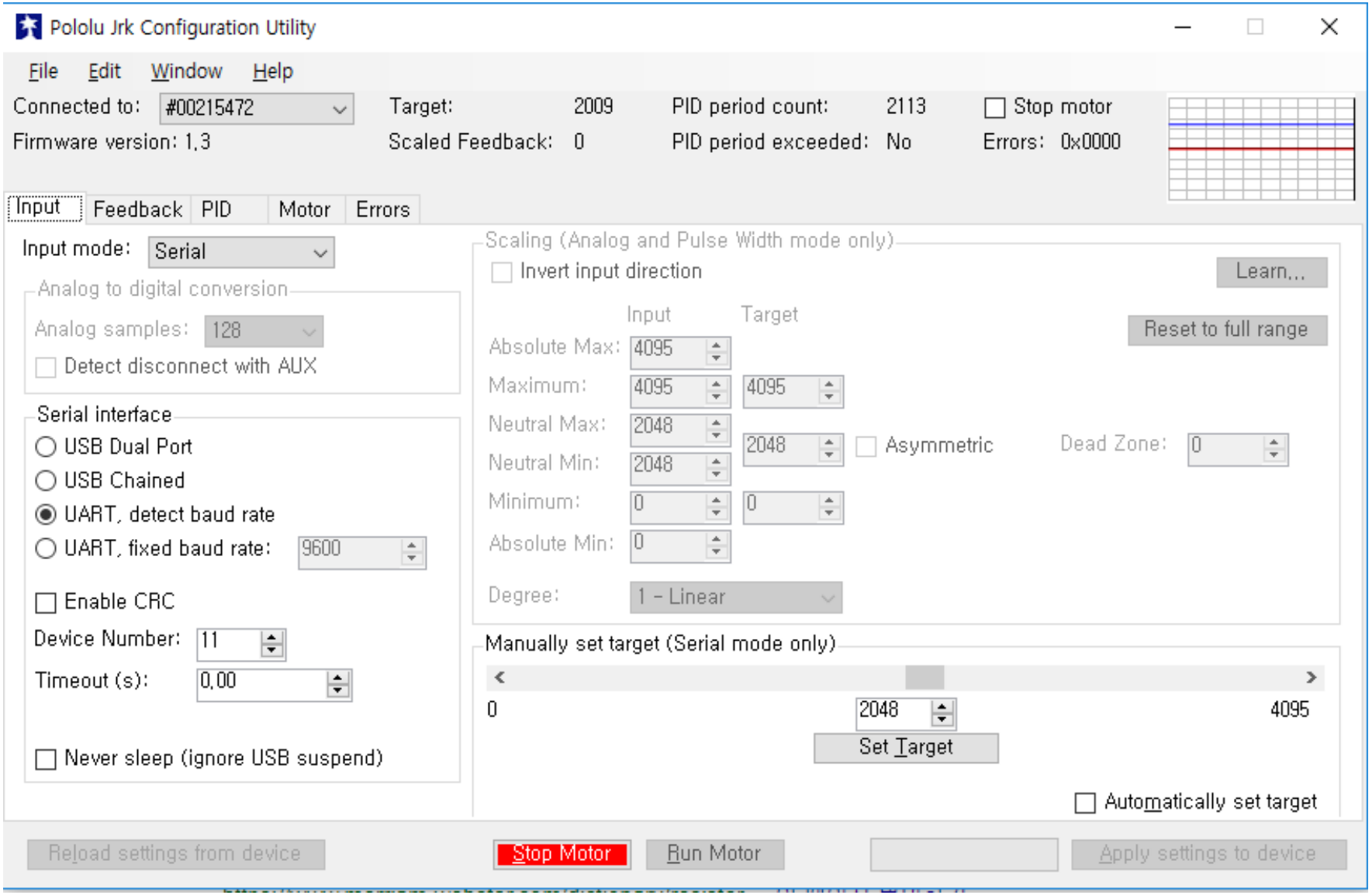


Jrk configuration utility

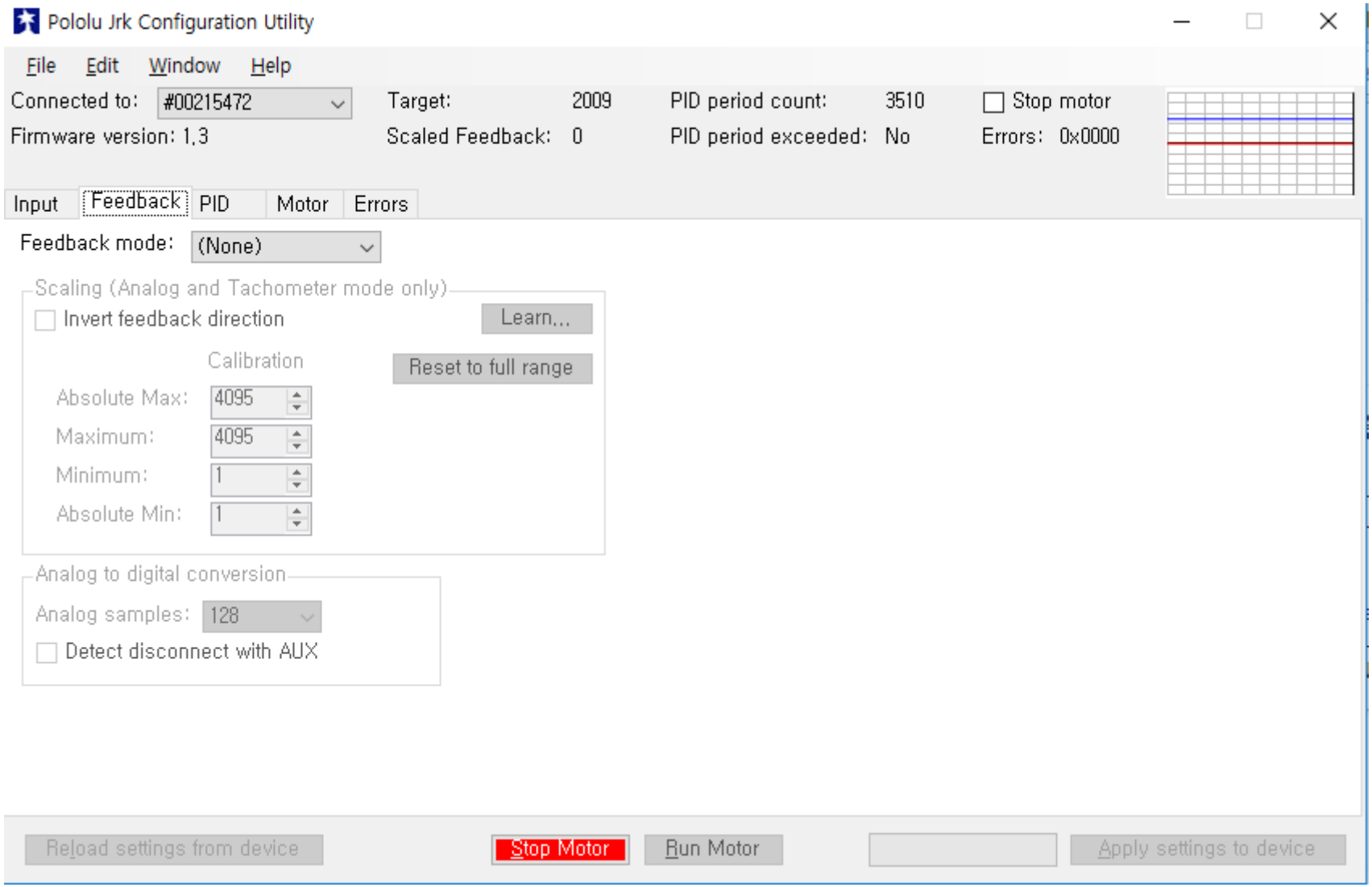
https://www.pololu.com/docs/0J38/3 (Manual)



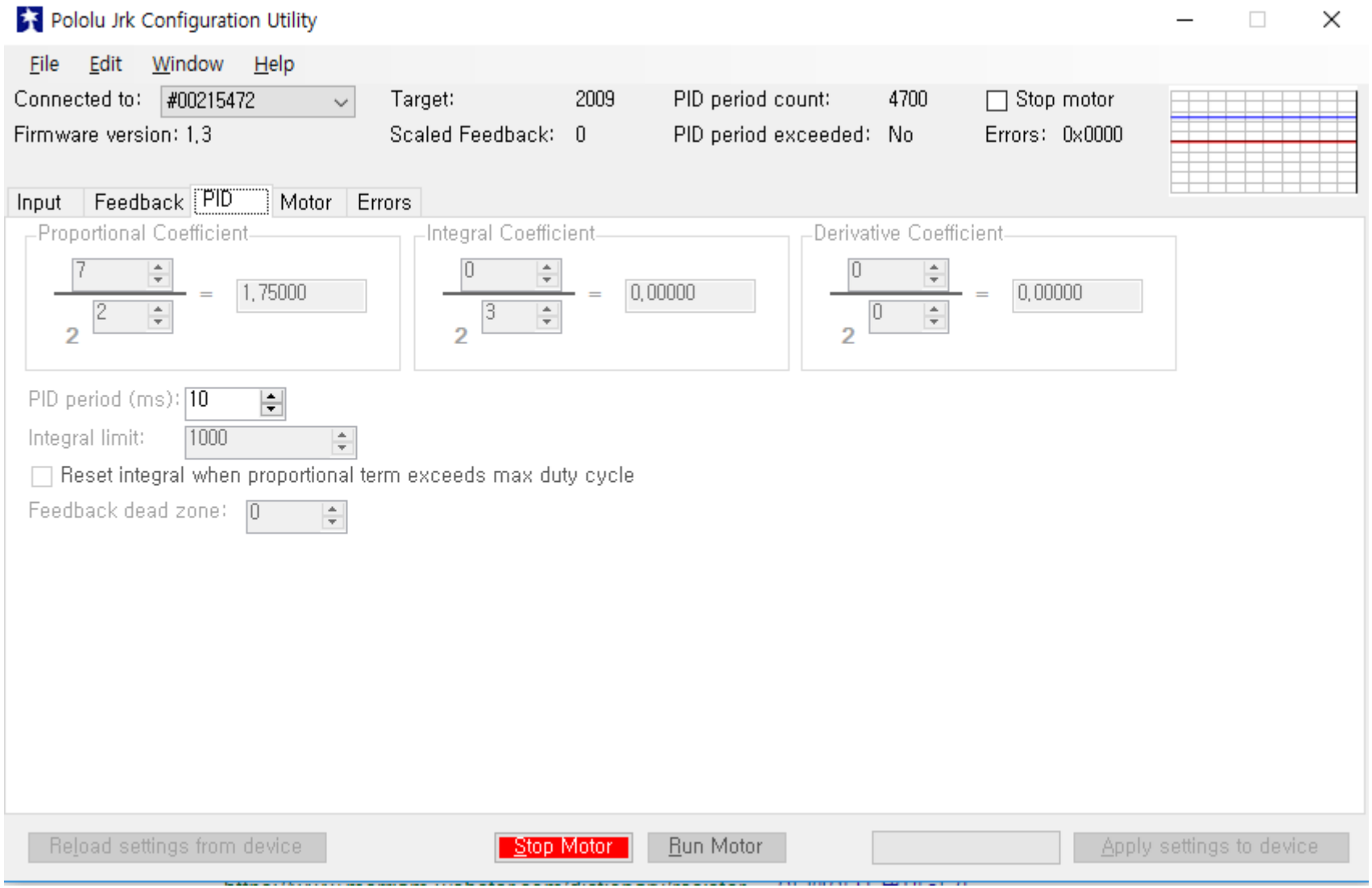
Jrk configuration utility



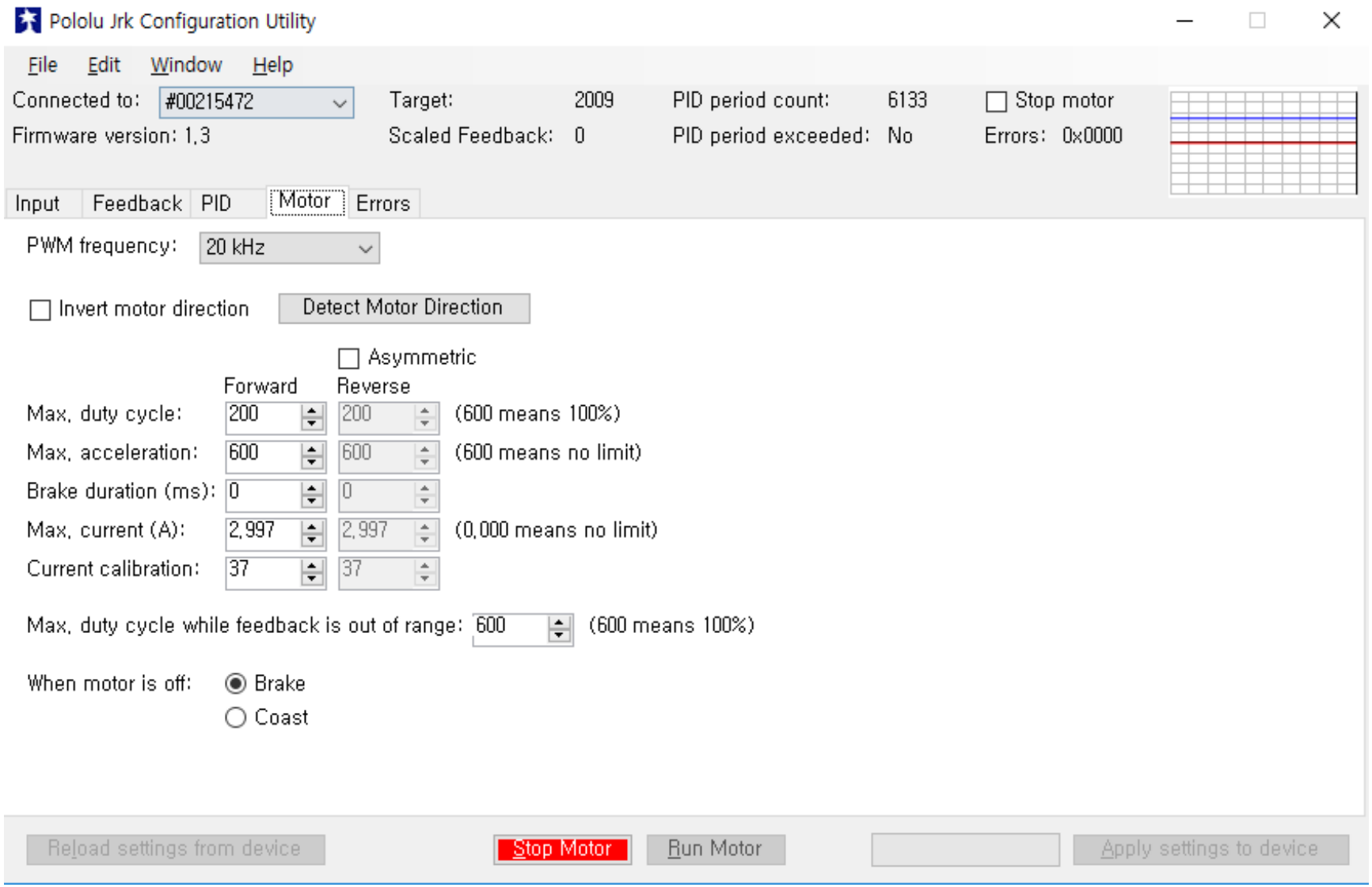
Jrk configuration utility

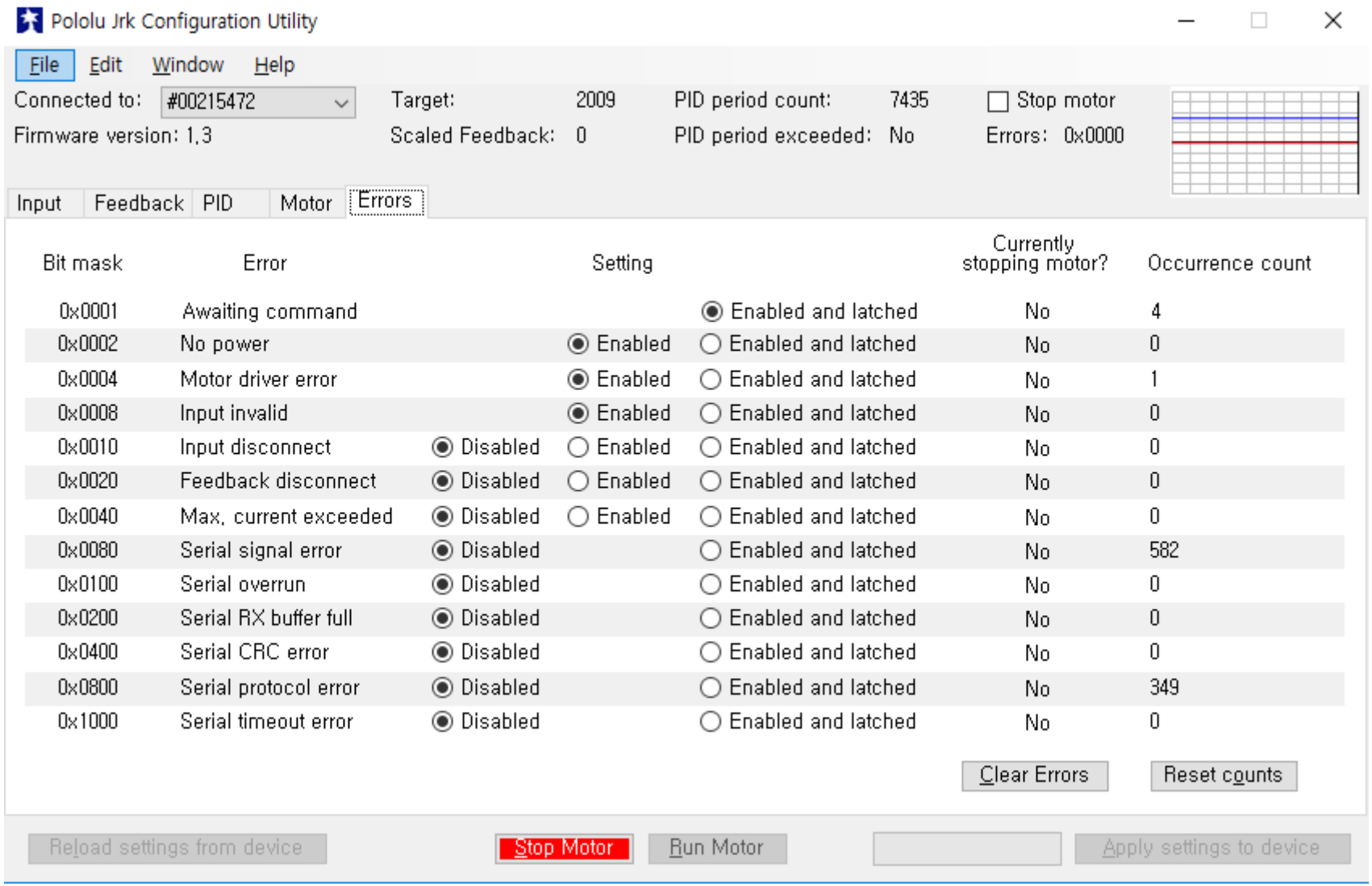


Jrk configuration utility



Jrk configuration utility




Pololu Jrk Configuration Utility
File Edit Window Help
Connected to: #00215472
Target: 2009
PID period count: 7435
Stop motor
Firmware version: 1.3
Scaled Feedback: 0
PID period exceeded: No
Errors: 0x0000
Input Feedback PID Motor Errors
Bit mask | Error | Setting | | | Currently stopping motor? | Occurrence count
0x0001 | Awaiting command | | | Enabled and latched | No | 4
0x0002 | No power | | Enabled | Enabled and latched | No | 0
0x0004 | Motor driver error | | Enabled | Enabled and latched | No | 1
0x0008 | Input invalid | | Enabled | Enabled and latched | No | 0
0x0010 | Input disconnect | Disabled | Enabled | Enabled and latched | No | 0
0x0020 | Feedback disconnect | Disabled | Enabled | Enabled and latched | No | 0
0x0040 | Max. current exceeded | Disabled | Enabled | Enabled and latched | No | 0
0x0080 | Serial signal error | Disabled | | Enabled and latched | No | 582
0x0100 | Serial overrun | Disabled | | Enabled and latched | No | 0
0x0200 | Serial RX buffer full | Disabled | | Enabled and latched | No | 0
0x0400 | Serial CRC error | Disabled | | Enabled and latched | No | 0
0x0800 | Serial protocol error | Disabled | | Enabled and latched | No | 349
0x1000 | Serial timeout error | Disabled | | Enabled and latched | No | 0
Clear Errors
Reset counts
Reload settings from device
Stop Motor
Run Motor
Apply settings to device