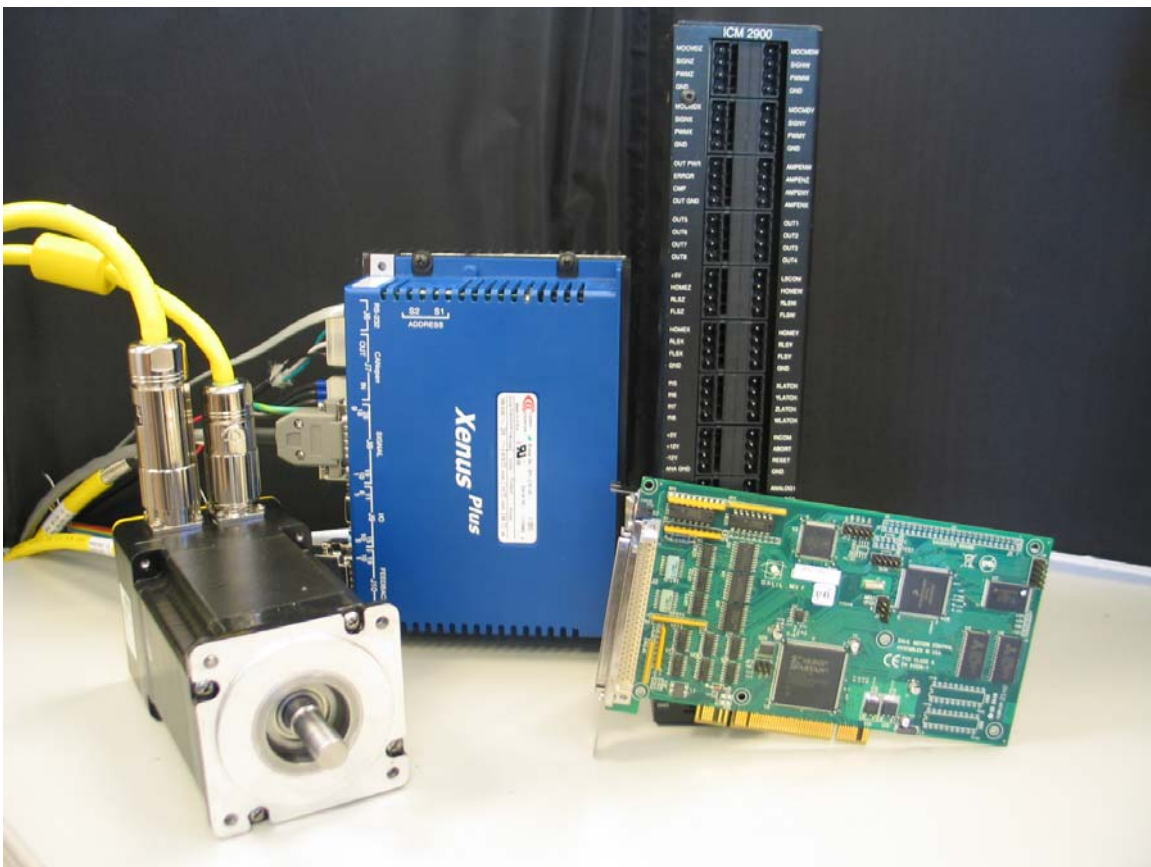


## Application Note #5494

### Connecting a Copley Xenus<sup>PLUS</sup> Amplifier to Galil

This application note will show the steps necessary to connect a Galil DMC-18xx motion controller with an ICM-2900 breakout module to the Copley Xenus<sup>PLUS</sup> Amplifier. The same connections could also be adapted to any Galil motion controller.



The first section will deal with the connections and wiring. The second section deals with the settings necessary to configure the drive through the Copley Motion Explorer 2 software program (can be downloaded directly from Copley Controls). In the example shown below, the Parker BE343JJ-NPSN servo motor was connected to the Xenus amplifier. The user should adjust the motor settings according to the specifications of their particular motor. Please refer to the previous application note ([Note#5424](#)) for details on the different modes the Xenus amplifier is capable of.

## Connections

There are some critical connections described in the Copley Xenus<sup>PLUS</sup> guide that should be followed:

<http://www.copleycontrols.com/Motion/pdf/XPL-ds.pdf>

Here is a general description of the connectors:

J1: AC input (ie:110VAC single phase on L1 & L2)

J4: +24VDC and GND from external supply (required to enable drive)

J2: Motor Phases

J5: SAFETY – interlock. (Note: An override cable must be connected to run.)

J8: External Connections to ICM-2900

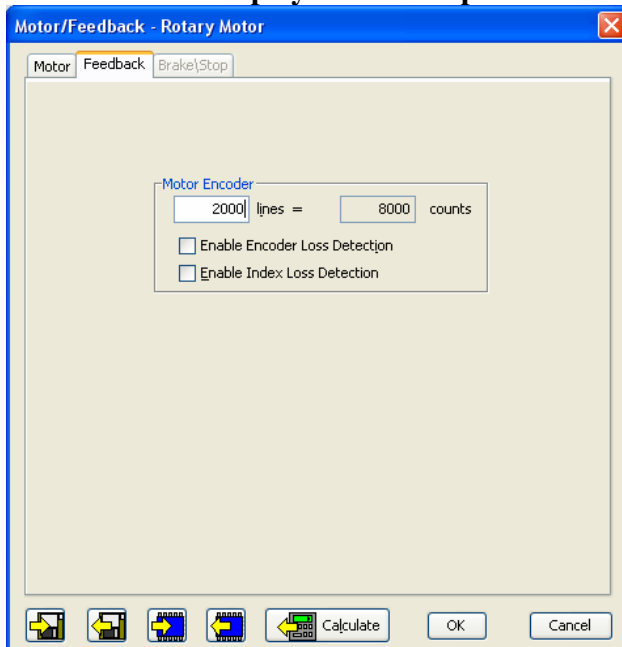
J10: Feedback from Motor

The wiring for J8 to the ICM-2900 is shown here:

Copley Xenus Plus			Galil ICM-2900	
1	Frame GND	---	>	Shield or N/C
2	AIN1+	---	>	GND
3	AIN1-	---	>	MCMDx
4	IN1	---	>	AMPENx
19	Signal GND	---	>	GND
23	Mult Enc B2-	---	>	+MBx
24	Multi Enc B2+	---	>	-MBx
25	Multi Enc A2-	---	>	+MAx
26	Multi Enc A2+	---	>	-MAx

The above wiring allows the Galil controller to be left with the default Motor Type of 1. If AIN1- and AIN1+ wiring is reversed, MTx=-1 should be burned in (BN) to the Galil controller.

## Screenshots of Copley Motion Explorer 2 Settings



**Motor/Feedback - Rotary Motor**

Motor Feedback Brake\Stop

Manufacturer:  Units:  Metric  English

Model Number:

Motor Inertia:

Number of Poles:

Peak Torque:

Continuous Torque:

Velocity Limit:  rpm

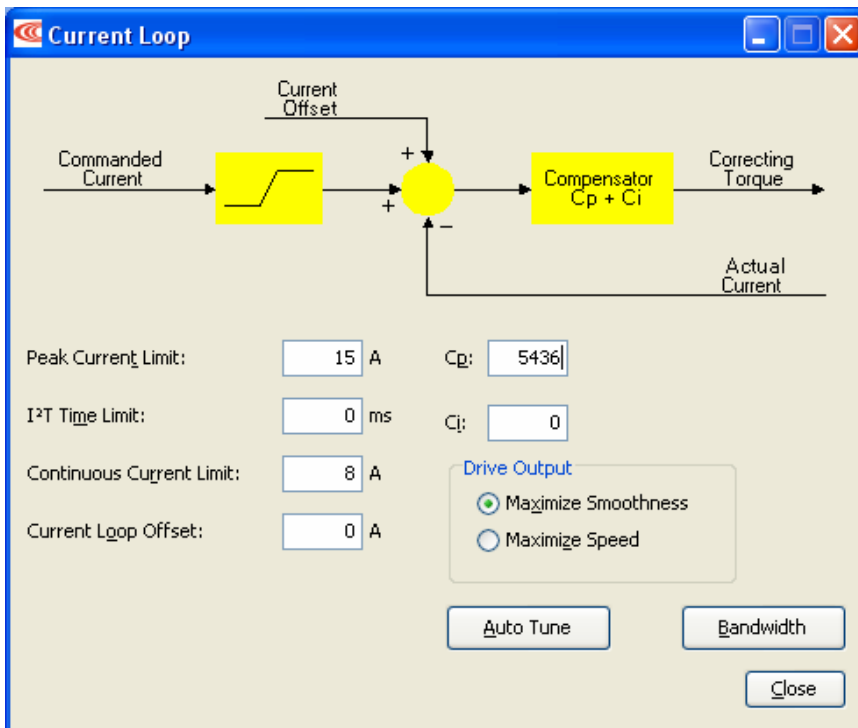
Torque Constant:

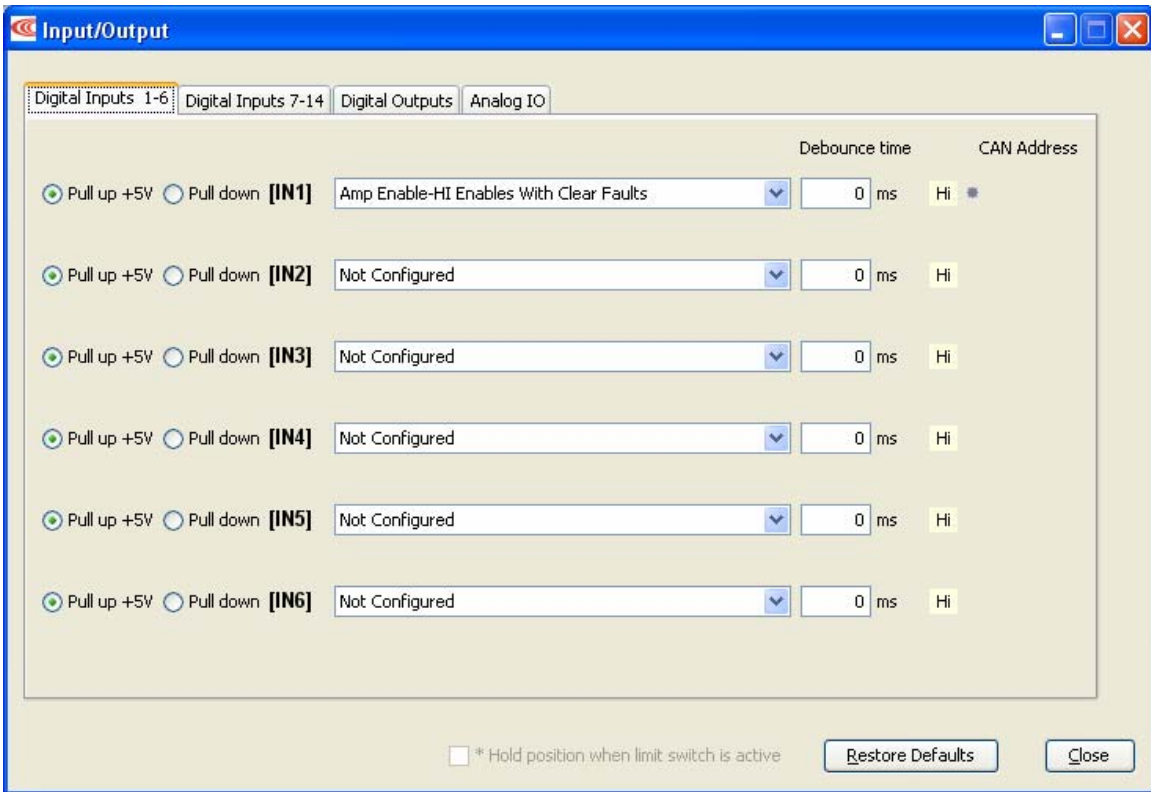
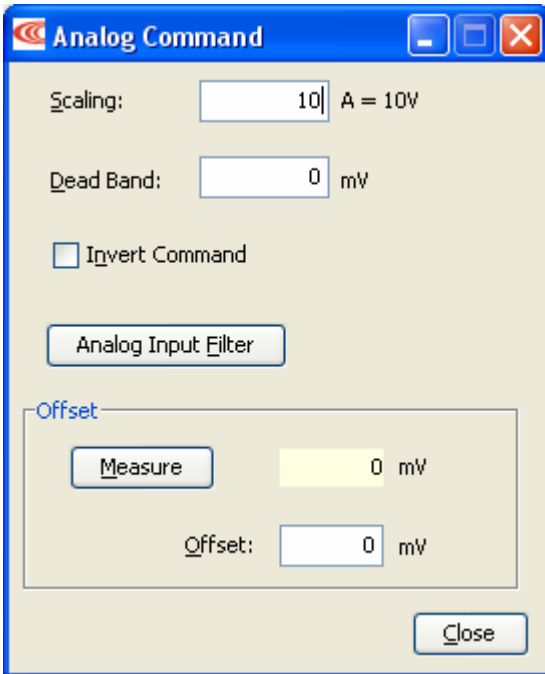
Back emf Constant:

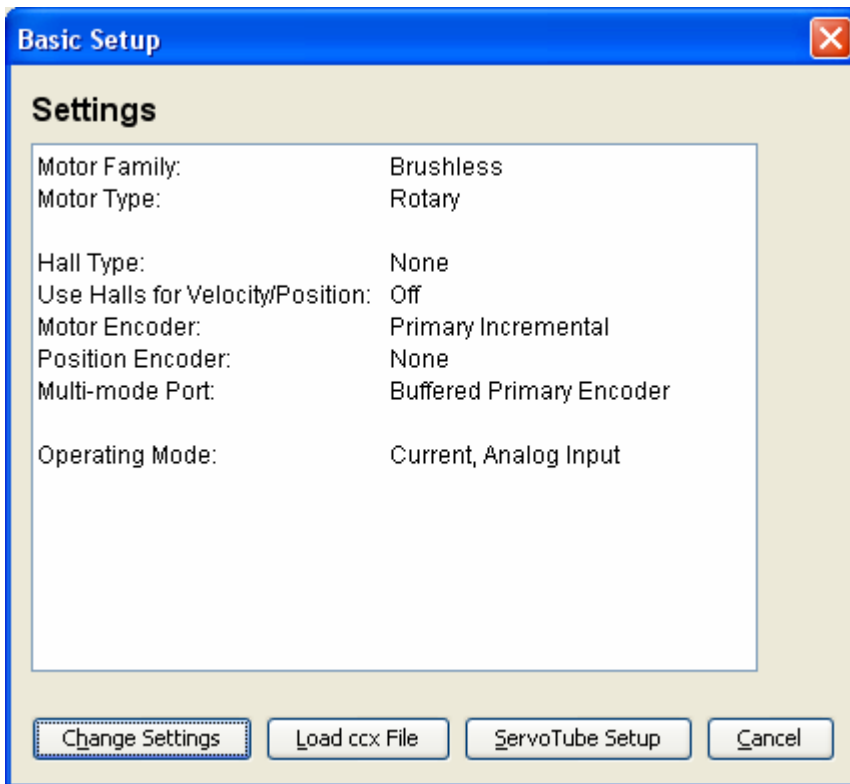
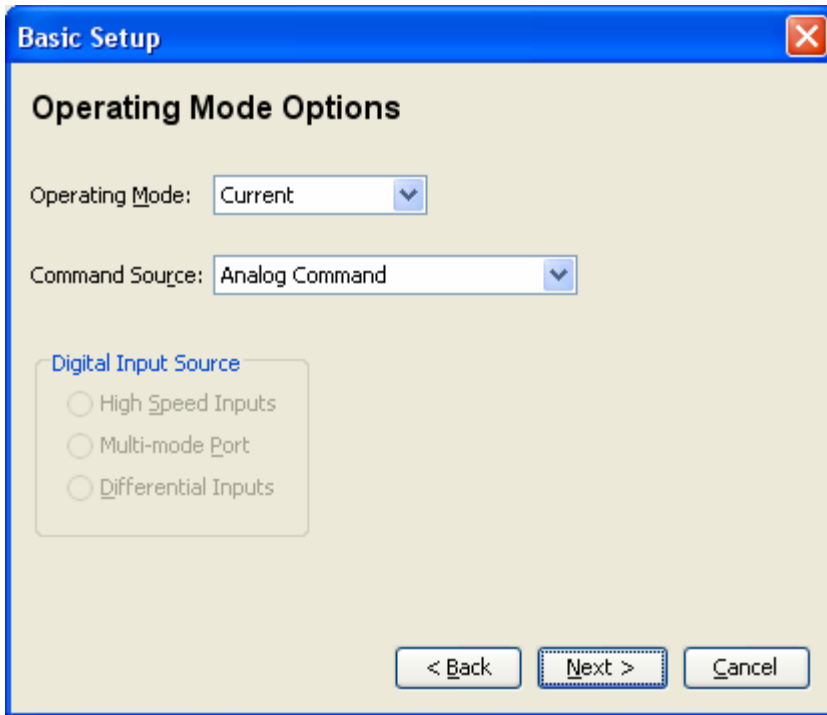
Resistance:  ohms

Inductance:  mH

Calculate OK Cancel







Once the wiring is complete and the above settings have been downloaded and saved on the Copley XPL amplifier, Galil software such as GalilTools can be used to enable the motor using the “SH” command (Servo Here). The GalilTools software should be used to tune the PID values in order to obtain optimum performance.