

# Application Note #5518

## Connecting a Maxon Motor to Galil amplifiers

This application note describes the procedure to connect a Maxon motor (Model number: MO80727, order number 272763) to a DMC-40x0 Accelera series controller with an AMP-43040 drive installed. The system setup is shown in Figure 1. This setup can be used with other controller and amplifier combinations like the DMC-21x3 with AMP-20540, and the CDS-3310 single axis controller-amplifier package.

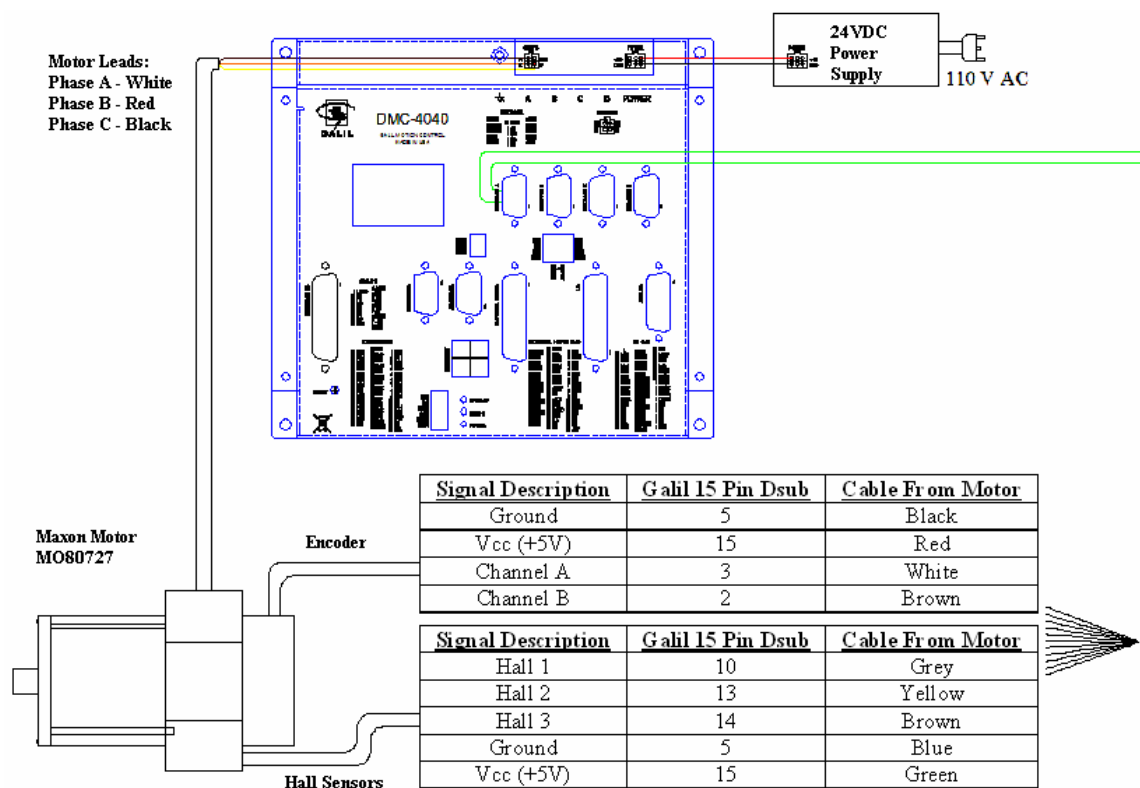


Figure 1 System Setup

### Hardware Required:

- Motor: *e.g.* Maxon Motor MO80727<sup>1</sup>
- Controller: DMC-40x0 with AMP-43040
- 24V power supply<sup>1</sup>
- 15 pin high density cable with flying leads(part number: Cable-15pin-1m) or [ICS-48015-M](#)
- A PC running Windows XP and GalilTools (for setting up and tuning the system)
- 10/100BaseT Ethernet cable and Hub or Crossover Ethernet cable

### Operation and Tuning

Table 1 shows the tuning parameters used under no load conditions to get the optimal step response.

**Table 1 PID parameters (at amplifier gain setting AG 1 and AU.5)<sup>2</sup>**

Parameter	Accelera (DMC-40x0)
KD	432
KP	57
KI	2

### References:

1. Datasheet for Maxon Motor MO80727  
<<http://shop.maxonmotor.com/ishop/article/article/272763.xml>>
2. User Manual for DMC-40x0  
<<http://www.galilmc.com/support/manuals.php>>

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<sup>1</sup> This is a low inductance motor. Hence, the amplifier should be set up to run in chopper mode along with a 24VDC power supply (use AU 0.5 for selecting chopper mode with low current loop gain.)

<sup>2</sup> Note: PID values for the Accelera series controllers vary from those used in Optima/Econo series controllers. Check [Application Note 2501](#) for more details.