

Application Note #5510

Connecting a Allied Motion motor to Galil amplifiers

This application note describes the procedure to connect an Allied Motion brushless motor (Model number: CM 5000) 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.

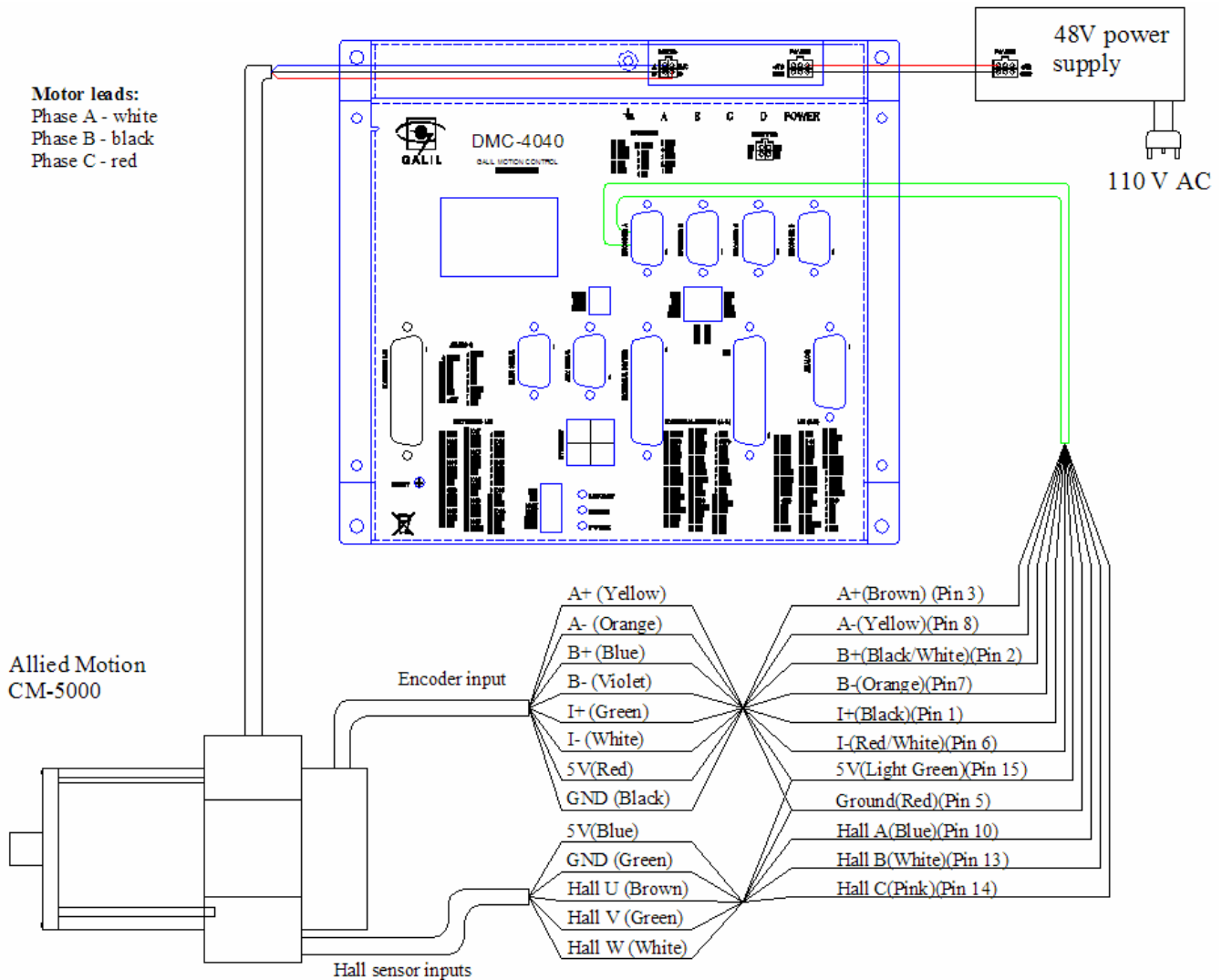


Figure 1 System Setup

Hardware Required:

- Motor: *e.g.* Allied Motion CM 5000 brushless motor
- Controller: DMC-40x0 with AMP-43040
- 48V power supply
- 15 pin high density cable with flying leads(part number: Cable-15pin-1m) or [ICS-48015-M](#)
- A PC running Windows XP and WSDK (for setting up and tuning the system)
- 100BaseT Ethernet cable and Hub or Crossover Ethernet cable



Figure 2 Allied Motion CM 5000 motor

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) *

Parameter	Accelera (DMC-40x0)	Econo/Optima (CDS-3310)
KD	356	89
KP	47.52	11.88
KI	2.3	4.59

References:

1. Datasheet for Allied Motion motor
<<http://www.opticalencoder.com/pdf/CM-5000.pdf>>
2. Description for AMP-205x0, AMP-20542 D sub Cables.
<<http://www.galilmc.com/support/appnotes/econo/note1241.pdf>>
3. Data sheet for High Density D-Sub Connectors from Digi-Key.
<<http://dkc3.digikey.com/PDF/T063/0214-0215.pdf>>
4. Data sheet for High Density D-Sub Cables from L-Com.
<<http://www.l-com.com/productfamily.aspx?id=1017>>

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