

# Application Note #5514

## Connecting a Metronix motor to Galil amplifiers

This application note describes the procedure to connect a Metronix motor (Model number: APM-SB01 ADK) 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.

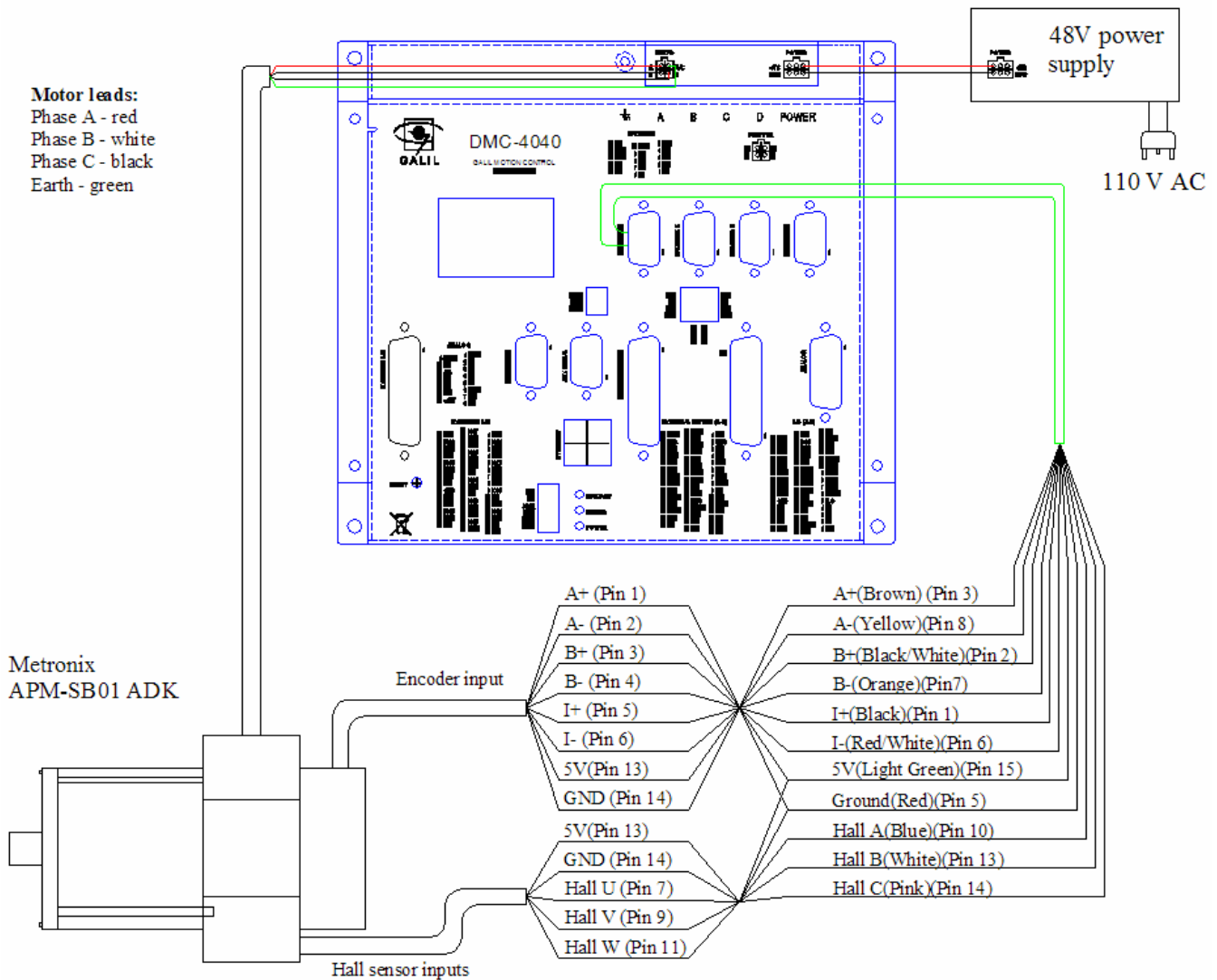


Figure 1 System setup

### Hardware Required:

- Motor: e.g. Metronix APM-SB01 ADK
- 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 Metronix APM 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 (DMC-21x3)
KD	80	103
KP	2.88	9.75
KI	0.5	1.5

### References:

1. Datasheet for Metronix APM-SB01 ADK  
<<http://www.metronix.co.kr/eng/product/pdf/ServoMotor.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.