# Freescale Semiconductor
## 56F8000E Motor Control Daughter Card Kit Installation Guide

### *Welcome!*

Thank you for choosing this Freescale Development Tools product. This document provides instructions on how to set up the Freescale Motor Control Daughter Card with the 56F8013 Demonstration Board. If you have any questions regarding the hardware kit or software development tools, please contact the Technical Information Center:

**www.freescale.com/support**

### Kit Contents

Your 56F8000E Motor Control Daughter Card kit includes:

**Hardware**
- 56F8000E Motor Control Daughter Card (APMOTOR56F8000E)

**Documentation**
- *56F8000E Motor Control Daughter Card Kit Installation Guide* (this document)
- Warranty Registration card

### System Requirements

- 56F8013 Demonstration Board (DEMO56F8013 or DEMO56F8013-E)
- CodeWarrior Development tools with Processor Expert™

### Help

To obtain assistance for the 56F8000E Motor Control Daughter Card, please contact the Technical Information Center: **www.freescale.com/support**

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## 1    Install the 56F8000E Motor Control Daughter Card and the 56F8013 Demonstration Board

1. Remove all power connections from the demo board and the daughter card.

2. Connect the 56F8000E Motor Control Daughter Card to the 56F8013 Demonstration Board via the 40-pin expansion connector.
   - Align pin 1 from the P1 connector on the 56F8000E Motor Control Daughter Card with pin 1 of the expansion connector on the 56F8013 Demonstration Board as shown.



Apply power here

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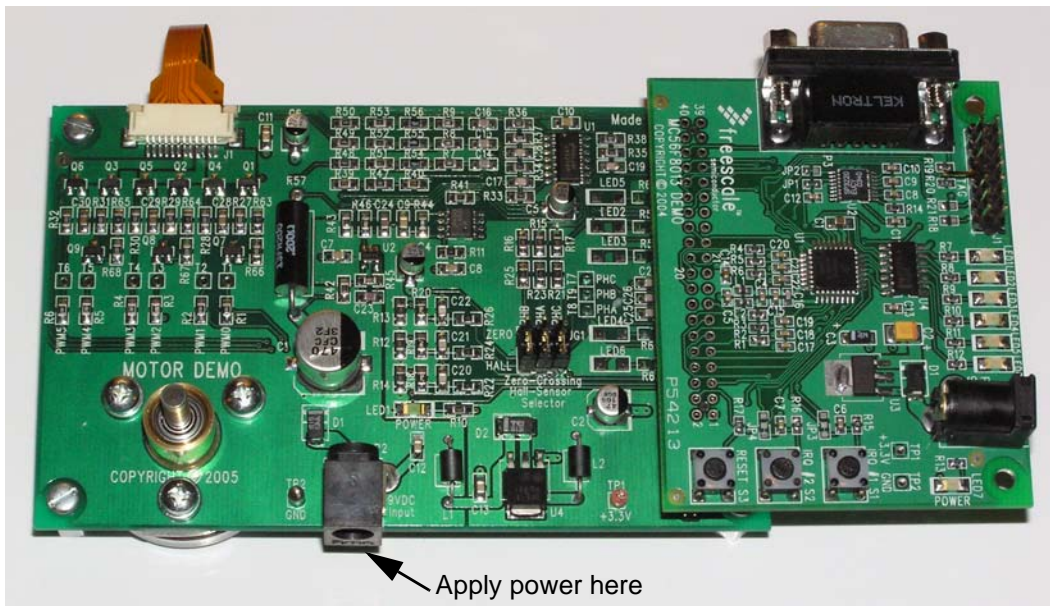
## 2    Configure the 56F8000E Motor Control Daughter Card

The 56F8000E Motor Control Daughter Card is shipped with all jumper blocks in the default configuration, shown in the table at right.

For more information about jumper settings, refer to the *Motor Control Demonstration System using the 56F8013 Demonstration Board User Guide, 56F8013MCSUG,* (located on the Resource CD-ROM)*.*

| Jumper Group | Connections |
|:---:|:---:|
| JG1 | 2 - 3, 5 - 6, 8 - 9 |

## 3    Connect the 56F8000E Motor Control Daughter Card and the 56F8013 Demonstration Board to Your Computer

1. Plug the power supply included with the 56F8013 Demonstration Board into the 56F8000E Motor Control Daughter Card's power jack.
2. Plug the +9V DC power supply into an AC outlet.
3. Connect the JTAG adapter between your computer and the 56F8013 Demonstration Board (follow the instructions included in the DEMO56F8013 kit).
4. Install CodeWarrior tools (follow the instructions included in the DEMO56F8013 kit).

## 4    Run the BLDC Hall Sensor Application

1. Download and unzip the BLDC application from the product's web page onto your computer:
   a. Go to **www.freescale.com/dsc**
   b. Under *Development Tools*, click *DEMO56F8013*
   c. Scroll down to *Evaluation/Development Boards and Systems*, then click *APMOTOR56F8000E*
   d. Scroll down to *Code Examples*, then click *56F8013CEBLDCHSPESLSW*
2. Open the application project *bldc_hall_pesl.mcp* in your CodeWarrior IDE.
3. Make this project by selecting the *Project > Make* menu.
4. Download the application into the MC56F8013 CPU by selecting the *Project > Debug* menu.
5. Run the application by selecting the *Project > Run* menu.
6. Repeatedly press and release the IRQ#2 (S2) button on the 56F8013 Demonstration Board to increase/decrease motor speed.

### Additional Resources

- Additional documentation can be found on the product's web page; see section 4, steps 1-a. through 1-c.
- Additional Freescale 56800/E hardware and chip documentation is available from the CodeWarrior Help menu and at: **www.freescale.com**