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USER GUIDE 6162

USING THE MAX14870EVKIT WITH SOFTWARE

By: Shasta Thomas, Applications Engineer

Abstract: The MAX14870EVKIT is a fully tested and assembled full-bridge DC motor driver evaluation board designed to work either in a stand-alone configuration or with a software interface. This application note discusses the software for the EV kit.

Detailed GUI Description

The most recent version of the Windows[®] GUI for the [MAX14870EVKIT](#) is available for [download](#). While the Windows GUI application is simple to use, it can demonstrate all of the important features of the [MAX14870](#).

Setup

1. Download the latest version of the EV kit software, 14870EVRxx.ZIP and save it a temporary folder.
2. Open the .ZIP file and extract the .EXE file to your preferred location. Note that the .EXE file is actually the EV kit GUI and not an install program. You can store the .EXE file where you like and then uninstall by simply deleting it.
3. Connect a USB cable from the PC to the MAX14870EVKIT board. LED2 will glow red when the microprocessor is properly powered. LED4 blinks green when the microprocessor begins running the firmware.
4. Double click the MAX14870EVRxx.EXE file to run the application.
5. The MAX14870 EV kit software defaults to shutdown mode, with both driver outputs (M1 and M2) disabled. Select the duty cycle and direction to start moving the motor.

Notes about Startup

The MAX14870 software automatically detects the presence of the EV kit. If the application is started before the EV kit is attached, all of the fields are greyed out except for the Connection indicator, which is red.

Once the EV kit is connected, the application indicator turns green and the fields become accessible.

Motor Operation

The on-board microcontroller on the MAX14870 generates a 25kHz switching signal on PWM or DIR. Use the radio buttons and text boxes along the left side of the GUI to operate the motor. Default duty cycles are set to 10%, 30%, 50%, or 90%. Max Fwd is a 100% duty cycle in the FWD direction. Max Rev is a 100% duty cycle in the reverse direction.

Shutdown mode pulls the EN input on the MAX14870 high, disabling the MAX14870, and making the M1 and M2 driver outputs high impedance. The motor is discharged through the diodes of the internal FETs and slows to a stop.

Brake mode enables the low-side drivers of M1 and M2, immediately shorting the motor current.

Fault Indicator

FAULT asserts low on the [MAX14871](#) during an overcurrent condition and/or when the device is in thermal shutdown. On the [MAX14871EVKIT](#), the Fault LED turns on when a fault occurs during normal operation. Similarly, the fault indicator on the GUI turns red when a fault occurs. FAULT deasserts, the on-board LED turns off, and the GUI indicator turns green again when the fault is removed.

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Related Parts

MAX14870	Compact 4.5V to 36V Full-Bridge DC Motor Drivers
MAX14870EVKIT	Evaluation Kit for MAX14870 and MAX14872
MAX14872	Compact 4.5V to 36V Full-Bridge DC Motor Drivers

More Information

For Technical Support: <http://www.maximintegrated.com/en/support>

For Samples: <http://www.maximintegrated.com/en/samples>

Other Questions and Comments: <http://www.maximintegrated.com/en/contact>

Application Note 6162: <http://www.maximintegrated.com/en/an6162>

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