

FEATURES

- Based on Analog Devices iCoupler[®] technology.
- Draw power from the USB host with onboard isolated power supply. (No need for external power supplies.)
- Capable of providing up to 100 mA at the USB supply voltage (~5VDC) to any connected peripheral devices.
- USB 2.0 compatible - Low & Full speed data rate: 1.5 and 12 Mbps
- Bidirectional communication.
- Short-circuit protection for xD+ and xD- lines.
- High common-mode transient immunity: >25 kV/μs.
- Enhanced ESD protection (USBLC6-2P6). IEC 61000-4-2 level 4, protect of V_{BUS} and 2 data lines.
- High performance acrylic conformal coating. (Approved to US MIL-1-46058C).
- RoHS compliant.

APPLICATIONS

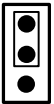
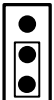
- Generic USB peripheral isolation.
- Hardware-in-the-Loop isolation when used together with RapidSTM32 Blockset and FiO evaluation boards.

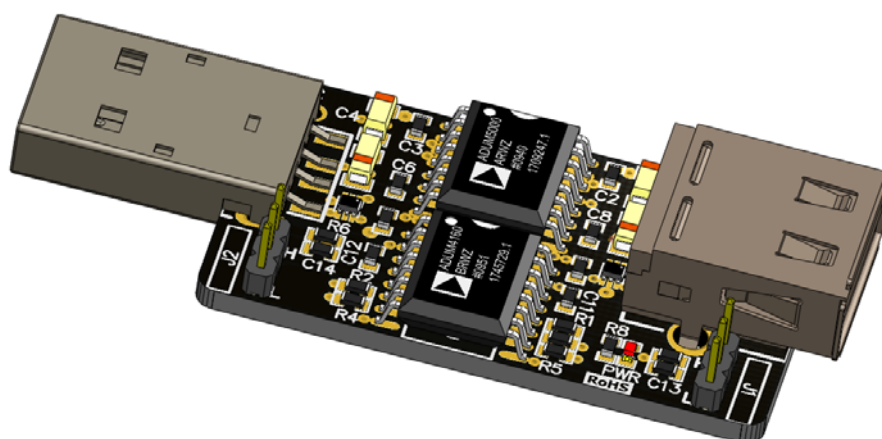
INTRODUCTION

aMG USB Isolator can be used to uncouple the electrical potential of any USB devices from a PC or a hub. aMG USB Isolator is based on Analog Devices, Inc., iCoupler[®] technology (ADUM4160 Full/Low Speed USB Digital Isolator and ADUM5000 Isolated DC/DC Converter). aMG USB Isolator is specifically designed to provide isolation between FiO family of evaluation boards and a host PC, e.g. when used together with RapidSTM32 Blockset to perform various Hardware-in-the-Loop simulations. However, aMG USB Isolator can be used to provide isolation between a PC and any USB peripheral devices.

SPEED SELECTION

aMG USB Isolator works at a fixed USB transmission speed; either low speed or full speed. The speed can be set by setting J1 and J2 jumpers. Both jumpers must be set to the same speed setting for proper operation.

J1 & J2	Speed
	Full (12 Mbps)
	Low (1.5 Mbps)



aMG USB Isolator

SAMPLE APPLICATIONS

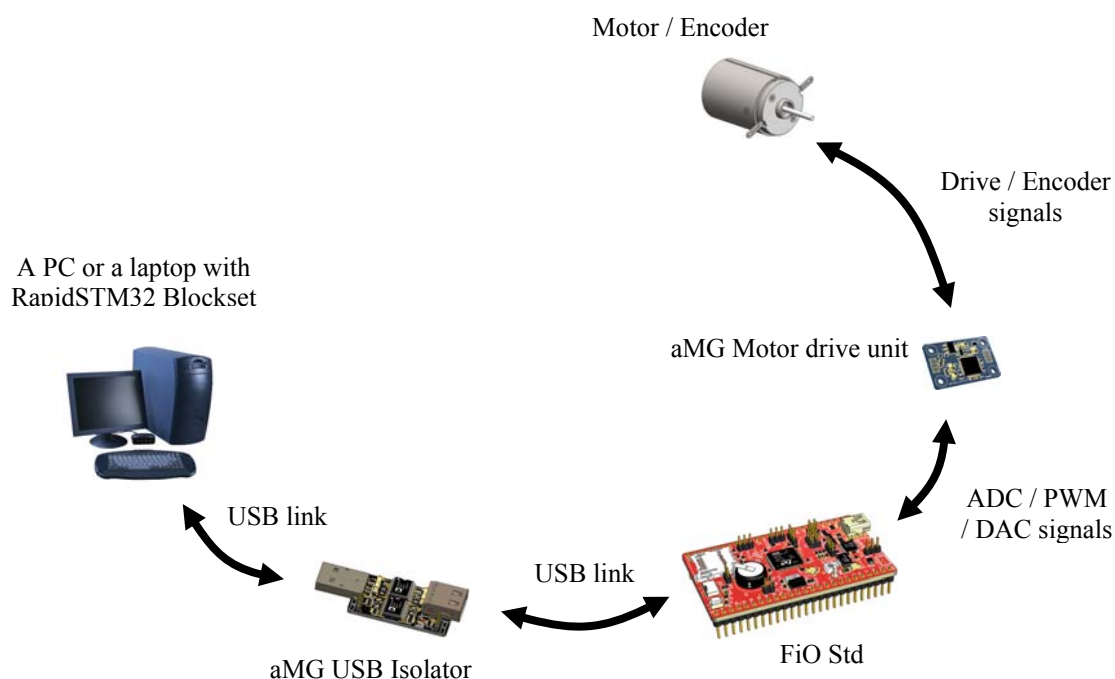
Hardware-in-the-Loop (HIL) Motor Control Algorithm Design and Development

When working with a system consisting of both a high current and/or high voltages device and a low-current and/or low-voltage device, it is typically a good practice to electronically separate between them; to prevent the high current and/or high voltages device from accidentally damaging the low-current and/or low-voltage device.

The following figure shows a simple configuration where RapidSTM32 blockset and FiO family of evaluation

boards are used together to provide a simple hardware in the loop simulation environment for motor control algorithm design and development.

aMG USB Isolator is used to isolate your host PC or laptop from the target (FiO Std) which is connected to a high power motor drive unit. In this configuration, aMG USB Isolator can help prevent accidental damages to your expensive PC or laptop.



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