Aardvark™
I2C/SPI Host Adapter

Key Features
USB to I2C/SPI Interface
- Master or slave emulation
- EEPROM/Flash programming
- I2C speeds up to 800 kHz
- SPI speeds up to 8 MHz
- GPIOs available
- In-system or stand-alone programming

Control Center Software
- Simplified transmission of I2C and SPI messages
- Automate tasks with XML-based batch scripts

Flash Center™ Software
- Extensible XML-based parts library with built-in support for EEPROMs and Flash memory

Aardvark API
- Create custom software applications
- Example files included
- Cross-platform support for Windows, Linux, Mac OS X

USB Bus-Powered
- Portable
- No extra power adapters needed

Quality
- CE, REACH, RoHS
- Manufacturing: ISO 9001, ISO 13485, AS9100C, ITAR
- One year warranty

An ever-wider array of devices and the increasing pressure to minimize costs means that you need to get the most out of your embedded systems interface tools - and the Aardvark™ I2C/SPI Host Adapter is expressly designed to enable your competitive edge.

Our most popular product, the Aardvark I2C/SPI Host Adapter, is a fast and powerful USB-to-I2C/SPI bus host adapter. It helps you to focus on your core competencies by deploying customized solutions with minimal engineering overhead. With its ability to emulate a master or slave, communicate in I2C or SPI, the Aardvark I2C/SPI Host Adapter is a versatile tool well-suited to a variety of applications.

Prototyping
- Emulate a master or slave to quickly create a prototype embedded system
- Evaluate peripherals such as sensors and memory chips, quickly and easily

Production and Testing
- Program firmware and other data in production environment
- Run automated tests

Bundling
- Provide end-customers with easy access to I2C/SPI lines of your device

Prototyping Use Case
Create working prototypes quickly and easily with the Aardvark I2C/SPI adapter. As a master, it can emulate an MCU to actively poll sensors, write and read from EEPROMs, and control the bus.

Production Use Case
Seamlessly integrate the Aardvark I2C/SPI adapter into your production environment. Using the API or LabVIEW VIs allows the user to build software applications customized for their production line. For example, the Aardvark I2C/SPI adapter can be configured to program firmware onto EEPROMs, read data from specific registers, and run automated tests scripts.
Aardvark™ I2C/SPI Host Adapter

Applications

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<th>Industrial and Home Automation</th>
<th>Audio Processing</th>
<th>Scan for Video</th>
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<td>EEPROMs</td>
<td>Accelerometers</td>
<td>I2C Master/Slave</td>
<td>Converters</td>
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<td>Temperature</td>
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<td>Light</td>
<td>Host Bus Interface</td>
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<td>Bit Rate</td>
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<td>I2C Master: 1 kHz - 800 kHz</td>
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<td>SPI Master: 125 kHz - 8MHz</td>
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<td>SPI Slave: 0.1 MHz - 4 MHz</td>
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<td>Target Bus Interface</td>
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<td>I2C Master/Slave</td>
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<td>SPI Master/Slave</td>
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<td>Target Bus Cable</td>
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<td>10-pin ribbon cable</td>
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<td>1.27 mm (0.05”) pitch</td>
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<td>130.175 mm (5 1/8”) length</td>
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<td>Target Bus Connector</td>
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<td>Type: 2x5 IDC female, 2.54 mm (0.10”) pitch</td>
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<td>Pinout</td>
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<td>Power Pins: GND [Pins 2, 10], NC/+5V [Pins 4, 6]</td>
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<td>I2C Pins: SCL [Pin 1], SDA [Pin 3]</td>
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<td>SPI Pins: MOSI [Pin 5], SCLK [Pin 7], MOSI [Pin 8], SS [Pin 9]</td>
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<td>GPIO Pins: 1, 3, 5, 7, 8, 9</td>
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<td>DC Characteristics</td>
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<td>Target Power: +5V, 25mA max</td>
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<td>I2C/SPI Signal: 3.3V, 10mA</td>
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<td>Dimensions (W x D x L)</td>
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<td>55.6 x 22.2 x 89 mm (2.19” x 0.87” x 3.5”)</td>
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<td>64 g (0.14 lbs)</td>
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<td>Operating Temperature</td>
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<td>10 to 35 °C [50 to 95 °F]</td>
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Specifications

Software

The Control Center Software provides quick and easy access to all features of the Aardvark I2C/SPI Host Adapter. The Flash Center software enable users to easily read and write to I2C- and SPI-based memory.

Control Center Software Features
- Streamlined user interface for configuration of I2C, SPI, and GPIOs at the click of a button
- I2C and SPI messages can be saved and loaded from binary files
- XML-based batch scripting for automating repetitive read and write commands with built-in help system

Flash Center Software Features
- Easily program, read, and write to I2C and SPI EEPROMs and flash memory

Aardvark API and LabVIEW Support
- Create custom applications using the flexible, powerful, and well-documented Aardvark API
- 32- and 64-bit support for C/C++/.NET, Python, .NET, VB.Net, VB 6
- LabVIEW Instrument drivers

Operating Systems Supported (32-bit and 64-bit)
- Windows: 7, 8, 8.1, 10
- Linux: Red Hat, Ubuntu, Fedora, SuSE
- Mac OS X: 10.7 - 10.13

Hardware

Bit Rate
- I2C Master: 1 kHz - 800 kHz
- SPI Master: 125 kHz - 8MHz
- SPI Slave: 0.1 MHz - 4 MHz

Target Bus Interface
- I2C Master/Slave
- SPI Master/Slave
- Up to 6 GPIO pins

Host Bus Interface
- USB 1.1
- Type B receptacle

Target Bus Cable
- 10-pin ribbon cable
- 1.27 mm (0.05”) pitch
- 130.175 mm (5 1/8”) length

Target Bus Connector
- Type: 2x5 IDC female, 2.54 mm (0.10”) pitch
- Pinout
- Power Pins: GND [Pins 2, 10], NC/+5V [Pins 4, 6]
- I2C Pins: SCL [Pin 1], SDA [Pin 3]
- SPI Pins: MOSI [Pin 5], SCLK [Pin 7], MOSI [Pin 8], SS [Pin 9]
- GPIO Pins: 1, 3, 5, 7, 8, 9

DC Characteristics
- Target Power: +5V, 25mA max
- I2C/SPI Signal: 3.3V, 10mA

Dimensions (W x D x L)
- 55.6 x 22.2 x 89 mm (2.19” x 0.87” x 3.5”)

Weight
- 64 g (0.14 lbs)

Operating Temperature
- 10 to 35 °C [50 to 95 °F]

Ordering information

Aardvark I2C/SPI Host Adapter
Part Number TP240141
Country of Origin USA
HTS 8543200000
ECCN EAR99

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