

# Aardvark I2C/SPI Host Adapter Part Number: TP240141



The Aardvark I2C/SPI Host Adapter is a fast and powerful I2C bus and SPI bus host adapter through USB. It allows a developer to interface a Windows, Linux, or Mac OS X PC via USB to a downstream embedded system environment and transfer serial messages using the I2C and SPI protocols

## Key Features

### Overview

- I2C master and slave up to 400 kHz
- I2C multi-master support
- SPI master up to 8 MHz
- SPI slave up to 4 MHz
- GPIO with selectable pins

### What is Included

- Aardvark I2C Host Adapter Unit
- 6 foot USB A->B cable
- Software CD:
  - Windows USB Drivers
  - Linux USB Hot Plug Configuration files
  - Control Center™ Software
  - Aardvark LabVIEW Driver
  - Rosetta Language Bindings: C/C++, Python, Visual Basic
  - Examples
  - Datasheet
  - Documentation

## Specifications

### I2C

- True 400 kbps performance over higher bandwidth USB versus slower RS-232. **REAL FAST I<sup>2</sup>C**
- Supports standard mode (100 kbps) and fast (400 kbps) mode as well as various speeds ranging from 1 kHz to 800 kHz.
- Supports inter-bit and inter-byte clock stretching.
- Supports multi-master.
- Master transmit and receive.
- Asynchronous slave transmit and receive.
- Software configurable I2C pull-up resistors.
- Software configurable target power pins to power downstream devices.
- Repeated Start, 10-bit slave addressing, and Combined Format transactions.

The Aardvark I2C/SPI Host Adapter is compatible with:

- Display Data Channel (DDC)
- System Management Bus (SMBus)
- Power Management Bus (PMBus)
- Smart Battery Bus (SBBus)
- Intelligent Platform Management Interface (IPMI)
- Two-Wire Interface (TWI)

## **SPI**

- Operates in master or slave mode.
- Up to 8 Mbps master signaling rate.
- Up to 4 Mbps slave signaling rate.
- Full duplex master transmit/receive.
- Asynchronous slave transmit/receive.
- Software configurable target power pins to power downstream devices.
- Software configurable Slave Select (SS) polarity in master mode.

## **GPIO - General Purpose IO**

- I2C and SPI pins can be repurposed for more general use, allowing them to be used for custom signals on target systems.
- GPIO functionality can also be combined with I2C or SPI to interact with your target system.
- GPIO configuration is cached internally to preserve settings between operational modes.

## **Future-Proof**

The Aardvark adapter is completely field-upgradable via USB. Total Phase is committed to improving the Aardvark adapter and making these improvements available to our customers free of charge. There are no yearly support contracts and no software update fees.

Updates will be available for download from [www.totalphase.com](http://www.totalphase.com)