AIO ANALOG INPUT-OUTPUT BOARD

AIO at a Glance …

The Analog I/O Board is an accessory board that provides an analog interface to the USB and Ethernet/Internet Digital Control Boards.

The board consists of an 8 channel 10 bit Analog to Digital Converter (MCP3008) and a 12 bit Digital to Analog Converter with 2 buffered outputs (MCP4922).

Communication to the A/D and D/A Converters is via the SPI interface of the I/O 24 module which is already implemented in the firmware.

The 8 channels of the A/D, 2 channels outputs of the D/A, and all the V_{REF} voltages are brought to screw-type terminal blocks for easy access. These terminal blocks will accept cables 0.5 – 2mm thick. The connection between the I/O24 module and the Analog I/O board is via an IDC link cable supplied with the board.

Features

- 8 Channel 10 bit Analog to Digital Converter (MCP3008)
- 2 Channel 12 bit Digital to Analog Converter with 2 buffered outputs
- Screw-type terminal blocks for analog inputs and outputs
- Single-ended or differential input options
- Easy connection by 10-way box header for a standard IDC connector for connection to the I/O port
- Use USB or Ethernet to attach intelligent peripherals
- Powered by the Digital I/O Board
- 72mm standard width for DIN Rail modules

Application Software …

An application development environment like Visual Basic or Visual C would be needed for custom application program development

The User Manual for the AIO Board has sample code to illustrate I/O methods using the C programming language.

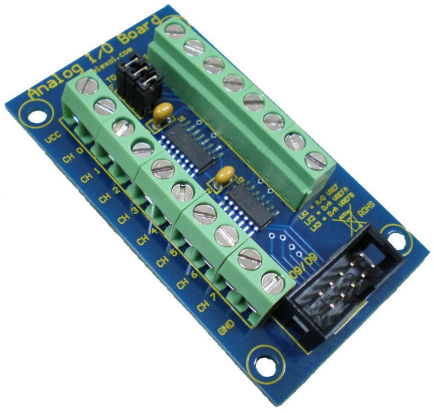
Experiment Ideas / Applications

- Voltage level sensing
- Wave Form Generation
- Computer Control experimentation
- Home Automation

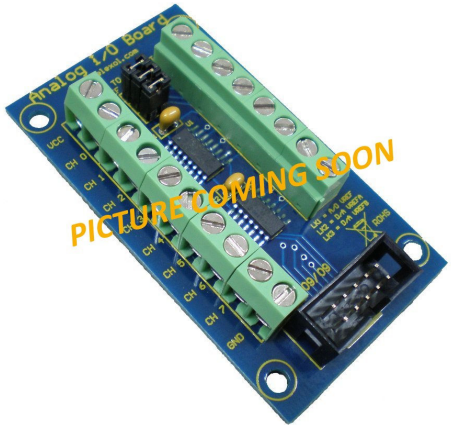
Ordering Information

AIO Assembled and Tested Board AIO-AB-010
AIO Assembled and Tested Lab Module AIO-LM-010

AIO Board



AIO Lab Module



Typical Setup

- A PC with free USB port (or an Ethernet port)
- USB and/or Ethernet Drivers loaded on the PC
- A Test Program to communicate with the controller
- Unistep EDB or UDB Board for control
- 5V Power Supply for the setup
- AIO Module
- Source for a variable analog input – like a potentiometer or a sensor
- Multimeter or oscilloscope to observe analog output signals

NOTES