

Low Cost, Compact Data Acquisition Starter Kit

Designed Specifically for use with String Pots

Convenient USB Interface

2 String Pot Inputs plus 2 ±10V Analog inputs

Six Bi-directional TTL Ports for General Purpose Control

10 Bit Resolution

Up to 14,400 Hz Sample Rate



Features

Easy to Connect and Use

Connects to any local laptop or desktop PC. Built-in excitation for up to two string pots. Two, built-in, 8 position screw terminal connectors allow easy and secure access to all signal I/O connections without the need for extra options.

Wide Sample Throughput Range

Throughput ranges from sub-Hertz to over 14,400 Hertz allow the DI-148 to connect to a wide range of both static and dynamic signals.

Compact

Small size—66L × 66W × 28H mm (2.6L × 2.6W × 1.1H inches)—allows the DI-148 to fit comfortably in crowded instrumentation cabinets, desktops, and other tight locations.

Self Powered Advantage

All DI-148 instruments derive their power directly from the host PC eliminating the need for an external power adaptor and connections—perfect for use in automotive and other portable environments where power is unavailable.

Built-In, Bidirectional Port

A built-in bidirectional port allows programmable discrete inputs and outputs for control.

Free Data Acquisition Software

Our WINDAQ/Lite data acquisition software offers real time display and disk streaming for the Windows environment. Their real time display can operate in a smooth scroll or triggered sweep mode of operation, and can be scaled into any unit of measure. Event markers with comments allow you to annotate your data acquisition session with descriptive information as you're recording to disk.

Raise your productivity to new heights with WINDAQ's unique multitasking feature. Record waveform data to disk in the background while running any combination of programs in the foreground — even WINDAQ Playback software to review and analyze the waveform data as it's being stored! WINDAQ/Lite recording and playback software is provided free with every DI-148 purchase. WINDAQ/Lite recording software is limited to 240 Hz sample rate when recording to disk. The extra cost WINDAQ/Pro High Speed option allows you to record at rates up to the speed of the instrument.

Model DI-148U-SP is similar to the general purpose model DI-148U, but is designed to connect directly to as many as two string pots for displacement measurements. Two general purpose inputs are also supported. When used with string pots, model DI-148U-SP provides a complete solution, with a built-in, stable excitation supply that is exposed for each string pot channel.

Like the DI-148U, the DI-148U-SP supports a channel scan list, high sample rate throughput, and a USB interface. These features combine to produce a robust instrument that can be applied to nearly any data acquisition situation where pre amplified signals need to be acquired to a PC, and where displacement measurements using string pots need to be made. Rounding out the products are six bidirectional TTL ports that may be used for general purpose control. Sample rates may range from sub Hertz, to 14,400 Hz.

Specifications

Analog Inputs

Number of Channels: 2 String Pot; 2 General Purpose
Channel Configuration: Single-Ended
Measurement range: String Pot Channels: 2.4VFS
 General Purpose Channels: $\pm 10V$
Accuracy: 0.25% of FSR
Resolution: String Pot Channels: $\pm 7.4mV$
 General Purpose Channels: $\pm 19.5mV$
Input Impedance: 200K Ω
Input bias current: 50 μA for a 10V input, single channel
Max. normal mode voltage: 40 Volts peak to peak
Channel-to-channel crosstalk rejection: -60db
Gain temperature coefficient: 100ppm/ $^{\circ}C$
Offset temperature coefficient: .5 $\mu V/^{\circ}C$
Digital filtering: Over-sampling, average
Output Voltage (SP): 2.43 typical

A/D Characteristics

Type: Successive approximation
Resolution: 10-bit
Monotonicity: $\pm 2LSB$
Conversion Time: 70 μs

Calibration

Calibration cycle: One year
Calibration method: Digital calibration with scale and offset constant.

Scanning Characteristics

Max. throughput sample rate: 14,400
Min. throughput sample rate: 0.0137334 Hz
Max. scan list size: 6 entries
Sample buffer size: 2kb

Digital I/O

Channels: 6 bi-directional ports
Output voltage levels: Min. "1" 3V @ 2.5mA sourcing
 Max. "0" 0.4V @ 2.5mA sinking
Output current: Max. source, -2.5 mA
 Max. sink, 2.5mA
Input voltage levels: Min. required "1" 2V
 Max allowed "0" 0.8V

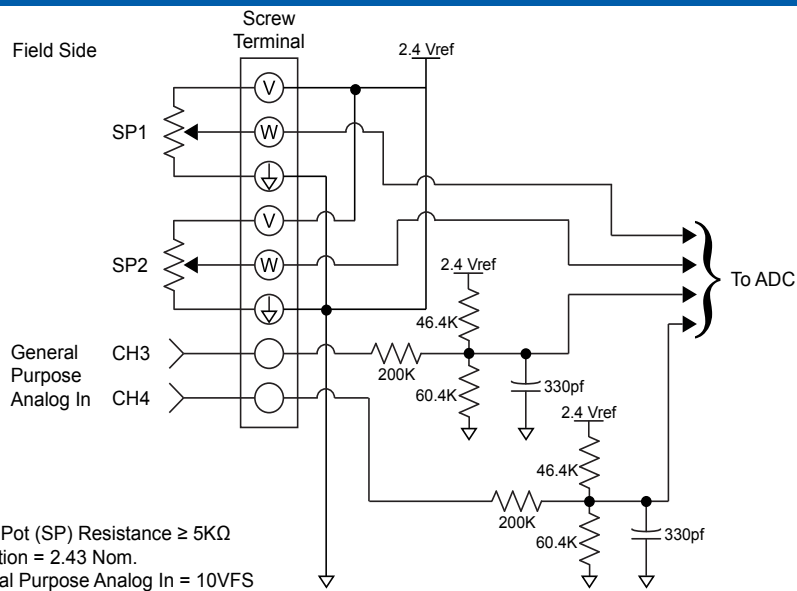
Calibration

Calibration cycle: One year
Calibration method: Digital calibration with scale and offset constant.

General

Input connectors: Two eight position terminal blocks
Operating Environment: 0 $^{\circ}C$ to 70 $^{\circ}C$
Enclosure: Molded ABS plastic.
Dimensions: 2.6L \times 2.6W \times 1.1D inches
 66L \times 66W \times 28D mm.
Weight: 3 oz. (85 gr.)
Power Requirements: 80mA max. @ 5 VDC. No external power required. Power derived from communications cable.

DI-148U-SP Analog Input Diagram



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Ordering Guide

Description	Order Number
DI-148U-SP Starter Kit Modified DI-148U designed to accept two string pot inputs and two general purpose inputs.	DI-148U-SP

Data Acquisition Product Links

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