

4-CH 24-Bit Universal Input USB DAQ Modules



Introduction

The USB-2401 is a 24-Bit, 4-channel simultaneous-sampling universal input USB DAQ modules featuring built-in signal conditioning circuitry, providing direct measurement of commonly used sensors including current output transducers, thermocouple, RTD, load cell, strain gauge, and others. Individual channels can be programmed to measure different signal types.

The USB-powered USB-2401 is equipped with removable screw-down terminals for easy device connectivity, and the included multi-functional stand fully supports desktop, rail, or wall mounting.

The USB-2401 is suitable for basic measurement applications requiring high resolution and accuracy, laboratory research and material testing environments, and industrial temperature measurement. U-test, a free ready-to-use testing program is included to enable operation or testing of all ADLINK USB DAQ series functions with no programming requirement.

Features

- USB 2.0 High-Speed
- USB bus powered
- 4-CH simultaneous-sampling analog input
- Built-in signal conditioning for high voltage/current/thermocouple/ RTD/strain gauge/load cell measurement
- Up to 2kS/s analog input rate
- Removable screw terminal on module
- Lockable USB cable for secure connectivity
- Ready-to-use testing application (U-Test) provided
- Supported Operating System
 - Windows 7/8 x64/x86
- Driver and SDK
 - \bullet LabVIEW, MATLAB, C/C++, Visual Basic, Visual Studio.NET
- Software Utility
 - U-Test

Standard Shipped Accessories

 One pair of 20-pin removable screw terminals



• Module stand



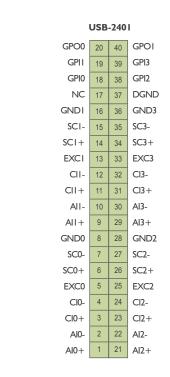
 2 M USB Type A to USB Mini-B cable with lockable connector



• Rail-mount kit



Pin Assignment



Ordering Information

■ USB-2401

4-CH 24-Bit Universal Input USB DAQ

Optional Accessories

RST-20P

One pair of 20-pin removable screw terminals

USB-2M-L

2 M USB Type A to USB Mini-B cable with lockable connector

Specifications

Model Name	USB-2401			
Analog Input				
Number of channels	4 differential			
Resolution		24-Bit		
Measurement types		Voltage, current, thermocouple, RTD, half-bridge, full-bridge, resistance		
Maximum sampling rate		2 kS/s		
Input ranges	Mode	Input range or supporting type	Actual Range	
	Voltage	± 25 V, ± 12.5 V, ± 2.5 V, ± 312.5 mV	± 25 V, ± 12.5 V, ± 2.5 V, ± 312.5 mV	
	Current	± 20 mA	± 20 mA	
	Thermocouple	K, J, N, R, S, B, T, E	78.125 mV	
	RTD (3-wire, 4-wire)	Pt 100, Pt 1000	2.5 V	
	Half-Bridge (120 Ω , 350 Ω)	Max. 30 mV/V	78.125 mV	
	Full-Bridge (120 Ω , 350 Ω)	Max. 30 mV/V	78.125 mV	
	2-Wire Resistance	25 kΩ	2.5 V	
Input coupling		DC		
FIFO size		4k samples		
Data Transfer		Programmed I/O, continuous (USB bulk transfer mode)		
unction I/O				
Number of channels		4 inputs and 2 outputs		
Compatibility	5V/TTL			
,		Digital I/O		
Support modes		General timer/counter: One 32-Bit; base clock 80 MHz, external to 10 MHz		
		PWM: One channel, modulation frequency: 0.01 Hz to 5 MHz; duty cycle: 1%-99%		
Data Transfer	Programmed I/O, continuous (USB bulk transfer mode)			
eneral Specifications				
I/O connector		Two 20-pin removable screw terminals		
Operating temperature		0 to 55°C (32°F to 122°F)		
Storage temperature		-20 to 70°C (-4°F to 158°F)		
Power requirements		5V @ 400 mA (USB powered)		
Di		114 (H) x 156.5 (L) x 41 mm (W) (4.5" x 6.16" x 1.63")		
Dimensions		(without connector and stand)		
Relative humidity		5% to 95%, non-condensing)		

Note: Function I/O shares the same I/O pins. Only one of these modes can be selected.