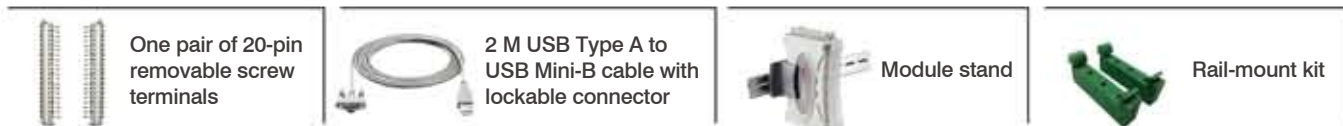


USB DAQ

Ordering Information

Model Number	Description	Model Number	Description
USB-1901	16-CH 16-Bit 250 kS/s analog input USB DAQ	USB-1903	8-CH 16-Bit current input multifunction USB DAQ
USB-1902	16-CH 16-Bit 250 kS/s multifunction USB DAQ	USB-2401	4-CH 24-Bit universal input USB DAQ

Standard Shipped Accessories



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

ADLINK Technology, Inc. (Headquarters)

235 新北市中和區建一路 166 號 9 樓
9F., No.166, Jian 1st Rd., Zhonghe Dist.,
New Taipei City 235, Taiwan (R.O.C.)
Tel: +886-2-8226-5877
Fax: +886-2-8226-5717
Email: service@adlinktech.com

Ampro ADLINK Technology, Inc.

5215 Hellyer Avenue, #110, San Jose, CA 95138, U.S.A.
Tel: +1-408-360-0200
Toll Free (USA only): 866-4ADLINK
Fax: +1-408-360-0222
Email: info@adlinktech.com

ADLINK Technology (Europe) GmbH

Nord Carree 3, 40477, Duesseldorf, Germany
Tel: +49-211-4955552
Fax: +49-211-4955557
Email: emea@adlinktech.com

ADLINK Technology, Inc. (French Liaison Office)

15 rue Emile Baudot 91300 Massy CEDEX, France
Phone: +33 (0) 1 60 12 35 66
Fax: +33 (0) 1 60 12 35 66
Email: france@adlinktech.com

ADLINK Technology Singapore Pte. Ltd.

84 Genting Lane #07-02A, Cityneon Design Centre, Singapore 349584
Tel: +65-6844-2261
Fax: +65-6844-2263
Email: singapore@adlinktech.com

ADLINK Technology Singapore Pte. Ltd. (Indian Liaison Office)

#50-56, Between 16~17 Cross, "Margosa Plaza"
Margosa Main Road, Malleswaram, Bangalore - 560055, India
Tel: +91-80-65605817
Email: india@adlinktech.com

ADLINK Technology (China) Co., Ltd.

上海市浦东新区张江高科技园区芳春路300号 (201203)
Tel: +86-21-51328988
Fax: +86-21-51323588
Email: market@adlinktech.com

ADLINK Technology Beijing

北京市海淀区上地东路1号盈创动力大厦E座八层西 (100085)
Tel: +86-10-5885-8666
Fax: +86-10-5885-8626
Email: market@adlinktech.com

ADLINK Technology Shenzhen

深圳市南山区科技园南区高新南七道数字技术园A1栋2楼C区 (518057)
Tel: +86-755-2643-4858
Fax: +86-755-2664-6353
Email: market@adlinktech.com

ADLINK Technology Japan Corporation

〒101-0045 東京都千代田区神田鍛冶町3-7-4 神田374ビル4F
Tel: +81-3-4455-3722(代表)
Fax: +81-3-5209-6013
Email: japan@adlinktech.com

ADLINK Technology, Inc. (Korean Liaison Office)

서울시 서초구 서초동 1675-12 모인터빌딩 8층
Tel: +82-2-2057-0565
Fax: +82-2-2057-0563
Email: korea@adlinktech.com

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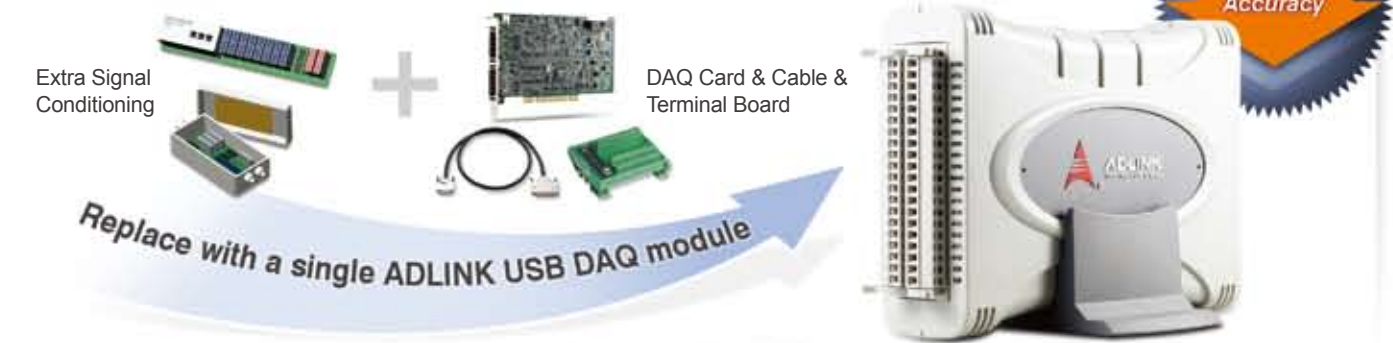
Get Connected with ADLINK USB DAQ!

Features

ADLINK USB DAQ modules leverage the expertise of ADLINK's analog design capability, enhancing convenience of data acquisition.

- High-speed USB 2.0
- Bus-powered
- Plug-and-Play
- Built-in signal conditioning
- Free testing application included (U-Test)
- Easy device connection with removable screw-down terminal module

Built-in Signal Conditioning



Simplified Connectivity



U-Test can let you test full function of ADLINK USB DAQ

- No programming necessary
- Support for both data monitoring and logging
- Full function testing of ADLINK USB DAQ
- Data exportable to Microsoft® Excel
- Support for FFT analysis



Specifications

Model Name	USB-1901	USB-1902	USB-1903	USB-2401
Analog Input				
Resolution	16-bit			24-bit
Number of channels	16 SE / 8 pseudo-diff		8 diff	4 diff
Maximum sampling rate (single channel)	250 kS/s (Multiplexing, channel-gain-queue)			2 kS/s (Simultaneous sampling)
Input mode & range	Voltage (± 10 V, ± 2 V, ± 1 V, ± 200 mV)		Current (0-20mA)	Voltage (± 25 V, ± 12.5 V, ± 2.5 V, ± 312.5 mV)
				Current (0-20mA)
				Thermocouple (K,J,N,R,S,B,T,E Type)
				RTD (Pt100, Pt1000)
				Half/Full bridge (max. 39 mV)
Excitation voltage	N/A			2-wire Resistance (max. 25 kΩ)
Excitation current	N/A			2.5 V (for Half/Full bridge)
Offset error	± 0.1 mV (gain=1)		± 0.01 mA (typical)	1 mA (for RTD/resistance)
Gain error	± 0.05% of FSR (gain=1)		± 0.05% of FSR (typical)	-
-3dB small signal bandwidth (gain=1)-	600 kHz			-
CMRR (gain=1)	90 dB		-	-
SFDR (gain=1)	108 dB		-	-
SINAD (gain=1)	89 dB		-	-
THD (gain=1)	102 dB		-	-
SNR (gain=1)	89 dB		-	-
ENOB (gain=1)	14.5-bit		-	-
FIFO buffer size	4 k samples			-
Trigger sources	Software, external digital, analog trigger (from one of analog input channels)			Software
Trigger mode	Post trigger, delay trigger, retrigger, gate trigger			Post trigger
External conversion source	Yes (up to 250 kS/s)			N/A
Input coupling	DC			-
Overvoltage protection	Power on: Continuous ± 30 V		Power on: Continuous ± 24 V	Power on: Continuous ± 36 V
	Power off: Continuous ± 20 V		Power off: Continuous ± 12 V	Power off: Continuous ± 36 V * (Note 1)
Input impedance	High impedance > 1 GΩ		249.5Ω (input resistor)	-
Data transfer	Programmed I/O, continuous (USB bulk transfer mode)			-
Analog Output				
Number of channels	N/A	2 voltage outputs		N/A
Resolution	-	16-bit		-
Maximum update rate	-	1 MS/s (simultaneous update)		-
Output range	-	± 10 V		-
Offset error	-	± 0.15 mV		-
Gain error	-	± 0.05% of FSR		-
INL	-	≤ 1 LSB		-
DNL	-	< 1 LSB		-
Output driving capacity	-	± 5 mA		-
Slew rate	-	2.2 V/μs		-
Settling time (0.1% of Full scale)	-	26 μs		-
Rising time	-	6 μs		-
Falling time	-	6 μs		-
FIFO	-	10 k samples (2-CH sharing)		-
Output mode	-	Programmed I/O, continuous (USB bulk transfer mode)		-
Function I/O				
Mode *(Note 2)	Digital I/O, general timer/counter, pulse generation			4 DI / 2 DO (TTL Level)
Digital I/O	8 DI / 4 DO (TTL Level)			One 32-bit, base clock: 80 MHz, external to 10 MHz
General-purpose timer/counter	Two 32-bit, base clock: 80 MHz, external to 10 MHz			One PWM outputs (Modulation frequency: 0.01 Hz to 5 MHz; Duty cycle: 1%-99%)
Pulse generation	Two PWM outputs (Modulation frequency: 0.01 Hz to 5 MHz; Duty cycle: 1%-99%)			
General Specifications				
Interface	USB 2.0 high speed, mini-USB connector			
I/O connector	Two 20-pin screw terminals			
Operating temperature	0 to 55° C			
Storage temperature	-20 to 70° C			
Relative humidity	5 to 95% non-condensing			
Power requirements	USB powered (5V@ 400 mA)			
Dimensions	115 mm (W) x 150 mm (D) x 40 mm (H) (4.5 x 5.91 x 1.57 in.) (without connector and stand)			

Note 1: In Bridge/TC/RTD input mode, overvoltage protection is ± 4 V when powered and ± 12 V when powered down.
Note 2: Function I/Os share the same I/O pins, such that only one of these modes can be selected.