USB-7230/7250

Isolated USB Digital I/O Modules

Features

- Card index switch selection
- USB 2.0, USB bus powered
- Programmable digital filter removes unexpected glitches from input channels
- Programmable DO/Relay initial status
- 32-CH isolated digital I/O (USB-7230)
- 8-CH relay output, 8-CH isolated DI (USB-7250)
- 2-CH frequency/event counters (USB-7230/7250)
- Up to 2500 VRMS isolation voltage
- Ready-to-use testing application (U-Test) provided



Introduction

The USB-7230/7250 USB-based digital I/O modules feature high voltage on/off control and monitoring, and isolation voltage supported up to 2500VRMS. The USB-7230 provides 32-CH isolated digital I/O and 2-CH frequency/event counters. The USB-7250 provides 8-CH relay output (4 form C and 4 form A), 8-CH isolated DI, and 2-CH frequency/event counters.

The USB-powered USB-7230/7250 features removable screw-down terminals for easy device connectivity, and the included multi-functional stand fully supports desktop, rail, or wall mounting.

The USB-7230/7250 is suitable for industrial I/O control applications requiring high voltage and superior protection. High isolation voltage protects against damage from accidental contact with external voltages and eliminates troublesome ground loops. 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.

Softare Suppor

- Windows 7/8 x64/x86
- LabVIEW, MATLAB, C/C++, Visual Basic, Visual Studio.NET
- U-Test

Ordering Information

- **USB-7230**
  2-CH isolated Digital I/O & 2-CH counter USB module
- **USB-7250**
  8-CH relay output, 8-CH isolated DI, & 2-CH counter USB module

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-7230	USB-7250	
Relay output			
Channels	-	8 (non-latching, 4-CH form C & 4-CH form A)	
Max. switching power	-	60 W, 125 VA	
Max. switching voltage	-	220 V_{DC}, 250 V_{AC}	
Max. switching current	-	2A	
Max. carrying current	-	2A	
Max. contact rating	-	30 VDC, 2 A (Resistive) 110 VDC, 0.3 A (Resistive) 125 VAC, 0.5 A (Resistive)	
Relay on/off time	-	Operating time	2 ms
		Release time	1 ms
Resistance	-	75mΩ	
Expected life	-	50 V_{DC} 0.1A (resistive), $1x10^6$	
Breakdown voltage	-	1500 V surge	
Optical Isolated Input			
Channels	16	8	
Polarity	Bi-directional (non-polarity)		
Logic level	VIH=5 to 24V, VIL=0 to 0.1.5V or dry contact		
Input resistance	2.4k @ 0.5W		
Isolated voltage	2500V_{RMS} (channel to system)		
Min. pulse-width for change of state (COS) detection	20.83ns (software programmable)		
Optical Isolated Frequency/Event Counter			
Channels	2		
Logic level	VIH=5 to 12V, VIL=0 to 0.1.5V		
Event counter width	32-Bit		
Max. input frequency (DC coupled)	1 MHz		
Min. input frequency (DC coupled)	0.1 Hz		
Max. frequency error	0.5% (f ≦ 50kHz) 1% (50kHz < f ≦ 500kHz) 2% (500kHz < f ≦ 1MHz)		
Optical Isolated Output			
Channels	16	-	
Output type	Open drain MOSFET	-	
Supply voltage	5-35V_{DC}	-	
Max. sink current	250 mA @ 100% duty (per channel)	-	
General Specifications			
Interface	High speed USB 2.0 compatible, mini-USB connector		
Data transfer	Programmed I/O		
Dimensions	156.5 (L) x 114 (W) x 41.3 (H) mm (6.16" x 4.49" x 1.63")		
I/O Connector	Two 20-pin removable screw-down terminals		
Power requirement	USB power (5 V @ 400 mA)		

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Pin Assignment

USB-7230

VDD	20	40	DO15
DO7	19	39	DO14
DO6	18	38	DO13
DO5	17	37	DO12
DO4	16	36	DO11
DO3	15	35	DO10
DO2	14	34	DO9
DO1	13	33	DO8
DO0	12	32	IGND
IGND	11	31	IGND
CNT0	10	30	CNT1
CGND	9	29	COM
DI7	8	28	DI15
DI6	7	27	DI14
DI5	6	26	DI13
DI4	5	25	DI12
DI3	4	24	DI11
DI2	3	23	DI10
DI1	2	22	DI9
DI0	1	21	DI8

USB-7250

NO7	20	40	GND1
COM7	19	39	CNT1
NO6	18	38	GND0
COM6	17	37	CNT0
NO5	16	36	DI7L
COM5	15	35	DI7H
NO4	14	34	DI6L
COM4	13	33	DI6H
NC3	12	32	DI5L
NO3	11	31	DI5H
COM3	10	30	DI4L
NC2	9	29	DI4H
NO2	8	28	DI3L
COM2	7	27	DI3H
NC1	6	26	DI2L
NO1	5	25	DI2H
COM1	4	24	DI1L
NC0	3	23	DI1H
NO0	2	22	DI0L
COM0	1	21	DI0H

Standard Shipped Accessories

One pair of 20-pin removable screw terminals



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



Module stand



Rail-mount kit

