

USB-7230/7250

Isolated USB Digital I/O Modules



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 2500V_{RMS}. 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.

Features

- USB 2.0, USB bus powered
- Programmable digital filter removes unexpected glitches from input channels
- Programmable DO/Relay initial status
- Up to 2500 V_{RMS} isolation voltage
- Removable screw terminal on module
- Lockable USB cable for strong connectivity
- Ready-to-use testing application (U-Test) provided
- OS Information
 - Windows 7/Vista/XP
- Software Compatibility
 - LabVIEW™
 - MATLAB®
 - Visual Studio, Visual Studio.NET
- Software Recommendations
 - U-Test
 - DAQMaster

Pin Assignment

USB-7230				USB-7250			
VDD	20	40	DO15	NO7	20	40	GND1
DO7	19	39	DO14	COM7	19	39	CNT1
DO6	18	38	DO13	NO6	18	38	GND0
DO5	17	37	DO12	COM6	17	37	CNT0
DO4	16	36	DO11	NO5	16	36	DI7L
DO3	15	35	DO10	COM5	15	35	DI7H
DO2	14	34	DO9	NO4	14	34	DI6L
DO1	13	33	DO8	COM4	13	33	DI6H
DO0	12	32	IGND	NC3	12	32	DI5L
IGND	11	31	IGND	NO3	11	31	DI5H
CNT0	10	30	CNT1	COM3	10	30	DI4L
CGND	9	29	COM	NC2	9	29	DI4H
DI7	8	28	DI15	NO2	8	28	DI3L
DI6	7	27	DI14	COM2	7	27	DI3H
DI5	6	26	DI13	NC1	6	26	DI2L
DI4	5	25	DI12	NO1	5	25	DI2H
DI3	4	24	DI11	COM1	4	24	DI1L
DI2	3	23	DI10	NC0	3	23	DI1H
DI1	2	22	DI9	NO0	2	22	DI0L
DI0	1	21	DI8	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



Ordering Information

- **USB-7230**
32-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 (solid-state relay, 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 V _{DC} , 2 A (Resistive) 110 V _{DC} , 0.3 A (Resistive) 125 V _{AC} , 0.5 A (Resistive)
Relay on/off time	-	Operating time 2 ms Release time 1 ms
Contact Resistance	-	75mΩ
Expected life	-	50 V _{DC} 0.1A (resistive), 1x10 ⁸
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)	