



USB-2245-32

USB I/O Module
with Isolated 32-ch
DI

USB-2245-64

USB I/O Module
with Isolated 64-ch
DI

Features

- 32/64-ch Isolated digital output (Sink/Source)
- Dual watchdog with power-on and safe values
- 2-port USB 2.0 hub for daisy-chain wiring
- Plug-and-Play without driver
- Lockable USB cable
- Easy-to-use tool for setup and I/O testing
- API library (VB/C++/C#.NET/VB.NET/LabVIEW)
- Support 32/64-bit Win7/8/10/11 and Linux



Introduction

The USB-2245-32 and USB-2245-64 are USB 2.0 I/O devices with 32 or 64 Isolated Digital Output. Digital Output can be selected as either sink- or source-type via wire connection. Both models also have LED indicators to display the status of the digital channels. A dual watchdog function with configurable power-on and safe values ensures reliable operation in harsh environments. We also provide API library and demos with source code for Windows and Linux users to develop their own USB applications with various development tools (VB/C++/C#.NET/VB.NET/LabVIEW).

Therefore, the USB-2251-32/USB-2251-64 is the perfect choose for you to implement I/O expansion via a plug-and-play USB interface.

Applications

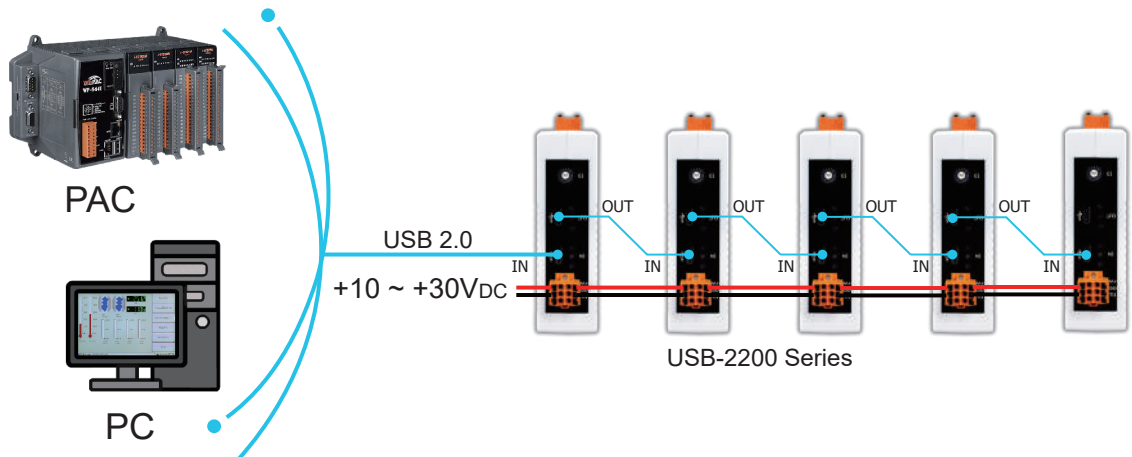
- Building automation
- Factory automation
- Measurement and testing
- Testing equipment
- Machine automation

Daisy-Chain USB Cabling

The USB-2200 module is equipped with a USB hub that supports daisy chain topologies. This feature allows more USB-2200 modules to be integrated into a single system and also frees up PC USB ports.

Note : The USB 2.0 port provides only 500mA, external power is required when multiple modules are connected to the same USB port. Please refer to the following figure shown daisy chain application.

Daisy-Chain USB Cabling



Note : Support daisy-chain, max. 5 nodes.

Redundant Power

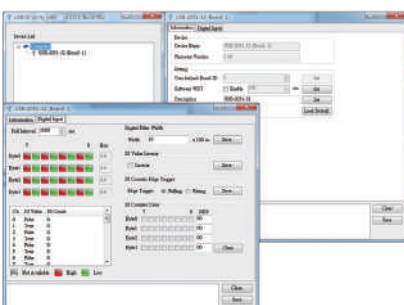
The USB-2200 modules support two power inputs for enhanced redundancy with a voltage range of +10 to +30 VDC. For modules connected to two power input sources, if one source is inactive or interrupted, the other power source is capable of taking over immediately. The USB-2200 modules can operate as normal with only a single power source. (If not using the USB hub function, the module can be powered via a USB 2.0 port.)

Software

USB I/O Utility

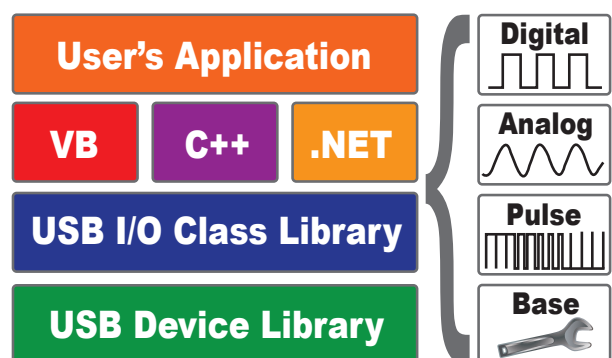
The software supports all ICP DAS USB I/O modules, simplifies I/O control and testing, and allows for immediate data acquisition without programming.

- Automatically scans all I/O modules
- Quickly configures and tests I/O modules
- Completely and accurately logs I/O data for analysis



VB/C++/C#.NET/VB.NET/LabVIEW SDK

ICP DAS provides a SDK for USB I/O modules to help user to develop own project easily and quickly. The SDK can be supported in VB/C++/C#.NET/VB.NET/LabVIEW to fulfill project development.



■ System Specifications

Model	USB-2245-32	USB-2245-64
USB		
Specification	USB 2.0 HighSpeed (480 Mbps)	
Connector	1 x USB IN (CA-USB-AC2-L018 CR) 1 x USB OUT (CA-USB-CC1-L003 CR) or (CA-USB-CC2-L003 CR)	
CPU Module		
Watchdog Timer	1 Hardware watchdog (1.6 second) 1 Software watchdog (Programmable)	
EMS Protection		
ESD (IEC 61000-4-2)	4 kV contact for each terminal 8 kV air for random point	
LED Indicators		
Status	3 x Power, Run and Error	
	32 x DO	64 x DO
Power		
Reverse Polarity Protection	Yes	
Powered from Terminal Block	+10 ~ +30 VDC	
Consumption	Typical 2.5 W Max. 3.0 W	Typical 4.1 W Max. 4.6 W
Mechanical		
Dimensions (W x L x H)mm	31 x 166 x 129	56 x 180 x 144
Environmental		
Operating Temperature	-25 ~ +75 ° C	
Storage Temperature	-40 ~ +85 ° C	
Humidity	10 ~ 95% RH, Non-condensing	

I/O Specifications

Model	USB-2245-32	USB-2251-64
Digital Output		
Channels	32	64
Type	Push-Pull	
Sink/Source (NPN/PNP)	Sink/Source	
Load Voltage	+3.5 ~ +80 V	
Load Current	400 mA/channel	300 mA/channel
Safe Value	Yes, Programmable	
Power on Value	Yes, Programmable	
Intra-Module Isolation	3000 VDC	

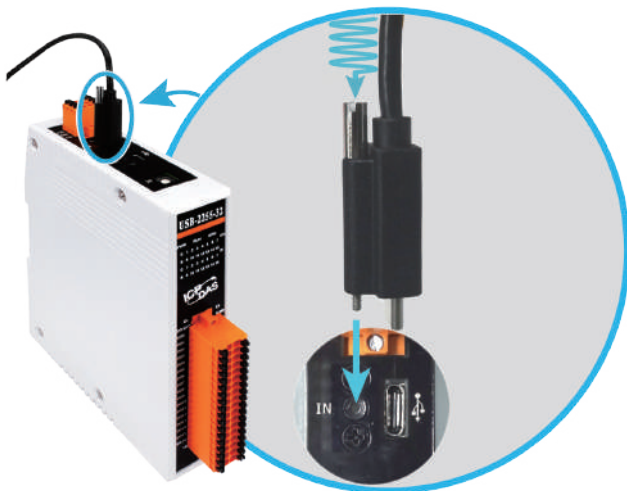
Wire Connections

Output Type	ON State Readback as 1	OFF State Readback as 0
Sink		
Source		

DO Group Corresponding pin

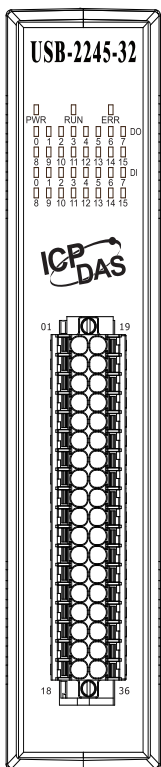
DO Group1: DO0 ~ DO7 Corresponding DO.COM1
 DO Group2: DO8 ~ DO15 Corresponding DO.COM2
 DO Group3: DO16 ~ DO23 Corresponding DO.COM3
 DO Group4: DO24 ~ DO31 Corresponding DO.COM4
 DO Group5: DO32 ~ DO39 Corresponding DO.COM5
 DO Group6: DO40 ~ DO47 Corresponding DO.COM6
 DO Group7: DO48 ~ DO55 Corresponding DO.COM7
 DO Group8: DO56 ~ DO63 Corresponding DO.COM8

USB Type-C plug with Locking Screw



Pin Assignments

USB-2245-32



Pin Assignment	Terminal No.	Pin Assignment
DO.COM1	01	19 DO.COM3
DO0	02	20 DO16
DO1	03	21 DO17
DO2	04	22 DO18
DO3	05	23 DO19
DO4	06	24 DO20
DO5	07	25 DO21
DO6	08	26 DO22
DO7	09	27 DO23
DO.COM2	10	28 DO.COM4
DO8	11	29 DO24
DO9	12	30 DO25
DO10	13	31 DO26
DO11	14	32 DO27
DO12	15	33 DO28
DO13	16	34 DO29
DO14	17	35 DO30
DO15	18	36 DO31

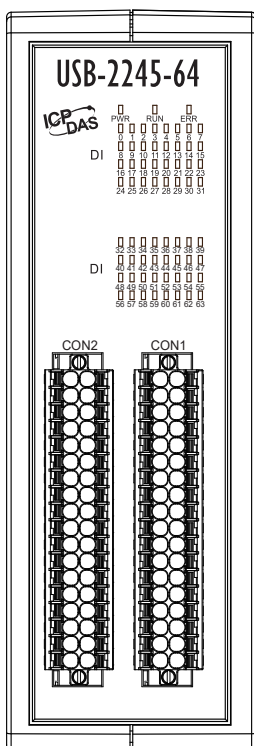
USB-2245-32 & USB-2245-64

	Port	Pin Assignment	
		F.G.	F.G.
	PWR	F.G.	F.G.
		GND1	GND2
		+VS1	+VS2
	USB IN		
	USB OUT		

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CON2

Pin Assignment	Terminal No.	Pin Assignment
DO.COM5	01	19 DO.COM7
DO32	02	20 DO48
DO33	03	21 DO49
DO32	04	22 DO50
DO35	05	23 DO51
DO36	06	24 DO52
DO37	07	25 DO53
DO38	08	26 DO54
DO39	09	27 DO55
DO.COM6	10	28 DO.COM8
DO40	11	29 DO56
DO41	12	30 DO57
DO42	13	31 DO58
DO43	14	32 DO59
DO44	15	33 DO60
DO45	16	34 DO61
DO46	17	35 DO62
DO47	18	36 DO63

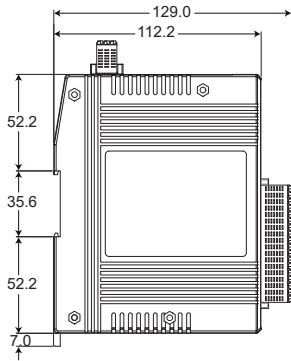


CON1

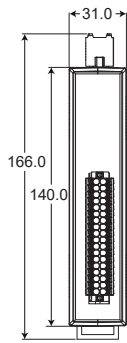
Pin Assignment	Terminal No.	Pin Assignment
DO.COM1	01	19 DO.COM3
DO0	02	20 DO16
DO1	03	21 DO17
DO2	04	22 DO18
DO3	05	23 DO19
DO4	06	24 DO20
DO5	07	25 DO21
DO6	08	26 DO22
DO7	09	27 DO23
DO.COM2	10	28 DO.COM4
DO8	11	29 DO24
DO9	12	30 DO25
DO10	13	31 DO26
DO11	14	32 DO27
DO12	15	33 DO28
DO13	16	34 DO29
DO14	17	35 DO30
DO15	18	36 DO31

■ Dimensions (Units: mm)

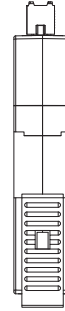
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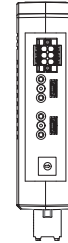
Left Side View



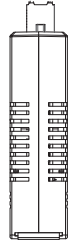
Front View



Rear View

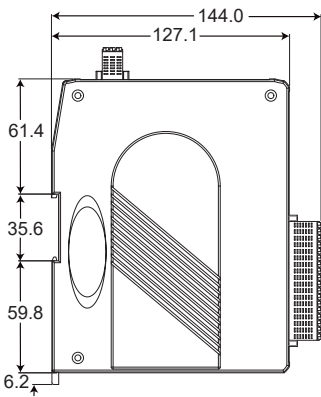


Top View

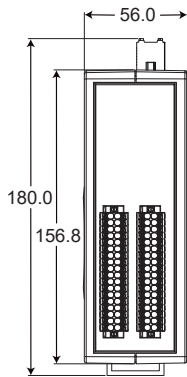


Bottom View

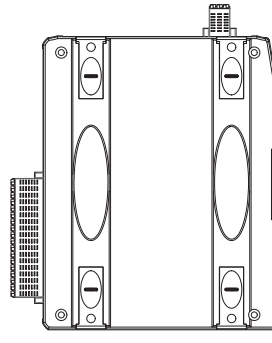
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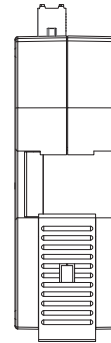
Left Side View



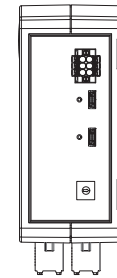
Front View



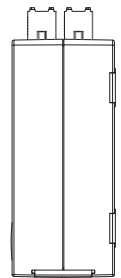
Right Side View



Rear View





Top View







Bottom View

■ Ordering Information

USB-2245-32 CR	USB I/O Module with Isolated 32-ch DO (Sink/Source) (RoHS) Includes 1.8M USB Cable (CA-USB-AC2-L018)	
USB-2245-64 CR	USB I/O Module with Isolated 64-ch DO (Sink/Source) (RoHS) Includes 1.8M USB Cable (CA-USB-AC2-L018)	

■ Accessories

CA-USB-CC1-L003 CR		CA-USB-CC1-L018 CR	
Type C to Type C, with screw lock, 30 cm (RoHS)		Type C to Type C, with screw lock, 1.8 M, (RoHS)	
CA-USB-CC2-L003 CR		CA-USB-AC1-L018 CR	
Type C to Type C, with screw lock and ferrite cores, 30cm (RoHS)		USB 2.0, A to Type C with screw lock, 1.8 M, (RoHS)	