

USB Digital I/O Module and USB Hub Selection Guide



Category		USB 3.0 Isolated Digital I/O						
Model		USB-5830-AE	USB-5856-AE	USB-5850-AE	USB-5855-AE	USB-5860-AE	USB-5862-AE	
Isolated Digital I/O	Input	Channels	16	32	16	32	8	16
		Input Range	Logic 0: 3 V max. Logic 1: 10 V min. (30 V max.)	Logic 0: 3 V max. Logic 1: 10 V min. (30 V max.)	Logic 0: 3 V max. Logic 1: 10 V min. (30 V max.)	Logic 0: 3 V max. Logic 1: 10 V min. (30 V max.)	Logic 0: 3 V max. Logic 1: 10 V min. (30 V max.)	Logic 0: 3 V max. Logic 1: 10 V min. (30 V max.)
		Isolation Protection	2,500 V _{DC}	2,500 V _{DC}	2,500 V _{DC}	2,500 V _{DC}	2,500 V _{DC}	2,500 V _{DC}
	Output	Channels	16	32	-	-	-	-
		Load Voltage	5 ~ 40 V _{DC}	5 ~ 40 V _{DC}	-	-	-	-
		Load Current	350mA/ch (sink) @ 25°C 250mA/ch (sink) @ 60°C	350mA/ch (sink) @ 25°C 250mA/ch (sink) @ 60°C	-	-	-	-
		Isolation Protection	2,500 V _{DC}	2,500 V _{DC}	-	-	-	-
	Opto-Isolator Response Time	100 μs	100 μs	-	-	-	-	
Relay Output	PhotoMOS SPST(Form A)	Channels	-	-	8	16	-	-
		Load Voltage	-	-	60V (AC peak or DC)	60V (AC peak or DC)	-	-
		Load Current	-	-	1.2A/ch	1.2A/ch	-	-
		Isolation Protection	-	-	1,500 V _{DC}	1,500 V _{DC}	-	-
	Response Time	-	-	Turn-on: 1 ms (typical) Turn-off: 0.6 ms (typical)	Turn-on: 1 ms (typical) Turn-off: 0.6 ms (typical)	-	-	
	Relay Output Form A	Channels	-	-	-	-	8	16
		Contact Rating (resistive)	-	-	-	-	2A @ 250 V _{AC} , 2A @ 30 V _{DC}	2A @ 250 V _{AC} , 2A @ 30 V _{DC}
		Max. Switching Power	-	-	-	-	500 VA, 60 W	500 VA, 60 W
		Max. Switching Voltage	-	-	-	-	270 V _{AC} , 125 V _{DC}	270 V _{AC} , 125 V _{DC}
		Response Time	-	-	-	-	Operating time: 10 ms (max.) Release time: 5 ms (max.)	Operating time: 10 ms (max.) Release time: 5 ms (max.)
Dimensions		120 x 120 x 40 mm (4.72" x 4.72" x 1.57")	168 x 120 x 40 mm (6.61" x 4.72" x 1.57")	120 x 120 x 40 mm (4.72" x 4.72" x 1.57")	168 x 120 x 40 mm (6.61" x 4.72" x 1.57")	120 x 120 x 40 mm (4.72" x 4.72" x 1.57")	168 x 120 x 40 mm (6.61" x 4.72" x 1.57")	
Board ID Switch		✓	✓	✓	✓	✓	✓	
Operating Temperature		0 ~ 60 °C (32 ~ 140 °F)						
Supported Operating Systems		Windows XP/7/8/10 and Linux						

✓: supported, -: not supported, Δ: optional



Category		USB 2.0 Digital I/O				
Model		USB-4750-AE	USB-4751-AE	USB-4751L-AE	USB-4761-AE	
DI/O	Input	Channels	16	48 (Shared)	24 (Shared)	8
		Input Range	Logic 0: 2 V max. Logic 1: 5 V min. (60 V max.)	Logic 0: 0.8 V max. Logic 1: 2 V min. (5 V/TTL)	Logic 0: 0.8 V max. Logic 1: 2 V min. (5 V/TTL)	Logic 0: 2 V max. Logic 1: 5 V min. (30 V max.)
		Isolation Protection	2,500 V _{DC}	-	-	2,500 V _{DC}
	Output	Channels	16	48 (Shared)	24 (Shared)	-
		Load Voltage	5 ~ 40 V _{DC}	Logic 0: 0.5 V max. Logic 1: 3.8 V min	Logic 0: 0.5 V max. Logic 1: 3.8 V min	-
		Load Current	200mA/ch (sink)	Sink: 12 mA @ 0.5 V Source: 5 mA @ 3.8 V for all channels in high status	Sink: 12 mA @ 0.5 V Source: 5 mA @ 3.8 V for all channels in high status	-
		Isolation Protection	2,500 V _{DC}	-	-	-
Opto-Isolator Response Time	100 μs	-	-	-		
Relay Output	Channels	-	-	-	8 x Form C	
	Contact Rating (resistive)	-	-	-	0.25A@250V _{AC} , 1A@30V _{DC}	
	Max. Switching Power	-	-	-	62.5 VA, 60 W	
	Max. Switching Voltage	-	-	-	250 V _{AC} , 220 V _{DC}	
	Response Time	-	-	-	Operating time: 6 ms (max.) Release time: 4 ms (max.)	
Counter	Channels	2	2	2	-	
	Isolation Protection	2,500 V _{DC}	-	-	-	
	Max. Input Frequency	1 MHz	8 MHz	8 MHz	-	
Dimensions		132 x 80 x 32 mm (5.2" x 3.15" x 1.26")	132 x 80 x 32 mm (5.2" x 3.15" x 1.26")	132 x 80 x 32 mm (5.2" x 3.15" x 1.26")	132 x 80 x 32 mm (5.2" x 3.15" x 1.26")	
Supported Operating Systems		Windows XP/7/8/10 and Linux				



Category		Industrial USB Hub		
Model		USB-4620-AE	USB-4622-BE	USB-4630-AE
Connectivity	Ports	1 x Upstream (Type B) 5 x Downstream (Type A)	1 x Upstream (Type B) 5 x Downstream (Type A)	1 x Upstream (Type B) 4 x Downstream (Type A)
	Compatibility	USB 2.0 Full Speed	USB 2.0 High Speed	USB 3.0 SuperSpeed
	Transfer Speed	12 Mbps	480 Mbps	5 Gbps shared by all downstream ports
	Supply Current	500 mA max. per port	500 mA max. per port	External power: 900 mA max. per port USB bus power: 700 mA max. shared by all ports
Isolation Protection		3,000 V _{DC}	-	2,500 V _{DC}
General	Dimensions	132 x 80 x 32 mm (5.2" x 3.15" x 1.26")		
	DC Input	10 ~ 30 V _{DC}		
	Operating Temperature	0 ~ 60°C (32 ~ 140°F)	0 ~ 60°C (32 ~ 140°F)	0 ~ 70°C (32 ~ 158°F)

- 1 Software and Industry Solutions
- 2 Industrial Server
- 3 Intelligent System
- 4 Intelligent HMI and Monitors
- 5 Automation Computers and Controllers
- 6 Industrial Communication
- 7 Remote I/O Modules
- 8 Industrial I/O and Video Solutions

Multifunction DAQ USB Module Selection Guide



Category		USB 2.0 Multifunction					
Part Number		USB-4702-AE	USB-4704-AE	USB-4711A-AE	USB-4716-AE	USB-4718	
Analog Input	Resolution	12-bit	14-bit	12-bit	16-bit	16-bit	
	Channels	8 SE/4 diff.	8 SE/4 diff.	16 SE/8 diff.	16 SE/8 diff.	8 diff.	
	Onboard FIFO	512 samples	512 samples	1,024 samples	1,024 samples	-	
	Sampling Rate	10 kS/s	48 kS/s	150 kS/s	200 kS/s	10 S/s	
	Input Ranges	Unipolar Inputs	-	-	-	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25 V	0 ~ 20, 4 ~ 20 mA Thermocouple J, K, T, E, R, S, B 0 ~ 1, 0 ~ 2.5, 0 ~ 0.015, 0 ~ 0.05, 0 ~ 0.1, 0 ~ 0.5 V
		Bipolar Inputs	±20, 10, 5, 4, 2.5, 1.25, 1 V	±20, 10, 5, 4, 2.5, 1.25, 1 V	±10, 5, 2.5, 1.25 V 0.625 V	±10, 5, 2.5, 1.25 V 0.625 V	-
	Trigger Modes	Configurable Per Channel	✓	✓	✓	✓	✓
		Pacer/Software	✓	✓	✓	✓	✓
	Data Transfer	External Pulse	✓	✓	✓	✓	✓
		Software	✓	✓	✓	✓	✓
Analog Output	Resolution	12-bit	12-bit	12-bit	16-bit	-	
	Channels	2	2	2	2	-	
	Output Range	0 ~ 5 V	0 ~ 5, 0 ~ 10 V	0 ~ 5, 0 ~ 10, ±5, ±10 V	0 ~ 5, 0 ~ 10, ±5, ±10 V	-	
	Output Rate	Static update	Static update	Static update	Static update	-	
Digital I/O	Input Channels	8	8	8	8	8 (isolated)	
	Output Channels	8	8	8	8	8 (isolated)	
Timer/Counter	Channels	1	1	1	1	-	
	Resolution	32-bit	16-bit	16-bit	16-bit	-	
	Max. Input Frequency	5 MHz	10 MHz	1 KHz	1 KHz	-	
Auto Calibration		✓	✓	✓	✓	-	
Dimensions (L x H)		70 x 70 mm (2.76" x 2.76")	132 x 80 x 32 mm (5.2" x 3.15" x 1.26")	132 x 80 x 32 mm (5.2" x 3.15" x 1.26")	132 x 80 x 32 mm (5.2" x 3.15" x 1.26")	132 x 80 x 32 mm (5.2" x 3.15" x 1.26")	
Connector		DB37	Onboard screw terminal	Onboard screw terminal	Onboard screw terminal	Onboard screw terminal	
Supported Operating Systems		Windows XP/7/8/10 and Linux					
LabVIEW Driver		✓	✓	✓	✓	✓	

✓ : supported, - : not supported, △ : optional