

Digital Device Interface with opto-coupling



Features

- Compact and cost-effective package.
- Permits simple interfacing of existing devices to a fast fiber-optic communication loop.
- Can be mounted on or close to the device being controlled
- Up to sixteen devices can be connected on a single fiber-optic loop
- 4 opto-coupled inputs, 4 opto-coupled outputs.

Applications

- Read and control digital devices with full isolation.
- Control of devices across high voltage barriers.
- Fully automated systems operating in electrically noisy environments.
- Addition of high-performance remote control to existing systems.

Specifications

Digital outputs	Number of independent outputs	4
	Configuration	Opto-coupler phototransistor
	Isolation	2000 VDC
	Maximum phototransistor current	100 mA
	Maximum collector-emitter voltage	40 V
	Maximum emitter-collector voltage	6 V
	Series resistance	2 kohm
	Switching time	50 usec typical turn off time



Specifications (continued)

Digital inputs	Number of independent inputs	4
	Configuration	Back to back LED pair
	Isolation	2000 VDC
	Maximum forward current	50 mA
	Minimum forward current to switch	0.5 mA
	Typical forward voltage drop	1.2 V
	Series resistance	10 kohm

Power input	+24V (+/- 2V) DC, 250mA maximum
Controls	16 position rotary switch for address selection
Displays	Status LEDs (power, processor status, comms status)
Case material	Stainless steel sheet.
Weight	0.15kg (0.33 lb)
Operating environment	10 to 35C, < 80% humidity, non-condensing, vibration < 2g all axes, 1 to 1000Hz
Storage environment	0 to 50C, < 80% humidity, non-condensing, vibration < 2g all axes, 1 to 1000Hz

Interfacing and control

Interfaces	Fiber-optic loop, 9600 to 10 Mbit/sec serial, 8 or 9 bit asynchronous binary.
Data rate	Typical read/write rate \geq 1 kHz, depending upon loop configuration. Rate to A500 host memory (special applications) \geq 10kHz.
	Fibre-optic loop to host system interfacing available using loop controllers: A100 (RS-232), A200 (USB), A300 (Ethernet), A500 (Real-time controller)
Host computer	Diagnostic host program provided for PC. Embedded software DLLs available for Microsoft® .NET, Labview and C++.



Connectors

Fiber optics	Two 1mm Avago HFBR ST bayonet			
Power in	2.1mm threaded jack. Mates with Switchcraft S761K or equivalent.			
Signal	25 way DSub female			
	1	PSU 0V in	14	+24V DC in
	2	Shield (B10 case)	15	Digital ground
	3	Opto out 4 emitter	16	Opto out 4 collector
	4	Opto out 3 emitter	17	Opto out 3 collector
	5	Opto out 2 emitter	18	Opto out 2 collector
	6	Opto out 1 emitter	19	Opto out 1 collector
	7	Digital ground	20	+5V digital out
	8	Digital ground	21	Digital ground
	9	Opto in 1	22	Opto in 1
	10	Opto in 2	23	Opto in 2
	11	Opto in 3	24	Opto in 3
	12	Opto in 4	25	Opto in 4
	13	Digital ground		

The device may be powered through pins 14 and 1 as an alternative to the power in jack.

Opto-coupler diodes are bidirectional pairs.

Ordering information

- B10B B10 device with four opto-coupled digital inputs and four opto-coupled digital outputs. Including PTCDiagnostic host software

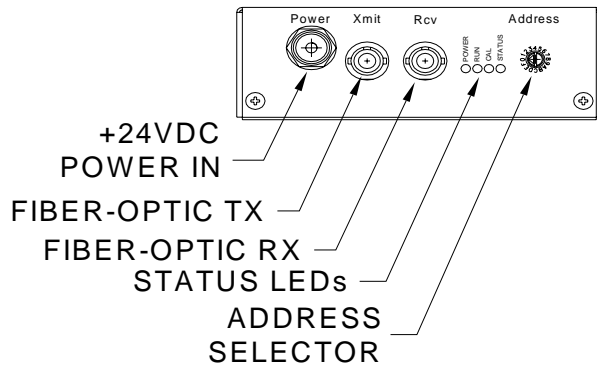
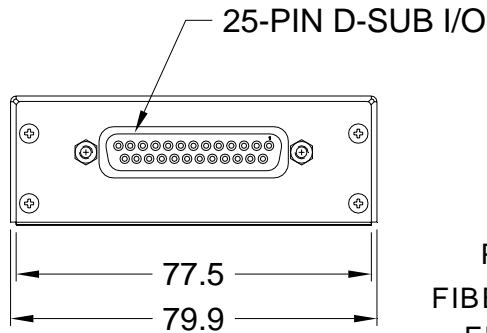
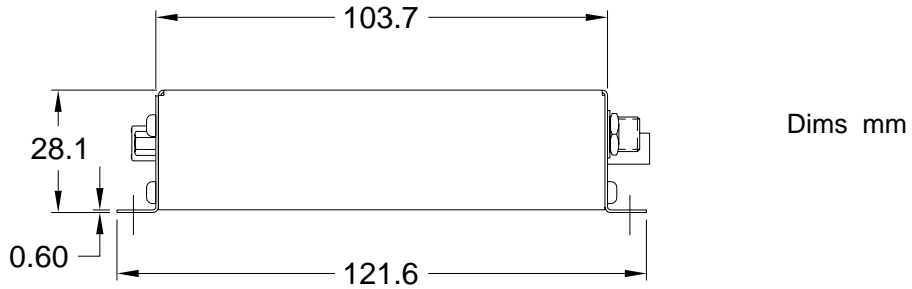
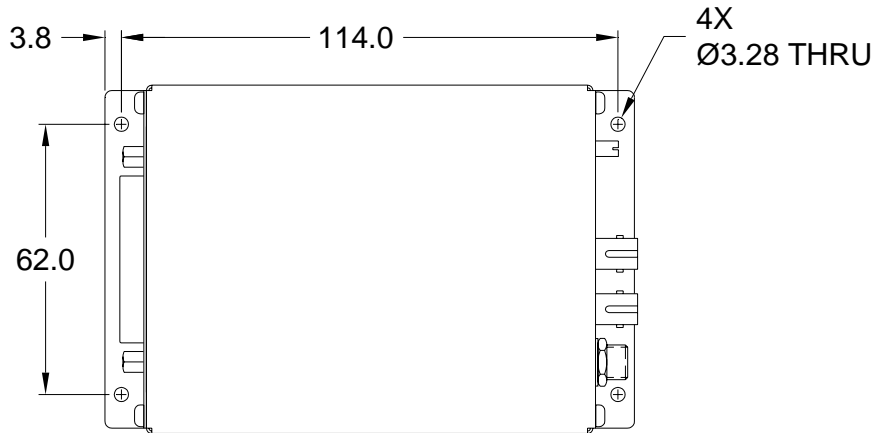
- B10A B10 device with eight TTL digital inputs and eight TTL digital outputs. Including PTCDiagnostic host software

See separate data sheet.

- B10C B10 device with eight TTL digital inputs and four relay outputs. Including PTCDiagnostic host software

See separate data sheet.





Pyramid Technical Consultants, Inc.,
 1050 Waltham Street Suite 200
 Lexington MA 02421 USA
 Tel: +1 781 402 1700 (USA),
 +44 1273 493590 (UK)
 Email: support@ptcusa.com

www.ptcusa.com

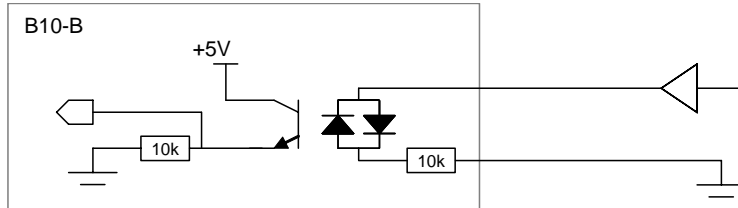
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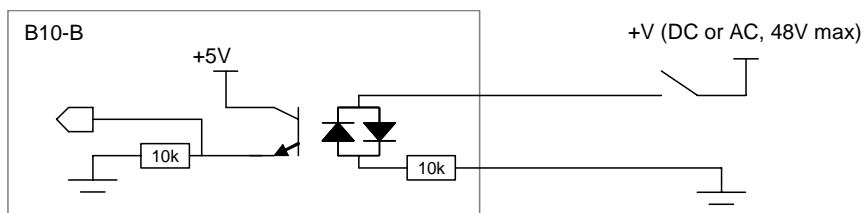


Recommended Connection Arrangements

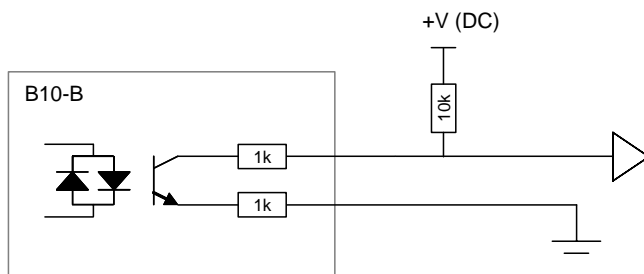
Digital input : TTL input



Digital input : volts-free contact



Digital output : TTL load



Digital output : relay coil load

