

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.
- Interfacing digital controls at non-TTL voltages

Specifications

Digital output	Number of independent outputs	Four
	Configuration	Opto-coupler phototransistor
	Maximum current capability	40 mA
	Internal series resistance	2 kohm
	Maximum collector-emitter voltage	40 V
	Maximum emitter-collector voltage	6 V
	Minimum rise / fall time	5 usec
Digital input	Number of independent inputs	Four
	Configuration	Opto-coupler photodiode, bidirectional, 10 kohm series resistor
	Isolation	2000 V
	Minimum current to switch	0.5 mA
	Maximum current	50 mA
	Forward voltage	1.2 V typical



Specifications (continued)

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	0.24g (0.55 lb)
Operating environment	10 to 35C, < 80% humidity, non-condensing, vibration < 0.2g 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 ST bayonet to suit 1 mm plastic fiber or 200 um HCS fiber.			
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

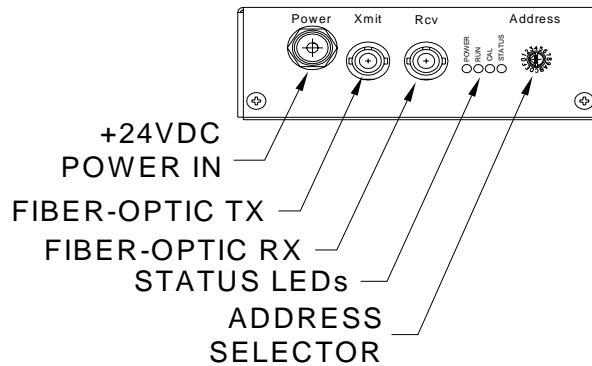
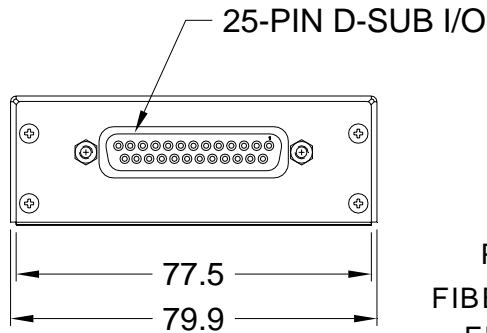
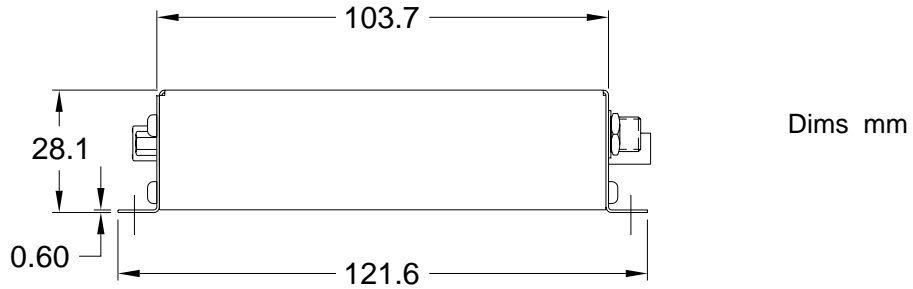
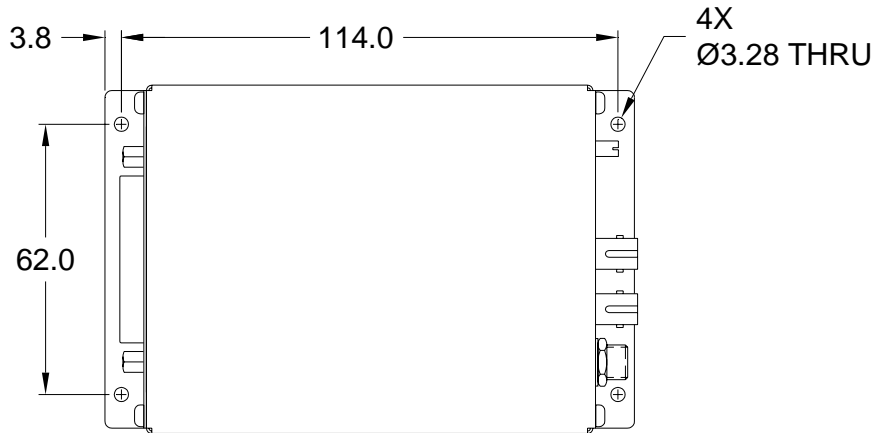
- B10A B10 device with eight TTL digital inputs and eight TTL digital outputs. Including PTCDiagnostic host software

See separate data sheet.

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

See separate data sheet.





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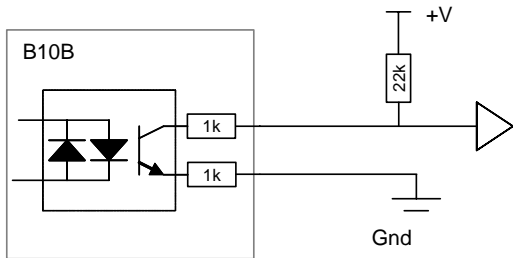
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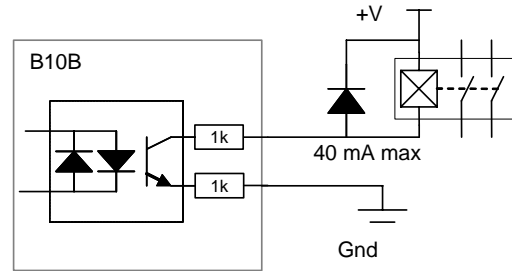
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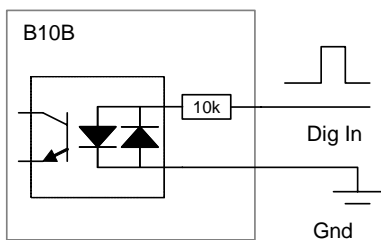
Recommended Connection Arrangements



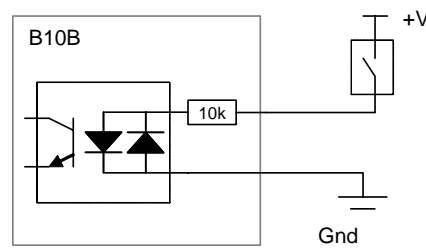
Output to TTL load



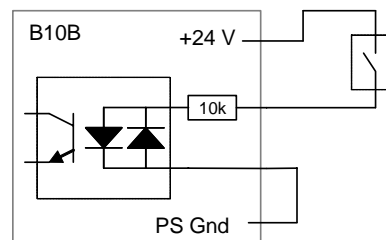
Output to relay coil



Input from TTL source



Input from relay or switch contacts



Input from relay or switch contacts ,
powered from B10-B

