Digital Device Interface
with relay outputs

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
- 8 TTL inputs, 4 relay outputs.

Applications

- Read and digital devices and switch up to 500 mA at up to 120 V.
- Control of devices across high voltage barriers.
- Fully automated systems operating in electrically noisy environments.
- Addition of high-performance remote control to existing systems.
- Controlling switches such as high power relays and contacters to control high power devices

Specifications

Digital output	Number of independent outputs	Four
	Configuration	Potential-free n/o contact pair
	Maximum current capability	500 mA switching, 1 A static
	Maximum voltage across contacts	120 V
	Internal series resistance	0.15 ohm
	Switching time	0.55 msec open, 0.10 msec close
	Lifetime, cycles	> 5e6
Digital input	Number of independent inputs	Eight
	Voltage level	TTL
	Configuration	Active low, internal 10 kohm pullup to +5 V
	Input impedance	10 kohm
	Maximum input pulse rate	> 10 MHz

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 >= 1 kHz, depending upon loop configuration. Rate to A500 host memory (special applications) >= 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 ST bayonet, compatible with 1 mm platic fiber or 200 um HCS fiber.
Power in	2.1mm threaded jack. Mates with Switchcraft S761K or equivalent.
Signal	25 way DSub female

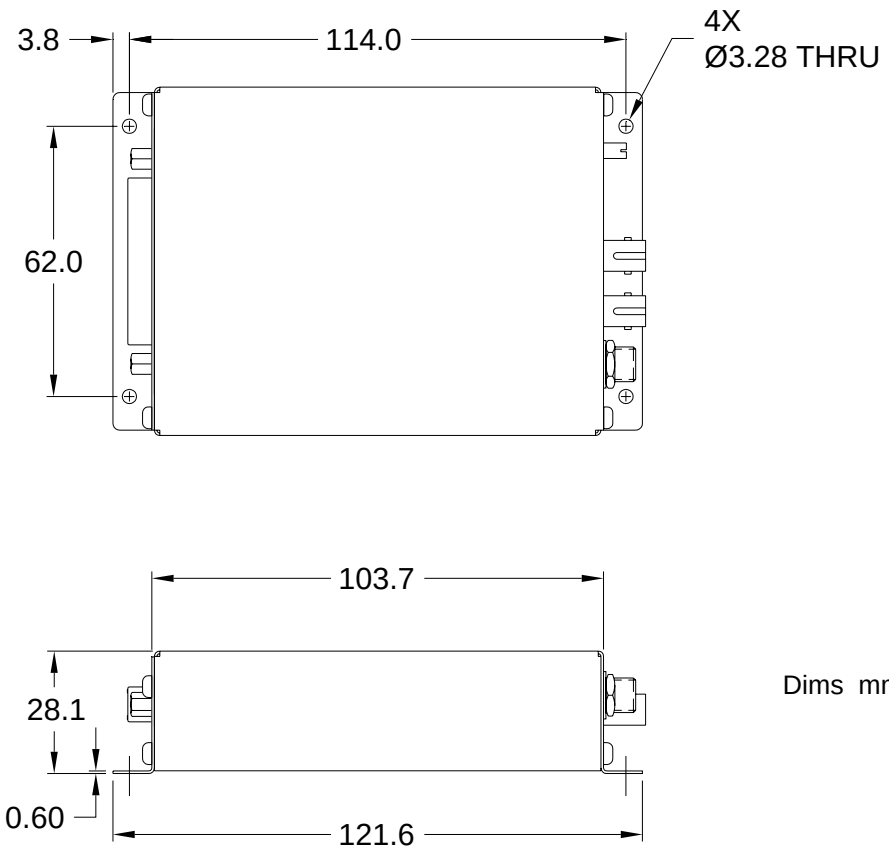
1	PSU 0V in	14	+24V DC in
2	Shield (B10 case)	15	Digital ground
3	Relay 4b	16	Relay 4a
4	Relay 3b	17	Relay 3a
5	Relay 2b	18	Relay 2a
6	Relay 1b	19	Relay 1a
7	Digital ground	20	+5V digital out
8	Digital ground	21	Digital ground
9	Digital in 8	22	Digital In 7
10	Digital in 6	23	Digital In 5
11	Digital in 4	24	Digital In 3
12	Digital In 2	25	Digital In 1
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

B10C	B10 device with eight TTL digital inputs and four relay 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.
B10B	B10 device with four opto-coupled digital inputs and four opto-coupled digital outputs. Including PTCDiagnostic host software See separate data sheet.



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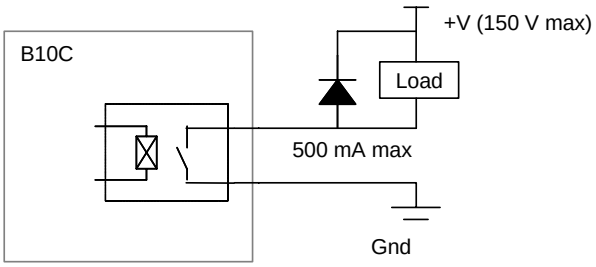
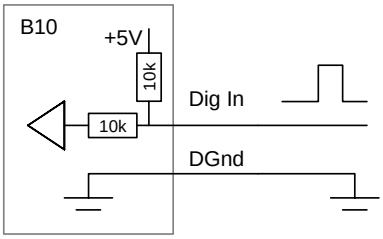
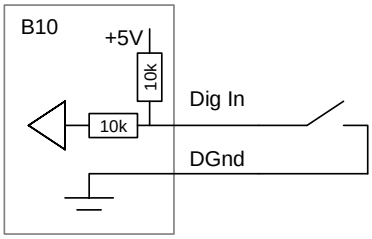
Recommended Connection Arrangements



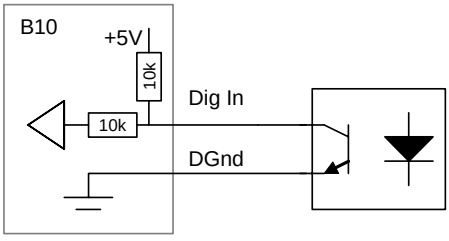
Output to general load



TTL input from TTL source



TTL input from relay or switch contacts



TTL input from opto-coupler
phototransistor source