

# Z-10-D-IN

## Data Acquisition Module - 10 Digital Inputs

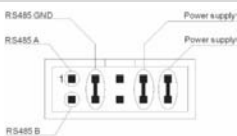
### General Features



The Z-10-D-IN data acquisition module accepts up to 10 digital inputs from a wide variety of standard sensors. High speed and robust ModBus RS485 serial communications offers almost universal connectivity. Connections to inputs are via high quality plug in screw terminals. Power and comms connections are made using the innovative "QuickFix" bus system. This passive bus clips into standard DIN rail and provides both the power and serial communications connections. Modules can be freely added and removed from the bus without interruption of the communications or power to other modules

### Electrical connections

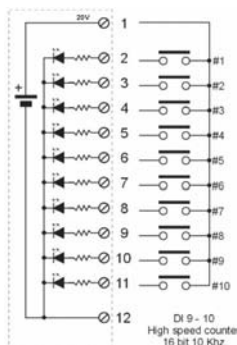
#### Power & serial interface



#### QuickFix Bus

The Power and Serial interface connections are available on a recessed plug in the base of the unit. The QuickFix bus clips into 35mm DIN rail and is designed to allow fast, easy installation of a group of modules. It also allows convenient hot swapping of modules. The bus pinouts are shown for information only. Supply must be within the specified tolerance of 19 to 40 Vdc (not polarity conscious), or 19 to 28 Vac. **Failure to observe these precautions will result in serious damage to the instrument.** The equipment must be protected by a suitably sized fuse.

#### Inputs



The inputs may be powered from the supply at Terminal 1. The negative side of all the inputs are commoned together internally and brought out on terminal 12(GND). The current draw of a closed input is 7mA

### Technical Specifications

ELECTRICAL		MECHANICAL DATA	
<b>Power Supply</b>	19 – 40 Vdc / 19 – 28 Vac / 50-60 Hz; 9-28 Vdc option	<b>Operating Temperature</b>	0 ~ +55 °C
<b>Power Consumption</b>	Max 2.5W; 1.6W @ 24 Vdc	<b>Storage Temperature</b>	-20 ~ +70 °C
<b>Isolation</b>	1,500 Vac between inputs // all other low voltage circuits	<b>Humidity</b>	30 ~ 90% @ +40 °C (non condensing)
<b>Overload Protection</b>	Inputs protected transients up to 400 W/ms	<b>Dimensions</b>	17.5 x 100 x 112 mm (WxHxD)
<b>Power Supply Transients</b>	Transient protection to 400 W/ms	<b>Weight</b>	140 g Approx
<b>Transducer Power Supply</b>	20 Vdc @80mA max	<b>Case</b>	Nylon 6, 30% fibreglass filled – Self Extinguishing class V0
<b>Status Indicators</b>	<ul style="list-style-type: none"> <li>Power ON</li> <li>Error</li> <li>Data Transmit (Tx)</li> <li>Data Receive (Rx)</li> <li>10 Input status</li> </ul>	<b>Hot swapping</b>	Yes
<b>Installation Category</b>	II	<b>Connections</b>	Plug in, screw terminals for 2.5mm <sup>2</sup> conductors (max)
<b>Pollution Category</b>	2	<b>Mounting</b>	Symmetrical 35mm DIN rail (Top Hat section)
<b>Ingress Protection</b>	IP20		
COMMUNICATIONS, PROCESSING, MEMORY		SIGNALS & MEASUREMENT	
<b>Interface</b>	2 wire RS485 serial comms	<b>Number of Channels</b>	10 optoisolated inputs
<b>Baud Rates</b>	1,200, 2,400, 4,800, 9,600, 19,200, 38,400, 57,600 bps	<b>Type</b>	<ul style="list-style-type: none"> <li>10 optoisolated inputs suitable for reed switches, PNP &amp; NPN Proximity switches, contact closure.</li> <li>8 inputs with 16 bit counters at a max frequency of 100Hz</li> <li>2 inputs with 32 bit counters at a max frequency of 10kHz</li> </ul>
<b>Parity</b>	Selectable as None, Even, Odd	<b>Range</b>	
<b>Protocol</b>	ModBUS RTU slave	<b>Input Impedance</b>	
<b>Message turn round time</b>	< 10 ms (@ 38,400 baud)	<b>Resolution</b>	
<b>Input Sample Time</b>	-	<b>Accuracy</b>	
<b>Communication Distance</b>	1, 200 m maximum without line repeater	<b>Linearity</b>	
<b>Connectivity</b>	Max 32 nodes	<b>Stability</b>	
<b>Data Retention</b>	EEPROM storage of configuration parameters, minimum 10 years retention	<b>Response time</b>	
		<b>Other Features</b>	<ul style="list-style-type: none"> <li>Measures Frequency to 10 kHz</li> <li>Measures Period, Frequency, Ton and Toff to 100Hz</li> <li>Count on leading or trailing edge</li> <li>Overflow indication on all counters</li> </ul>
Configurations & standards			
<b>Programming software</b>	Configure and set online parameters via the serial connection with the Z-PROG package or Ethernet with the Z-NET package	<b>Standards CE</b>	EN50081-2, EN 55011, EN 50082-2, EN 61000-2-2/4, EN 50140/141, EN 61010-1, EN 60742
<b>DIP Switch</b>	Force default communication parameters	<b>Accessories &amp; options</b>	9-28Vdc