Four Input Digital Multiplexer IOD4

Description

The Digital Input Expander allows 4 volt free inputs to be monitored by a single analogue input channel. The resultant analogue value can be
decoded by the A to D function module in an BMS controller to produce internal digital status bits for alarm monitoring or other status input applications.

Features

- Expand capacity of existing DDC for cost effective installation.
- Visual indication of LED inputs for easy
- commissioning
- Application includes lighting controls and
- monitoring status of equipments

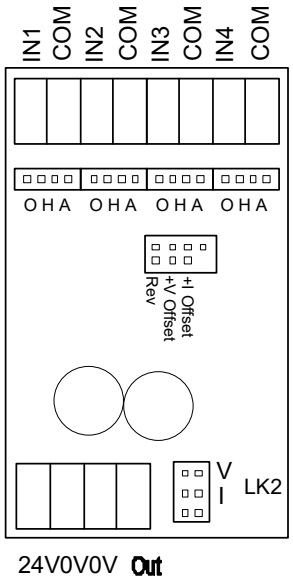
Technical Specification

Supply voltage:	24Vdc or ac ± 15%
Supply current:	50mA max (I mode) 30mA max (V mode)
Input Channels:	4 volt free contact switch 24Vdc
Input Threshold:	Upper 17.5V max (ON) level Lower 7.5V min (OFF) level
Distance:	Max. distance of IOD4 from controller 25m (V mode) 1000m (I mode)
Output:	Mode selectable by link header current/voltage (I/V)
I:	0 to 20mA, max. resistance of load 250Ω
V:	0 to 10Vdc, max. current 1mA
LED:	Single LED per input channel, LED on indicates contact closed
Ambient limits:	storage: -10℃(14 °F) to +70℃(158 °F) operating: -10℃ to+50℃ humidity: 0 to 90%RH non-condensing

Order Code

IOD4 Four Input Digital Multiplexer

Wiring, Connections and Jumper settings:



Scaling Table

IOD4					
INPUT				OUTPUT	
IN1	IN2	IN3	IN4	VOLTAGE	CURRENT
0	0	0	0	0.26	0.52
0	0	0	1	0.86	1.71
0	0	1	0	1.45	2.91
0	0	1	1	2.05	4.1
0	1	0	0	2.65	5.67
0	1	0	1	3.24	6.49
0	1	1	0	3.84	7.68
0	1	1	1	4.44	8.87
1	0	0	0	5.03	10.07
1	0	0	1	5.63	11.71
1	0	1	0	6.23	12.45
1	0	1	1	6.82	13.64
1	1	0	0	7.42	14.84
1	1	0	1	8.02	16.03
1	1	1	0	8.61	17.22
1	1	1	1	9.21	18.42

For TREND Scaling the input channel must be setup correctly and the sensor type must be set up with the correct scaling. Link input channel to match TREND 4DIX output signal mode (V), use sensor type scaling mode 5,characterise, with input type set to match the IOD4 output signal mode and table below.

Mode	Y	E	U	L	P	I1	I2	O1	O2
I	2	3	270	-1	2	0	20	0	268.25
V	0	3	270	-1	2	0	10	0	268.25

Installation

Disconnect all mains in the controllers and plants before any connections.
Mount IOD4 in a protective case close to the BMS controller.
Set IOD4 output signal (V or I) at jumper selection at LK2
Configure BMS controller's analogue inputs to match IOD4 output as in table 1.
Connect IOD4 outputs to BMS analogue input and power up to IOD4 connection.
Connect IOD4 inputs to plant (caution: ensure plant and controller are power off).
Switch on plant and controller to test connection.