

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

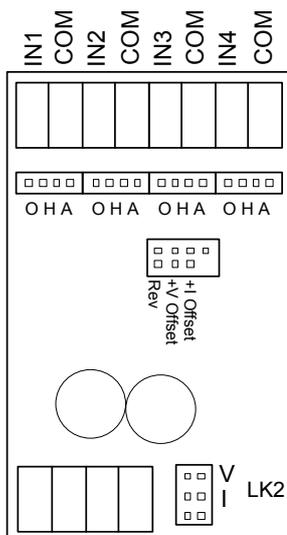
Technical Specification

Supply voltage: 24Vdc or ac \pm 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 250 Ω
 V: 0 to 10Vdc, max. current 1mA
 LED: Single LED per input channel, LED on indicates contact closed
 Ambient limits: storage: -10°C(14 °F) to +70°C(158 °F)
 operating: -10°C to +50°C
 humidity: 0 to 90%RH non-condensing

Order Code

IOD4 Four Input Digital Multiplexer

Wiring, Connections and Jumper settings:



24V0V0V Out

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.