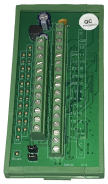
24 Input Digital Multiplexer IOD24

Description

The IOD24 module was created and designed to provide a cost effective and efficient way of handling large amount of digital input into a Building Management System (BMS). 24 Digital Inputs are multiplexed to provide a single analogue output (0-10V or 4-20mA) which is compatible with most open standard BMS controllers on the market currently.



Specification

- Input 24 Volt free
- Output 0-10V DC / 4-20mA
- Supply 24V AC/DC
- LED Indication For each Input
- Operation Temperature -10 to +40°C

Technical Specification

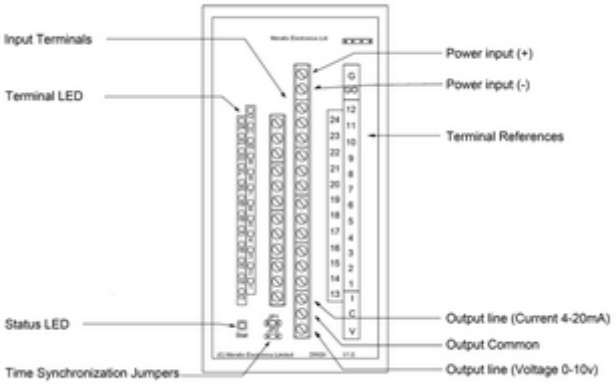
The IOD24 operates using a fixed time synchronised multiplexed 10v or 20mA output to present data for use in external control circuit or systems. The time synchronisation is dependent on the jumper setting specified in table A1 and will range from 2, 5, 10 or 20 seconds depending on user requirements. If using network attached IO, the speed at which points are updated will need to be considered when selecting the time. In a similar fashion for direct coupled IO the internal sample rate of the device will determine the appropriate time to be select.
The IOD24 provides an initial 10v or 20mA output for Synchronisation for the time period selected. It will then proceed to output 6 values each lasting for one time period selected. Each value will represent the state of 4 inputs as per table A2.

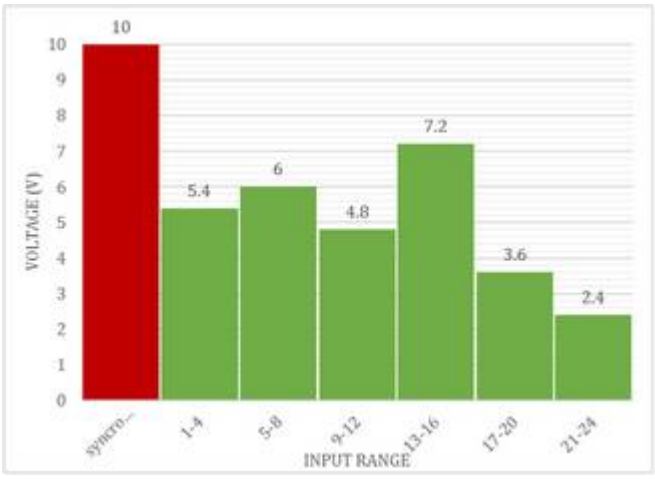
Table A2

Time (s)	Jumper 1	Jumper 2
2	0	0
5	0	1
10	1	0
20	1	1

	Binary Outputs				Voltage Output	mA Out
	1	2	3	4		
0.	0	0	0	0	0.0	4.00
1.	1	0	0	0	0.6	5.00
2.	0	1	0	0	1.2	5.99
3.	1	1	0	0	1.8	6.99
4.	0	0	1	0	2.4	7.98
5.	1	0	1	0	3.0	8.97
6.	0	1	1	0	3.6	9.96
7.	1	1	1	0	4.2	10.96
8.	0	0	0	1	4.8	11.96
9.	1	0	0	1	5.4	12.95
10.	0	1	0	1	6.0	13.94
11.	1	1	0	1	6.6	14.93
12.	0	0	1	1	7.2	15.92
13.	1	0	1	1	7.8	16.91
14.	0	1	1	1	8.4	17.90
15.	1	1	1	1	9.0	18.93

Figure 1.1 represents an example of the module output in operation.
In the Figure 1.1 above you can see for the input range 1-4 there is a 5.4v input, by cross referencing table A2, you can see that binary inputs 1 and 4 are on and 2 and are off.
Also in Figure 1.1 from input range 5-8 there is a 6v input, again by looking a table A2 you will see that binary inputs 5 and 7 are off, meanwhile 6 and 8 are on.
Again in Figure 1.1 from the input range 9-12 is a 4.8v input, furthermore from looking at table A2 you can see that binary inputs 9, 10 and 11 are off and 12 is on.





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