

AX-DIM4-MI5 / AX-DIM4T

Four Channel Digital Input Multiplexer

AXIO



Product Overview

The AX-DIM4-MI5 multiplexes four digital signals or four 24Vac/dc inputs into a single analogue output. The analogue output can be configured for various output options making the unit compatible with a large range of BMS equipment. Additionally, jumpers are fitted to allow each input to be manually overridden for commissioning and testing purposes. The output sequence can also be reversed as required by some types of controller and control strategies. The AX-DIM4T unit jumpers are factory set to operate directly with Trend controllers as default.

Features

- Expansion of controller input capacity by 4
- 0-5V / 0.4-10V / 0-10V / 0-20mA / 4-20mA output
- Operates from 24Vac or dc power supply
- Input simulation
- Reverse action selection
- DIN rail mounting
- LED input status indication
- AX-DIM4T Trend compatible

Product Specifications

Inputs:		Volt free or 24Vac or 24Vdc (>10Vdc = on, <4Vdc =off)
Output:	Voltage	0-5Vdc / 0.4-10Vdc / 0-10Vdc at 5mA maximum.
	or Current	0-20mA / 4-20mA maximum resistance of load 500Ω
LED Indication:		On when Input is On
Power Supply:		24Vac or dc (±15%)
Power Consumption:		40mA maximum at 24Vdc
		50mA maximum at 24Vac
Terminals:		Rising clamp for 0.5-2.5mm ² cable
Ambient Temperature:		0-50°C
Dimensions:		47 x 92.5 x 47mm (maximum)
Weight:		50g
Country of Origin:		United Kingdom

Order Codes

AX-DIM4-MI5	Four channel digital input multiplexer
AX-DIM4T	Four channel digital input multiplexer - Trend compatible

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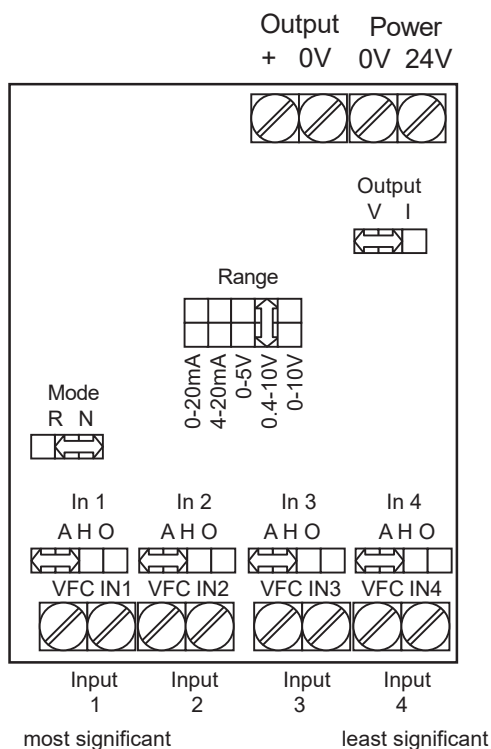
Installation

The AX-DIM4-MI5 should be installed by a suitably qualified technician in conjunction with any guidelines for the equipment which it is to be connected to. Field wiring should be installed to satisfy the requirements set out by the manufacturer of the equipment that the module is being connected to using screened cable where necessary. Please note that the AX-DIM4-MI5 is not suitable for use with mains voltage.

The AX-DIM4-MI5 would typically be located within the controller section of a BMS control panel. The module can be snapped on to standard “top hat” profile DIN rail to allow the unit to locate without the need for excessive force.

Connections

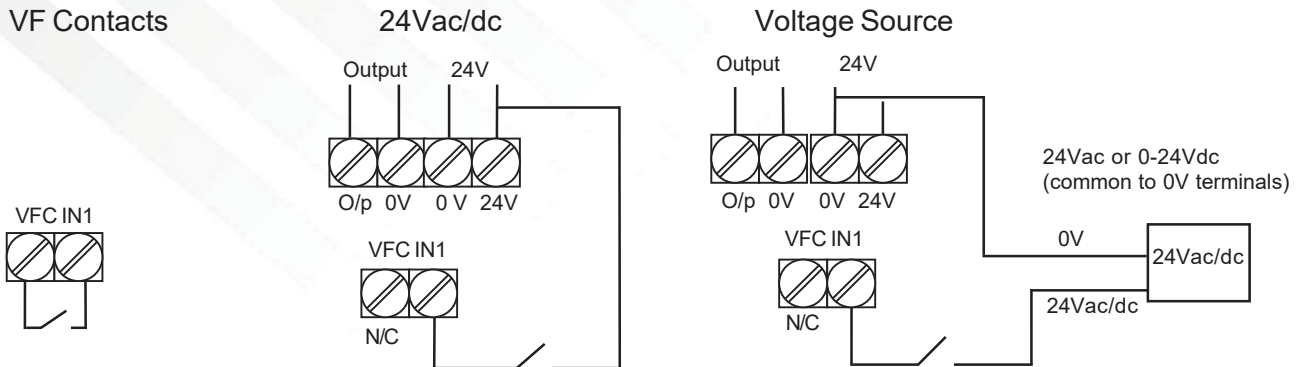
The diagram below shows the terminal designations for the AX-DIM4-MI5. The 0V terminal is common for both the power supply to the module and for the output. Please ensure that this type of configuration is compatible with the equipment that the AX-DIM4-MI5 is to be connected to.



Jumpers

- Range: As shown
- Output Type: V = Voltage, I = Current
- Mode: N = Normal, R = Reverse
- Input Simulation: Jumpers IN1 to IN4, A = Auto, H = Hand (override), O = Off

Example Connections



Commissioning and Testing

The table below shows the effective output at all input states when running in normal mode. The output values are inverted (i.e. 0.4V = 9.25V, 1.01V = 8.66V etc.) when the mode jumper is set to reverse acting.

The module is factory tested and set to normal mode, 0.4-10V voltage output and all four jumpers in the Auto position. This setting should NOT be altered if using the Trend configuration values shown in this data sheet.

Output Voltages and Currents AX-DIM4-MI5

INPUTS				OUTPUT				
IN 1	IN 2	IN 3	IN 4	0-5V	0.4-10V	0-10V	0-20mA	4-20mA
OPEN	OPEN	OPEN	OPEN	0.0V	0.4V	0.0V	0.0mA	4.0mA
OPEN	OPEN	OPEN	CLOSE	0.3V	1.01V	0.59V	1.3mA	5.0mA
OPEN	OPEN	CLOSE	OPEN	0.59V	1.6V	1.18V	2.7mA	6.0mA
OPEN	OPEN	CLOSE	CLOSE	0.88V	2.19V	1.77V	4.0mA	7.0mA
OPEN	CLOSE	OPEN	OPEN	1.18V	2.78V	2.35V	5.3mA	8.0mA
OPEN	CLOSE	OPEN	CLOSE	1.47V	3.37V	2.94V	6.7mA	9.0mA
OPEN	CLOSE	CLOSE	OPEN	1.77V	3.95V	3.53V	8.0mA	10.0mA
OPEN	CLOSE	CLOSE	CLOSE	2.06V	4.54V	4.12V	9.3mA	11.0mA
CLOSE	OPEN	OPEN	OPEN	2.36V	5.13V	4.71V	10.7mA	12.0mA
CLOSE	OPEN	OPEN	CLOSE	2.65V	5.72V	5.3V	12.0mA	13.0mA
CLOSE	OPEN	CLOSE	OPEN	2.94V	6.31V	5.88V	13.3mA	14.0mA
CLOSE	OPEN	CLOSE	CLOSE	3.24V	6.9V	6.47V	14.7mA	15.0mA
CLOSE	CLOSE	OPEN	OPEN	3.53V	7.48V	7.06V	16.0mA	16.0mA
CLOSE	CLOSE	OPEN	CLOSE	3.83V	8.07V	7.65V	17.3mA	17.0mA
CLOSE	CLOSE	CLOSE	OPEN	4.12V	8.66V	8.24V	18.7mA	18.0mA
CLOSE	CLOSE	CLOSE	CLOSE	4.42V	9.25V	8.83V	20.0mA	19.0mA

Output voltages and currents AX-DIM4T

INPUTS				OUTPUT (Trend systems)				
IN 1	IN 2	IN 3	IN 4	0-5V	0.4-10V	0-10V	0-20mA	4-20mA
OPEN	OPEN	OPEN	OPEN	0.0V	0.3V	0.0V	0.0mA	4.5mA
OPEN	OPEN	OPEN	CLOSE	0.3V	0.9V	0.59V	1.3mA	5.5mA
OPEN	OPEN	CLOSE	OPEN	0.59V	1.6V	1.18V	2.7mA	6.5mA
OPEN	OPEN	CLOSE	CLOSE	0.88V	2.2V	1.77V	4.0mA	7.5mA
OPEN	CLOSE	OPEN	OPEN	1.18V	2.8V	2.35V	5.3mA	8.5mA
OPEN	CLOSE	OPEN	CLOSE	1.47V	3.4V	2.94V	6.7mA	9.5mA
OPEN	CLOSE	CLOSE	OPEN	1.77V	4.1V	3.53V	8.0mA	10.5mA
OPEN	CLOSE	CLOSE	CLOSE	2.06V	4.7V	4.12V	9.3mA	11.5mA
CLOSE	OPEN	OPEN	OPEN	2.36V	5.3V	4.71V	10.7mA	12.5mA
CLOSE	OPEN	OPEN	CLOSE	2.65V	5.9V	5.3V	12.0mA	13.5mA
CLOSE	OPEN	CLOSE	OPEN	2.94V	6.6V	5.88V	13.3mA	14.5mA
CLOSE	OPEN	CLOSE	CLOSE	3.24V	7.2V	6.47V	14.7mA	15.5mA
CLOSE	CLOSE	OPEN	OPEN	3.53V	7.8V	7.06V	16.0mA	16.5mA
CLOSE	CLOSE	OPEN	CLOSE	3.83V	8.4V	7.65V	17.3mA	17.5mA
CLOSE	CLOSE	CLOSE	OPEN	4.12V	9.1V	8.24V	18.7mA	18.5mA
CLOSE	CLOSE	CLOSE	CLOSE	4.42V	9.7V	8.83V	20.0mA	19.5mA

Trend Sensor Scaling

The following sensor scaling is for the AX-DIM4T

AX-DIM4T 0.4-10V Vout

Scaling Type	5
Input 1	0.3
Output 1	12
Input 2	9.7
Output 2	244
Input Type	0 / Voltage
Points Used	2
Upper	263
Lower	-263
Trange	262
Brange	-265
Exponent	3

AX-DIM4T 4-20mA Iout

Scaling Type	5
Input 1	4.5
Output 1	12
Input 2	19.5
Output 2	244
Input Type	2 / Current
Points Used	2
Upper	258
Lower	-386
Trange	257
Brange	-385
Exponent	4

Datasheet Contents

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