

AX-BSLIM

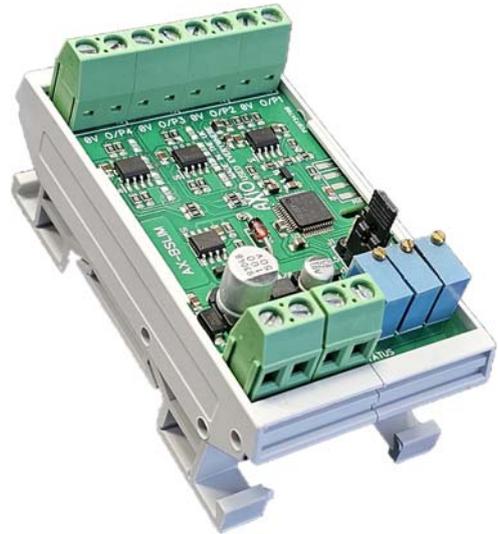
Buffered Scaling Limiting and Inverting Module

AXIO

Product overview

The AX-BSLIM is an analogue signal conditioning I/O module designed for use in BMS and HVAC systems. It can accept analogue control signals between 0 and 10 Volts. The input signal can be scaled up to x1.5 and down to x0.5. An offset voltage adjustable between 0-5V can be added to the input signal. There is also an option to limit the output signal using the LIMIT trim pot. There are four buffered outputs which can be either direct or inverted, selected using jumper.

Typical Applications: Buffering one signal to control up to four actuators, VFDs etc. Scaling a retrofit transducer output to match input requirements in existing BMS controllers.



Products Features

- 24V AC/DC powered.
- Signal Scaling
- Linear voltage output.
- Rising Clamp Terminals.
- Signal Inversion
- Multiple buffered outputs
- DIN rail mounting (TS35).

Product Specifications

Power Supply:	24 V AC \pm 15% . Max current consumption:50mA 24 V DC \pm 10% . Max current consumption:30mA
Input:	0-10VDC
Input Impedance:	>80Kohms
Output:	0-10V/10-0VAdjustable .See Operation.
Output Current:	5mA max per channel
No of Buffered Outputs:	4
Offset Adjustability:	0.00V-5.00V
Gain Adjustability:	x0.5 to x1.5
Limit Adjustability:	0.00V-10.00V
Adjustments done using:	Multi-turn potentiometers
Output Linearity Error:	< 0.25 %
Response time(t90):	<600ms
Connectors:	Screw terminal block suitable for 26 ~ 12 AWG wire connections
Enclosure:	Self-extinguishing Poly Amide 6 E72 PCB support suitable for Din rails TS-35
Ambient Operating Conditions:	0°C to 50°C / 5-95%RH non-condensing
Storage Conditions:	-20 to 70°C / 5-95%RH non-condensing
Dimensions:	82 (H) x 45 (W) x 43 (D) mm
Weight:	70gms
Conformity:	EMC:2014/30/EU , LVD:2014/35/EU
Country of origin:	UK

Product Order codes

Order code	Description
AX-BSLIM	Buffered Scaling Limiting and Inverting Module

Installation

The AX-BSLIM should be installed by a suitably qualified technician in conjunction with any guidelines for the equipment it is to be connected to and any local regulations. Field wiring should be installed to satisfy the requirements set out by the manufacturer of the equipment that the module is being connected to. Use shielded cables for the highest noise immunity. Do not route signal wires in the same conduit with power cables as signal degradation may occur.

Dimensions

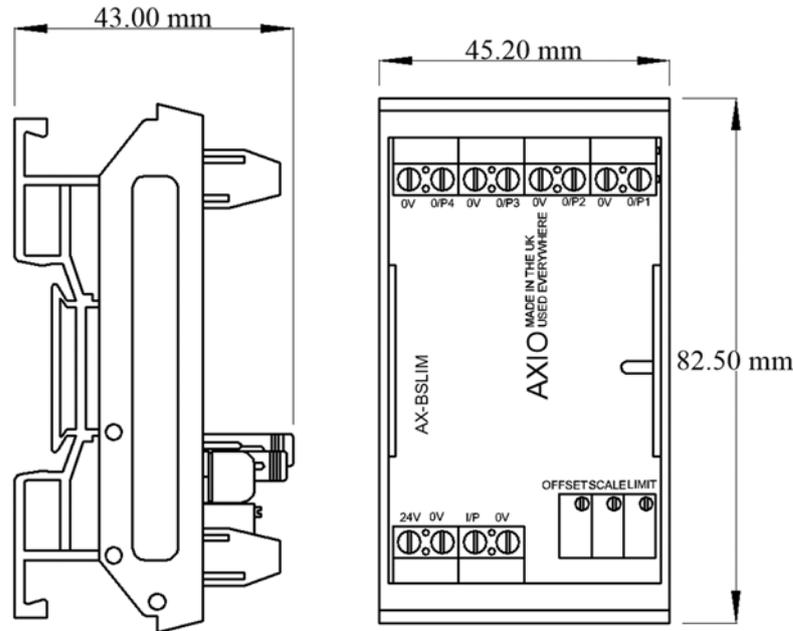


Figure 1

Operation

Signal Scaling

Signal Scaling works when the Jumper J1 is in 'x0.5-1.5' position. Use the 'SCALE' trimpot to adjust the output signal scaling between 0.5 times to 1.5 times the input signal. Fully anti-clockwise = x0.5, fully clockwise = x1.5

Eg: 0-10V to 0-5V scaling.

Set J1 to 'x0.5-1.5' and J2 to 'NORM'. Feed 10 V at 'I/P' terminal. Adjust 'SCALE' trimpot until the outputs OPx shows 5V.

Offset

Offset adds voltage to the output in 'NORM' mode and subtracts voltage from the output in 'INV' mode. Offset is adjustable from 0V to 5V. Fully anti-clockwise = 0V, fully clockwise = 5V

Eg: 0-5V to 5-10V Conversion.

Set J1 to 'x1' and J2 to 'NORM' Feed 5V at the 'I/P' terminal. Adjust 'OFFSET' trimpot until the outputs 'OPx' shows 10V.

Signal Limiting

The 'LIMIT' trimpot sets the Upper limit to the outputs 'OPx' in 'NORM' mode and lower limit to the outputs in 'INV' mode. Fully clockwise is 10V and fully anti-clockwise is 0V.

Eg: Setting upper Limit of 5V.

Set J1 to 'x1' and J2 to 'NORM'. Feed a voltage of more than 5V at the 'I/P'. Now, adjust 'LIMIT' until the outputs show 5V.

Signal Inversion

In 'INV' mode the signal is subtracted from 10V.

Eg: 0-10V to 10-0V inversion

Set J1 to 'x1' and J2 to 'INV'. Feed 0-10 V at the 'I/P' to get 10-0V at the outputs 'OPx'

Apart from the above mentioned examples, the output can be conditioned into different ranges using a combination of scaling, offsetting, inverting and limiting. See Figure 2,3

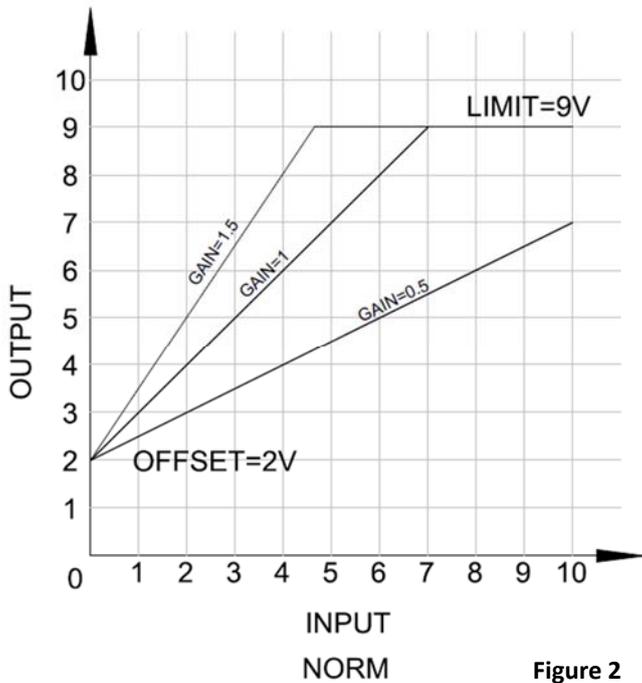


Figure 2

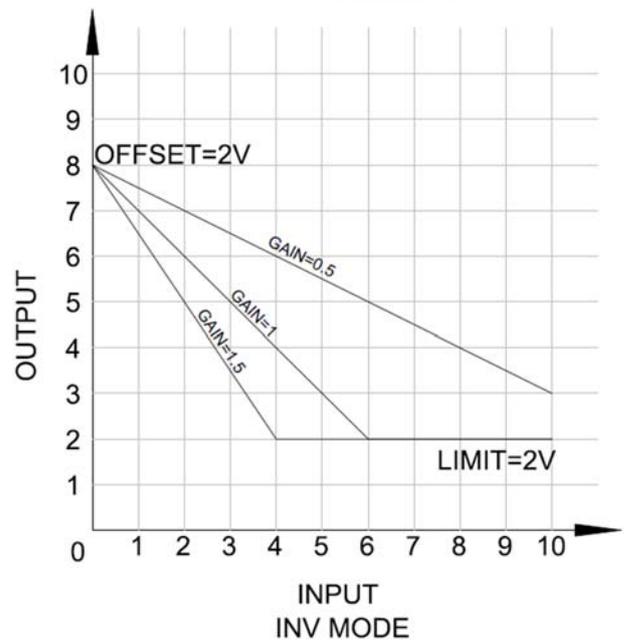


Figure 3

Status LED

Four flashes every six seconds. A short flash indicates OK and long flash indicates an error.

1. Calibration - contact supplier in case of long flash.
2. Input range - long flash indicates i/p voltage $\geq 10V$.
3. Output range - check the gain in case of long flash.
4. Limit - long flash indicates limit reached. Check settings.

Connections

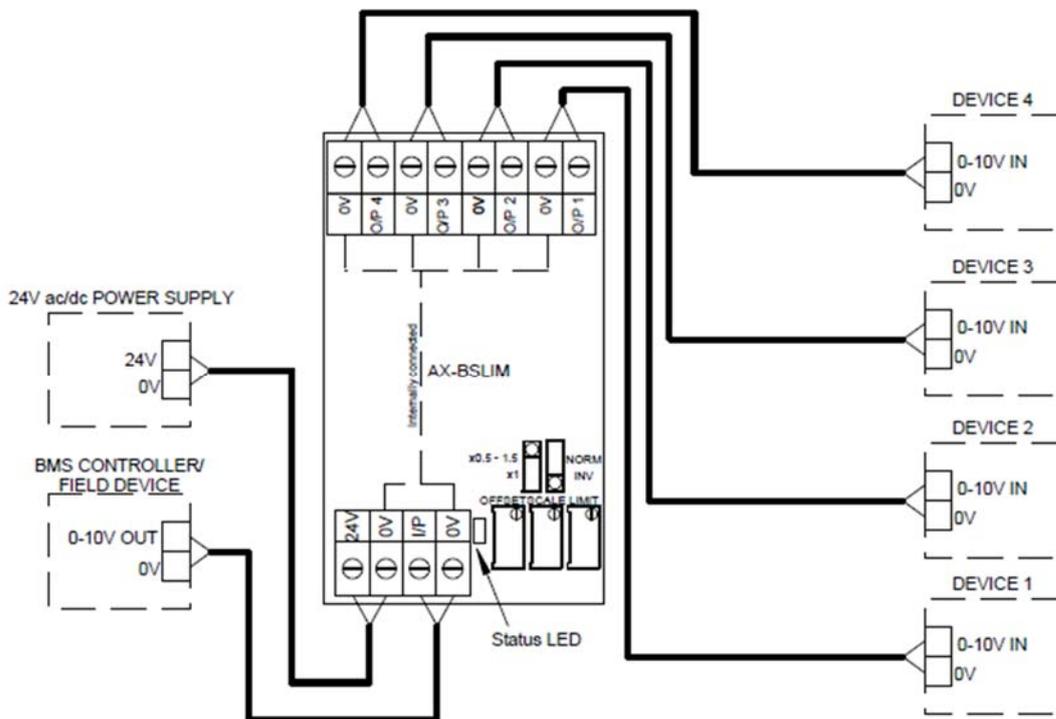


Figure 4

Datasheet Contents

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