

## AD311X-3 Three way Scale & Bias Signal Converter/Isolator/Splitter

- Suitable for SIL 1, SIL 2, & SIL 3 rated (EN 61508-2) Safety Instrumented System (SIS) loop applications
- Supply voltage options: 12Vdc / 24Vdc / 48Vdc  $\pm 10\%$
- RFI Protection to EN 61000-4-3:2006/A2:2010 ('K' option) available
- Amelec standard 10 year warranty
- Non-Smart / Non-uProcessor based, Type A instrument

### TECHNICAL SPECIFICATION

#### Input

Any current or voltage (DC) drive that can be terminated in a PI network to produce a 400mV span. Current ranges from 10uA span, up to 100mA max input (passive ports)  
Voltage up to 250Vdc max span (impedance  $\geq 1M\Omega$ )  
Typical Input: 0-10uA, 20-4mA, 4-8mA, -1V to +1V or -10V to +10V dc

#### Output (x 3 Channels)

Any process current or voltage signal in the range of;  
Current source up to 22mA max, drive voltage 24Vdc (Current Sink option, with 30Vdc max external drive)  
Voltage source up to 20V max span output  
Typical Outputs: 0-100uA, 8-12mA, 20-4mA, 10-0V, -1V to +1V or -10V to +10V dc  
(Each output channel may be specified differently)

### CONTROLS (For Each Output Channel)

Zero/Span: 15-turn calibration potentiometers ( $\pm 20\%$  span)

### INDICATOR

Power ON: LED, Amber.

### PERFORMANCE

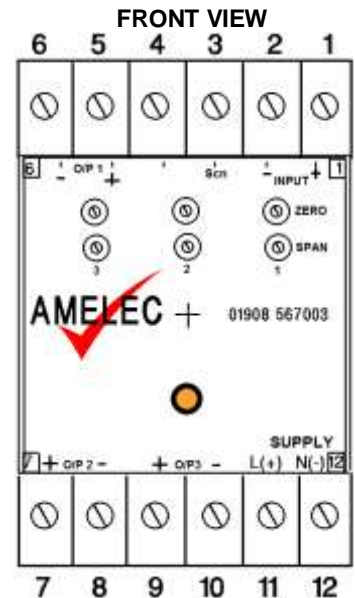
Linearity:  $< \pm 0.1\%$   
Response time: Typically  $< 200mS$  (0-100% step change)  
Accuracy:  $< \pm 0.1\%$   
Input O/C response: Downscale drive as std  
Supply consumption:  $< 3VA$

### PROTECTION

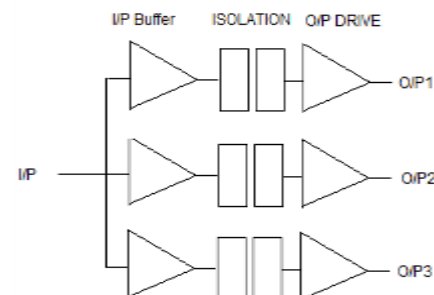
Isolation 1000V RMS\*  
Input /Output1/Output 2/Output3/Supply/Earth  
(\*500Vdc if 'K' option RFI Protection is specified)  
Internal Fuse.  
Input over range up to typically 300%.  
Output limited at approx. 120% as std

### TERMINATION

Input +	1
Input -	2
Scn	3
	4
OUTPUT 1 +	5
OUTPUT 1 -	6
OUTPUT 2 +	7
OUTPUT 2 -	8
OUTPUT 3 +	9
OUTPUT 3 -	10
Supply +	11
Supply -	12



### FUNCTION BLOCK DIAGRAM



### ENVIRONMENTAL CONDITION

Storage Temperature: -40 to +70 °C  
Operating Ambient: -15 to +55 °C  
Relative Humidity: 5 to 95% RH (Non-condensing)  
EMC: 2014/30/EU, EN 61326-1:2013 (controlled EM)

### MOUNTING / DIMENSION

Enclosure: 50w x 75h x 110d mm  
Mounting: Din Rail (TS35) / Surface (by Corner Fixing holes)  
Weight  $< 300g$

### ADD ON / OPTIONS

HS: High Speed Response time ( $< 20mS$ )  
DI: LCD Digital Display for local monitoring  
J: Input injection Jack socket  
P: Test Point  
K: Higher level of RFI protection (20-1000MHz, up to 30V/mtr)