

The 'AEC' Series



Key Features:

- Space saving 22.5mm wide
- Signal Converters / Isolators / Splitters / Trip Transmitters / Trip Amplifiers / PSU
- Multi voltage universal 20 to 265V AC or DC supply voltage.
- Energy efficient, ambient power consumption starting as low as <0.5W.
- Ex-stock, Same / next day delivery available.
- Very keenly priced, offering best value for money.
- Advance analogue based design (NO MICROPROCESSOR).
- Suitable for SIL applications.

See individual data sheet for full specification or contact technical sales for assistance.

About Us

Originally formed in February 1975, AMELEC remains a wholly owned British manufacturing company celebrating our 35th year anniversary. In 2010 & 2011 we were awarded **100% score** in **quality** accreditation by the Achilles-UVDB verify scheme.

The instrumentation that AMELEC offers to the market place is based on analogue techniques, using readily available discrete components. The instruments contain no time dependent or microprocessor circuitry, are suitable for use in SIL 1, 2 or 3 rated safety systems/loops & all covered by up to 10 Year warranty.

Our design & everyday application engineering principles used in the instruments are based on well tried, proven in use for over thirty years, linear operational amplifier circuitry. Each instrument can be considered as a number of functional blocks assembled together to produce a specific control function.

A Signal Conditioner / Transmitter would comprise of an input circuit; a modulator / demodulator stage; an output circuit and the power supply/regulation circuitry. A trip amplifier might use the same input circuit, this time a comparator and relay driver stage plus the power supply / regulation circuitry.

By combining these functional blocks together we have produced a comprehensive range of Trip Amplifiers, Transmitters, Signal Converters / Isolators, Signal Splitters/Boosters, combined Trip Transmitters, Arithmetic (Add / Subtract / Select / Multiply / Divide) units, Power Supplies, Strain Gauge, Frequency & AC I/V Transducers, as well as Hart compatible units. The circuit building blocks we use today are essentially the same as the ones we have used for the last thirty years.

To confirm that the instruments are compliant with the latest standards, AMELEC have submitted a range of instruments with all the various circuit blocks in them to the test houses. The reference / standards used at the test houses have been:- the CEGB's EES1989, the BS6667, IEC801 and more recently the IEC61000. All instrumentation produced by AMELEC is controlled under our Lloyds approved **ISO 9001:2008 Quality system**.

Our vast client base is spread across all process industry sectors; originally to the likes of the CEGB, BNFL, GEC, British Gas, ICI, BP & Shell, today AMELEC continues to supply quality instrumentation to the Nuclear, Power Generation, Oil & Gas, Chemical, Pharmaceutical, Petrochem, Utilities, Food & Brewery sectors, as well as to many other general manufacturing industries & the Water Authorities throughout.

Here are some of our clients:



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MK8 0AJ



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AEC132AC/DC Process Trip Amplifier

- ★ Suitable for combinations of process Inputs & Outputs
- ★ True universal AC/DC Supply Voltage 21V through 265V AC/DC

Technical Specifications

Input

The standard input signal is 4-20mA, other ranges are available on request.

Signals are routed into a pi network to develop a 1V span.

2 x Independant Relay Outputs

Trip gives set of change over contacts, rated at 250V AC 2A, 100VA resistive.

Green LED relay / Trip status indicator.

Trip set by 15 turn potentiometer.

Trip set point(SP) to monitor trip setting.

4-20mA = 0.2 to 1V reference to input 0V.

hysteresis set by 15 turn potentiometer (1 to 5%).

Jumper setting

User friendly DIL switch / Jumper links to change original factory settings.

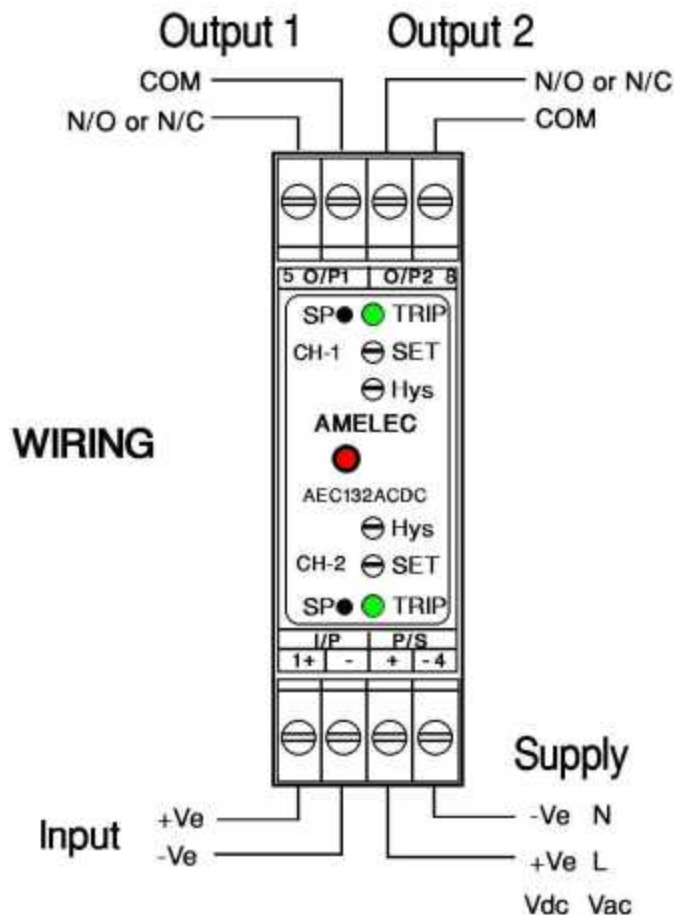
1. Relay output: N/C or N/O
2. Input O/C fault: Failsafe or non failsafe
3. Trip on High or Low.
4. Relay Normally Energised or de-energised

Supply

Burden on supply 2W

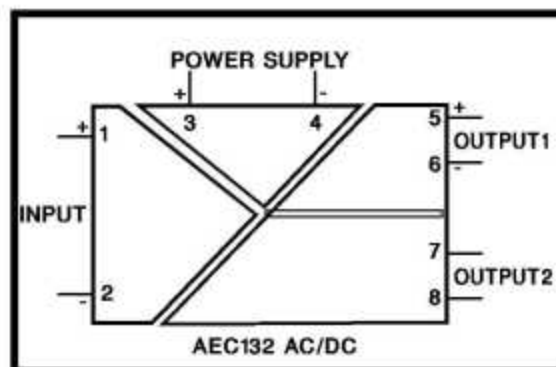
Isolation

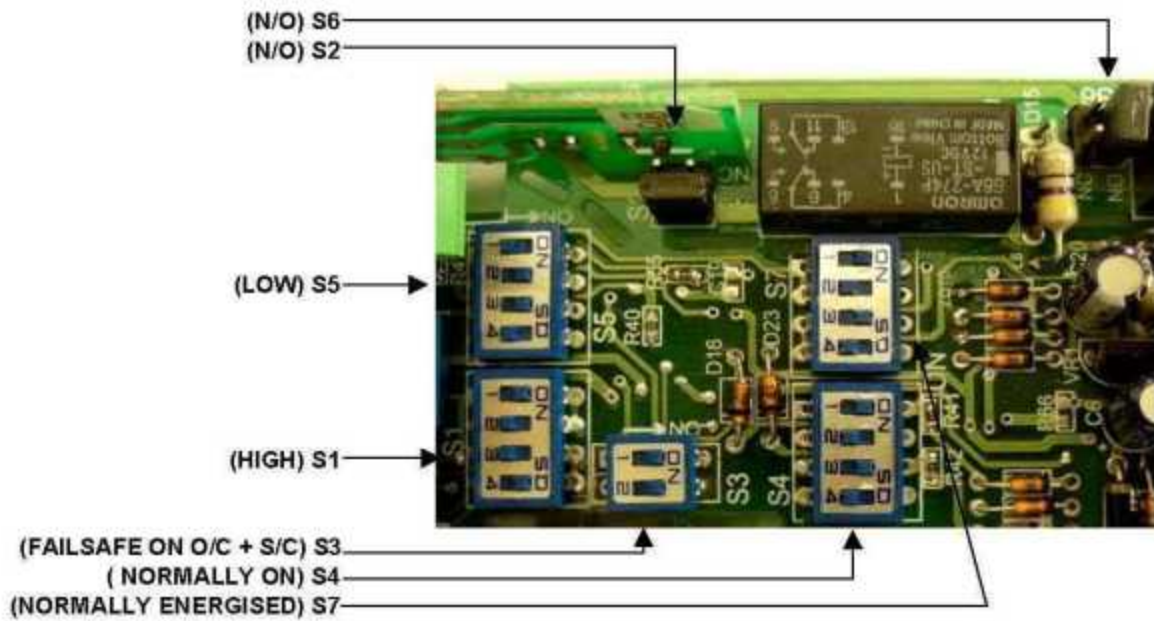
1000Vdc Input/Output1/Output2/Supply



Dimensions

H: 75mm W: 22.5mm D: 105mm





Above picture showing default setting

TRIP 1 / CH-1

Trip mode High or Low	S1	LO	HI
	1	OFF	ON
	2	ON	OFF
	3	ON	OFF
	4	OFF	ON

Relay contacts Normally open or closed.	S2	NO	NC
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>

Input open / short circuit response. Failsafe or non failsafe.	S3	I/P O/C	I/P S/C	I/P O/C +S/C	By pass
	1	OFF	ON	ON	OFF
	2	ON	OFF	ON	OFF

Led energise on trip or de-energise.	S4	N-ON	N-OFF
	1	ON	OFF
	2	OFF	ON

Relay energise on trip or de-energise.	S4	N-ENG	N-DE ENG
	3	ON	OFF
	4	OFF	ON

TRIP 2 / CH-2

S5	LO	HI
1	OFF	ON
2	ON	OFF
3	ON	OFF
4	OFF	ON

S6	NO	NC
	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>

S7	N-ON	N-OFF
1	ON	OFF
2	OFF	ON

S7	N-ENG	N-DE ENG
3	ON	OFF
4	OFF	ON

AEC210ACDC Thermocouple Transmitter

- ★ Suitable for combinations of process Inputs & Outputs
- ★ True universal AC/DC Supply Voltage 21V through 265V AC/DC

Technical Specifications

Input

Any Type K,J or T Thermocouple.

Minimum span 5mV

Automatic cold junction compensation.

Other Inputs

Other thermocouple type available on request.

Output

The standard output signal is 4-20mA, other ranges are available on request.

The current source can be upto 20mA with a drive voltage of 13V. The voltage source can be upto 10V's, maximum drive 20mA.

Other Outputs

0-10mA, 0-20mA, 1-5mA

0-2V, 0.4-2.0V, 1-5V

2-10V, 0-10V

The output current is configured as a source port as standard but on request can be configured as a sink port for up to 22mA @ 30V max.

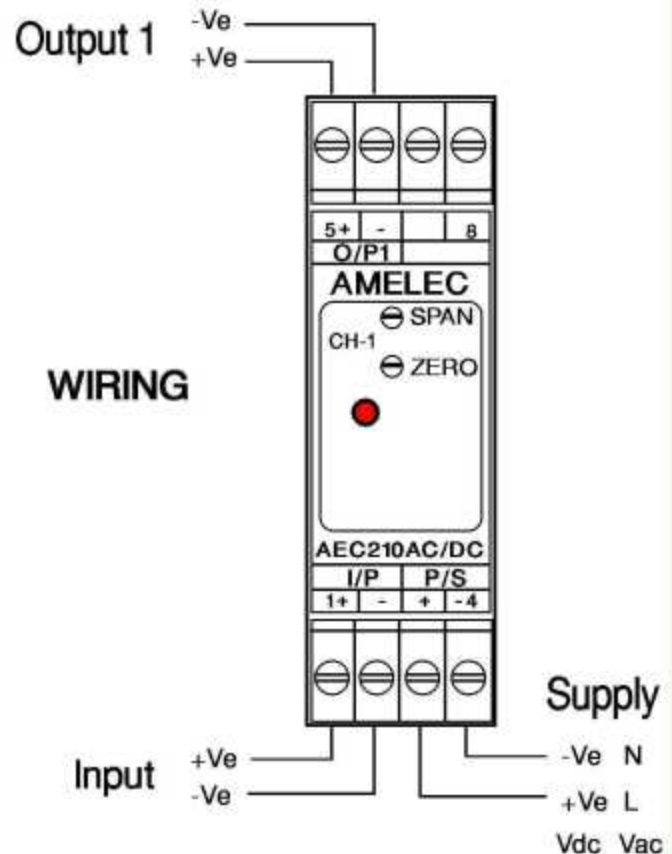
Supply

Burden on 24Vdc supply 50mA

Burden on ac supply 1W

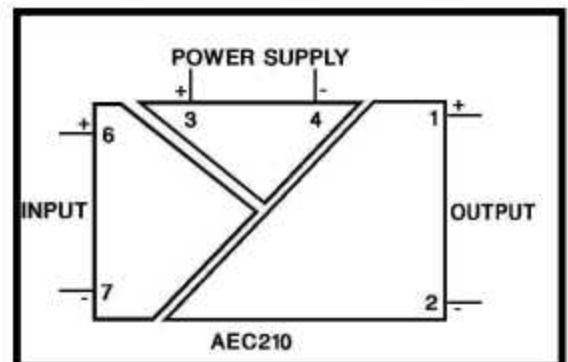
Isolation

1000Vdc Input/Output/Supply



Dimensions

H: 75mm W: 22.5mm D: 105mm



AEC220ACDC RTD Signal Transmitter

- ★ Suitable for combinations of process Inputs & Outputs
- ★ True universal AC/DC Supply Voltage 21V through 265V AC/DC

Technical Specifications

Input

Any 2 or 3 wire RTD or Resistance change.
Typical Input: 0 - 100 Deg C PT100 3wire

Output

The standard output signal is 4-20mA, other ranges are available on request.

The current source can be upto 20mA with a drive voltage of 13V. The voltage source can be upto 10V's, maximum drive 20mA.

The output current is configured as a source port as standard but on request can be configured as a sink port for up to 22mA @ 30V max.

Other Outputs

0-10mA, 0-20mA, 1-5mA
0-2V, 0.4-2.0V, 1-5V
0-10V

Accuracy/Linearity

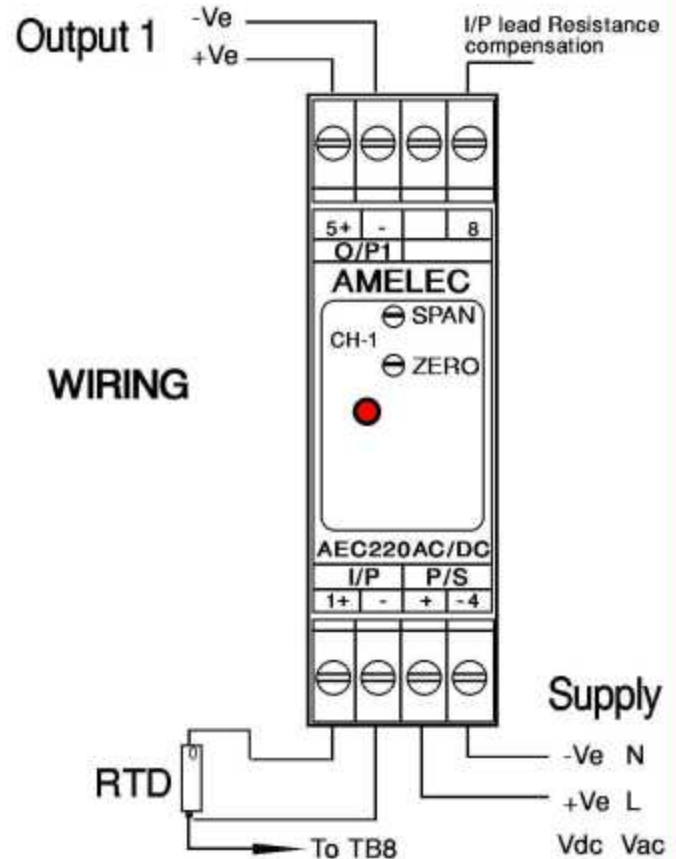
Accuracy: +/- 0.1%
Linearity to temperature for some unusual ranges may vary.
For further details please contact our technical sales with your range.

Supply

Burden on 24Vdc supply 50mA
Burden on ac supply 1W

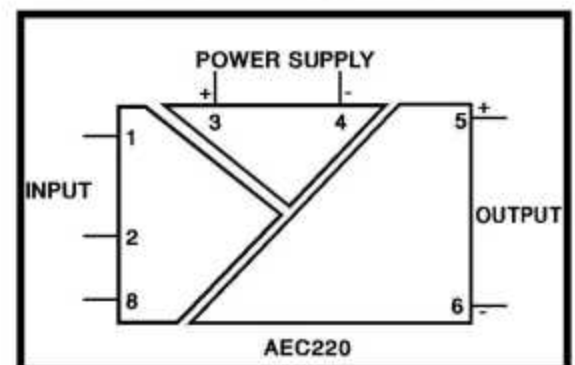
Isolation

1000Vdc 3 Port Isolation: Input/Output/Supply



Dimensions

H: 75mm W: 22.5mm D: 105mm



AEC221AC/DC RTD Signal Transmitter/Splitter

- ★ Suitable for combinations of process Inputs & Outputs
- ★ True universal AC/DC Supply Voltage 21V through 265V AC/DC

Technical Specifications

Input

Any 2 or 3 wire RTD or Resistance change.
Typical Input: 0 - 100 Deg C PT100 3wire

Outputs

The standard output signals are 4-20mA, other ranges are available on request.

The current source can be upto 20mA with a drive voltage of 13V. The voltage source can be upto 10V's, maximum drive 20mA.

Other Outputs

0-10mA, 0-20mA, 1-5mA
0-2V, 0.4-2.0V, 1-5V
2-10V, 0-10V

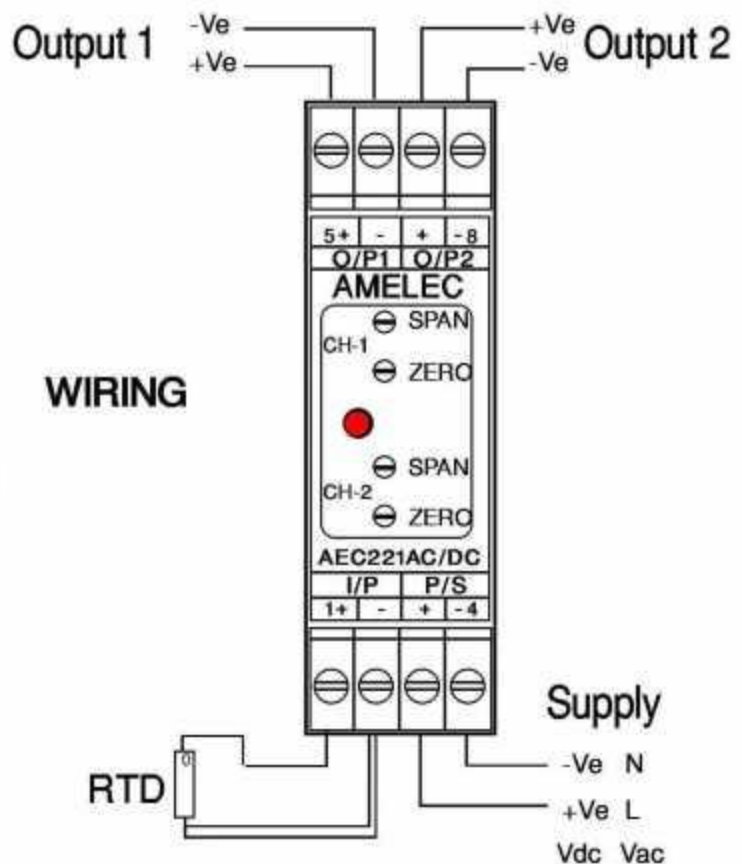
The output current is configured as a source port

Supply

Burden on supply 3W

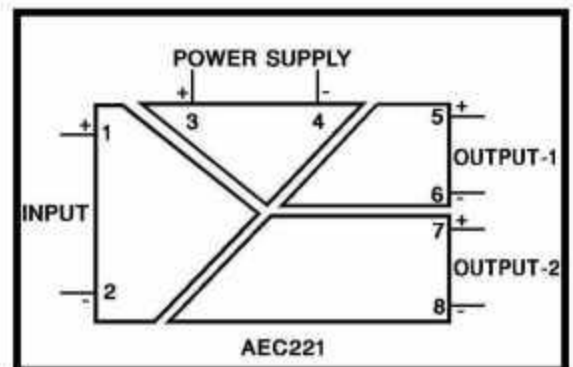
Isolation

1000Vdc Input/Output/Output/Supply



Dimensions

H: 75mm W: 22.5mm D: 105mm



AEC230AC/DC Process Signal Conditioner/Isolator

- ★ Suitable for combinations of process Inputs & Outputs
- ★ True universal AC/DC Supply Voltage 21V through 265V AC/DC

Technical Specifications

Input

The standard input signal is 4-20mA, other ranges are available on request.

Signals are routed into a pi network to develop a 1V span.

Other Inputs

0-10mA, 0-20mA, 1-5mA
1-5V, 0-10V

Output

The standard output signals are 4-20mA, other ranges are available on request.

The current source can be upto 20mA with a drive voltage of 13V. The voltage source can be upto 10V's, maximum drive 20mA.

Other Outputs

0-10mA, 0-20mA, 1-5mA
0-2V, 0.4-2.0V, 1-5V
2-10V, 0-10V

The output current is configured as a source port

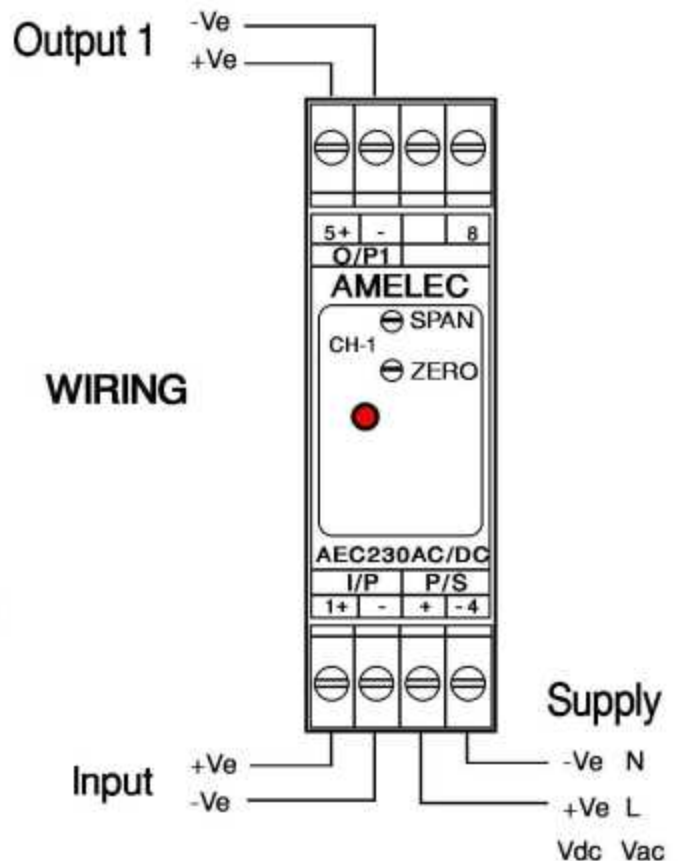
Supply

Typical Burden on 24Vdc supply <1.3W Max

Typical Burden on AC supply range 3W

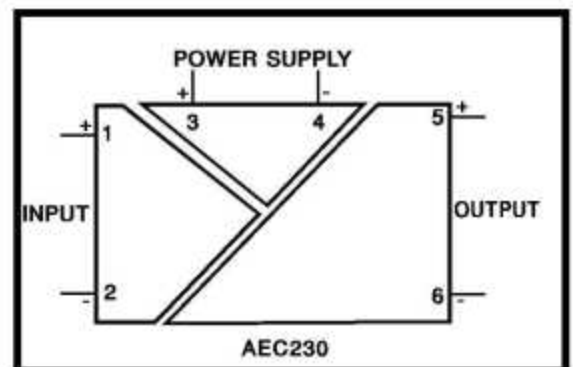
Isolation

1000V RMS Input/Output/Supply



Dimensions

H: 75mm W: 22.5mm D: 105mm



AEC231AC/DC Process Signal Conditioner/Splitter

- ★ Suitable for combinations of process Inputs & Outputs
- ★ True universal AC/DC Supply Voltage 21V through 265V AC/DC

Technical Specifications

Input

The standard input signal is 4-20mA, other ranges are available on request.

Signals are routed into a pi network to develop a 1V span.

Other Inputs

0-10mA, 0-20mA, 1-5mA
1-5V, 0-10V

Outputs

The standard output signals are 4-20mA, other ranges are available on request.

The current source can be upto 20mA with a drive voltage of 13V. The voltage source can be upto 10V's, maximum drive 20mA.

Other Outputs

0-10mA, 0-20mA, 1-5mA
0-2V, 0.4-2.0V, 1-5V
2-10V, 0-10V

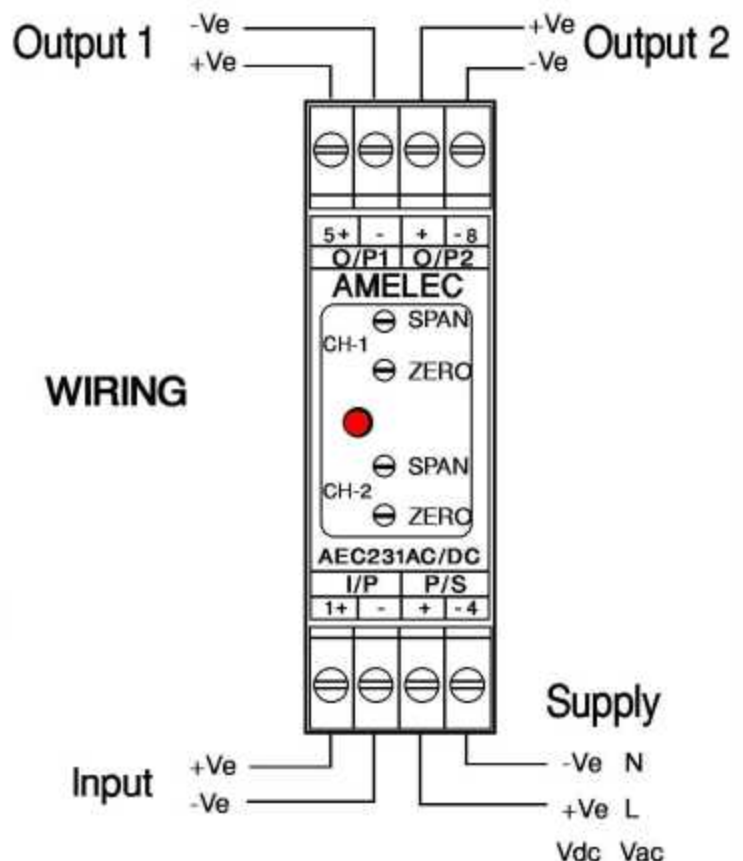
The output current is configured as a source port

Supply

Burden on supply 3W

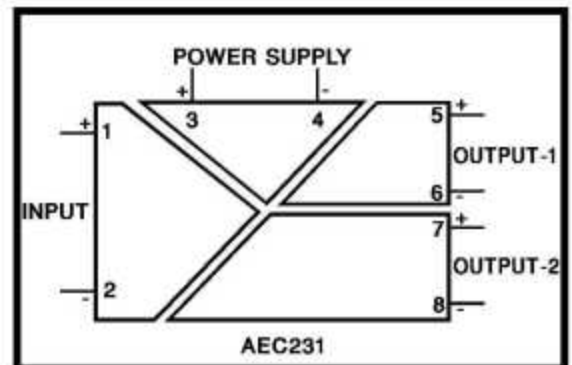
Isolation

1000Vdc Input/Output/Output/Supply



Dimensions

H: 75mm W: 22.5mm D: 105mm



AEC232AC/DC Process Trip Transmitter

- ★ Suitable for combinations of process Inputs & Outputs
- ★ True universal AC/DC Supply Voltage 21V through 265V AC/DC

Technical Specifications

Input

The standard input signal is 4-20mA, other ranges are available on request.

Signals are routed into a pi network to develop a 1V span.

Analogue Output

The standard output signals are 4-20mA, other ranges are available on request.

The current source can be upto 20mA with a drive voltage of 13V. The voltage source can be upto 10V's, maximum drive 20mA. The output current is configured as a source port

Relay Output

Trip gives set of change over contacts, rated at 250V AC 2A, 100VA resistive.

Green LED relay / Trip status indicator.

Trip set by 15 turn potentiometer.

Trip set point(SP) to monitor trip setting.

4-20mA = 0.2 to 1V reference to input 0V.

hysteresis set by 15 turn potentiometer (1 to 5%).

Jumper setting

User friendly DIL switch / Jumper links to change original factory settings.

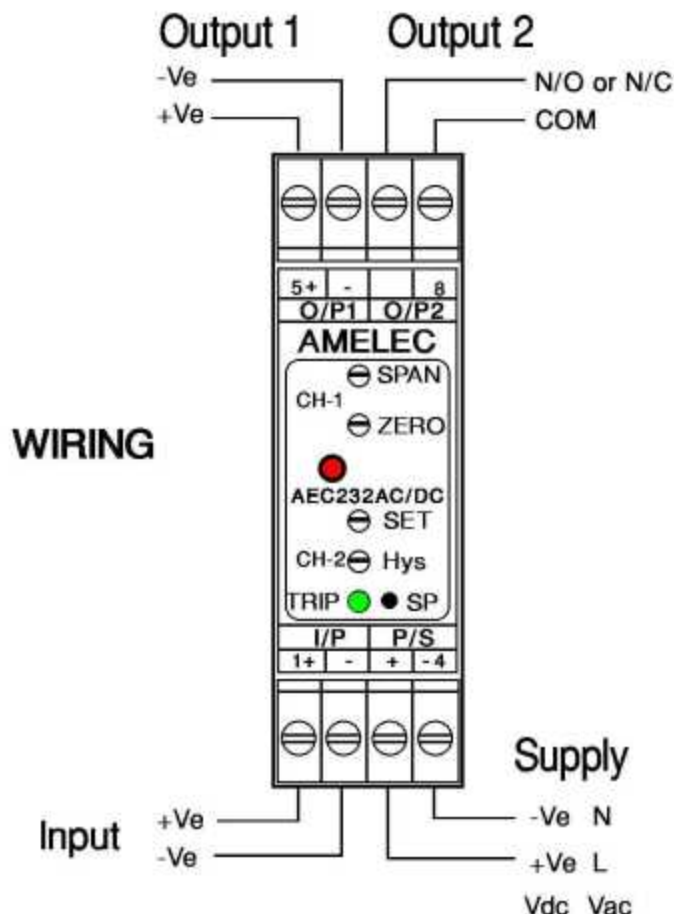
1. Relay output: N/C or N/O (J6A)
2. Trip on High or Low. (S1)
3. Relay Normally Energised or de-energised (S3)

Supply

Burden on supply 2W

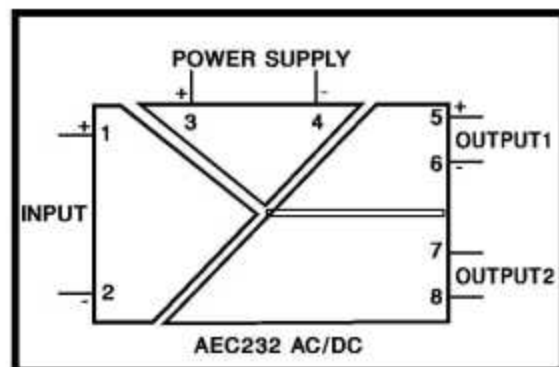
Isolation

1000Vdc Input/Output1/Output2/Supply



Dimensions

H: 75mm W: 22.5mm D: 105mm



Trip mode	S1	LO	HI	LED mode	S3	N- ENG	N- DE ENG
	1	OFF	ON				
	2	ON	OFF		1	OFF	ON
	3	ON	OFF		2	ON	OFF
	4	OFF	ON		3	ON	ON
					4	OFF	OFF

AEC237ACDC 2 Wire Signal Transmitter

- ★ Suitable for combinations of process Inputs & Outputs
- ★ Supply Voltage 21V through 265V AC/DC

Technical Specifications

Input

The standard input signal is 4-20mA sink or 2 Wire (Source). Other ranges are available on request.
Two wire current limit at 24mA. Max drive up to 15V.
Signals are routed into a pi network to develop a 1V span.

Other Inputs

0-10mA, 0-20mA, 1-5mA

Output

The standard output signal is 4-20mA, other ranges are available on request.

The current source can be upto 20mA with a drive voltage of 13V. The voltage source can be upto 10V's, maximum drive 20mA.

Other Outputs

0-10mA, 0-20mA, 1-5mA
0-2V, 0.4-2.0V, 1-5V
2-10V, 0-10V

The output current is configured as a source port as standard but on request can be configured as a sink port for up to 22mA @ 30V max.

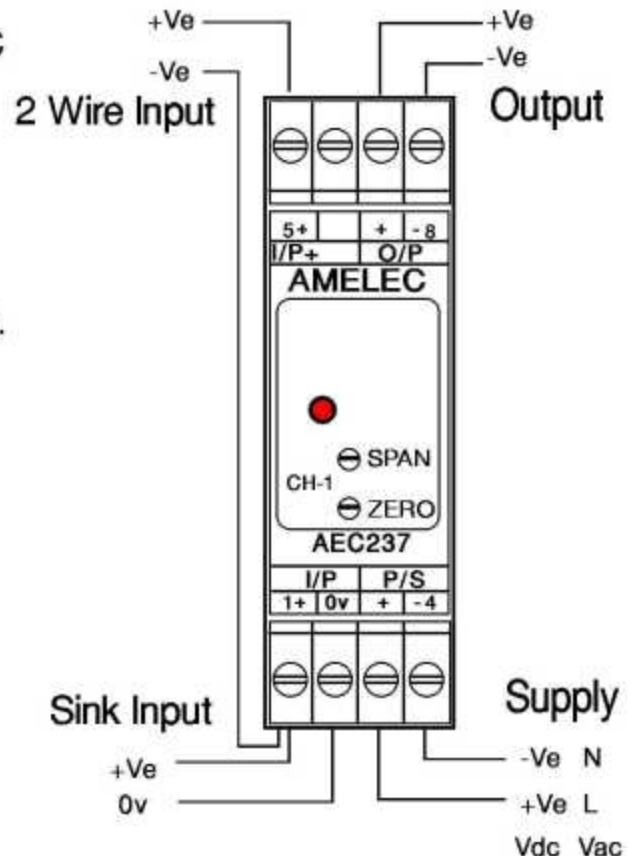
Supply

Burden on 24Vdc supply 50mA
Burden on ac supply 1W

Isolation

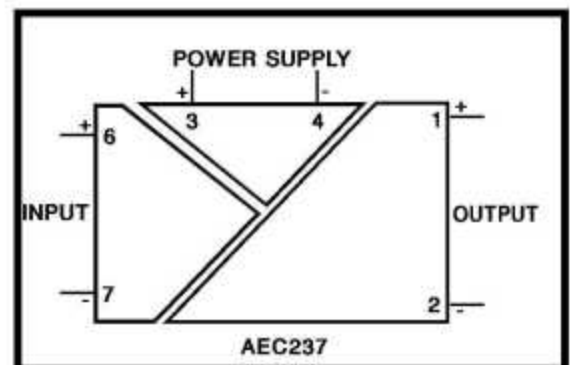
1000Vdc Input/Output/Supply

WIRING



Dimensions

H: 75mm W: 22.5mm D: 105mm



AEC240AC/DC Potentiometer/Resistance transmitter

- ★ Suitable for combinations of process Inputs & Outputs
- ★ True universal AC/DC Supply Voltage
21V through 265V AC/DC

Technical Specifications

Input

The nominal 5K ohms potentiometer two or three wire, other values are available on request at no extra cost.
nominal input excitation current is @ 200uA.

Other Inputs

Any range 1Kohms / 100K ohms potentiometer

Output

The standard output signals is 0-20mA, other ranges are available on request.

The current source can be upto 20mA with a drive voltage of 13V. The voltage source can be upto 10V's, maximum drive 20mA.

Other Outputs

0-10mA, 4-20mA, 1-5mA
0-2V, 0.4-2.0V, 1-5V
2-10V, 0-10V

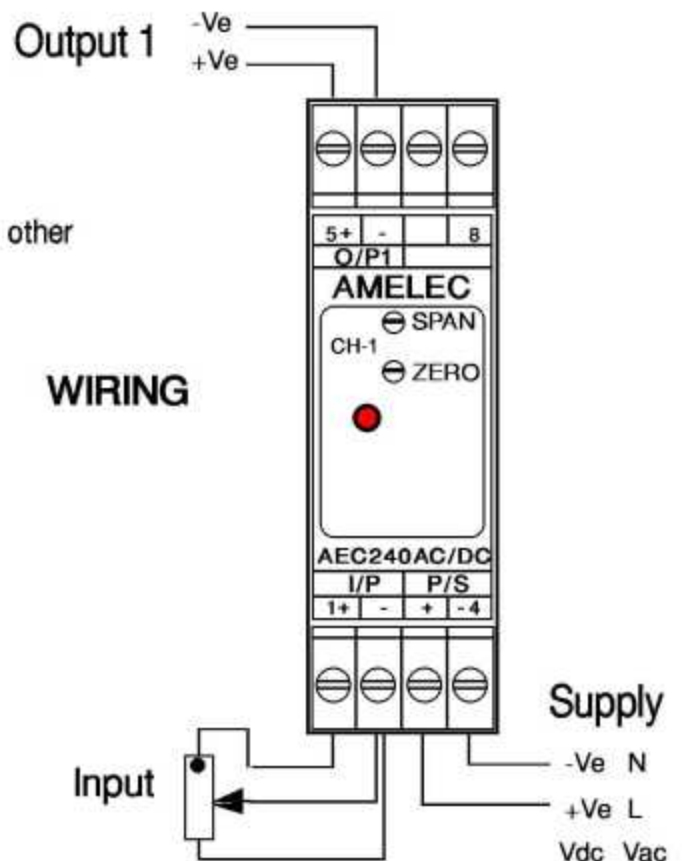
The output current is configured as a source port

Supply

Burden on supply 2W

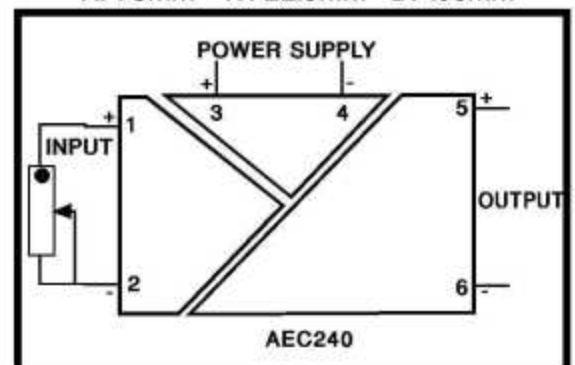
Isolation

1000Vdc Input/Output/Output/Supply



Dimensions

H: 75mm W: 22.5mm D: 105mm



AEC240XAC/DC Process Signal Generator

- ★ Suitable for most Process Signals
- ★ True universal AC/DC Supply Voltage
21V through 265V AC/DC

Technical Specifications

Output

The standard output signals is 4-20mA set by, 15 turn front panel potentiometer. Other ranges are available on request.

The current source can be upto 21mA with a drive voltage of 12V. The voltage source can be upto 11V's, maximum drive 5mA.

Other Outputs

0-10mA, 0-20mA, 1-5mA

0-2V, 0.4-2.0V, 1-5V

2-10V, 0-10V

The output current is configured as a source port

Supply

Typical Burden on 24Vdc supply <1.3W Max

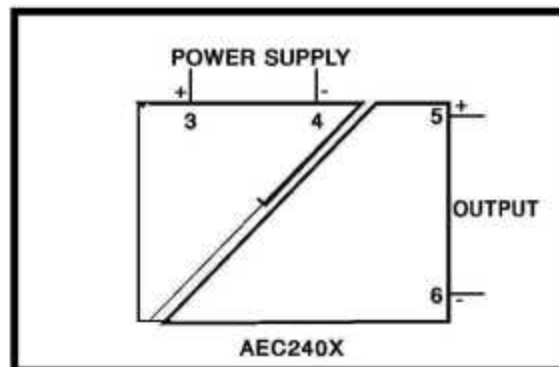
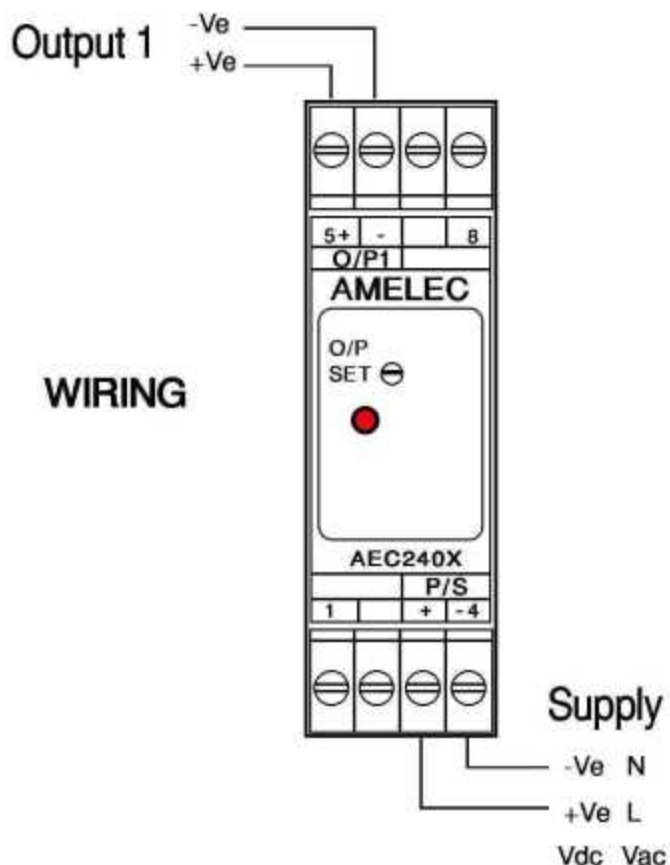
Typical Burden on AC supply range 3W

Isolation

1000V RMS Input/Output/Supply

Dimensions

H: 75mm W: 22.5mm D: 105mm



AEC270 Strain Gauge Transmitter

- ★ Suitable for combinations of process Inputs & Outputs
- ★ True universal AC/DC Supply Voltage 21V through 265V AC/DC

Technical Specifications

Input

Minimum span 4mV
Excitation 5 to 10V at up to 22mA

Other Inputs

0-10mA, 0-20mA, 1-5mA
1-5V, 0-10V

Output

The standard output signals are 4-20mA, other ranges are available on request.

The current source can be upto 20mA with a drive voltage of 13V. The voltage source can be upto 10V's, maximum drive 3mA.

Other Outputs

0-10mA, 0-20mA, 1-5mA
0-2V, 0.4-2.0V, 1-5V
2-10V, 0-10V

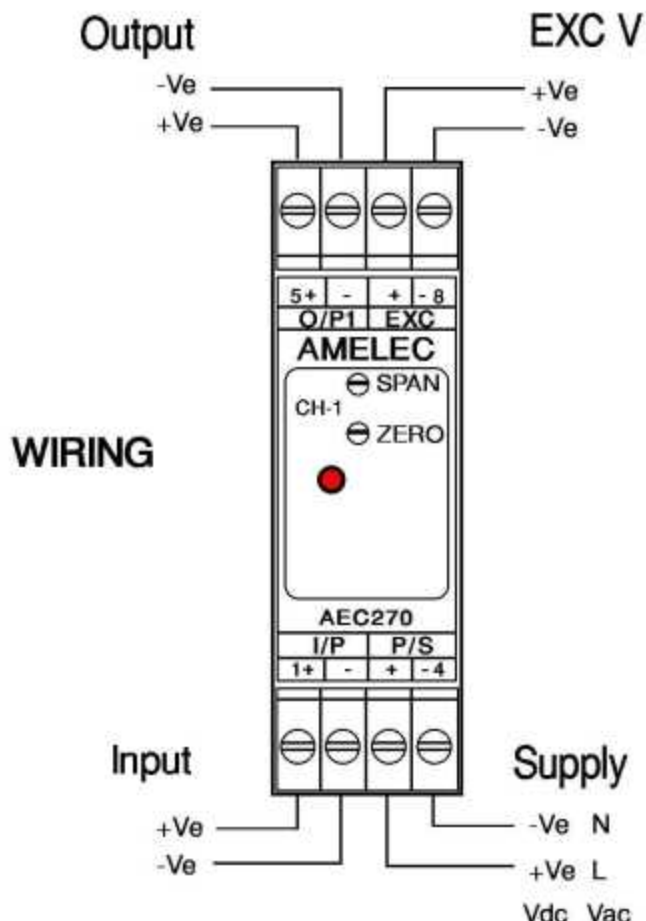
The output current is configured as a source port

Supply

Typical Burden on 24Vdc supply <1.3W Max
Typical Burden on AC supply range 3W

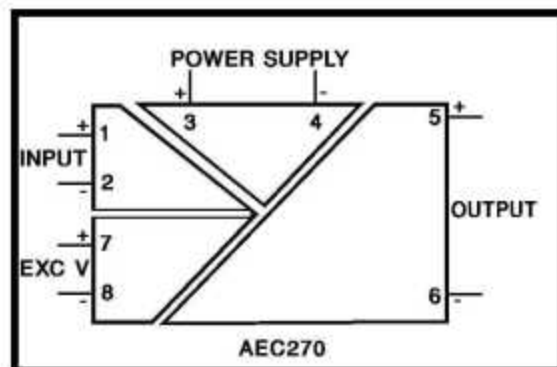
Isolation

1000V RMS Input/Output/Supply



Dimensions

H: 75mm W: 22.5mm D: 105mm



AEC901-1 AC/DC Power Supply

- ★ Suitable for Powering Two wire Loops.
- ★ True universal AC/DC Supply Voltage 21V through 265V AC/DC

Technical Specifications

Output

Up to 24Vdc @ 21mA current drive.
Other Voltage ranges available.

Isolation

1000V RMS. Output/Supply/Earth

Environmental Conditions

Storage Temperature -40 to 70°C
Operating Ambient -15 to 55°C
Relative Humidity 5-95 % RH

The output current is configured as a source port

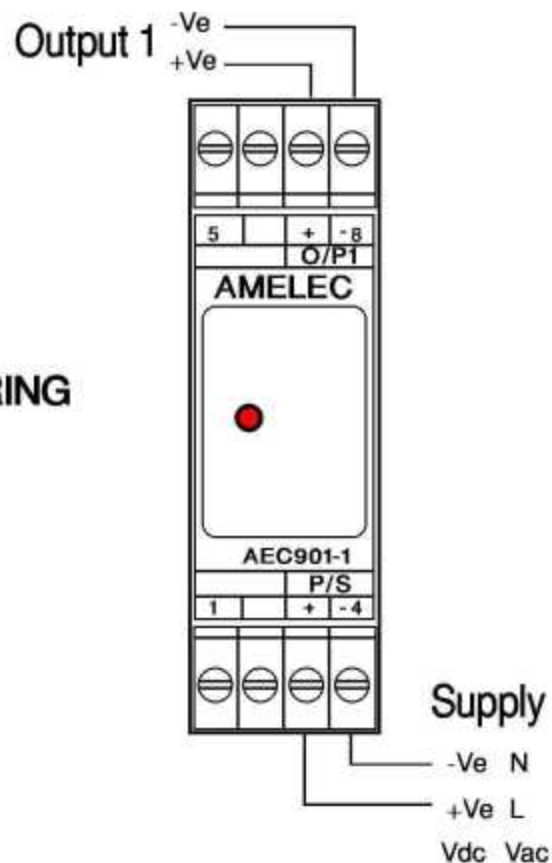
Supply

Typical Burden on 24Vdc supply <1.3W Max
Typical Burden on AC supply range 3W

Typical Application

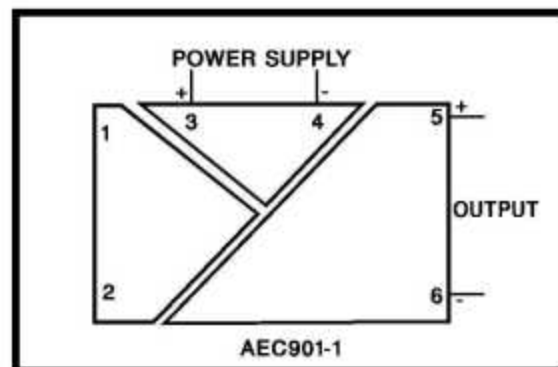
Excitation of a 2 wire DP cell

WIRING

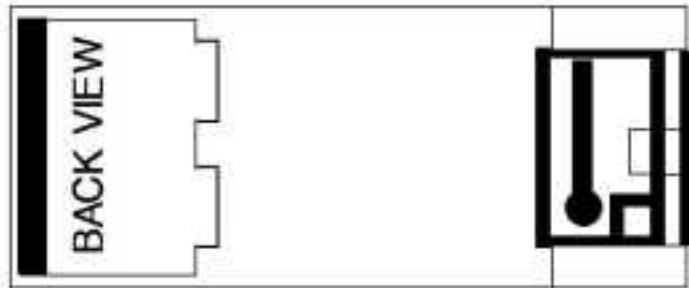
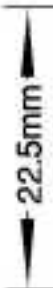
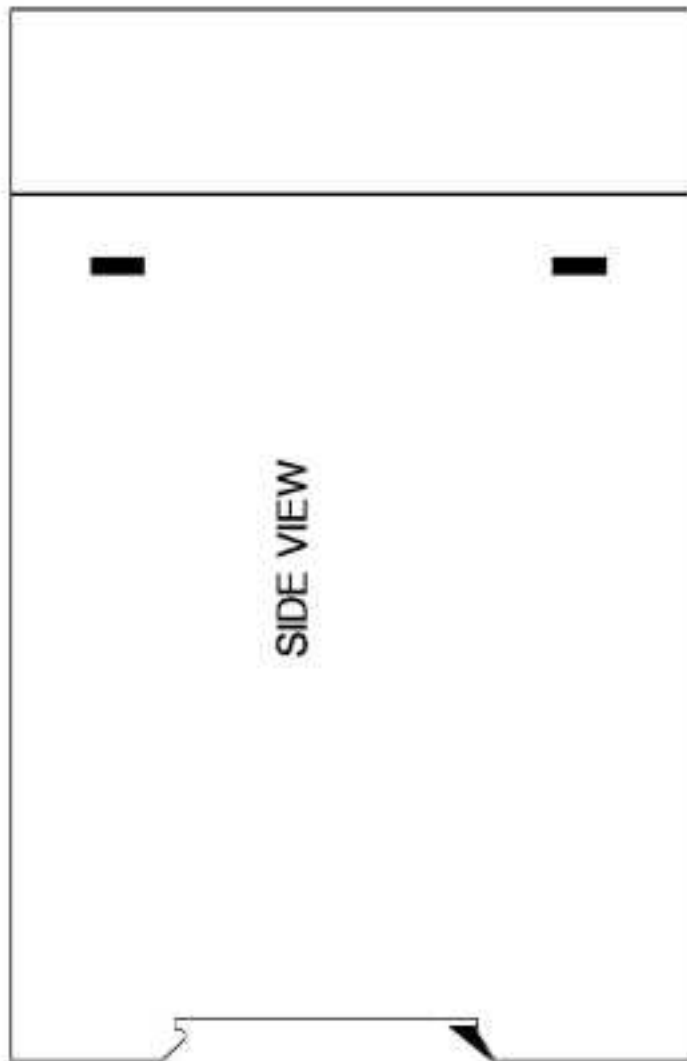


Dimensions

H: 75mm W: 22.5mm D: 105mm



FRONT VIEW



Client Feedback

"I recently had one of your trip amplifiers go faulty on me. The said item is at least 21 years old, and had been in service for all this time. I was really pleased when you told me that you could supply me with a direct replacement that would not need any modifications done to make it fit. It is very rare for electronic equipment not to be obsolete after a couple of years, never mind 21 years!"

In all my dealings with your company I have always been impressed with the quality of your products. The manuals provided with each item are excellent, as is your after sales technical help. I think that your 10 years warranty speaks volumes about your faith in your products. I would never hesitate I recommending your company to anyone"



"Many thanks for your prompt response.....Great Service!"



"Thanks for the fast response."



"Thank you for the great service."



"Thanks again for the prompt response."



"Thanks for your support."



"This is just what we needed, so many many thanks."



"Many thanks for your very prompt service...we thank you for helping us on this urgent request, it is much appreciated."



"Thank you very much...please say thanks to Oscar & David."



"I'd like to thank you for your quick response to our request, and for getting the item to us on time"



"I just want to say thanks to you and your staff for your speedy response and efforts, received the unit yesterday and works a treat!"