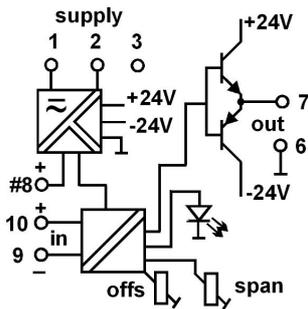
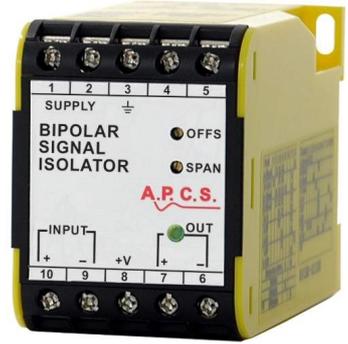


## Bipolar Signal Isolator v4 BSI134

### Block Diagram



The BSI134 produces an isolated bipolar output signal from any type of input signal. Input signals can be bipolar or unipolar process signals such as -10 to +10V or 4 to 20mA. The output drive circuit is factory configured to provide load independent voltage or load independent bipolar current output. Maximum current drive for voltage output is 20mA at  $\pm 20V$  output. Applications requiring output  $>20mA$  up to 2A as is the case with hydraulic drive solenoids, can be accommodated using an external bipolar DC-power supply with a separate heat sink, carrying the drive transistors. Final calibration is trimmed using the front accessible OFFS and SPAN 15-turn trim adjustments. The output signal level is indicated by a green LED on



the front, giving a clear indication of module function. All units are fitted with a 0.5 second filter. This filter constant can be increased or decreased if required. RF and power transient protection are with all APCS modules. Power supply isolation is achieved by the use of transformers for AC power and DC/DC converter for DC power.

### General Specifications

Size:	52 W x 70 H x 110 D (mm).
Mounting:	DIN-Rail, gear plate.
Termination:	Screw terminals on front.
Protection class:	IP40.
Weight:	0.330 kg.
Dimensions standard unit:	52 x 70 x 110mm.
Dimensions 100mA unit::	85 x 70 x 110mm.
Housing material:	ABS.
Accuracy:	0.1% of span.
Front 'OFFS' adjust:	$\pm 25\%$ typical.
Front 'SPAN' adjust:	$\pm 25\%$ typical.
Temperature effect:	0.02% per $^{\circ}C$ .
Operating temperature:	0...+60 $^{\circ}C$ .
Output load effect:	less than 0.25% up to max. load.
Output loop drive:	$\pm 10mA$ into 0 - 2000 $\Omega$ $\pm 20mA$ into 0 - 1000 $\Omega$ .
Output voltage load:	$\pm 10V$ into 500 $\Omega$ minimum $\pm 20V$ into 1k $\Omega$ minimum Short circuit duration 10 minutes max.
Input/output isolation:	2kV rms.
Line Regulation:	Less than 0.02% change for $\pm 10\%$ supply voltage change.
Linearity:	0.05% of span.
Repeatability:	0.05% of span.
Storage temperature:	-20 to +70 $^{\circ}C$ .
Response time:	0.5 sec for 0 - 90% of step input. Faster or slower response on request.
Power requirements:	3W.
Electromagnetic compatibility:	Complies with AS/NZS 4251.1 (EN 50081.1)

BSI134 - X XX X 0 XX

### Power Supply:

- 1 = 90-280Vac 50/60Hz (65-280Vdc).
- \*) 3 = 16-48Vac 50/60Hz (10-60Vdc)
- \*) 6 = 8 - 60Vdc.
- \*) 9 = Other (Specify).

### Input:

#### Unipolar

- \*) 01 = 0 - 100mV (1M $\Omega$ )      11 = 0 - 100 $\mu A$  (1k $\Omega$ )
- \*) 02 = 0 - 200mV (1M $\Omega$ )      12 = 0 - 1mA (220 $\Omega$ )
- \*) 03 = 0 - 500mV (1M $\Omega$ )      13 = 0 - 5mA (240 $\Omega$ )
- 04 = 0 - 1V (1M $\Omega$ )              14 = 0 - 10mA (100 $\Omega$ )
- 05 = 0 - 2V (1M $\Omega$ )              15 = 0 - 20mA (51 $\Omega$ )
- 06 = 0 - 5V (1M $\Omega$ )              16 = 0 - 50mA (20 $\Omega$ )
- 07 = 0 - 10V (1M $\Omega$ )             17 = 4 - 20mA (51 $\Omega$ )
- 08 = 0 - 20V (1M $\Omega$ )             18 = 10 - 50mA (20 $\Omega$ )
- 09 = 0 - 50V (1M $\Omega$ )             \*) 19 = Other specify
- 10 = 0 - 100V (1M $\Omega$ )

#### Bipolar

- \*) 20 =  $\pm 50mV$  (100k $\Omega$ )      25 =  $\pm 10V$  (1M $\Omega$ )
- \*) 21 =  $\pm 100mV$  (470k $\Omega$ )      26 =  $\pm 20V$  (1M $\Omega$ )
- \*) 22 =  $\pm 200mV$  (1M $\Omega$ )      27 =  $\pm 10mA$  (100 $\Omega$ )
- 23 =  $\pm 1V$  (100k $\Omega$ )          #\*) 28 = 3 wire pot 1k $\Omega$  min
- 24 =  $\pm 5V$  (470k $\Omega$ )          \*) 29 = Other  $\pm$  specify

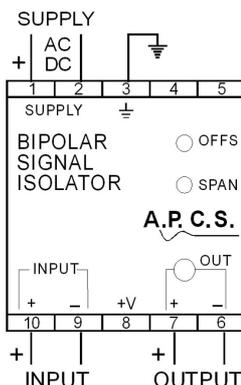
### Output:

- 1 =  $\pm 1V$  (50 $\Omega$  min)              5 =  $\pm 1mA$  (20k $\Omega$  max).
- 2 =  $\pm 5V$  (250 $\Omega$  min)             6 =  $\pm 5mA$  (4k $\Omega$  max).
- 3 =  $\pm 10V$  (500 $\Omega$  min)            7 =  $\pm 10mA$  (2k $\Omega$  max).
- 4 =  $\pm 20V$  (1k $\Omega$  min)            8 =  $\pm 20mA$  (1k $\Omega$  max).
- \*) 9 = Other specify.

### Output Options:

- 00 = None.
- \*) 01 = Output ramp.
- \*) 02 = Output  $>20...500mA$  (External bipolar supply)
- \*) 03 = Output 500mA-2A External bipolar supply.
- \*) 04 = Dither for hydraulic applications.
- \*) 05 = External ratio adjust, Specify range
- \*) 06 = Zero output for loop loss (4 - 20mA input).
- \*) 08 = Customised response time (Specify).
- \*) 09 = Output 2A-5A External bipolar supply.
- \*) 99 = Other (Specify).
- \*) = Price Extra.
- # = 2.5V reference on pin 8 FOR potentiometer input only.

### Connection



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