

Small 25.4mm 2-Wire Load Cell Amplifier / Strain Gauge Amplifier AS0332

The AS0332 is a miniature circular board for **2-wire** systems providing a 4mA - 20mA current output, designed to fit inside a load cell or other transducer. The unit has individual multi-turn potentiometers for the precise setting of Zero and Span. The inputs provide EMI-/RF-suppression. Transducer wires can be easily soldered onto the board.

Features

- Wide range power supply 10-30V
- 2.5V stabilised bridge excitation
- Bridge resistance 700 Ohm (or greater)
- Bridge sensitivity 0.3mV/V – 3mV/V
- Size **25.4mm** diameter, 21mm height
- Fast calibration procedure
- Reverse-polarity protection



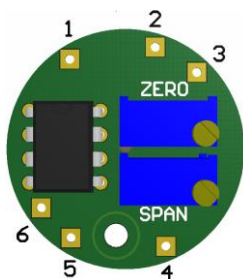
Applications

- Industrial Weighing
- Load Testing & Monitoring
- Overload Protection Systems

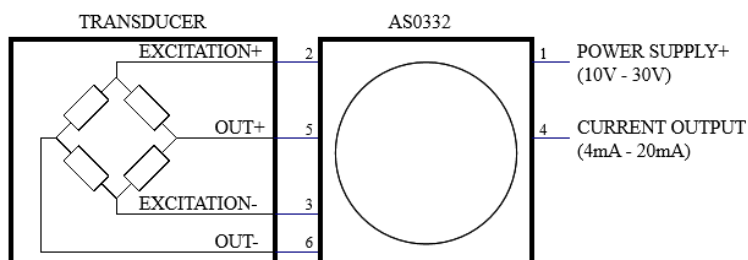
Ordering

Part number:	AS0332-*
*Please specify required input range, between 0.3mV/V – 3mV Default 2.0mV/V: AS0332-2.0MV	
Customer specific electrical / mechanical changes are possible – please contact us with your individual requirements.	

Board Connections



Schematic Diagram



Specifications

Parameter	Min	Typical	Max	Unit
Supply Voltage	10	24	30	V
Current Output – Zero (adjustable control)	3.8	4		mA
Current Output – Span (adjustable control)		20	23	mA
Bridge Sensitivity	0.3		3	mV/V
Bridge Resistance	700			Ohms
Bridge Excitation Voltage		2.5		V
Current Output Temp. Coefficient – Zero		0.5	2.5	uV/°C
Current Output Temp. Coefficient – Span		0.1		%/°C
Operating Temperature	-20		50	°C

Installation, Calibration and Sensitivity:

1. Connections:

The unit is provided with 6 pads around its periphery for the soldering of external connections. The holes in the pads are 0.8mm diameter (Pad size 1,6mm). The mounting hole* has a diameter of 2.5mm (Pad size 5mm).

The connecting pads and wire colours, where wire tails are provided, are identified as follows -

Pad Number	Function	Typical Wire Colour
2	Bridge Excitation +ve	Red
3	Bridge Excitation -ve	Blue
5	Bridge Output +ve	Green
6	Bridge Output -ve	Yellow
1	Supply +ve (10-30V)	Red
4	4-20mA Output.	White/Black

Precaution:

***IT IS CRUCIAL THAT NUTS AND WASHERS SECURING THE PCB USING THE MOUNTING HOLE ARE NYLON TYPE. SHORT CIRCUITS ON THE PCB WILL OCCUR IF CONDUCTING MATERIALS ARE USED.**

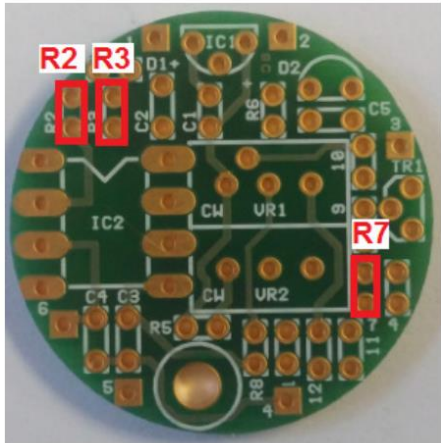
2. Calibration:

At zero load use ZERO potentiometer to set 4.00mA

At full load use SPAN potentiometer to set 20.00mA

Repeat above procedure several times until both settings are reached.

3. Sensitivity:

Input mV/V	R2 and R3 ohms	R7 ohms	Range mV/V	Resistors
0.3	27	120	0.25-0.35	
0.4	36	150	0.33-0.46	
0.5	47	180	0.41-0.58	
0.6	56	220	0.50-0.69	
0.7	68	220	0.56-0.82	
0.8	75	300	0.67-0.90	
0.9	82	430	0.80-0.99	
1.0	100	330	0.84-1.16	
1.1	110	390	0.94-1.27	
1.2	120	430	1.03-1.38	
1.4	130	750	1.29-1.51	
1.6	160	680	1.46-1.80	
2.0	200	750	1.74-2.17	
2.5	270	750	2.10-2.75	
3.0	330	1000	2.65-3.30	

Resistors R2 and R3 are always equal. They should be 1% 100ppm/C 1/8 watt grade or better.

Use either Top-side THT (1/8 watt) or Bottom-side SMD (0805) resistors.

Example: Top-side THT MF12 series from Farnell Electronics: 100R, Part MF 12 100R, Order code: 9342397.