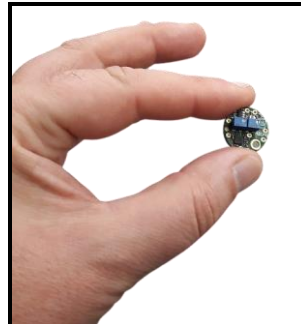


Ultra Small 18mm 2-Wire Load Cell Amplifier / Strain Gauge Amplifier AS1332

The AS1332 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 and is also available with **mid. zero output** (12mA for example) for compression / tension transducers.. The inputs provide EMI-/RF-suppression. Transducer wires can be easily soldered onto the board.

Features

- Wide range power supply 10V-30V
- 2.5V stabilised bridge excitation
- Bridge resistance 350 Ohm (or greater)
- Bridge sensitivity 0.3mV/V – 3mV/V
- Size **18mm** diameter, 8.5mm height
- Fast calibration procedure
- Reverse-polarity protection



Applications

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

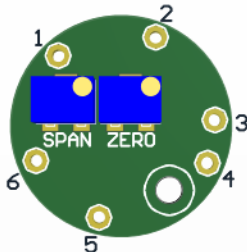
Ordering

| | |
|---------------------|-----------------|
| Part number: | AS1332-* |
|---------------------|-----------------|

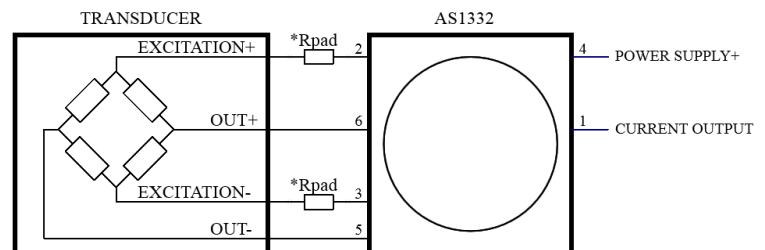
| | |
|--|--|
| *Please specify required input range, between 0.3mV/V – 3mV/V | |
| Default 2.0mV/V: AS1332-2.0MV | |

| | |
|--|--|
| Customer specific electrical / mechanical changes are possible – please contact us with your individual requirements. | |
|--|--|

Board Connections



Schematic Diagram



*Rpad only required for 350R bridges

Specifications

| Parameter | Min | Typical | Max | Unit |
|---|-----|---------|-----|-------|
| Supply Voltage | 10 | 24 | 30 | V |
| Current Output – Zero (adjustable control)* | 3.7 | 4.0 | 5 | mA |
| Current Output – Span (adjustable control) | | 20.0 | | mA |
| Bridge Sensitivity* | 0.3 | | 3 | mV/V |
| Bridge Resistance | 350 | 1000 | | Ohms |
| Bridge Excitation Voltage | | 2.5 | | V |
| Current Output Temp. Coefficient – Zero | | 0.5 | | uV/°C |
| Current Output Temp. Coefficient – Span | | 0.1 | | %/°C |
| Operating Temperature | -40 | | +85 | °C |

*specified for 1000R bridge resistance.

Installation, Calibration and Sensitivity:

1. Connections:

The unit is provided with 6 pads around its periphery for the soldering of external wires. The holes in the pads are 1mm diameter (Pad size 1.8mm). The mounting hole has a diameter of 2.1mm (Pad size 5.2mm).

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 |
| 6 | Bridge Output +ve | Green |
| 5 | Bridge Output -ve | Yellow |
| 4 | Supply +ve (10V-30V) | Red |
| 1 | 4-20mA Output. | White/Black |

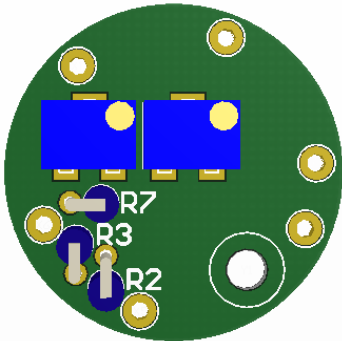
2. Calibration:

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 for bridge resistance 700 Ohms or greater:

| Input mV/V | R2 and R3 ohms | R7 ohms | Range mV/V | Resistors |
|------------|----------------|---------|------------|---|
| 0.3 | 27 | 120 | 0.25-0.37 |  |
| 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 | |



4. Sensitivity for bridge resistance 350 Ohms:

For 350 Ohm bridges it is necessary to add padding resistors to the Excitation+ (Pad2) and Excitation- (Pad3) wires as shown below. The values for R2, R3 and R7 are also shown.

| Input mV/V | R2 and R3 ohms | R7 ohms | Rpad ohms | Range mV/V | Resistors |
|------------|----------------|---------|-----------|------------|-----------|
| 0.8 | 27 | 150 | 300 | 0.67-0.90 | |
| 0.9 | 36 | 150 | 200 | 0.80-0.99 | |
| 1.0 | 47 | 180 | 200 | 0.84-1.16 | |
| 1.2 | 47 | 180 | 240 | 1.03-1.38 | |
| 1.4 | 56 | 220 | 240 | 1.29-1.51 | |
| 1.6 | 56 | 220 | 300 | 1.46-1.80 | |
| 2.0 | 100 | 330 | 180 | 1.74-2.17 | |
| 2.5 | 100 | 330 | 240 | 2.10-2.75 | |
| 3.0 | 100 | 330 | 330 | 2.65-3.30 | |

Resistors R2 and R3 are always equal. They should be 1% +/-50ppm/C 1/8 watt grade or better. Example: MF12 series from Farnell Electronics: 100R, Part MF 12 100R, Order code: 9342397.

Resistors Rpad are always equal. They should be 1% +/-50ppm/C 1/8 watt grade or better. Example: MF12 series from Farnell Electronics: 200R, Part MF 12 200R, Order code: 9342770.