



Features

- Compact fully enclosed DIN rail mounting
- Microprocessor based
- Accuracy 4000 divisions over calibrated range
- Push-button calibration, settings stored in non-volatile EEPROM
- Zero (dead load) offset up to 100%
- Calibration test facility without check weight
- Selectable input signal filtration
- Industry standard 0-10V DC and 4-20mA outputs
- Power On and Fault LED's

Description

This compact microprocessor based Load Cell Amplifier connects with 1 to 4 strain gauge load cells, provides 10V DC excitation to the load cells and amplifies the resulting signal to produce a calibrated 0-10V DC and 4-20mA gross weight output.

In typical applications, the output is connected as an input to a PLC system and/or to an analogue or digital indicator.

Technical Data

Model No:
PR490

Mains Supply:
Universal fused power supply 85-264V AC, 50/60Hz

Load Cell Excitation:
10V DC @ 125mA maximum, up to four 350 ohm load cells may be connected in parallel 4 or 6 wire load cell connection, remote sensing compensation for volt-drop in long cables.

Input Sensitivity:
0-20mV or 0-40mV Gain 1-4000

Output:
0-10V DC, 4-20mA into 600 ohms max. load resistance, 12V max. compliance voltage.

Accuracy:
4000 divisions over calibrated range
Drift: <5ppm/°C
Input resolution: 65000 counts

Enclosure:
Fully enclosed IP40

Mounting:
DIN rail TS35

Dimensions:
172mm high x 145mm deep x 35mm wide

Environment:
Operating -10 to +50°C, 20 to 80% RH non-condensing
Storage -20 to +80°C

Rotary Switch Operation

SW	FUNCTION
0	Input Signal Filter 1 (min damping)
1	Input Signal Filter 2
2	Input Signal Filter 3
3	Input Signal Filter 4(max damping)
4	Calibration Test
5	Calibration Zero Setting
6	Calibration Coarse Gain Setting
7	Calibration Gain x1
8	Calibration Gain x2
9	Calibration Gain x10

Calibration

Calibration adjustments are performed by means of the two recessed push buttons in conjunction with the rotary switch and a digital test meter. With no potentiometers or links, access to the inside is not required.

A single test weight can be used to calibrate using the straight line characteristics of the amplifier and variable gain settings to increase the sensitivity.

Calibration Procedure

Remove the calibration label from over the push buttons if fitted.

Zero Setting. With the weigher empty and the switch in position 5 the amplifier output may be set in the range -50mV to 1V (3.92 to 5.6mA) using the up/down recessed push buttons. Attempting to adjust outside this range will illuminate the fault light.

Coarse Gain Setting. Apply a known weight to the weigher with the switch in position 6 and use the up/down buttons to drive the amplifier output to approximately the required level i.e. Within $\pm 250\text{mV}$ ($\pm 0.4\text{mA}$).

Gain x 1. With the switch in position 7 and a known weight applied use the up/down buttons to drive the amplifier output to the precise level. If the applied weight is small in relation to the full scale value it is advisable to select switch position 8 or 9 to increase the sensitivity of the amplifier output by x2 or x10. In this way a higher accuracy of calibration can be attained. This is often useful when calibrating weighers of large capacity.

Calibration Test

With mode switch set in position 4, compare the change in reading with that recorded on the calibration label. Any error in excess of 0.1% would indicate a fault in either the load cells or amplifier. This is only an electrical test and does not check the integrity of the mechanical loading.

Calibration Security

Upon completion of calibration a self adhesive label is provided to record the calibration data and test reading. It is suggested that this is affixed over the calibration buttons for maximum security. To obtain the calibration test reading, select switch position 4 and note the change in output.



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