PENKO Engineering BV

The Leading Experts In Weighing & Dosing

Loadcell Simulator LCS

The ***LCS-3*** is a simulator used as a substitute for strain-gage transducers to generate the precise mV/V signals required in the development, checkout and pre-calibration of signal conditioners, digital and analog readouts and data loggers.
It has seven output steps 0, 0.5, 1, 1.5, 2, 2.5, 3 mV/V, load simulation of 1 to 4 loadcells and sense test.
Resistance equal to 350 ohm loadcells.
Vernier knob for variable output ca. -2 mV/V to +2 mV/V. (not calibrated)
Includes 4 ft removable interconnect cable. with connector.



- *A completely passive unit.*
- *Excitation Led*
- *+/- polarity switch.*
- *+/- sense-test switch.*
- *Steps from 0 to 3 mV / V and continuous.*
- *Number of loadcells switch.*
- *Low drift / High accuracy.*
- *"Pocket-sized" only 65 x 217 x 55 mm.*
- *Accuracy +/- 0.025%. Temp.coeff. 25 ppm/C*
- *Includes 1,25 m. interconnect cable with plug.*
- *Resistance equal to 350 Ohm loadcell.*

Loadcell Simulator: Technical Data



SIMULATOR ACTIVE LED
Lights when simulator is connected properly.

+/- POLARITY SWITCH
Sets output polarity (plus or minus) for mV signal.

+/- SENSE-TEST SWITCH
Connects two resistors of 15 up to 75 Ohms in series with Plus and Minus excitation voltage. (total 30 - 150 Ohm)
This function tests the integrity of the sense capability of the excitation voltage supplied by the indicator. This can be useful when safety barriers are being used.

OUTPUT SIGNAL SWITCH
Sets the output signal ratio from 0 to 3 mV/V depending of the excitation voltage. The zero position can be used to test the zero drift of the indicator.

e.g. 2 mV/V with 10 V excitation = 20 mV.

NUMBER OF LOADCELLS SWITCH
Simulates the load of 1 to 4 loadcells of 350 Ohm.

+/- VARIABLE OUTPUT POTENTIOMETER
When the output signal switch is set to VAR. position, the output signal is continuous variable from ca. -2mV/V up to +2mV/V. ("ten turn" potentiometer)
This function can be used to simulate a weigh process.

Specifications:

Inaccuracy:	+/- 0.025% typical.
Temperature effects:	25 ppm / degree C.
Temperature range:	-10 to +50 degree C.
Input:	15V max.
Output:	0, 0.5, 1, 1.5, 2, 2.5, 3 mV/V and variable.
Weight:	ca. 400g.
Dimensions:	65 x 217 x 55 mm excl. cable and connector.
Case:	extruded anodized aluminum with brushed finish. Black ABS plastic sides.

Service Tip:

$$\text{DISPLAY} = \frac{\text{mV/V Simulator}}{\text{mV/V Load cell}} \times \text{cell capacity.}$$

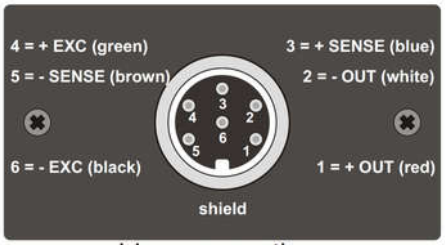
Example:

A load cell has an output of 1.9876 mV/V and a capacity of 1000 kg.
Connect simulator to Indicator.

Adjust the simulator at 2 mV/V. (+/- sense = 0, loadcells = 1)

Enter display reading $= \frac{2}{1.9876} \times 1000 = 1006{,}2$ kg

Connect load cell to indicator and zero the device.
Indicator is calibrated.



wiring connections

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