CONTROLWEIGH

TS-16V TRANSDUCER SIMULATOR

Product Specifications

Model number: TS-16V

Impedance: 350 ohms nominal

Output ranges: Fixed rotary switch
0 to 3 mV/V in 15 steps of .2 mv/v

10 turn Vernier with locking graduated dial
OFF: Rotary selection +0.0 mV/V
COARSE: Rotary selection -0.08 mV/V to +3.0 mV/V
MEDIUM: Rotary selection -0.04 mV/V to +1.0 mV/V
FINE: Rotary selection -0.01 mV/V to +0.2 mV/V

Accuracy:

Typical	Max
0.007% of full scale	+0.020% of full scale
0.00021 mv/v	+0.00060 mv/v

or +1 microvolt, whichever is greater

Zero offset:

Typical	Max
+0.00009 mv/v	+0.0005 mv/v

Temp. coefficient: +5 PPM/°C

Excitation: 15v ac/dc max

Termination: Binding posts - accepts standard banana plug or up to No. 14 wire

Weight: 1 lb.

Dimensions: 3.2"W x 5.9"L x 2.9"D

Enclosure: Flame retardant ABS plastic

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Operation & Controls

A: Vernier Selection*
OFF: Rotary selection +0.0 mV/V
COARSE: Rotary selection -0.08 mV/V to +3.0 mV/V
MEDIUM: Rotary selection -0.04 mV/V to +1.0 mV/V
FINE: Rotary selection -0.01 mV/V to +0.2 mV/V

B: Locking Vernier Dial
10 turn adjustment of selected ranges listed above

C: Rotary Selection
Fixed Calibrated steps of 0.2mV/V from 0 to 3.0mV/V

D: + Excitation Input

E: - Excitation Input

F: + Signal Output

G: - Signal Output

*The Vernier is included as a diagnostic and setup tool, for example to simulate reaching setpoints in a batching application dry run. It is not designed to have the high accuracy as is specified for the rotary selection knob.

Sample Calculation - Pre-calibration of instrument using simulator

Load Cell Specifications: Load cell capacity: 1000 lbs
Rated output: 3mV/V
Actual output: 3.0015mV/V

1) Calculate units per mV

$$\frac{\text{Load cell capacity}}{\text{Actual output}} = \text{units per mV} \qquad \frac{1000\text{lbs}}{3.0015\text{mV/V}} = 333.1667 \text{ lbs}$$

2) Calculate units per step of rotary selection

Units per mV **X** rotary selection

333.1667 **X** 0.2 = 66.63334 lbs

Results:	Rotary Selection reading on instrument
0.0	000.00000 lbs
0.2	66.63334 lbs
0.4	133.26668 lbs
0.6	199.90002 lbs
0.8	266.53336 lbs
1.0	333.16670 lbs
2.0	666.33340 lbs
3.0	999.50010 lbs

3) Connect excitation and signal terminals to instrument. Use sense leads from instrument when possible: Connect **+** Sense to +EXC terminal post and Connect **-** Sense to -EXC terminal post

4) Power-up instrument and allow 5 to 10 minutes warm up time.

5) Refer to instrument's service manual and follow calibration instructions using the results from Steps 1 and 2.

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