

## Cable-Extension Displacement Sensor



### FEATURES

- Full-scale ranges from 5 to 50 inches
- Rugged, low profile design
- Switch-selectable potentiometer and Wheatstone bridge output circuits
- Standard RJ-45 electrical connections.
- Compatible with all Vishay Micro-Measurements strain gage and high-level-signal instrumentation.
- Easy to install and use.

### DESCRIPTION

The Vishay Micro-Measurements Cable-Extension Displacement Sensor provides a voltage signal linearly proportional to the extension of a retractable stainless steel cable. Used for indicating the displacement of the test structure, member or part to which the cable is attached, installation is quick and easy. Simply attach the base of the sensors to a

reference surface, the cable to the component being displaced, and the electrical leads to any instrument accepting strain-gage or high-level signal inputs. With the certified calibration data and wiring instructions provided with each sensor, you will be making displacement measurements in minutes.

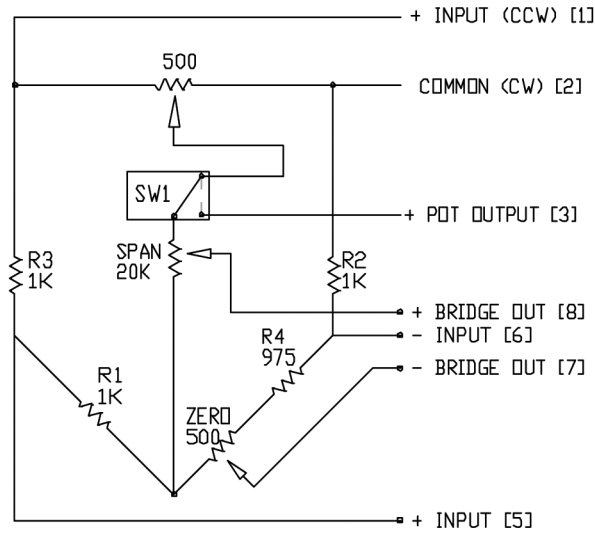
### SPECIFICATIONS

MODEL		CDS-05	CDS-010	CDS-20	CDS-30	CDS-40	CDS-50
Measurement Range	in [mm]	5 [127 mm]	10 [254 mm]	20 [508 mm]	30 [762 mm]	40 [1016 mm]	50 [1270 mm]
Accuracy	% FS	0.25	0.15	0.10	0.10	0.10	0.10
Resolution		Analog (Effectively infinite, limited only by instrumentation)					
Repeatability		Greater of $\pm 0.001$ in [ $\pm 0.025$ mm] or 0.02% FS					
Cable Retraction Force (min)	oz. [N]	3.5 [1.0]	8.4 [2.3]	8.4 [2.3]	6.3 [1.8]	4.2 [1.1]	3.5 [1.0]
Cable Extension Force (max)	oz. [N]	6.5 [1.8]	15.6 [4.3]	15.6 [4.3]	11.7 [3.3]	7.8 [2.2]	6.5 [1.8]
Cable Acceleration	g	3	11	11	5	4	3
Vibration	g, Hz	Up to 10, 0 - 2000					
Shock	g, mS	100, 0.1					
Sensor		Plastic-hybrid precision potentiometer					
Resistance	ohms	500					
Maximum Supply Voltage - Potentiometer	V	30					
Maximum Supply Voltage - Bridge	V	30					
Output - Bridge	mV/V FS	3.0 typical					
Case		Powder-painted aluminum alloy					
Cable		Nylon-coated stainless steel, 0.019 in [0.48 mm] diameter					
Electrical Connector		RJ-45 receptacle					
Weight	lb [kg]	2 [1] typ.					
Operating Temperature	$^{\circ}$ F [ $^{\circ}$ C]	- 40 to + 200 [- 40 to 93]					
TC of Sensor	ppm/ $^{\circ}$ F [ppm/ $^{\circ}$ C]	88 [157]					
Humidity	% RH	100 at 90 $^{\circ}$ F [32 $^{\circ}$ C]					

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## DIMENSIONS

SENSING CIRCUITS



MEASUREMENT RANGE (INCHES)	5	10	20	30	40	50
DIMENSION 'A'	0.16	0.65	0.65	0.43	0.35	0.16

