



# PD

## PRECISION LOW PROFILE LOAD CELL

### *applications*

- Platform Scales
- Hopper and Vessel Weighing
- Motor Truck Scales
- Tension/Compression Measurements
- Laboratory Test & Measurement

### *features*

- 5,000 to 100,000 lbs. Capacities
- Compact Low Profile Design
- High Output - Low Deflection
- 0.1 Accuracy Class
- High Frequency Response
- IP67 Environmental Sealing
- FM Approved
- Stainless Steel Construction
- Two Year Warranty

SENTRAN, LLC  
California Commerce Center  
4355 Lowell Street  
Ontario, CA 91761-2225

Toll Free: 1(888) 545-8988  
Phone: 1(909) 605-1544  
Fax: 1(909) 605-6305  
Email: [mail@sentranllc.com](mailto:mail@sentranllc.com)  
URL: [www.sentranllc.com](http://www.sentranllc.com)



**Application Tip:** *The Model PD robust, versatile design is ideal for high performance applications where low overall height is important.*

The PD Series is a high performance, low profile, bonded foil strain gage load cell constructed of heat-treated stainless steel. The PD is designed to accurately measure tension and compression forces in capacities ranging from 5,000 lbs. to 100,000 lbs. The shear web sensing design produces excellent performance, a very low profile, and reduced sensitivity to eccentric and side loading effects. The high output and low deflection of the PD combine to yield a high dynamic response and superior output resolution for applications in structural analysis, materials testing and process control. A fatigue rating of 10,000,000 cycles further defines the PH Series as an outstanding and versatile test and measurement solution. For universal measurements (tension and compression in the same application), an optional pull plate is required to allow the forces to be directed through the center of the load cell. To achieve a sealing rating of IP67 (thoroughly sealed against airborne particles and the effects of immersion up to 1 meter.) proprietary, multi-redundant environmental barriers are incorporated, including sealed stainless steel covers to protect the strain gage area. Optional cable assemblies are available with mating connectors, including durable polyurethane or Teflon® jacketed cables that feature braided, tinned-copper shielding for mechanical protection and to minimize the effects of common industrial electrical noise, e.g. RFI and EMI. The attributes of the PD make it ideal for measurements in the laboratory, structures testing, materials testing, process control and for general force measurements where a compact, low profile precision tension and compression load cell solution is needed.

*Innovative Measurement Solutions*



## performance

Rated capacities <sup>(1)</sup> (lbs.)	5K, 10K, 25K, 50K & 100K
<sup>(1)</sup> ("K" = thousand)	
Rated output (FSO)	4 mV/V ±0.25%
Combined error	≤ 0.05%
Non-linearity	≤ 0.5%
Hysteresis	≤ 0.2%
Non-repeatability	≤ 0.02%
Creep (20 minutes)	≤ 0.03 % of load
Zero balance	± 1.0%
Zero Return (20 minutes)	≤ 0.03 %

## mechanical

Material:	Alloy tool steel (PD1)
Finish:	Electroless nickel (PD1)
Safe overload	150%
Ultimate overload	300%
Deflection	<0.020"
Weight	See table below

## electrical

Input impedance	385 ± 5 ohms
Output impedance	350 ± 5 ohms
Insulation resistance	>5000 Megohms @ 50VDC
Excitation voltage	10 V AC/DC (15 V maximum)
Cable Color code:	+ Excitation (red) - Excitation (black) + Output (green) - Output (white) Shield (bare)
Cable length	50 feet
Cable type	4-conductor, 22 AWG, tin-copper braided shield, polyurethane jacket
Cable termination	Finished conductors

## environmental

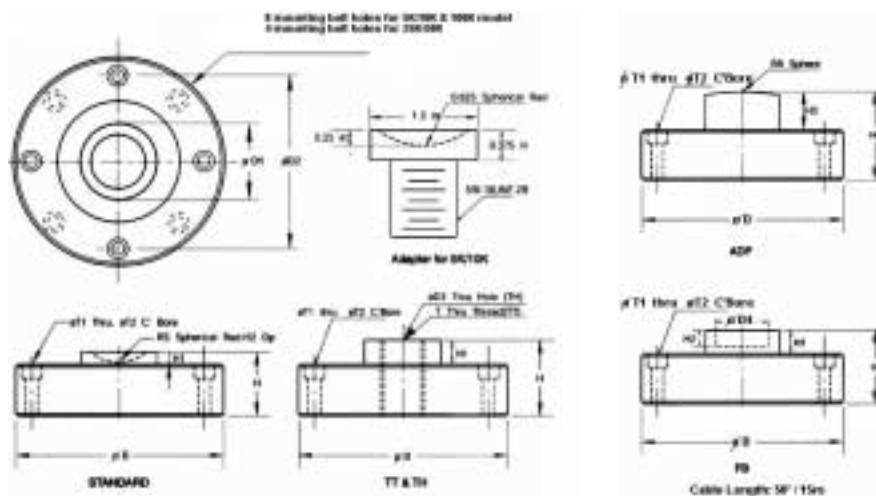


Temperature, operating	4 to +140 °F (-20 to +60°C)
Temperature, compensated	14 to +104 °F (-10 to +40°C)
Temperature effects:	Zero < 0.0015% FSO/°F < 0.0026% FSO/°C Output < 0.0008% of Rdg./°F < 0.0014% Rdg./°C
Sealing	IP67; Multi-redundant

## options

MS connectors, Companion loading hardware, Instrumentation & Companion Weigh Modules (MK Series).

## dimensions



100% CUSTOMER SATISFACTION GUARANTEED

CAPACITY (LB)	UNITS	DIMENSIONS														MODELS	
		D	D1	D2	D3	D4	H	H1	H2	H3	H4	RA	RS	T	T1		T2
5K/10K	inch	4.12	1.26	3.50	-	-	1.37	0.12	-	-	-	-	-	5/8-18 UNF	0.28	0.42 X 0.28DP	TT
	mm	104.7	32	88.9	-	-	34.8	3.05	-	-	-	-	7.2		10.5 X 7.2DP		
25K/50K	inch	4.75	1.53	4.00	1.26	1.34	2.12	0.50	0.31	0.47	2.12	3.59	0.87	M32x1.5	0.34	0.53 X 0.38DP	STD, TT, TH, FB, ADP-(50K)
	mm	120.7	38.9	101.6	32	34	53.8	12.7	8	12	53.8	91.3	22.2		8.7	13.5 X 9.7DP	
100K	inch	5.43	1.98	4.6	-	1.65	2.25	0.25	0.31	0.59	2.59	4.16	0.87	M40 X 1.5	0.41	0.65 X 0.43	STD, TT, FB ADP
	mm	138	50.4	116.8	-	42	57.2	6.4	8	15	65.8	105.6	22.2		10.3	16.5 X 11DP	