

p-SMLS Series: Premium Surface-Mount Load Sensor

SMLS Series sensors can be mounted to any flat, rigid surface to capture a direct measurement of force normal to that surface.

The Premium SMLS features advanced eccentric / off-axis load compensations to significantly improve accuracy and repeatability; this is particularly beneficial when load alignment can be subject to variance.

Benefits of Direct Force Measurement vs Pressure-Derived Load Estimates

- Excellent Accuracy and Sensitivity
- Improved Reproducibility and Repeatability
- Low Latency, Immune to Cylinder Friction
- Temperature Compensated
- Measurement is NIST Traceable

Key Applications

- Direct Input to Delta Computer Systems and other PLC platforms
- Accurate, Reproducible and Sensitive Force Measurements
- Extreme Repeatability of Displacement Measurements for Servo Control
- High Speed Measurements / Data Logging
- Calibration Reference for Pressure-Measurement-Based Systems



PERFORMANCE SPECIFICATIONS

	Part Number	Full Scale (±lbf)	Combined Error (±lbf)	Non-Repeatability (±lbf)	Eccentric Load Sensitivity (%RDG / in)	Deflection (in / FS)
Standard Sensor Capacities	p-SMLS-5K	5,000	3.5	0.5	0.25	0.002
	p-SMLS-10K	10,000	7	1		
	p-SMLS-25K	25,000	20	2.5		
	p-SMLS-50K	50,000	40	5		
	p-SMLS-100K	100,000	100	10		0.003
	p-SMLS-200K	200,000	240	20		0.012
	p-SMLS-400K	400,000	680	80		0.007
	p-SMLS-600K	600,000	1,200	120		0.008
	p-SMLS-1M	1,000,000	2,500	200		0.008
	p-SMLS-2M	2,000,000	7,000	400		0.012

Additional capacities available upon request. %RDG: percent of applied load. 5-Points bidirectional NIST / ISO 17025 Accredited Calibration included. FS: full scale, the capacity of the sensor. Min Rod Diameter: Recommended to fully support load cell in compressive loading.

MECHANICAL

Safe Overload	150	± %FS
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THERMAL

Compensated Range	15 to 115	°F
Operating Range	-65 to 200	
Effect on Output	0.0008	%FS / °F

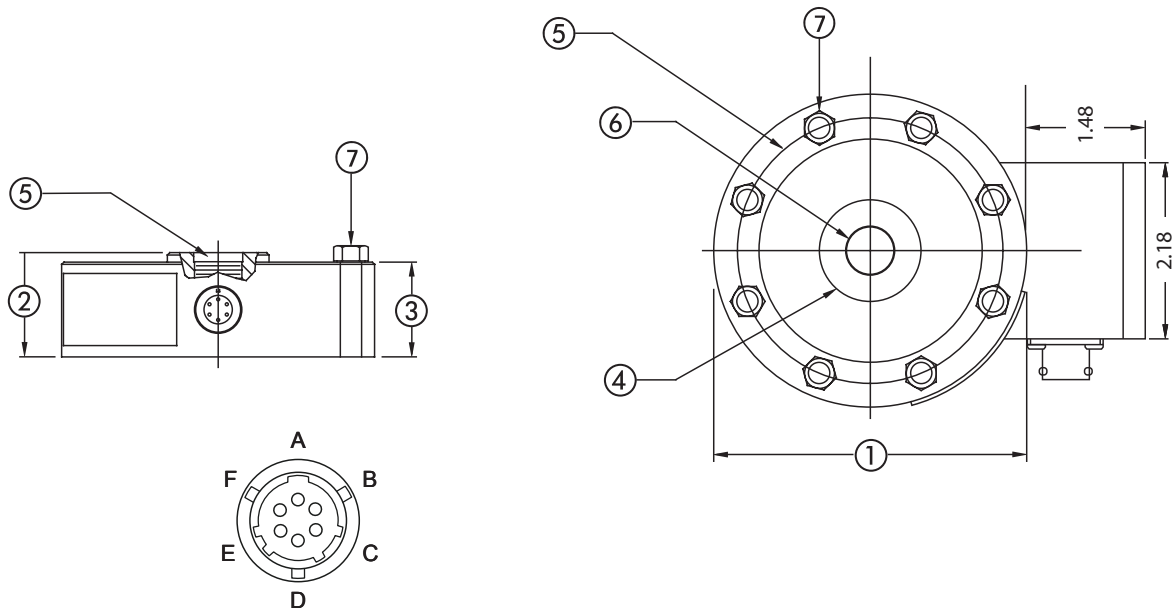
RESPONSE

Dynamic	1000	Hz
Bandwidth	1	ms

NAMING SCHEME: Modifier-Series-Capacity-Output
EXAMPLE: p-SMLS-100K-V

Signal Output Selection	PN Suffix	Output At			Power Supply	
		Tension FS	Zero	Compression FS	VDC	mA
	-V	-10 V	0 V	+10 V	11.5 – 26	24
	-A	4 mA	12 mA	20 mA		

Other output types available upon request.



Connector: PT02E-10-6P	
Pin	Function
A	+ Supply
B	Supply Ground
C	Output Ground
D	+ Output
E	Shunt Cal
F	Shunt Cal

DIMENSIONS (in)							
Description	① Body Ø	② Total Height	③ Body Height	④ Loading Surface Ø	⑤ Bolt Circle	⑥ Thread Type (UNF) x Length	
						Loading Thread	Mounting Screws*
p-SMLS-5K	4.13	1.38	1.25	1.34	3.50	5/8-18 F x 1.12	1/4-28 x 1.50
p-SMLS-10K	4.13	1.38	1.25	1.34	3.50	5/8-18 F x 1.12	1/4-28 x 1.50
p-SMLS-25K	6.06	1.75	1.63	2.65	5.13	1 1/4-12 F x 1.40	1/4-28 x 1.50
p-SMLS-50K	6.06	1.75	1.63	2.65	5.13	1 1/4-12 F x 1.40	3/8-24 x 2.25
p-SMLS-100K	8.00	2.50	2.25	3.76	6.50	1 3/4-12 F x 2.15	1/2-20 x 3.00
p-SMLS-200K	11.00	3.50	3.00	4.81	9.00	2 3/4-8 F x 2.75	5/8-18 x 4.00
p-SMLS-400K	12.00	4.50	3.25	6.18	9.88	3 1/2-8 F x 4.13	3/4-16 x 5.50
p-SMLS-600K	15.50	5.50	5.00	7.73	12.68	4 1/4-8 F x 4.25	7/8-14 x 6.40
p-SMLS-1M	20.50	6.25	6.00	10.55	16.50	6-8 F x 5.63	1-14 x 7.50
p-SMLS-2M	26.00	7.75	7.50	13.79	20.50	8-8 F x 7.00	1 1/4-12 x 9.50

*Mounting screws should be Grade 8 (10.9) or better