

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.

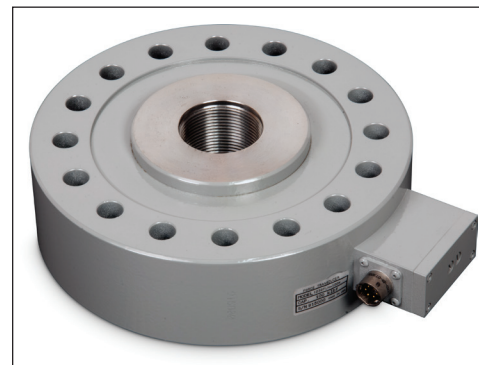
The Premium SMLS features advanced eccentric / off-axis load compensations to significantly improve accuracy and repeatability; this is particularly beneficial when load alignment can be subject to variance.

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	Combined Error	Non-Repeatability	Eccentric Load Sensitivity Full Scale (%RDG / mm)	Deflection
		(±N)	(±N)	(±N)		(mm / FS)
Standard Sensor Capacities	p-SMLS-25KN	25,000	20	2.5	0.10	0.05
	p-SMLS-50KN	50,000	35	5		
	p-SMLS-100KN	100,000	80	10		
	p-SMLS-250KN	250,000	160	25		
	p-SMLS-450KN	450,000	450	45		0.10
	p-SMLS-900KN	900,000	1,500	90		0.30
	p-SMLS-1.8MN	1,800,000	3,000	180		0.20
	p-SMLS-2.7MN	2,700,000	5,400	270		0.20
	p-SMLS-4.5MN	4,500,000	11,250	450		0.20
	p-SMLS-9MN	9,000,000	31,500	900		0.30

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

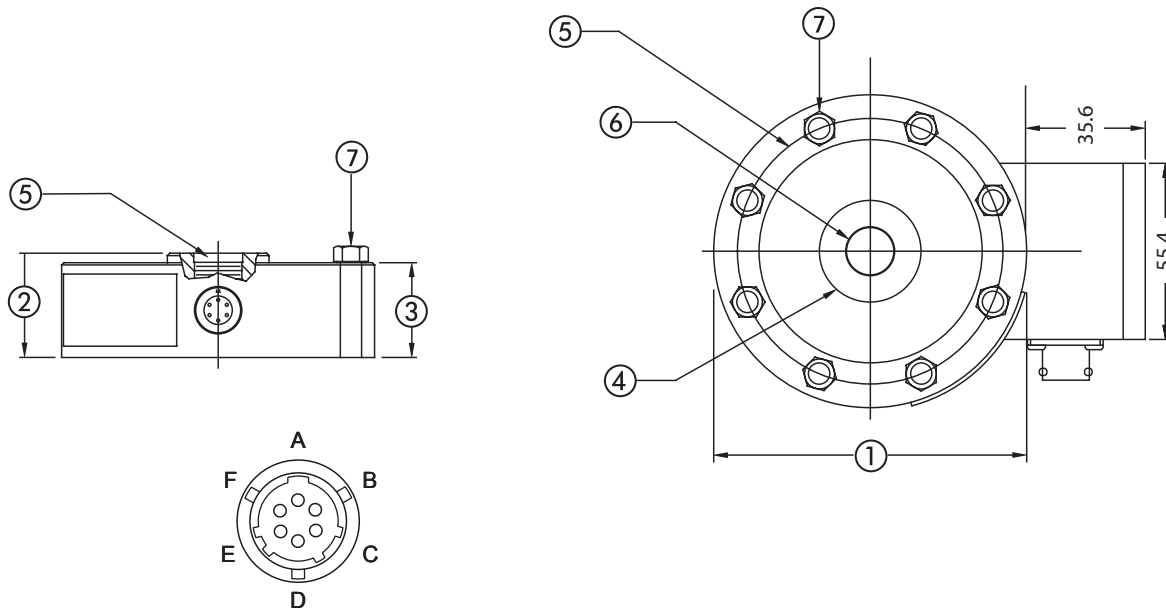
THERMAL		
Compensated Range	-10 to 45	°C
Operating Range	-20 to 90	
Effect on Output	0.0015	%FS / °C

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 (mm)								
Description	①	②	③	④	⑤	⑥		⑦
	Body Ø	Total Height	Body Height	Loading Surface Ø	Bolt Circle	Thread Type x Length		
						Loading Thread	Mounting Screws*	
p-SMLS-25KN	104.8	34.9	31.7	34	88.9	M16 x 2 x 28.4	M6 x 40	
p-SMLS-50KN	104.8	34.9	31.7	34	88.9	M16 x 2 x 28.4	M6 x 40	
p-SMLS-100KN	153.9	44.5	41.4	67.3	130.3	M33 x 2 x 35.6	M10 x 60	
p-SMLS-250KN	153.9	44.5	41.4	67.3	130.3	M33 x 2 x 35.6	M10 x 60	
p-SMLS-450KN	203.2	63.5	57.2	95.2	165.1	M42 x 2 x 54.6	M12 x 75	
p-SMLS-900KN	279.0	88.9	76.2	122.2	228.6	M72 x 2 x 70.0	M16 x 100	
p-SMLS-1.8MN	304.8	114.3	108.0	156.8	250.8	M90 x 3 x 104.9	M20 x 140	
p-SMLS-2.7MN	393.7	139.7	127.0	196.3	322.1	M120 x 4 x 108.0	M24 x 165	
p-SMLS-4.5MN	520.7	158.8	152.4	267.9	419.1	M150 x 4 x 143.0	M24 x 190	
p-SMLS-9MN	660.4	196.9	190.5	350.3	520.7	M200 x 4 x 178.0	M30 x 250	

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