

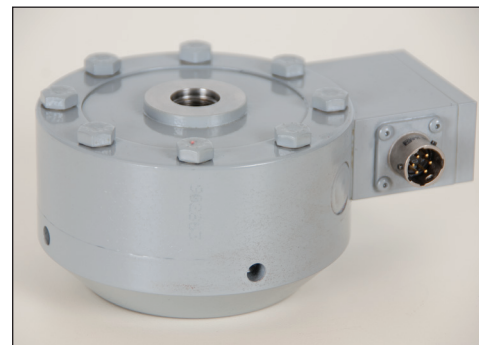
p-RELS Series: Premium Rod-End Load Sensor

RELS Series sensors are mounted directly to the rod-end of a cylinder, situating the measurement device in an ideal position: directly within the load chain and immediately adjacent to the loading event.

The Premium RELS enhances performance by offering significantly improved accuracy, repeatability, off-axis / eccentric load compensation, and temperature compensation.

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 (±N)	Combined Error (±N)	Non-Repeatability (±N)	Eccentric Load Sensitivity Full Scale (%RDG / mm)	Min Rod Ø (mm)	Deflection (mm / FS)
Standard Sensor Capacities	p-RELS-25KN	25,000	20	2.5	0.10	28	0.05
	p-RELS-50KN	50,000	35	5		56	
	p-RELS-100KN	100,000	80	10		70	0.10
	p-RELS-250KN	250,000	160	25		110	0.30
	p-RELS-450KN	450,000	450	45		140	0.20
	p-RELS-900KN	900,000	1,500	90		180	0.20
	p-RELS-1.8MN	1,800,000	3,000	180		240	0.20
	p-RELS-2.7MN	2,700,000	5,400	270		320	0.30
	p-RELS-4.5MN	4,500,000	11,250	450			
	p-RELS-9MN	9,000,000	31,500	900			

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
Enhanced SO (option)	300	

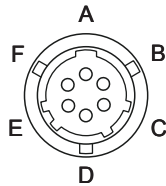
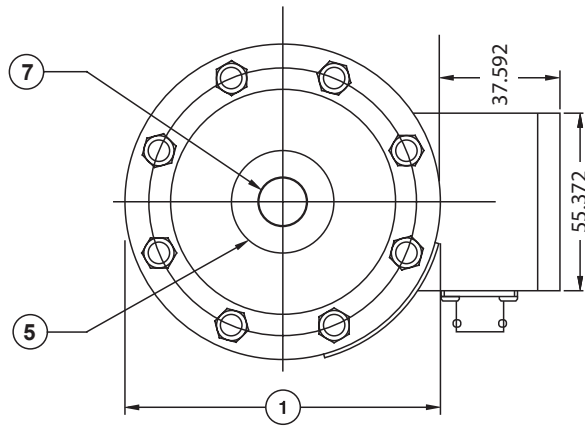
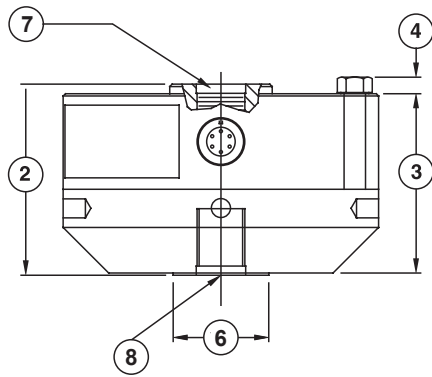
NAMING SCHEME: Modifier-Series-Capacity-Output
EXAMPLE: p-RELS-100K-V

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

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			

RESPONSE		
Dynamic	1000	Hz
Bandwidth	1	ms

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		⑦		⑧
	Body Ø	Total Length	Body Length	Cap Head Height	Loading Surface Ø		Thread Type x Depth		Mounting
					Active	Mounting	Active	Mounting	
p-RELS-25KN	104.8	63.5	60.3	5.1	34.0	31.8	M16x2 x 28.4	M16x2 x 22.1	
p-RELS-50KN	104.8	63.5	60.3	5.1	34.0	31.8	M16x2 x 28.4	M16x2 x 22.1	
p-RELS-100KN	153.9	89.0	85.9	7.6	67.3	57.2	M33x2 x 35.6	M33x2 x 35.6	
p-RELS-250KN	153.9	89.0	85.9	7.6	67.3	57.2	M33x2 x 35.6	M33x2 x 35.6	
p-RELS-450KN	203.2	114.3	108.0	10.2	95.2	76.2	M42x2 x 54.6	M42x2 x 44.5	
p-RELS-900KN	279.0	165.1	152.4	12.7	122.2	114.3	M72x2 x 70.0	M72x2 x 69.8	
p-RELS-1.8MN	304.8	228.6	222.3	20.0	156.8	152.4	M90x3 x 104.9	M90x3 x 95.3	
p-RELS-2.7MN	393.7	266.7	254.0	12.5	196.3	196.9	M120x4 x 108.0	M120x4 x 108.0	
p-RELS-4.5MN	520.7	336.6	330.2	25.4	267.9	267.9	M150x4 x 143.0	M150x4 x 162.0	
p-RELS-9MN	660.4	425.5	419.1	31.3	350.3	355.6	M200x4 x 178.0	M200x4 x 184.0	