

p-RELS-DRO Series: Premium Rod-End Load Sensor with Digital Readout

RELS Series load sensors mount 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.

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

The p-RELS-DRO package is a Premium RELS load cell mated with a HR-DRO digital readout, which are calibrated together as a dedicated pair. Its variety of configuration options and user-selectable features create a flexible, accurate, traceable and easy-to-use measurement system.

Key Applications

- On-screen capture of peak force measurements
- Analog, digital or wireless connection to PC / PCL for remote force monitoring
- Transfer standard for calibration/verification of force measurement devices
- Determination of effective area in pressure-based force measurement systems



PERFORMANCE SPECIFICATIONS

	Part Number	Full Scale (±lbf)	Resolution (lbf)	Combined Error (±lbf)	Non-Repeatability (±lbf)	Eccentric Load Sensitivity (%RDG / in)	Min Rod Ø (in)	Deflection (in / FS)
	Standard Sensor Capacities	p-RELS-5K-DRO	5,000	0.1	3.5	0.5	0.25	1¾
p-RELS-10K-DRO		10,000	0.2	7	1	2½		
p-RELS-25K-DRO		25,000	1	20	2.5			3
p-RELS-50K-DRO		50,000	1	40	5	4½		
p-RELS-100K-DRO		100,000	2	100	10			6
p-RELS-200K-DRO		200,000	0.01k	240	20	7¾		
p-RELS-400K-DRO		400,000	0.01k	680	80			10½
p-RELS-600K-DRO		600,000	0.02k	1,200	120	14		
p-RELS-1M-DRO		1,000,000	0.02k	2,500	200			
p-RELS-2M-DRO		2,000,000	0.1k	7,000	400			

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.

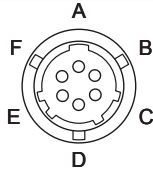
MECHANICAL (sensor)	
Safe Overload	±150%FS
Enhanced Safe Overload	+300%FS (compression only)

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

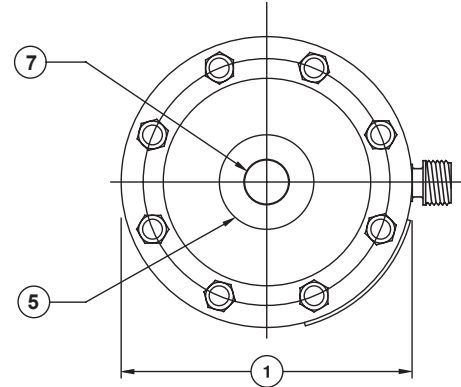
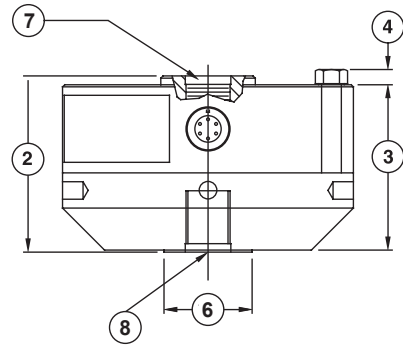
THERMAL	
Compensated Range (sensor)	15 to 115°F
Operating Range (sensor)	-65 to 200°F
Effect on Output (sensor)	0.0008%FS/°F
Operating Range (display)	15 to 105°F

USER-SELECTABLE DISPLAY OPTIONS	
Display Resolution	100 to 50,000 counts
Sampling Rate	1.75 to 1200.00 Hz
Averaging Filter	0 to 12 samples
Units of Measure	lbf, N, kgf

STANDARD SENSOR CABLE	
Wires	4
Length	15 ft.

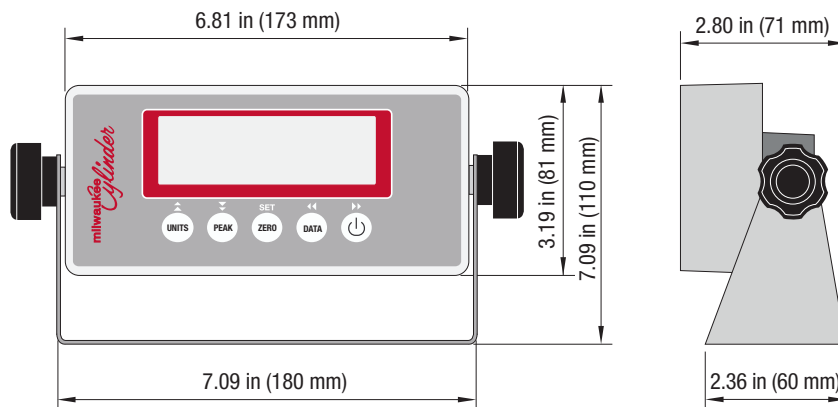


Connector: PT02E-10-6P	
Pin	Function
A	Excitation +
B	Signal +
C	Signal -
D	Excitation -
E	Sense -
F	Sense +



DIMENSIONS (in)

Description	①	②	③	④	⑤		⑦		⑧
	Body Ø	Total Length	Body Length	Cap Head Height	Loading Surface Ø		Thread Type (UNF) x Depth		Mounting
					Active	Mounting	Active	Mounting	
p-RELS-5K-DRO	4.13	2.51	2.38	0.20	1.34	1.25	5/8-18 F x 1.12	5/8-18 F x 0.87	
p-RELS-10K-DRO	4.13	2.51	2.38	0.20	1.34	1.25	5/8-18 F x 1.12	5/8-18 F x 0.87	
p-RELS-25K-DRO	6.06	3.50	3.38	0.30	2.65	2.25	1 1/4-12 F x 1.40	1 1/4-12 F x 1.40	
p-RELS-50K-DRO	6.06	3.50	3.38	0.30	2.65	2.25	1 1/4-12 F x 1.40	1 1/4-12 F x 1.40	
p-RELS-100K-DRO	8.00	4.50	4.25	0.40	3.76	3.00	1 3/4-12 F x 2.15	1 3/4-12 F x 1.75	
p-RELS-200K-DRO	11.00	6.50	6.00	0.50	4.81	4.50	2 3/4-8 F x 2.75	2 3/4-8 F x 2.75	
p-RELS-400K-DRO	12.00	9.00	8.75	0.59	6.18	6.00	3 1/2-8 F x 4.13	3 1/2-8 F x 3.75	
p-RELS-600K-DRO	15.50	10.50	10.00	0.69	7.73	7.75	4 1/4-8 F x 4.25	4 1/4-8 F x 4.25	
p-RELS-1M-DRO	20.50	13.25	13.00	1.00	10.55	10.55	6-8 F x 5.63	6-8 F x 6.38	
p-RELS-2M-DRO	26.00	16.75	16.50	1.25	13.79	14.00	8-8 F x 7.00	8-8 F x 7.25	



OPTIONS

	Part Number	Description
Display Output	CABLE-RS232	RS-232 Output Cable*
	OUT-ANALOG	0-10V / 4-20mA Output
	OUT-BT	Bluetooth 4.0 Output
Sensor Connection	CABLE-6W	6-Wire Cable (15ft)
	CABLE-RF	Wireless Sensor Link
Sensor Modification	p-RELS-Capacity-DRO-ESO	Enhanced Safe Overload

* RS-232 digital output is standard