

f-RELS Series: Fatigue Rod-End Load Sensor

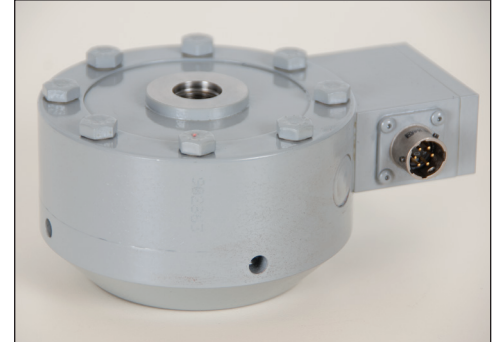
The f-RELS Series offers the exceptional measurement precision and temperature compensation of the p-RELS Series, while also meeting the extreme demands of high-cycle fatigue applications.

Benefits of the f-RELS versus p-RELS

- Rated for 100,000,000 fully-reversed cycles
- Improved off-axis / eccentric load performance
- Higher stiffness / lower deflection
- Increased standard safe overload rating

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



PERFORMANCE SPECIFICATIONS

	Part Number	Full Scale (±lbf)	Combined Error (±lbf)	Non-Repeatability (±lbf)	Eccentric Load Sensitivity (%RDG / in)	Min Rod Ø (in)	Deflection (in / FS)
Standard Sensor Capacities	f-RELS-5K	5,000	4	1	0.1	1¾	0.001
	f-RELS-12K	12,500	9	3		2½	
	f-RELS-25K	25,000	22	5		3	0.002
	f-RELS-50K	50,000	45	10		4½	0.003
	f-RELS-100K	100,000	105	20		6	0.004
	f-RELS-135K	135,000	180	27		7¾	
	f-RELS-200K	200,000	315	40		10½	0.005
	f-RELS-300K	300,000	525	60		14	
	f-RELS-500K	500,000	1,300	100			
	f-RELS-1M	1,000,000	3,470	200			

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	300	± %FS

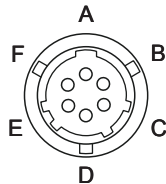
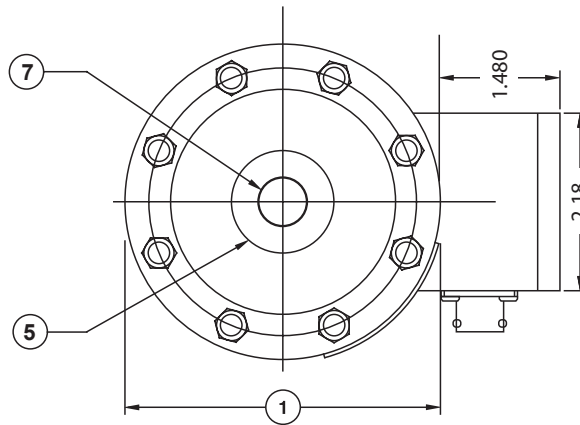
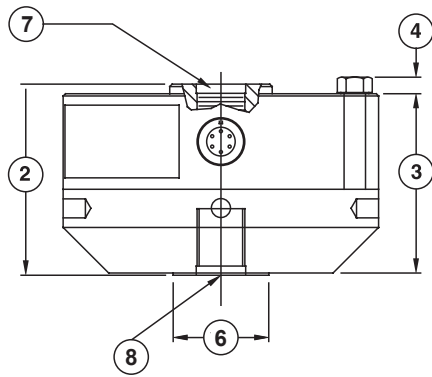
THERMAL		
Compensated Range	15 to 115	°F
Operating Range	-65 to 200	
Effect on Output	0.0008	%FS / °F

RESPONSE		
Dynamic	1000	Hz
Bandwidth	1	ms

NAMING SCHEME: Modifier-Series-Capacity-Output
EXAMPLE: f-RELS-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	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	
f-RELS-5K	4.13	2.51	2.31	0.20	1.34	1.25	5/8-18 F x 1.12	5/8-18 F x 0.87	
f-RELS-12K	6.06	3.50	3.20	0.30	2.65	2.25	1 1/4-12 F x 1.40	1 1/4-12 F x 1.40	
f-RELS-25K	6.06	3.50	3.20	0.30	2.65	2.25	1 1/4-12 F x 1.40	1 1/4-12 F x 1.40	
f-RELS-50K	8.00	4.50	4.10	0.40	3.76	3.00	1 3/4-12 F x 2.15	1 3/4-12 F x 1.75	
f-RELS-100K	11.00	6.50	6.00	0.50	4.81	4.50	2 3/4-8 F x 3.25	2 3/4-8 F x 2.75	
f-RELS-135K	11.00	8.00	7.50	0.50	4.81	4.50	2 3/4-8 F x 3.75	2 3/4-8 F x 3.75	
f-RELS-200K	12.00	9.00	8.41	0.59	5.68	6.00	3 1/2-8 F x 3.75	3 1/2-8 F x 3.75	
f-RELS-300K	15.50	10.50	9.81	0.69	7.73	7.75	4 1/4-8 F x 4.25	4 1/4-8 F x 4.25	
f-RELS-500K	20.50	13.25	12.25	1.00	10.55	10.55	6-8 F x 5.63	6-8 F x 6.38	
f-RELS-1M	26.00	16.75	15.50	1.25	13.79	14.00	8-8 F x 7.00	8-8 F x 7.25	