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- Miniature Force and Torque Transducer Products -





Tension, Compression, and Torque Measurement
for
Medical Applications



MODEL	CAPACITY	DESCRIPTION	DIMENSIONS ⁽¹⁾	SPECIFICATIONS
SPECIALITY FORCE TRANSDUCERS				
1. Capacity may vary with dimensions – see data sheet				
LBM 	25lbf to 50K lbf (125N to 250kN)	Compression Load Button <ul style="list-style-type: none"> Environmentally sealed SS construction Temp compensated 150% safe overload 	1 = 0.39" to 1.50" 9.90 to 38.1mm 2 = 0.05" to 0.08" 1.30 to 4.60mm 3 = 1.00" to 3.00" 25.4 to 76.2mm 	Nonlinearity - %FS ±0.05 Hysteresis - %FS ±0.05 Deflection – in., FS 0.004 Elec. Output – mV/V 2.0
LBS 	5lbf to 1,000 lbf (25N to 5kN)	Micro Comp. Load Button <ul style="list-style-type: none"> From 0.12" height Environmentally sealed SS construction Temp compensated 	1 = 0.12" to 0.25" 3.0 to 6.4mm 2 = 0.09" to 0.24" 2.20 to 6.10mm 3 = 0.38" to 0.75" 9.60 to 19.0mm 	Nonlinearity - %FS ±0.05 Hysteresis - %FS ±0.05 Deflection – in., FS 0.004 Elec. Output – mV/V 2.0
MB 	5lbf up to 250 lbf (25N to 1.25kN)	Miniature Beam Load Cell <ul style="list-style-type: none"> Accuracy of 0.03% Near-Zero temp effect on output (<0.0008%/F) Low height 	1 = 1.02" 25.9mm 2 = 2.38" 60.5mm 3 = 0.50" 12.7mm 	Nonlinearity - %FS ±0.05 Hysteresis - %FS ±0.05 Deflection – in., FS 0.008 Elec. Output – mV/V 1.5
ULC 	50 grams to 200 grams (0.5N to 2N)	Ultra-Low Capacity Cell <ul style="list-style-type: none"> Overload protected Accuracy of 0.04% Safe side-load to 5x capacity 	1 = 2.00" 50.8mm 2 = 1.98" 50.3mm 3 = 0.84" 21.2mm 	Nonlinearity - %FS ±0.05 Hysteresis - %FS ±0.05 Deflection – in., FS 0.005 Elec. Output – mV/V 2.0
MBI 	2 lbf to 50 lbf (10N to 50kN)	OL Prot – Fatigue Rated <ul style="list-style-type: none"> 10x overload protection Accuracy to 0.03% Near-Zero temp effect on output (<0.0008%/F) 	1 = 2.75" 69.90mm 2 = 1.16" 29.50mm 3 = 0.510" 13.0mm 	Nonlinearity - %FS ±0.03 Hysteresis - %FS ±0.02 Deflection – in., FS 0.004 Elec. Output – mV/V 2.0
SSB 	50 lbf to 1,000 lbf (2.5kN to 5kN)	Sealed Beam Load Cell <ul style="list-style-type: none"> Environmentally sealed Accuracy to 0.03% Near-Zero temp effect on output (<0.0008%/F) 	1 = 0.98" to 1.50" 24.9 to 69.90mm 2 = 2.38" tp 5.00" 60.5 to 127.0mm 3 = 0.50" to 1.00" 12.7 to 25.4mm 	Nonlinearity - %FS ±0.03 Hysteresis - %FS ±0.02 Deflection – in., FS 0.004/0.013 Elec. Output – mV/V 3.0
SML 	5 lbf to 1,000 lbf (25N to 5kN)	Low Height Load Cell <ul style="list-style-type: none"> From 3/4" high Low extraneous load sensitivity Tension & compression 	1 = 0.73" to 0.98" 18.6 to 24.9mm 2 = 1.80" tp 2.12" 45.7 to 53.8mm 3 = 0.52" to 0.90" 13.2 to 22.9mm 	Nonlinearity - %FS ±0.05 Hysteresis - %FS ±0.05 Deflection – in., FS 0.003 Elec. Output – mV/V 3.0
2400 	100 lbf to 5,000 lbf (500N to 100kN)	Submersible, SS, Low Height <ul style="list-style-type: none"> Submersible cable/unit From 1" high Hermetically sealed Accuracy to 1/10th % 	1 = 1.00" to 1.80" 25.4 to 45.7mm 2 = 3.00" to 6.00" 76.2 to 152.4mm 	Nonlinearity - %FS ±0.10 Hysteresis - %FS ±0.10 Deflection – in., FS ~0.003 Elec. Output – mV/V 3.0
MSC 	15K lbf to 30K lbf (65kN to 130kN)	Submersible, SS, High Cap <ul style="list-style-type: none"> Submersible cable/unit Hermetically sealed SS Accuracy to 0.05% 	1 = 1.00" 25.4 2 = 1.25" 31.75mm 3 = 1.05" 26.67mm 	Nonlinearity - %FS ±0.05 Hysteresis - %FS ±0.05 Deflection – in., FS ~0.004 Elec. Output – mV/V 2.0

MODEL	CAPACITY	DESCRIPTION	DIMENSIONS ⁽¹⁾	SPECIFICATIONS
SM S-Type 	0.1 lbf to 1K lbf (50N to 5kN)	Low Capacity, S-Type <ul style="list-style-type: none"> Capacity to 50grams Overload protected Lowest creep (<0.025%) Near-Zero temp effect 	1 = 2.5" to 3.00" 63.5 to 76.2mm 2 = 2.00" 50.8mm 3 = 0.75" to 1.25" 19.1 to 31.8mm	Nonlinearity - %FS ±0.03 Hysteresis - %FS ±0.02 Deflection – in., FS ~0.004 Elec. Output – mV/V 2.0
SSM 	50 lbf to 5K lbf (200N to 20kN)	Sealed, Low Capacity <ul style="list-style-type: none"> Environmentally Sealed Tension & Compression Low creep (<0.025%) Near-Zero temp effect 	1 = 0.75" to 1.25" 19.1 to 31.8mm 2 = 2.00" 50.8mm 3 = 2.5" to 3.00" 63.5 to 76.2mm	Nonlinearity - %FS ±0.05 Hysteresis - %FS ±0.03 Deflection – in., FS ~0.004 Elec. Output – mV/V 2.0
SMA 	0.1 lbf to 1K lbf (50N to 5kN)	Sealed Load Button <ul style="list-style-type: none"> Low Capacity <50grams Overload protected Lowest creep (<0.025%) Near-Zero temp effect 	1 = 0.82" to 1.75" 20.8 to 44.5mm 2 = 2.00" to 2.50" 50.8 to 63.5mm 3 = 2.50" to 3.50" 63.5 to 88.9mm	Nonlinearity - %FS ±0.05 Hysteresis - %FS ±0.03 Deflection – in., FS ~0.005 Elec. Output – mV/V 2.0
WMC 	0.1 lbf to 1K lbf (50N to 5kN)	Sealed, SS Load Cell <ul style="list-style-type: none"> Capacity to 50grams Overload protected Lowest creep (<0.025%) Near-Zero temp effect 	1 = 0.82" to 1.75" 20.8 to 44.5mm 2 = 2.00" to 2.50" 50.8 to 63.5mm 3 = 2.50" to 3.50" 63.5 to 88.9mm	Nonlinearity - %FS ±0.05 Hysteresis - %FS ±0.03 Deflection – in., FS ~0.005 Elec. Output – mV/V 2.0
TCN-Micro 	50 lbf to 75 lbf (250N to 375kN)	Sealed, Alum. Load Cell <ul style="list-style-type: none"> Environmentally Sealed Dual male threaded 1.0" body w/ 3/4" length threaded ends 	1 = 2.50" 63.5mm 2 = 0.75" 19.1mm 3 = 1.00" 25.4mm	Nonlinearity - %FS ±0.05 Hysteresis - %FS ±0.03 Deflection – in., FS ~0.005 Elec. Output – mV/V 3.0


SPECIALITY TORQUE TRANSDUCERS

TS-17 	1.77 lbf-in to 177 lbf-in (0.2Nm to 20Nm)	3/4" Hex Drive - Reaction <ul style="list-style-type: none"> Capacity to 50grams Overload protected Lowest creep (<0.025%) Near-Zero temp effect 	1 = 0.60" 15.5mm 2 = 3.75" 96.5mm 3 = 1/4" hex drive	Combined Error - %FS ±0.10 Non-repeatability - %FS ±0.05 Elec. Output – mV/V 1.0 to 2.0
T15 	1.77 lbf-in to 177 lbf-in (0.2Nm to 20Nm)	3/4" Hex Drive - Rotary <ul style="list-style-type: none"> Capacity to 50grams Overload protected Lowest creep (<0.025%) Near-Zero temp effect 	1 = 1.25" 32.0mm 2 = 1.35" 34.0mm 3 = 1.95" 49.0mm	Combined Error - %FS ±0.10 Non-repeatability - %FS ±0.05 Elec. Output – mV/V 1.0 to 2.0
MRT-Mini 	0.1 lbf to 1K lbf (50N to 5kN)	3/4" Square Drive - Reaction <ul style="list-style-type: none"> Capacity to 50grams Overload protected Lowest creep (<0.025%) Near-Zero temp effect 	1 = 1.25" 31.8mm 2 = 1.60" 40.6mm	Combined Error - %FS ±0.10 Non-repeatability - %FS ±0.05 Elec. Output – mV/V 1.0 to 2.0
1516 	100 lbf and 50 lbf-in (50N to 5kN)	Torque-Force Transducer <ul style="list-style-type: none"> Measure both torque and axial force together Fatigue rated Near-zero crosstalk 	1 = 1.00" 15.5mm 2 = 3.00" 96.5mm 3 = 1.50" 38.1mm	Combined Error - %FS ±0.10 Non-repeatability - %FS ±0.05 Elec. Output – mV/V 1.0 to 2.0

Interface Inc. provides miniature stainless steel, aluminum, and hardened steel force and torque sensors / transducers for the medical industry – most of these units are hermetically sealed and environmentally robust. Capacities range from 50 grams to over 50,000 pounds. These sensors meet or exceed the exacting requirements for FDA and 510K approvals, and are being used in hundreds of life science applications supporting physical therapy, blood and saline weighting, tablet-hardness testing, exercise machines, hospital beds, rehabilitation systems, prosthesis testing, orthopedic analysis, and many other medical device applications worldwide.

APPLICATION DEVELOPMENT KITS

Force Experimenter's Kit



Includes one 9320 hand-held, battery powered indicator, one SM-S_Type force transducer, connecting cables, and users' manuals.

US \$849

Torque Experimenter's Kit



Includes one 9850 Indicator, one TS17 hex-drive reaction torque transducer, connecting cables, and users' manuals.

US \$1995

Researcher's Force & Torque Experimenter's Kit



Includes one 9840 indicator, one SSM sealed, super-mini force transducer, one TS17 hex-drive, reaction, torque transducer, connecting cables, user's manuals, and installation guide.

US \$3995

NOTES: 1. Dimensions may vary with capacity; please see data sheet. 2. Accuracy unless otherwise specified is 0.05%

Medical bag Application • Prosthesis Testing Application • Using Force to Measure Bladder Pressure • Back Rehab • Dialysis • Fluid Exchange • Hospital Beds • Fasteners • Exercise Systems • Implantable Devices • Orthopedics • Stents • Crutches • Chiropractic Tables

