

Product Guide

T**M** **TECHNI MEASURE**

Measurement and control systems for industrial and research applications



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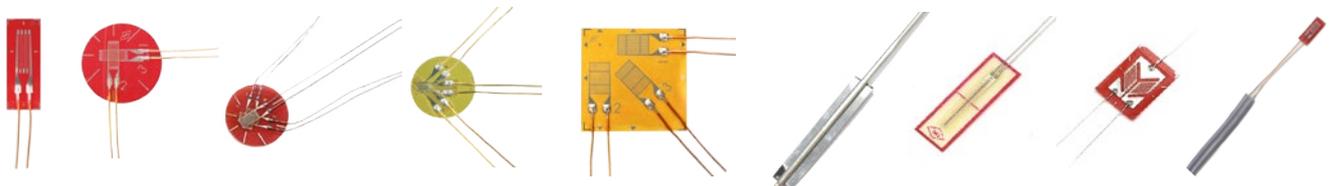
STRAIN

www.technimeasure.co.uk/strain

Techni Measure supply an extremely wide range of strain gauges and accessories from Japanese manufacturer TML, to suit most test requirements and specimen materials. RoHS2 compliant 'GOBLET' gauges are introduced with lead-free construction, improved temperature range and fatigue life. The majority of gauges are supplied with temperature compensation and we can also supply gauges with creep compensation for use in transducer manufacture. Any gauge can be supplied with pre-attached extension leadwires to simplify gauge installation and we hold a large stock of standard and integral leadwire gauges in UK stock for fast delivery. We will be happy to discuss your application and give advice on the selection and use of strain gauges and we can also offer training courses.

STRAIN GAUGES

SERIES	DESCRIPTION	GAUGE LENGTH (MM)	TEMPERATURE RANGE (°C)
F	General purpose foil	0.2 to 30	-196 to +150
WF	Waterproof foil – with integral leadwires, encased in epoxy	3 to 6	0 to +80
QF	High temperature foil	0.2 to 6	-20 to +200
ZF	Very High temperature foil	1 to 6	-20 to +300
EF	Very High temperature foil, miniature size	0.2	-196 to +300
CEF	Wide temperature range	1 to 6	-269 to +200
CF	Cryogenic temperature foil	1 to 6	-269 to +80
AW	Weldable series for extreme temperatures or harsh environments	4 to 8	-196 to +800
P	Polyester wire for concrete/mortar with large aggregate size	60 to 120	-20 to +80
PF	Polyester foil for concrete/mortar	10 to 30	-20 to +80
FLM/WFLM	Metal backed foil for long term concrete/mortar (waterproof version available)	30 to 60	-20 to +80
PM	Moulded wire for embedment into concrete/mortar, with integral leadwire	60 to 120	-20 to +60
PMF	Moulded foil for embedment into concrete/mortar/asphalt, with integral leadwire	50 to 60	-20 to +60
KM	Strain transducer for embedment in concrete/mortar/asphalt/resin, with integral leadwire	31 to 200	-20 to +180
UBF	Foil gauge for use on composite materials	0.3 to 1	-30 to +150
BF	Foil gauge for use on composite materials, with self-temperature compensation	2 to 5	-20 to +200
GF	Foil gauge for use on plastics with low elastic modulus	3 to 6	-20 to +80
LF	Foil gauge for use on wood/gypsum	10	-20 to +80
PFLW/PLW	Foil/wire series with metal lining for long term use on wood/gypsum	30 to 60	-20 to +80
MF	Foil gauges designed for use in high magnetic fields	2 to 60	-20 to +200
YEF	Foil gauge for large strain, post-yield measurement up to 15% strain	2 to 5	-20 to +80
YF	Foil gauge for large strain, post-yield measurement up to 20% strain	2 to 20	-20 to +80
YHF	Foil gauge for very large strain, post-yield measurement up to 40% strain	2 to 5	-30 to +80
DSF	Foil gauge for high stress fatigue testing, over 10million cycle fatigue life	2 to 5	-60 to +200
DD	"Single side" foil strain gauge for separating bending and tensile strains where only one side of the test specimen is accessible	3	-10 to +70
FAC	Crack propagation gauge, for measuring the speed of crack growth	5 to 20	-30 to +80
SF	Stress gauges for direct axial stress measurement in plane stress fields	4	-20 to +200
BTM	Very narrow gauge for embedding in bolts to measure bolt tensile strain	1 to 6	-10 to +80
BTMC	New design of bolt embedment gauge that can be fixed in minutes using CN adhesive	0.5 to 3	-10 to +80
TF	Temperature gauge to measure surface temperature	2 to 8	-20 to 200
CBF	Frictional strain gauge, when used with special holder does not require bonding,	3 to 6	0 to +60
OSP	Fibre-optic strain gauge using WLP technology, adhesive or weldable versions	9	-40 to +250



ADHESIVES

We hold UK stock of a wide range of strain gauge adhesives, coating materials and accessories for fast delivery. If you would like advice on the selection of the correct adhesive, coating and/or lead wire for your specific application then please contact us.

SERIES	DESCRIPTION	SPECIMEN MATERIAL	TEMP. RANGE (°C)
CN	Various types of quick setting cyanoacrylate	Metal/Plastics/Composite/Wood	-196 to +120
P2/RP2	Polyester 2-component for general purpose	Metal/Concrete/Mortar	-30 to +180
PS	Polyester for concrete pre-coat	Concrete/Mortar/Wood	-30 to +100
NP-50B	Polyester high temperature, cures at room temperature	Metal/Composite	-30 to +300
A-2	Low viscosity epoxy for bolt gauges	Bolt	-30 to +100
EA/EB	Epoxy 2-component for general purpose	Metal/Concrete/Composite	-269 to +200

COATINGS

SERIES	DESCRIPTION	TEMP. RANGE (°C)
W-1	Microcrystalline wax	0 to +50
N-1	Chloroprene rubber	-30 to +80
K-1	Special rubber for cryogenic use	-269 to +60
UE-1	Special rubber for higher temperature use	-40 to +150
SB/VM	Butyl rubber tapes	-30 to +80
KE-348 / TSE3976	Silicone rubber	-50 to +300

TERMINALS

SERIES	DESCRIPTION	TEMP. RANGE (°C)
TF	General purpose foil type	-196 to +180
TPF	Foil type for higher temperature	-196 to +200
TPFH	Foil type for wide temperature range	-269 to +350
TFY	Rubber backing for high strain / post yield	-20 to +120
T	Plastic cube type with 2 or 3 wires	-20 to +90

LEAD WIRES

SERIES	DESCRIPTION	TEMP. RANGE (°C)
LJC-F/LJCTT-F	2-wire / 3-wire 0.11mm ² general purpose with vinyl sheath, 0.32Ω/m	-20 to +80
LJB-F/LJBT-F	2-wire / 3-wire 0.08mm ² thinner cable with vinyl sheath, 0.44Ω/m	-20 to +80
LJG/LJGT	2-wire / 3-wire 0.5mm ² lower resistance cable with vinyl sheath, 0.07Ω/m	-20 to +80
LTSA	3-core 0.08mm ² shielded cable with vinyl sheath, 0.44Ω/m	-20 to +80
6FA-LT	3-wire 0.18mm ² wide temperature cable with FEP sheath, 0.2Ω/m	-269 to +200
4FA-LT	3-wire 0.14mm ² high temperature cable with PTFE sheath, 0.24Ω/m	-269 to +260

ACCESSORIES

PRESSEE PM-19	A novel magnetic clamp with transparent window to allow a check of alignment during bonding
Gauge Mate GMA-S	Magnetic clamp for flat specimens
Gauge Mate GMR-S	Sprung clamp for round specimens
W-50RB	Spot welder for installation of weldable gauges
Strain Gauge Tool Kit	An extensive range of tools and accessories for surface preparation and strain gauge installation, contained in a robust waterproof & reconfigurable case.



ORIENTATION / INCLINATION

www.technimeasure.co.uk/orientation

Inertial sensors from LORD Sensing and Dytran utilise gyros and acceleration sensors to measure static and dynamic orientation in pitch/roll/yaw. Some models include magnetometers for azimuth heading and GPS/GNSS for location. Applicable to a very wide variety of applications including unmanned vehicle navigation, platform stabilisation, automotive ride comfort and rollover testing, robotics, geotechnical and downhole exploration. We also supply highly accurate strain gauge based inclinometers from TML for civil structure monitoring.



SERIES	DESCRIPTION	RANGE F.S.
3DM-GX	Very small size with digital output, some models with GPS / GNSS	±2-40g / ±75 - 900°/sec
3DM-CV	Lower cost IMU designed for integration into products	±2-40g / ±250 - 1000°/sec
3DM-GQ	Tactical grade navigation sensor using GNSS	±5g / ±75 - 900°/sec
3DM-RQ	Tactical grade navigation sensor using GPS	±5g / ±75 - 900°/sec
3DM-DH	Down-hole orientation sensor with azimuth & integral datalogging	360° all axes
7576 / 7576	Analogue triaxial acceleration & triaxial gyro 6DOF sensor	±2 - ±200g / ±50 - 20000°/sec
KB	Inclinometers, various configurations with single or dual axes	±0.5° to ±10°



VIBRATION

www.technimeasure.co.uk/vibration

Techni Measure supply many different sensors for the measurement of vibration or acceleration, from static to low and high frequency, very high frequency shock measurements and over a range of environmental conditions including temperatures up to +538°C. We will be happy to discuss your requirement and can supply signal conditioning and cables for any of our sensors.

PIEZOELECTRIC

Dytran produce a range of quartz and ceramic piezoelectric accelerometers, offered with integral IEPE electronics to simplify connection and eliminate cable noise problems or as 'charge mode' with no internal electronics, for high temperature use with external charge amplifiers. TEDS is optionally available across the majority of the range. We can supply mating cables, mounting accessories, IEPE power sources and charge amplifiers to complement any of the range.



SERIES	DESCRIPTION	RANGE F.S.
3049	Miniature stud or adhesive mount with top connector	50 - 500g
3214/34	Cubic design for Modal testing	10 - 500g
3255/56	Lower cost, general purpose side/top connector	10 - 500g
3055/56	General purpose with side/top connector – isolated	10 - 5000g
3220/11	Centre hole mount	50 - 5000g
3085	Differential charge mode high temperature (+316°C)	500g
3196/7	Rugged high temperature (+260°C) charge mode	500g
3316	High temperature (+538°C) stud mount, breathable hole	5000g
3100	High sensitivity side connector	5g
3191/2	Seismic level sensor with rugged connector	0.5 - 5g
3062	Rugged design for airborne use, wirelock & top 3-pin connector	200 - 500g
3030	For ESS application top connector	500g
3032	Miniature adhesive mount	500 - 1000g
3035/145	Miniature adhesive or stud mount with side/top connector	50 - 1000g
3224	Ultra-miniature teardrop type adhesive mount	500 - 20,000g
3225	Teardrop type miniature adhesive mount	50 - 5000g
3200	Shock testing with or without integral cable	2500 - 70,000g
3010	Single end transfer standard reference accelerometer	500g
3120/3	Back to back reference standard	50g / 500g
3054	Biaxial tube sensor with integral cable for down-hole type applications	200g
3023	Triaxial miniature cube with 4-pin connector	500 - 5000g
3053	Triaxial general purpose with 4-pin connector	500 - 1000g
3093	Triaxial general purpose with 4-pin connector	50 - 1000g
3133 / 3493	Ultra-miniature triaxial integral cable, adhesive	500 - 20,000g
3143	Triaxial low profile centre hole mount 4-pin connector, cryogenic use	50 - 500g
3263	Triaxial cube 4-pin connector	50 - 500g
3273	Triaxial low noise 4-pin connector	50 - 500g
3333	Triaxial miniature low noise mini 4-pin	50 - 5000g
3583	Triaxial accelerometer cube, anodised red	10g
5313	Seat pad triaxial	50g

INDUSTRIAL PIEZOELECTRIC

Rugged sensors with industrial grade connectors, manufactured by Dytran or Hansford sensors. Some models have built in processing to output vibration or velocity rms level instead of, or as well as, the raw vibration signal. These sensors can be used to monitor industrial machinery.



SERIES	DESCRIPTION	RANGE F.S.
HS100*	General purpose, top connector, with or without integral cable	16 - 800g
HS100S*	General purpose, side connector, with or without integral cable	16 - 800g
HS100T	General purpose, top connector plus temperature sensor	16 - 800g
HS100ST	General purpose, side connector plus temperature sensor	16 - 800g
HS130	Low cost small integral cable	16 - 800g
HS420*	4-20mA velocity output	10 - 100mm/sec
HS420T*	4-20mA velocity output plus temperature sensor	10 - 100mm/sec
HS421	4-20mA velocity output plus AC output	10 - 100mm/sec
HS422*	4-20mA vibration output rms	1 - 100g rms
HS423	Triple output, 4-20mA rms vibration, AC output plus temperature	1 - 100g rms
3166	General purpose, side connector, compact	50g
3176	General purpose, top connector, compact	50g
3202	Through hole mount, side connector	10 - 50g
3063	Triaxial through hole mount side 4 pin connector	50g

* Available with ATEX certified option

ACCELERATION

www.technimeasure.co.uk/acceleration

DC CAPACITIVE (MEMS)

These sensors are used for the measurement of vibration or acceleration at low frequencies down to static levels. Some units also have on board gyros combining orientation measurement with acceleration. A variety of interface options are available including voltage output, piezo-resistive, USB, wireless and the 4400 logs vibration data to an SD card in a fully self-contained package.

SERIES	DESCRIPTION	RANGE F.S.
7500	rugged titanium housings and connectors, various outputs	2 - 400g
7600/7700	Rugged with differential strain gauge type output	5 - 200g
7531	Lower cost with aluminium housing and integral cable	2g - 200g
7503	Rugged triaxial titanium housing, 9 pin connector	2 - 400g
7603/7623	Rugged triaxial with differential strain gauge type output	5 - 400g
7523/7533	low cost lightweight triaxial with aluminium housing and integral cable	2g - 200g
DA	Low cost with integral cable, aluminium housing single axis, biaxial and triaxial versions	2 - 225g
7556/76	Analogue triaxial acceleration and gyro sensor	2 - 200g
5340	VibraScout 3D USB triaxial acceleration measurement system	16g - 200g
4400	Vibracorder triaxial acceleration self-contained datalogger to SD Card	16g - 200g
4401	Vibracorder II, triaxial accelerometer and gyroscope datalogger to microSD card	16g / 1000°/sec
G-LINK	Wireless triaxial accelerometer node	2g - 40g



TORQUE

www.technimeasure.co.uk/torque

Using strain gauge or optical methods these transducers can measure static or rotary torque either on a shaft or applied by a tool. Wireless collar-type versions are available for rapid/simple installations with no requirement for slip rings. We supply torque transducers from TML, AEP, Sensor Technology and LORD Sensing.

SERIES	DESCRIPTION	RANGE F.S.
RWT / RT2	Rotary torque digital or analogue, many options	0.5 - 13,000Nm
LT / SIT	Torque Transducer with socket fitting or flange mounting	10 - 1000Nm
TRX	Flange coupling for static torque	50 - 5000Nm
ORT	Optical rotary/static torque, low range	0.01 - 100Nm
Torque-Link-LXRS	Wireless torque node, used with strain gauges (supplied separately)	As required



CALIBRATION SYSTEMS

www.technimeasure.co.uk/calibration-systems

Complete systems from SPEKTRA to provide an in-house calibration capability for vibration, shock, dynamic pressure & force or acoustic sensors, based on the CS18 modular system. Primary and secondary systems are available, with many options and accessories.

Acceleration: calibration of accelerometers and vibration meters from 0.05Hz up to 50kHz over the temperature range of -60°C to +100°C, mobile calibrator also available

Shock: calibration of shock sensors from 5g up to 200,000g

Acoustics: calibration of microphones and sound level meters from 0.1Hz up to 20kHz

Dynamic Pressure: from 100Pa up to 420MPa

SHAKERS & VIBRATION CONTROLLERS

A range of shakers and exciters are available from SPEKTRA and APS in Germany, for calibration, structural testing or component characterisation, with many options and configurations.

SERIES	DESCRIPTION
CV	Simple handheld shaker for quick checks of sensors in the field or laboratory
SE	Electrodynamic or piezoelectric exciters for component testing or excitation up to 100kHz
APS	Long stroke shakers for lower frequency (200Hz) higher displacement (158mm) excitation
SE-2xx	Shock exciters, either pneumatic, pendulum or Hopkinson bar versions available to 200,000g
VCS	Vibration control system for the control of shakers and exciters for test purposes
SQ	Electro acoustic coupler for microphone test/calibration, 31.5Hz to 16kHz
DPE	Dynamic pressure exciter for pressure transducers, 100 Pa to 420MPa
DRE	Dynamic rotation exciter for gyroscopic transducers, from 1Hz to 5kHz up to 3500°/sec



DISPLACEMENT

www.technimeasure.co.uk/displacement

Displacement can be measured in many ways and Techni Measure supply a wide range of different transducer technologies to cover sub-micron accuracy at short range with contact or non-contact sensors and long distances up to 3km with eye safe laser systems. We are sure that we will have a product suitable for your application requirement.

CONTACT

These displacement transducers remain in contact between the moving structure and the reference point and are available in a number of different types suiting different applications and environmental conditions.

INDUCTIVE

Linear variable differential transformers (LVDT) and differential variable reluctance transducers (DVRT), whilst remaining attached to the structure under measurement, do not have any contacting internal surfaces so are free from friction and, if installed correctly, will not wear. Various outputs are available to suit most and the core can be free, captive or spring return (gauging).



SERIES	DESCRIPTION	RANGE F.S.
SM2x	External electronics with various body sizes & options	4 - 200mm
SM3x	Integral electronics with square or threaded body	5 - 15mm
SM4x	Integral electronics with various body sizes and options	20 - 360mm
SM6x	Rotary angle sensors with or without integral electronics	up to 120°
SM7x	Magneto-strictive displacement with integral electronics	300 - 1500mm
M-DVRT	Micro-miniature, 1.5mm diameter body, free core	1.5 - 9mm
MG-DVRT	Micro-miniature with spring return	1.5 - 9mm
S-DVRT	Sub-miniature, 4.8mm diameter body with free sliding core	4 - 38mm
SG-DVRT	Sub-miniature with spring return	4 - 38mm
LS-LVDT	Small inductive transducer with free sliding core, 12.7mm Ø body	50 - 150mm
LP/LM	High precision short range	0.5 - 25mm
LS/LL	Short / long stroke, free or captive core and spring return versions	5 - 940mm
LY/LZ/LW	Submersible/Subsea for underwater applications	2 - 940mm

POTENTIOMETRIC

Our range of linear potentiometers, manufactured in Japan, are simple, low-cost voltage divider devices available with or without spring return in various form factors and levels of environmental protection. We hold a wide range in UK stock for fast delivery.



SERIES	DESCRIPTION	RANGE F.S.
LP	Wirewound, most economical	15 - 200mm
FLP	Conductive plastic, stepless, long-life	8 - 1000mm
OF	Oil filled, hermetically sealed	30 - 500mm
CFL	Open track low cost	200 - 1000mm
FlexiPot-Strip	Thin film tactile position sensor *custom length available	63mm*

STRAIN GAUGE

Strain gauge based linear displacement transducers are stable and accurate devices available in many configurations for measurement of crack openings, general displacement and with tape type devices for longer ranges.



SERIES	DESCRIPTION	RANGE F.S.
CDP	High output, stepless, spring return	5 - 100mm
CE	Cantilever beam	2 - 10mm
UB/RA	For crack opening measurement	2 - 5mm
PI	Large span (50-300mm), small range, Pi type	2 - 5mm
DDP	Dial gauge type	10 - 50mm
OU	Large span (130-200mm), medium range, ring type	10 - 30mm
EDP	Extensometer for round or flat specimens	5mm
KG	Crack movement in concrete	± 2 - 5mm
LDT	Low cost, spring return, 2mV/V	5 - 200mm
DP	Tape measure type, spring return	500 - 5000mm

FIBRE OPTIC

Fibre optic sensors can be used for very long term fit and forget type applications, long cable runs up to 3km and, being completely immune to electromagnetic interference & resistant to radiation, in high EMI and radioactive environments.



SERIES	DESCRIPTION	RANGE F.S.
ODP	Spring return type with 1µm resolution	10 - 25mm
OEP	Extensometer type in various configurations	25 - 125µm

NON-CONTACT

These sensors do not require any contact with the moving specimen or structure and are ideal for many applications, including fast moving or rotating targets, small or soft specimens that may be affected by contact forces and long range distance measurements.

LASER

Laser displacement sensors are extremely versatile and highly accurate instruments suited to a very wide range of applications. The line scanner models can be used to generate 2D profile measurements or 3D images of surfaces for laboratory testing or production quality control.

SERIES	DESCRIPTION	RANGE F.S.
AR200	General purpose shorter range triangulation sensors	6.35 - 101.6mm
AR500/550	Longer range, high speed general purpose triangulation sensors	5 - 1000mm
AR700	Longer range, most accurate ($\pm 1\mu\text{m}$) triangulation sensors	3.175 - 1270mm
AR1000	General purpose long range time of flight sensors	up to 150m
AR2000	Long range for outdoor measurements	up to 500m
AR2500	High frequency long range time of flight sensors, eye safe	up to 260m
AR3000	Very long range time of flight sensors, eye safe	up to 3000m
AP820/420/480	2D Laser line scanner systems with various ranges	Z: 6 - 1000mm, X: 4 - 800mm
AQ6	High speed high resolution 2D laser line scanner	Z: 15 - 300mm, X: 64 - 370mm



CAPACITIVE

Capacitive probes are highly accurate over short ranges and can be used at extreme temperatures (-272 to +1000°C). The Gapman is a handheld device for very accurate and repeatable gap measurements and can be used with specimen geometries that preclude the use of feeler gauges. Capacitive sensors require a conductive target surface however a contact version of the Gapman is available that will work with non-conductive materials.

SERIES	DESCRIPTION	RANGE F.S.
HPB	Button type probe with integral cable	0.5 - 8.3mm
HPC	Cylindrical type probe with integral cable	0.5 - 8.3mm
HPT	Screw mount type probe with integral cable	0.5 - 8.3mm
GPS/HPS	Flat single or double sided probe on membrane, as thin as 0.1mm	1.3 - 2.7mm
GAPMAN	Portable electronic feeler gauge system	0.12 - 5mm gap



INDUCTIVE

High accuracy short range sensors that use an inductive principle, requiring a ferrous target but not affected by non-conductive materials positioned between the target and the sensor.

SERIES	DESCRIPTION	RANGES F.S.
NC-DVRT	Non-contact type for metal targets	1 - 2.5mm



POTENTIOMETERS

www.technimeasure.co.uk/potentiometers

Many different configurations of rotary potentiometers are available for measurement or control applications and we keep a large range in UK stock for fast delivery. Dials are available for a quick view of the turn count or setting.

SERIES	DESCRIPTION
HP/HD	Multiturn, wirewound pipe/drum type, 3, 5, 10, 15, 20 turn
HHP	Multiturn, hybrid, longer life, 3, 5, 10 turn
CP	Continuous single turn wirewound
LNB	Continuous single turn low torque
FCP	Continuous single turn conductive plastic
SCB/FSCB	Sine - cosine wirewound/conductive plastic
OF	Oil filled single and multiturn
KSM/HSM	Contactless, inductance/Hall effect
FlexiPot-Ring	Thin film tactile ring shaped position sensor



JOYSTICKS & FOOT CONTROLLERS

Techni Measure supply a variety of joysticks and foot controllers for man-machine interface and control applications.

SERIES	DESCRIPTION
30JH/JL	Low cost 1 or 3 dimensional, with spring
40JB/JE	Small, 1 or 2 dimensional, pot. or switch type
50JA/JC	1, 2 or 3 dimensional, many options available
30JB/JE	Miniature, 1, 2 or 3 dimensional, pot. or switch type
60JB	1, 2 or 3 dimensional, with spring return
90JA/JB	1, 2 or 3 dimensional, very strong construction
FC	Foot controllers, very strong construction



LOAD / FORCE

www.technimeasure.co.uk/force-load



Techni Measure supply a very wide range of load and force measurement transducers from a number of leading manufacturers. Please contact us to discuss your specific application and we will help you to select the most appropriate sensor.

LOAD CELLS

Available in many different configurations, load cells are used to measure compressive and/or tensile force. We supply load cells from TML, LORD Sensing – Stellar, AEP and OpSens Solutions. The majority are strain gauge based with a full bridge output, however amplified voltage, current or digital outputs are available as well as a range using WLPI fibre optic technology. Various construction materials are possible to cater for different installation environments and submersible versions can be supplied. For very specific requirements custom load cells can be manufactured to your specification.



SERIES	DESCRIPTION	RANGE F.S.
CLB / CLP / CNR / CM	General purpose, compression	50N - 10MN
CLU / CLM	Hermetically sealed, compression	10kN - 2MN
CLG / CLF	Low profile, compression	10kN - 10MN
CLC / KC / DTH / PNC	Centre hole, compression	1kN - 5MN
CLS / MIN / VLC	Low range, miniature compression	2N - 10kN
CLL / CLH	Flat loading platform, compression	500kN - 2MN
TCL / TCE / CNR	General purpose, tension/compression	10N - 2MN
TCLU / M	Hermetically sealed, tension/compression	10kN - 200kN
TCLZ	High performance, tension/compression	10N - 10kN
TCLK	Low profile, tension/compression	5kN - 50kN
TCLN / VLU	Miniature tension/compression	500N - 5kN
TLP / RDE	High range, rod-end, tension	10kN - 1MN
FT / BEM	Shear beam bending type	3.5kN - 100kN
LDP	Clevis pin type	13kN - 900kN
WLPI	Fibre optic, compression	50N - 5MN

DYNAMIC FORCE

These transducers manufactured by Dytran Instruments utilise a piezoelectric crystal and accurately measure low to high frequency dynamic and impact forces.



SERIES	DESCRIPTION	RANGE F.S.
1022	Miniature, integral cable	220N
1050	Axial connector, general purpose	50 - 22,000N
1051/53	Side connector, general purpose	50 - 20,000N
1060 / 61	Axial / Side connector, high range	2.2 - 220kN
1203 / 10	Ring type, compression load washer	0.5 - 440kN
1212	Ring type low profile	2.2 - 22kN

IMPULSE HAMMERS

An impulse hammer can be used to excite a structure with a measured impact force using different tip materials to adjust the impact frequency, allowing the dynamic response characteristics of the structure to be quickly assessed using accelerometers; this is known as 'modal testing'.



SERIES	DESCRIPTION	RANGE F.S.
5800SL	Ultra-miniature model weighing just 2 grams	220N
5800 (5850)	General purpose model with 100gram head weight (switchable range)	220 - 4400N
5805/2	Mini-sledge with 1lb/3lb head weight	22,000N
5803	Sledge hammer with 12lb head weight	22,000N
5860	Impedance head with accelerometer and force transducer	220N

FLEXIBLE THIN FILM

The FlexiForce™ range of low cost tactile piezoresistive sensors measure the force between two surfaces and are ideal for embedded applications. A wide range of standard sensors is available off-the-shelf for prototyping and the sensors can easily be customised for specific requirements.



SERIES	DESCRIPTION	RANGE F.S.
A101/201/301/401	Circular sensors ranging from 4mm to 25mm diameter	4N - 31kN
A502	Large square sensor, 50mm	222N
HT201	High temperature version to 204°C	222N
ESS301	Higher temperature & humidity version	4N - 445N
B/WB201	Special version for use with ELF/WELF USB/Wireless electronics	111N - 4.5kN



PRESSURE

www.technimeasure.co.uk/pressure

Techni Measure supply a variety of pressure transducers for a huge range of applications, using a number of different technologies and with a wide choice of outputs.



STRAIN GAUGE

These are suitable for all types of applications, being available in a range of different configurations for monitoring the pressure of different mediums. Pressure transmitters are available which amplify the output to voltage, current or digital signals and versions are available with built-in displays for direct reading. We supply pressure transducers from TML, LORD Sensing, AEP & HUBA Control.

SERIES	DESCRIPTION	RANGE F.S.
PW / TP1/3/12/14	General purpose, cavity type	1 - 7000bar
GT	General purpose & high capacity, some available with ATEX	0.3 - 7000bar
PWH / TP16/18	High pressure, cavity type	700 - 2500bar
PWF / TP15 / FT	Flush diaphragm type	1 - 700bar
PDA/B	Miniature pressure sensors	2 - 30bar
TP38 (USB)	Low cost cavity type general purpose (with USB output)	0.1 - 2000bar
DF2	Differential pressure with wide range	0.1 - 2000bar
BIT02B/D	Digital display for single/differential pressure	1 - 2000bar
699 (698)	Low/medium range differential (with digital display)	1 - 10,000mbar
692 / DF2 / DT	Differential, wet both sides	0.1 - 2000bar
520	General purpose, many options	-1 - 1000bar
528	General purpose, many options, stainless steel build	-1 - 60bar
550	Pressure for mobile hydraulic applications to ISO16750	60 - 600bar
KW / 711	Level sensing by immersion, integral cable	0.1 - 16bar
KD / KP	Soil / pore pressure gauges	2 - 20bar
ST	Space rated to EEE-INST-002 Grade 1, for high earth orbit	0.5 - 2750bar



FIBRE OPTIC

Fibre optic pressure sensors from OpSens Solutions are available to measure pressure using white light. These transducers are highly sensitive, completely immune to EMI/RF and microwave interference and resistant to radiation. Custom options are available – please contact us to discuss your requirements.

SERIES	DESCRIPTION	RANGE F.S.
OPP-B	Miniature bare sensor, 2.5mm diameter	1 - 70bar
OPP-C	General purpose stainless steel housing	2 - 70bar
OPP-G	High temperature (200°C), stainless steel housing	2 - 200bar
OPP-M	Ultra-miniature, high sensitivity, just 0.25mm diameter	400mbar
OPP-F	Flat (1mm thickness) sensor, adhesive or weld mount	2 - 70bar
OPP-W	Extremely rugged for down-hole pressure up to 300°C	50 - 80bar
OPP-D	Differential pressure, high sensitivity	0.2 - 70bar



DYNAMIC PRESSURE

These piezoelectric sensors from Dytran Instruments are used to measure dynamic pressure changes with fast rise times or at high frequencies.

SERIES	DESCRIPTION	RANGE F.S.
2200 / 2300	General purpose flush diaphragm, IEPE or charge mode	7 - 1000bar
2301	General purpose, floating clamp nut, IEPE or charge mode	7 - 1000bar
2006	Rugged industrial design with 2 pin connector (ATEX option)	3.5 - 35bar
2013	Very high sensitivity, for sound pressure level	170mbar
2005	Rugged industrial design with TNC connector	3.5bar
2180	High sensitivity, high temperature, charge mode	690mbar



PRESSURE SWITCHES

Pressure sensors combined with relay switches for use in process control applications.

SERIES	DESCRIPTION	SWITCHING LEVEL
604	Adjustable switching, differential	0.2 - 50mbar
610	Rugged, adjustable, differential	320 - 500mbar
630	High overload, factory set, differential	6 - 5500mbar
620 / 625	Higher range, adjustable, relative	900 - 6000mbar
521 / 529	Compact type, factory set, relative	-1 - 600bar
DMM / DMMD	Digital display, programmable, single / differential versions	1 - 2000bar



TEMPERATURE

www.technimeasure.co.uk/temperature

There are many ways to measure temperature, our product range focuses on industrial measurements using thermocouples or RTDs, as well as test and measurement applications in extremely harsh environments using fibre-optic technology. Traceable calibration is available across the whole range.

THERMOCOUPLE

Thermocouples use the thermoelectric effect where two dissimilar conductive metals are joined. Depending on the metals used different temperature ranges can be measured. An extensive range of standard options are available from Conax Technologies with a wide variety of sheath materials, tip configurations, termination styles, signal conditioning modules and mounting fittings. Custom designs and thermowells are also available.



SERIES	DESCRIPTION	RANGE
J	Iron / Constantan for reducing atmospheres	0 - +760°C
K	Chromel / Alumel general purpose	-200 - +1260°C
E	Chromel / Constantan high output	-200 - +870°C
T	Copper / Constantan for cryogenic use or moisture present	-200 - +370°C
N	Nicrosil / Nisil	0 - +1260°C
S / R / B	Platinum / Rhodium (various alloys) for oxidising atmospheres	0 - +1700°C
C	Tungsten / Rhenium alloys for hydrogen, inert or vacuum	0 - +2315°C
MBS	Miniature sensor for bearing temperature/condition monitoring	0 - +120°C

RTD

For higher accuracy and repeatability over a lower temperature range than thermocouples, Resistance Temperature Detectors operate by the resistance change with temperature of a fine wire coiled around a ceramic core, or a thin film etched onto a ceramic substrate. Our range from Conax Technologies is available with an extensive variety of standard options for integration, as outlined above for Thermocouples.



SERIES	DESCRIPTION	RANGE
ERTD41	Wirewound Copper	-70 - +150°C
ERTD42	Wirewound Nickel	-40 - +180°C
RTD43/4/5/86	Wirewound Platinum with various sensitivities/ranges	-250°C - +800°C
MRTDF43	Thin Film Platinum	-50°C - +550°C

FIBRE OPTIC

Our range of fibre optic temperature sensors from OpSens Solutions operate on one of two principles, semiconductor bandgap (SCBG) using a GaAs crystal, or white light polarisation interferometry (WLPI). These ultra-miniature high precision sensors can be used in extreme EMI/RF environments or packaged in a rugged housing for industrial and offshore use.



SERIES	DESCRIPTION	RANGE
OTG-A	SCBG general purpose, robust housing, 1.1mm diameter	-40 - 250°C
OTG-F	SCBG ultra miniature, fast response, 0.15mm diameter	-40 - 250°C
OTG-P	SCBG rugged design in stainless steel or ceramic sheath, 4.8mm diameter	-40 - 250°C
OTG-R	SCBG fast response design for Electro Explosive Device EMI / HERO testing	-40 - 250°C
OTP-A	WLPI general purpose, 1.8mm diameter	-40 - 250°C
OTP-P	WLPI rugged design in stainless steel or ceramic sheath, 4.8mm diameter	-40 - 250°C

FEEDTHROUGHS

www.technimeasure.co.uk/feedthroughs

Compression seal fittings and feedthroughs from Conax Technologies for single or multiple, conductive or non-conductive elements, available with an extensive list of "off-the-shelf" customisation options, as well as complete custom designs for specific applications. High density feedthroughs with up to 240 insulated wires through a single pressure port are possible.



SERIES	DESCRIPTION	ELEMENT DIA.
PG	Single element general purpose soft sealant, up to 690bar, -240 to +870°C	1 - 45mm
MK	Single element metal sealant, up to 690bar, -240 to +870°C	1.6 - 9.5mm
EG	Single electrode to 2000V & 400A, up to 551bar, -185 to +870°C	2.4 - 19mm
EGT	Single electrode to 8000V & 525A, up to 170bar, -185 to +232°C	2.4 - 25mm
HPPL / HPEG	High pressure insulated wire to 2067bar / electrode to 1380bar	24 - 26awg / 5 - 8mm
PL	Power lead glands, up to 18 leads, 600V, 55A, 690bar, -185 to +232°C	8 - 20awg
TG	Transducer glands for low voltage, up to 24 wires, up to 690bar, -185 to +870°C	8 - 24awg
MHC	Multi-hole ceramic up to 24 elements, soft sealant, up to 690bar, -240 to +870°C	0.5 - 3.2mm
MHM	Multi-hole metal up to 27 elements, soft sealant, up to 690bar, -240 to +870°C	1 - 9.5mm
PGS/SPG	Single / multi-hole split seal up to 17 elements, allows for probe tip diameters larger than the sheath diameter, soft sealant up to 690bar, -240 to +870°C	1 - 12mm (single) 1 - 6mm (multi)
FSA	Fibre optic seals, single or multiple elements, up to 207bar, -20 to +85°C	8.3 - 700µm

INSTRUMENTATION

www.technimeasure.co.uk/instrumentation

Techni Measure supply signal conditioning, display and data acquisition solutions to be used with any sensors from our range. From simple panel display meters to high speed, multi-channel conditioning and acquisition systems, this page contains only a limited selection from our range - please contact us to discuss your requirement and we will configure a solution for you.



STRAIN GAUGE

From basic strain gauge amplifiers to high channel count data loggers and dynamic strain meters we supply a complete range of signal conditioning and data recording solutions for strain gauges and strain gauge based transducers.

SERIES	DESCRIPTION
AMP	Basic SIL amplifier modules, run off 9v battery or PSU
TA	Amplifiers with analogue or serial outputs
FE	Multi-channel modular strain gauge amplifier systems
TC	Hand held strain / load meters
TDS	Static multi-channel data loggers
DC-204	Smart dynamic strain recorder system
DRA	Dynamic multi-channel strain meters
SY	Din rail amplifiers and hand held meters



DISPLACEMENT

Signal conditioning and display options for our range of displacement transducers.

SERIES	DESCRIPTION
SM10	External LVDT electronic modules single or multi-channel
DEM0D	In-line and modular conditioning electronics for DVRT sensors
AQ	Connectivity kits including PSU to simplify laser sensor installation
TPD	Touch panel display for laser displacement sensors



IEPE / VIBRATION

IEPE power supplies and charge amplifiers, as well as portable handheld vibration monitoring kits.

SERIES	DESCRIPTION
4102 / 4103	Single / three channel battery supply for IEPE sensors, mains power option
4105	Single channel battery supply for IEPE sensors with selectable gain
4007	Four channel IEPE conditioning board
FE-MM-376	Multi-channel modular power supply for IEPE sensors
4705 / FE-074	Series of in-line charge amplifiers
FE-128-CA	Multi-channel modular charge amplifier
HS-500	Series of modular IEPE electronics in DIN rail enclosures
HS-620/630	Hand held vibration meter kit
TPI 9070 / 9080	Hand held vibration monitor with bearing damage / FFT functions
4400	Miniature self-contained triaxial vibration datalogging system, $\pm 16g$ or $\pm 200g$ range



DATA ACQUISITION

Techni Measure can supply a variety of data acquisition systems to suit your application and budget.

SERIES	DESCRIPTION
FE-MM	Up to 40 channel, modular low cost data acquisition system, with USB interface
TMR 200	Up to 80 channel, modular & portable self-contained data acquisition system



WIRELESS

www.technimeasure.co.uk/wireless

Techni Measure supply an incredibly versatile wireless instrumentation system from LORD Sensing, operating on a star network of up to 2000 nodes in the 2.4GHz frequency band using bespoke LXRS and extended bandwidth LXRS+ lossless protocols, with node-node time synchronisation of 32 μ s. Wireless sensor nodes are available for the majority of common sensor types and ranges up to 1km line of sight.



SERIES	DESCRIPTION
V-LINK	8 channel wireless node for external sensors with 4 differential channels (4V excitation, ± 1.2 to $\pm 156mV$ range) and 4 voltage input channels (± 2.5 to $\pm 10V$, 0-5V, 0-10V), sample rate up to 8kHz
G-LINK	IP67 rated wireless vibration node with integral triaxial accelerometer, $\pm 2g$ to $\pm 40g$ range, sample rate up to 4kHz, OEM version available
SG-LINK	Single strain gauge input node, OEM version available
TC-LINK	Thermocouple input temperature node, single or 6 channel versions
DVRT-LINK	Displacement node with integrated signal conditioning for DVRT sensors
TORQUE-LINK	Collar type differential input node for torque measurement on shafts using strain gauges
WSDA	Wireless sensor data collector systems (Ethernet, USB, RS232, Analogue)



FIBRE OPTIC

www.technimeasure.co.uk/fibre-optic

Techni Measure supply a range of fibre optic sensors and signal conditioning for the measurement of **strain, pressure, temperature or displacement**. The novel WLPI (White Light Polarisation Interferometry) technology developed by OpSens Solutions is rapidly gaining use throughout industry for many applications due to its versatility – the sensors themselves are ultra-miniature and totally immune to EM and RF interference, resistant to radiation, not affected by long cable runs and remain stable over a very long time period. Bare sensors can be used for laboratory or embedded applications, or the sensors can be ruggedised for extreme environments. Lower cost SCBG (SemiConductor BandGap) sensors and conditioners can be used to measure temperature.



SERIES	DESCRIPTION
OTG/OTP	Temperature sensors using SCBG / WLPI technology
OPP	Pressure sensors with a variety of packaging options
OSP	Strain gauge – bondable and weldable versions
OEP	Extensometer – embeddable or anchor mount
ODP	Spring return displacement transducers

A series of signal conditioners are available for use with the range of fibre optic sensors, including hand held versions.



SERIES	DESCRIPTION
PicoSens	Hand held conditioning and display for WLPI sensors
MultiSens	Multi-channel conditioning and display for WLPI sensors
PicoM	Hand held conditioning for SCBG sensors
TempSens	Multi-channel conditioning and display for SCBG sensors
CoreSens	Multi-channel conditioning for WLPI sensors
RadSens II	Multi-channel conditioning for HERO testing - SCBG sensors

Techni Measure is ISO 9001 certified and proud to represent some of the finest manufacturers of sensors and instrumentation from across the globe



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