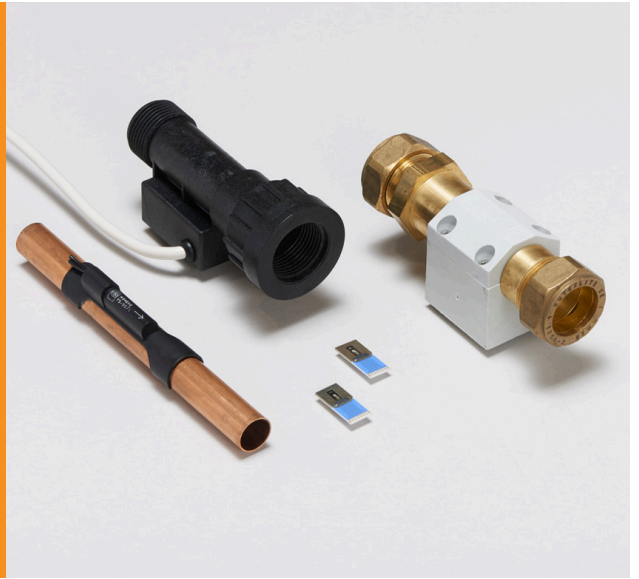


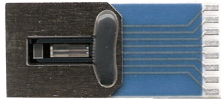
SENSORS & TRANSDUCERS CATALOGUE

FLOW SENSORS



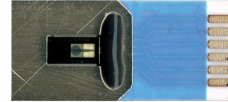
FLOW SENSORS

MASS AIR FLOW SENSORS



LMM-H03

Package	Hybrid
Type	<ul style="list-style-type: none"> Hot film anemometer component Bidirectional
Operating Temp.	-40°C to 125°C
Unique Features	High sensitivity at low heater temperatures, fast response time, true air temperature sensor
Calibration/Accuracy	Dependent on electronics
Dimensions (mm)	23 x 10.15 x 1.1
Typical Applications	Air intake of combustion engine, spirometer, industrial gas flow



LMM-H04

Package	Hybrid
Type	<ul style="list-style-type: none"> Hot film anemometer component Unidirectional
Operating Temp.	-40°C to 125°C
Unique Features	High sensitivity at low heater temperatures, fast response time, true air temperature sensor
Calibration/Accuracy	Dependent on electronics
Dimensions (mm)	24 x 10.15 x 1.1
Typical Applications	Air intake of combustion engine, spirometer, industrial gas flow

FLOW SWITCHES



FS-01

Package	Noryl®
Type	Flow switch for direction of liquid and gas flow
Max. Pressure	10 bar at 20°C
Operating Temp.	-30°C to 85°C
Unique Features	Triac, normally open, close on flow
Dimensions (mm)	106 x 32 x 32
Typical Applications	Mains water control, power shower, central heating systems, circulation pump protection, cooling systems



FS-02

Package	Noryl®
Type	Flow switch for direction of liquid and gas flow
Max. Pressure	10 bar at 20°C
Operating Temp.	-30°C to 85°C
Unique Features	SPST reed switch, normally open, close on flow
Dimensions (mm)	106 x 32 x 32
Typical Applications	Mains water control, power shower, central heating systems, circulation pump protection, cooling systems



FS-05

Package	Brass
Type	Flow switch for direction of liquid and gas flow
Max. Pressure	10 bar at 20°C
Operating Temp.	-30°C to 100°C
Unique Features	Triac, normally open, close on flow
Dimensions (mm)	113 x 53 x 36
Typical Applications	Mains water control, power shower, central heating systems, circulation pump protection, cooling systems



FS-06

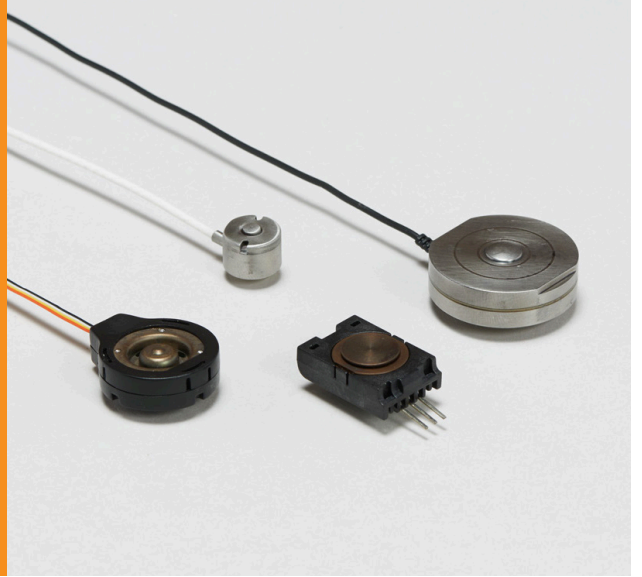
Package	Brass
Type	Flow switch for direction of liquid and gas flow
Max. Pressure	10 bar at 20°C
Operating Temp.	-30°C to 100°C
Unique Features	SPST reed switch, normally open, close on flow
Dimensions (mm)	113 x 53 x 36
Typical Applications	Mains water control, power shower, central heating systems, circulation pump protection, cooling systems



FS-90/1

Package	Copper
Type	Flow switch for direction of liquid and gas flow
Max. Pressure	10 bar at 20°C
Operating Temp.	-30°C to 85°C
Unique Features	SPST reed switch, normally open, close on flow
Dimensions (mm)	153 x 25 x 15
Typical Applications	Leak detection, flow sensing, mains water control, cooling systems, circulation pump protection

FORCE SENSORS



FORCE SENSORS

LOAD CELLS

Low Cost OEM



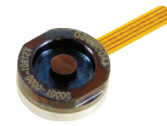
FX19

Package	Low profile "coin cell" design
Operating Mode	Compression
Unique Features	<ul style="list-style-type: none"> • Low cost, low strain design • Essentially unlimited cycle life
FS Ranges	10 to 200 lbf 50 to 100 Newton
Max. Over-range	2.5X FS
Output/Span	100 mV
Combined Linearity & Hysteresis	±1.0% FSO
Operating Temperature	0°C to 50°C
Dimensions (mm)	Ø25.00 x 8.00
Typical Applications	Consumer OEM, exercise machines, physical therapy, vending machines, appliances, pumps, medical devices



FX29

Package	Welded miniature compression load cell, Analog and Digital options
Operating Mode	Compression
Unique Features	<ul style="list-style-type: none"> • Best price to performance • Designed for unlimited cycles and high over-range
FS Ranges	10 to 100 lbf 50 to 500 Newton
Max. Over-range	2.5X FS
Output/Span	100 mV, 0.5-4.5 VDC, Digital (I ² C)
Combined Linearity & Hysteresis	±1.0% FSO
Operating Temperature	0°C to 50°C
Dimensions (mm)	Ø19.70 x 4.95
Typical Applications	Consumer OEM, exercise machines, physical therapy, vending machines, appliances, pumps, medical devices



FS19

Package	Stainless steel housing with flexible PCB
Operating Mode	Compression
Unique Features	<ul style="list-style-type: none"> • Low cost • Small size and light weight
FS Ranges	500 to 3,000 grams-force 5 to 30 Newton
Max. Over-range	2X FS
Output/Span	100 mV
Combined Linearity & Hysteresis	±1.0% FSO
Operating Temperature	0°C to 40°C
Dimensions (mm)	Ø9.5 x 3.45
Typical Applications	Infusion pump, load sensing, contact sensing, weighing, household appliances



FS20

Package	Miniature, drop in replacement for industry standard
Operating Mode	Compression
Unique Features	<ul style="list-style-type: none"> • Load cell design operates at very low strains • Not subject to lead die fatigue
FS Ranges	500 to 5,000 grams-force 5 to 50 Newton
Max. Over-range	2.5X FS
Output/Span	0.5-4.5 VDC, 1.0-4.0 VDC
Combined Linearity & Hysteresis	±1.0% FSO
Operating Temperature	-40°C to 85°C
Dimensions (mm)	30.708 x 17.272 x 8.255
Typical Applications	Infusion pumps, contact sensing, medical devices, consumer appliances



FC22

Package	Plastic housing, button, flange mounting
Operating Mode	Compression
Unique Features	<ul style="list-style-type: none"> • Low cost button shape • Essentially unlimited cycle life
FS Ranges	10 to 100 lbf 50 to 500 Newton
Max. Over-range	2.5X FS
Output/Span	100 mV, 0.5-4.5 VDC
Combined Linearity & Hysteresis	±1.0% FSO
Operating Temperature	-40°C to 85°C
Dimensions (mm)	Ø26.00 x 42.00 x 19.50
Typical Applications	Infusion pumps, robotics end-effectors, exercise machines, contact sensing, appliances



FC23

Package	Stainless steel housing button shape for higher weight loads
Operating Mode	Compression
Unique Features	<ul style="list-style-type: none"> • Industry standard low profile all stainless steel design • Resistant to off-axis loads
FS Ranges	50 to 2,000 lbf 250 to 1,000 Newton
Max. Over-range	2.5X FS
Output/Span	100 mV, 0.5-4.5 VDC
Combined Linearity & Hysteresis	±1.0% FSO
Operating Temperature	-40°C to 85°C
Dimensions (mm)	Ø31.75 x 10.20
Typical Applications	Batch weighing, robotics, assembly line force, printing presses, pumps, winch and hoist

FORCE SENSORS

LOAD CELLS

Standard



	FMT	FN1010	FN2420	FN3000, FN3050	FN3002
Package	Washer	Load pin design	Very high capacity load button	Pan-cake	Very high capacity dual stud
Operating Mode	Compression	Tension and compression	Compression	Tension and compression	Tension and compression
Unique Features	<ul style="list-style-type: none"> • High stiffness • Clamping and bolt forces • High temperature option 	<ul style="list-style-type: none"> • Keyed anti-rotation slot • Bidirectional available • Optional watertight construction 	<ul style="list-style-type: none"> • High stiffness • Optional load button • Optional high level output module 	<ul style="list-style-type: none"> • High stability • All FN3050 have same housing • Optional high level output 	<ul style="list-style-type: none"> • Threaded male fitting • Integrated amplifier • Optional rod end
FS Ranges	4K to 64K lbf 20K to 320K Newton	2K to 400K lbf 10K to 2,000K Newton	4K to 1000K lbf 20K to 5,000K Newton	20 to 200K lbf 100 to 1,000K Newton	2K to 400K lbf 10K to 2,000K Newton
Max. Over-range	1.5X FS	1.5X FS	1.5X FS	1.5X FS (10X FS with stops)	1.5X FS
Output/Span	±20 mV	±20 mV, 0.5-4.5 VDC, 4-20 mA	±20 mV, 0.5-4.5 VDC	±20 mV, 0.5-4.5 VDC	±20 mV, 0.5-4.5 VDC
Combined Linearity & Hysteresis	±1.5% FS	±1% FS	±0.25% FS	±0.1% FS	±0.25% FS
Operating Temperature	-20°C to 80°C	-20°C to 80°C	-40°C to 150°C	-40°C to 150°C	-40°C to 150°C
Dimensions (mm)	Range dependent	Range dependent	Range dependent	Range dependent	Range dependent
Typical Applications	Robotics, process control, bolt clamping for bridges	Crane monitoring, offshore, load-limited devices	Calibration presses, robotics and effectors, laboratory and research	Static fatigue tests, laboratory and research, robotics	Assembly forces, tool force, offshore



	FN3030	FN3148	FN9620	FN9630, FN9635
Package	S-beam	S-beam with stops	S-beam	Very high accuracy pan-cake
Operating Mode	Tension and compression	Tension and compression	Tension and compression	Tension and compression
Unique Features	<ul style="list-style-type: none"> • Optional rod ends • Optional high level output • Optional high compensation temperature 	<ul style="list-style-type: none"> • Very high accuracy • High resolution • Mechanical stops 	<ul style="list-style-type: none"> • High accuracy • IP68 • Entry level 	<ul style="list-style-type: none"> • High stability & accuracy • Connection flange supplied for model FN9635 • Minimal cross effect
FS Ranges	10 to 20K lbf 50 to 100K Newton	2 to 400 lbf 10 to 2,000 Newton	100 to 2,000 lbf 500 to 10K Newton	2K to 40K lbf 10K to 200K Newton
Max. Over-range	1.5X FS	5X to 100X FS	1.5X FS	3X FS
Output/Span	±20 mV, 0.5-4.5 VDC	±20 mV, 0.5-4.5 VDC	±10 mV to ±20 mV	±20 mV
Combined Linearity & Hysteresis	±0.1% FS	±0.05% FS	±0.05% FS	±0.08% FS
Operating Temperature	-40°C to 150°C	-40°C to 120°C	-40°C to 90°C	-40°C to 90°C
Dimensions (mm)	Range dependent	Range dependent	56 x 20 x 60	Range dependent
Typical Applications	Laboratory and research, process control, customized options	Product validation tests, medical instruments, weighing	Test bed, dynamic fatigue testing, robotics and effectors	Static fatigue tests, weighing calibration, robotics

FORCE SENSORS

FORCE LOAD CELLS

Miniature Load Cells



	ELAF	XFC200R	XFL212R	XFTC300	XFU400
Package	Button, dual stud	Small diameter load button	Low profile load button	Low/high capacity dual stud	Miniature rod end
Operating Mode	Tension and compression	Compression	Compression	Tension and compression	Tension and compression
Unique Features	<ul style="list-style-type: none"> • Low cost, small profile • Microfuse technology • Low off-axis response 	<ul style="list-style-type: none"> • High stiffness • High overload capacity • Static and dynamic 	<ul style="list-style-type: none"> • Extremely flat • Integrated load button • Small diameter 	<ul style="list-style-type: none"> • High stiffness • High overload capacity • Threaded male/female fitting 	<ul style="list-style-type: none"> • High stiffness • High accuracy • High temperature
FS Ranges	10 to 2,000 lbf 50 to 10K Newton	0.4 to 2,000 lbf 2 to 10K Newton	1 to 100 lbf 5 to 500 Newton	0.4 to 400 lbf 2 to 2,000 Newton	100 to 1,000 lbf 500 to 5,000 Newton
Max. Over-range	2.5X FS	2X FS	2X FS	2X FS	1.5X FS
Output/Span	±100 mV, 0.5-4.5 VDC	±100 mV	±100 mV	±100 mV, 0.5-4.5 VDC	±100 mV
Combined Linearity & Hysteresis	±0.25% FS	±0.5% FS	±1% FS	±0.5% FS	±0.3% FS
Operating Temperature	-40°C to 120°C	-40°C to 120°C	-40°C to 120°C	-40°C to 150°C	-20°C to 120°C
Dimensions (mm)	Range dependent	Ø10 to Ø16	Ø12.5 x 3.5	Range dependent	Range dependent
Typical Applications	Theoretical rigging loads, assembly forces, weighing, thrust measurements, product validation testing	Material test, measuring tools, robotics and effectors	Dental and biomechanical, surface mount assembly system, production validation test	Material test, tool forces, robotics end effectors	Spherical rod end bearings, engine & suspension testing, machinery equipment

FORCE LOAD CELLS

Multiaxial Load Cells



	FN7110	FN7325
Package	Dual S-beam range	Custom design and ranges available upon request
Operating Mode	Tension and compression	Multiaxial force and torque
Unique Features	<ul style="list-style-type: none"> • High resolution • Optional high level output • Double range 	<ul style="list-style-type: none"> • Measures load and torque in 3 directions, 6DOF total • Fatigue rated • Minimal cross effects
FS Ranges	2 to 2,000 lbf 10 to 10K Newton	1K to 50K lbf 5K to 250K Newton
Max. Over-range	1.2X FS	1.2X FS
Output/Span	±20 mV, 0.5-4.5 VDC	±150 mV, 0.5-4.5 VDC
Combined Linearity & Hysteresis	±0.1% FS	±1% FS
Operating Temperature	-20°C to 80°C	-20°C to 80°C
Dimensions (mm)	60 x 30 x 100	Range dependent
Typical Applications	Process control, assembly forces, weighing, thrust measurements, product validation testing	Structure testing, crash testing, industrial test benches, robotic joints

FORCE SENSORS

FORCE LOAD CELLS

Automotive Load Cells



FN2114

Package	Brake pedal
Operating Mode	Compression
Unique Features	<ul style="list-style-type: none"> • High accuracy • Extra flat • Compact
FS Ranges	40 to 500 lbf 200 to 2,500 Newton
Max. Over-range	1.5X FS
Output/Span	±20 mV, 0.5-4.5 VDC
Combined Linearity & Hysteresis	±1% FS
Operating Temperature	-20°C to 80°C
Dimensions (mm)	Range dependent
Typical Applications	Brake pedal, clutch pedal, test bed



FN2317

Package	Hand brake
Operating Mode	Compression
Unique Features	<ul style="list-style-type: none"> • Easily installed • Ergonomic design • Fits most vehicles
FS Ranges	100 to 200 lbf 500 to 1,000 Newton
Max. Over-range	1.5X FS
Output/Span	±20 mV, 0.5-4.5 VDC
Combined Linearity & Hysteresis	±0.5% FS
Operating Temperature	-20°C to 80°C
Dimensions (mm)	100 x 20 x 15
Typical Applications	Hand brake, test bed



FN2570

Package	Brake pedal
Operating Mode	Compression
Unique Features	<ul style="list-style-type: none"> • High accuracy • Compact and extra flat • Rugged, stainless steel design
FS Ranges	40 to 500 lbf 200 to 2,500 Newton
Max. Over-range	1.5X FS
Output/Span	±20 mV
Combined Linearity & Hysteresis	±2.5% FS
Operating Temperature	-20°C to 80°C
Dimensions (mm)	59 x 59 x 12.5
Typical Applications	Brake pedal, clutch pedal, test bed



FN4055

Package	Seat belt sensor
Operating Mode	Tension
Unique Features	<ul style="list-style-type: none"> • Low operating ranges • Protected against overload • Compatible with most seat belts
FS Ranges	20 to 60 lbf 100 to 300 Newton
Max. Over-range	10X FS
Output/Span	±20 mV
Combined Linearity & Hysteresis	±0.25% FS
Operating Temperature	-20°C to 80°C
Dimensions (mm)	63.5 x 63.5 x 12.7
Typical Applications	Auto crash testing, tension at the belt receptacle



FN4070 & FN4080

Package	Seat belt buckle sensor
Operating Mode	Tension
Unique Features	<ul style="list-style-type: none"> • High operating ranges • Detachable tongue and cable • Compatible with most seat belts
FS Ranges	200 to 8,000 lbf 1K to 40K Newton
Max. Over-range	1.5X FS
Output/Span	±20 mV
Combined Linearity & Hysteresis	±0.5% FS
Operating Temperature	-20°C to 80°C
Dimensions (mm)	Range dependent
Typical Applications	Auto crash testing, tension at the belt receptacle



FN7080

Package	Gear stick design
Operating Mode	Multi-axial
Unique Features	<ul style="list-style-type: none"> • Measures force in three directions • Replaces gear knob • Ease of mounting
FS Ranges	40 to 100 lbf 200 to 500 Newton
Max. Over-range	1.2X FS
Output/Span	±20 mV, 0.5-4.5 VDC
Combined Linearity & Hysteresis	< ±0.3% FS
Operating Temperature	-20°C to 80°C
Dimensions (mm)	Ø25 spherical
Typical Applications	Change gear force measurement, roughness of material



EL20-S458

Package	Special purpose seat belt load cell for automotive crash testing
Operating Mode	Seat belt tension
Unique Features	<ul style="list-style-type: none"> • Mass optimized to minimize acceleration induced errors during SAE J2570 ATD and ISO 6487 • Optional high level and linearized outputs • Smoothed design and slotted titanium axles eliminate drag errors and dummy damage
FS Ranges	1,000 to 5,000 lbf 5K to 25K Newton
Max. Over-range	2X FS
Output/Span	±20 mV, 0.5-4.5 VDC
Combined Linearity & Hysteresis	±0.5% FS
Operating Temperature	-40°C to 120°C
Dimensions (mm)	66 x 35 x 16.5
Typical Applications	Seat belt forces, safety and restraint system crash test, parachute tether and riser forces

FORCE SENSORS

FORCE LOAD CELLS

Digital Display Meters



ARD154

Package	Din rail mountable
Type	Signal conditioning for wheatstone bridge sensors
No. of Channels	Four
Unique Features	<ul style="list-style-type: none"> • Suited for full bridge strain gage sensors • Test stands and process industries • 2 kHz or 20 kHz max. bandwidth
Output/Span	±10 VDC or 4-20 mA current output
Accuracy	±0.01% FS
Operating Temperature	-10°C to 60°C
Dimensions (mm)	99 x 17.5 x 112
Typical Applications	Test stands, power plants, manufacturing systems, test and measurement, test bed regulation, automat interfaces



CPA150

Package	Hand held indicator
Type	Portable display suited for strain gage type sensors
No. of Channels	Two
Unique Features	<ul style="list-style-type: none"> • Suited for 1 or 2 sensors • 45 hour life battery • Calibration pushbutton from 0.1 to 10 mV/V
Output/Span	Display only
Accuracy	±0.005% FS
Operating Temperature	-10°C to 50°C
Dimensions (mm)	90 x 34 x 152
Typical Applications	Outdoor punctual measurements, test and measurement, portable calibration device



M210

Package	Front panel or housed in case
Type	Signal conditioning and display meter
No. of Channels	One
Unique Features	<ul style="list-style-type: none"> • Red LED display: ±2,000 count • High bandwidth: 1,000 Hz at -3 dB • Low noise level
Output/Span	±10 VDC
Accuracy	±0.05% FS
Operating Temperature	0°C to 50°C
Dimensions (mm)	96 x 48 x 155
Typical Applications	High bandwidth test bed display, monitoring, laboratory and research, process control equipment



M905

Package	Front panel or housed in case
Type	Display suited for process or strain gage type sensors
No. of Channels	One
Unique Features	<ul style="list-style-type: none"> • Suited for process or strain gage type sensors • 5 digits: -19999 to 19999 • Front panel programming
Output/Span	±10 VDC or 4-20 mA current output
Accuracy	±15 bits, 20 sample/sec
Operating Temperature	-10°C to 60°C
Dimensions (mm)	96 x 48 x 60
Typical Applications	Display on test bed, monitoring, laboratory and research



121

Package	Bench top
Type	DC amplifier and signal conditioner
No. of Channels	Three
Unique Features	<ul style="list-style-type: none"> • 0.001 to 9999 • Low noise operation with auto-zero • For bridge type sensors • µP controlled, programmable • Low pass filter options
Output/Span	±10 VDC
Accuracy	±0.1% FS
Operating Temperature	0°C to 50°C
Dimensions (mm)	301 x 258 x 102
Typical Applications	Instrumentation labs, test benches, R&D facilities



140A / 142A

Package	Inline amplifier
Type	DC amplifier and auto-zero
No. of Channels	one
Unique Features	<ul style="list-style-type: none"> • ±1.5 mV auto-zero • For bridge type sensor (140A) • For strain gage (142A) • x10, x25, x50, x100, x200 gain • 5 to 30 VDC excitation
Output/Span	0.5-4.5 VDC, ref to 2.5 VDC
Accuracy	±0.5% FS
Operating Temperature	-10°C to 50°C
Dimensions (mm)	56.9 x 25.4 x 12.7
Typical Applications	Instrumentation labs, test benches, R&D facilities

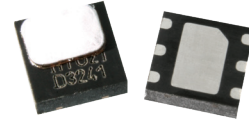
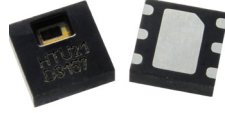
HUMIDITY SENSORS



HUMIDITY SENSORS

HUMIDITY AND TEMPERATURE (NTC) COMPONENTS

Analog Voltage and Digital Output



	HS1101LF	HTU2X	HTU2XF
Package	Through hole TO39 with side opening plastic cap	DFN type	DFN type
Type	Capacitive humidity	Digital RH and NTC temperature	Digital RH and NTC temperature
Operating RH Range	0 to 100% RH	0 to 100% RH	0 to 100% RH
Operating Temp.	-60°C to 140°C	-40°C to 125°C	-40°C to 125°C
Unique Features	<ul style="list-style-type: none"> • Robust and recognized component • Suitable for most humidity applications • Cost effective solution 	<ul style="list-style-type: none"> • Low power consumption • Fast response time • Very low temperature coefficient • I²C interface or PWM interface or SDM interface 	<ul style="list-style-type: none"> • Low power consumption • Fast response time • Very low temperature coefficient • I²C interface or PWM interface or SDM interface • Optimal filter
Accuracy	180 pF, ±3 pF at 55% RH	±3% RH at 25°C (10 to 95% RH) ±0.3°C at 25°C	±3% RH at 25°C (10 to 95% RH) ±0.3°C at 25°C
Dimensions (mm)	10 x 10 x 19	3.0 x 3.0 x 1.0	3.0 x 3.0 x 1.0
Typical Applications	Applications requiring a robust humidity sensor in appliance, HVACR, consumer electronics, printing, meteorology	Humidity and temperature plug and play transducers for OEM demanding applications in appliance, printer, medical, HVACR	Humidity and temperature plug and play transducers for OEM demanding applications in appliance, printer, medical, HVACR

HUMIDITY AND TEMPERATURE (NTC) MINI-MODULES

Analog Voltage and Digital Output



	HTU3535PVBM/Wire	HTU383X/Wire	HTG351xCH
Package	Cost effective, small size mini-module	Cost effective small size mini-module	Cost effective small size mini-module
Type	Analog voltage RH and NTC temperature	Digital RH and NTC temperature	Analog voltage RH and NTC temperature
Operating RH Range	0 to 100% RH	0 to 100% RH	0 to 100% RH
Operating Temp.	-40°C to 110°C	-40°C to 110°C	-40°C to 110°C
Unique Features	<ul style="list-style-type: none"> • PTFE filter (Optional) • Electronics fully protected (5 V) • Multiple connector choices (JST, Samtec board to board through hole) • Based on HTU21 	<ul style="list-style-type: none"> • PTFE filter (Optional) • Electronics fully protected (5 V) • Multiple connector choices (JST, Samtec board to board through hole) • Based on HTU21 	<ul style="list-style-type: none"> • Electronics fully protected with potting material (3.3 V or 5 V) • Multiple connector choices (JST, Samtec board to board through hole)
Calibration	±3% RH at 55% RH; ±0.25°C at 25°C	±3% RH at 55% RH; ±0.25°C at 25°C	±3% RH at 55% RH; ±0.25°C at 25°C
Dimensions (mm)	27 x 11.9 x YY (Depending on the connector, from 6 to 10.8 mm length)	27 x 11.9 x YY (Depending on the connector, from 6 to 10.8 mm length)	27 x 11.9 x 6.7
Typical Applications	Humidity and temperature plug and play transducers for OEM demanding applications in HVACR, home appliance, printer and medical	Humidity and temperature plug and play transducers for OEM demanding applications in HVACR, home appliance, printer and medical	Humidity and temperature plug and play transducers for OEM applications in HVACR, appliance, printer and medical

HUMIDITY SENSORS

HUMIDITY AND TEMPERATURE (NTC) PROBES

Analog Output



HM1500LF

Package	Probe, RH only
Type	Cost effective analog voltage RH probe
Operating RH Range	0 to 100% RH
Operating Temp.	-40°C to 60°C
Unique Features	<ul style="list-style-type: none">• Electronics fully protected with potting material• Optional wiring length and connectors
Calibration	±3% RH at 55% RH
Dimensions (mm)	57 x 11 x 11 (Standard wire length of 200 mm)
Typical Applications	Medical, telecommunication cabinets, green houses, process control, industrial



HM1520LF

Package	Probe, RH only
Type	Dedicated to low RH accurate measurement
Operating RH Range	0 to 100% RH
Operating Temp.	-40°C to 60°C
Unique Features	<ul style="list-style-type: none">• Electronics fully protected with potting material• Optional wiring length and connectors
Calibration	±3% RH at 10% RH
Dimensions (mm)	57 x 11.5 x 11.5 (Standard wire length of 200 mm)
Typical Applications	Medical, drying cabinets, low humidity, meteorology



HTM2500LF

Package	Probe, RH and temperature
Type	Cost effective analog voltage RH
Operating RH Range	0 to 100% RH
Operating Temp.	-40°C to 85°C
Unique Features	<ul style="list-style-type: none">• Electronics fully protected with potting material• Optional wiring length and connectors
Calibration	±3% RH at 55% RH; ±0.25°C at 25°C
Dimensions (mm)	86 x 11.5 x 11.5 (Standard wire length of 200 mm)
Typical Applications	Hygrostat, data loggers, cabinets

PHOTO OPTIC SENSORS

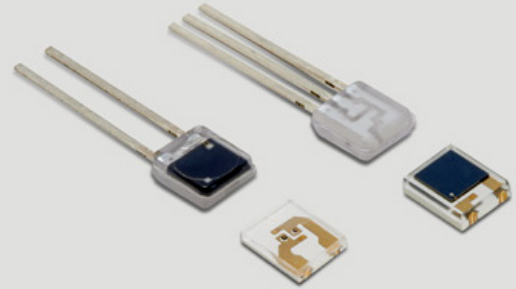
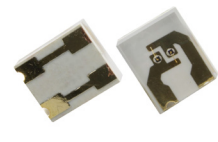
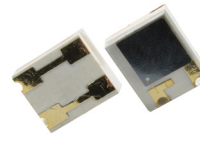


PHOTO OPTIC SENSORS

PHOTO OPTIC SENSORS

Photo Optic Components



ELM-4000

Package	Lead frame
Type	Emitter assembly
Range	660 nm / 880-940 nm
Unique Features	<ul style="list-style-type: none"> • Low cost • Dual drive • Clear epoxy lens
Accuracy	Sensor dependent
Operating Temp.	-20°C to 80°C
Dimensions (mm)	4.4 x 5.1 x 1.9
Typical Applications	Pulse oximetry, finger and ear probes, disposable

EPM-4001

Package	Lead frame
Type	Detector assembly
Range	—
Unique Features	<ul style="list-style-type: none"> • Low cost • Fast response • High efficiency
Accuracy	Sensor dependent
Operating Temp.	-20°C to 80°C
Dimensions (mm)	4.4 x 5.1 x 1.8
Typical Applications	Pulse oximetry, finger and ear probes, disposable

ELM-5000

Package	Surface mount
Type	Emitter assembly
Range	660 nm / 890-905 nm
Unique Features	<ul style="list-style-type: none"> • Reflow solderable • Dual drive • Clear epoxy lens
Accuracy	Sensor dependent
Operating Temp.	-20°C to 80°C
Dimensions (mm)	4.0 x 4.8 x 1.3
Typical Applications	Pulse oximetry, finger and ear probes, disposable

EPM-5000

Package	Surface mount
Type	Detector assembly
Range	—
Unique Features	<ul style="list-style-type: none"> • Reflow solderable • Fast response • High efficiency
Accuracy	Sensor dependent
Operating Temp.	-20°C to 80°C
Dimensions (mm)	4.0 x 4.8 x 1.3
Typical Applications	Pulse oximetry, finger and ear probes, disposable

PHOTO OPTIC SENSORS

Pulse Oximetry (SpO₂) Probe Platforms



Disposable Sensor

Package	Biocompatible
Type	Sensor platform
Range	Adult/neonatal
Unique Features	<ul style="list-style-type: none"> • Latex free • Lightweight • Microfoam/cloth
Accuracy	Sensor dependent
Operating Temp.	-20°C to 80°C
Typical Applications	Pulse oximetry

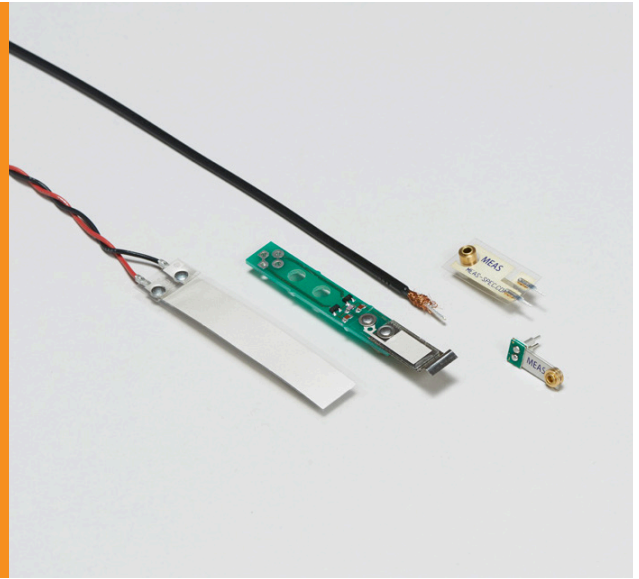
Finger Clip Sensor

Package	Biocompatible
Type	Sensor platform
Range	Adult
Unique Features	<ul style="list-style-type: none"> • Soft pads • Lightweight • Easily cleaned
Accuracy	Sensor dependent
Operating Temp.	-20°C to 80°C
Typical Applications	Pulse oximetry

Soft Sensor

Package	Silicon boot
Type	Sensor platform
Range	Adult/pediatric
Unique Features	<ul style="list-style-type: none"> • Ease of use • Lightweight • Latex free
Accuracy	Sensor dependent
Operating Temp.	-20°C to 80°C
Typical Applications	Pulse oximetry

PIEZO FILM SENSORS



PIEZO FILM



DT1, SDT1

Package	Unshielded element with twisted pair or shielded element with shielded cable
Type	Flexible film, adhesive mount
Range	15 mV/ $\mu\epsilon$ up to 1% strain
Unique Features	<ul style="list-style-type: none"> • Thin, flexible, robust • Withstands >2% strain • Ultra-low power (Self generating)
Accuracy	$\pm 20\%$ (Typical)
Operating Temp.	-40°C to 70°C (Higher available custom)
Dimensions (mm)	Application dependent
Typical Applications	Dynamic strain gage, contact microphone, acoustic pickup



Piezo Cable

Package	Shielded coaxial 20 gage piezo cable
Type	Polymer jacketing, armored jacketing
Range	μPa sensitivity
Unique Features	<ul style="list-style-type: none"> • Continuous lengths of up to 1 km • Shielded construction
Accuracy	$\pm 20\%$ (Typical)
Operating Temp.	-40°C to 85°C
Dimensions (mm)	$\varnothing 3$ (Continuous lengths)
Typical Applications	Perimeter and fence security, geophone, impact sensors, intrusion detection, seat occupancy (e.g. airbag), patient bed vital signs monitor



CM-01

Package	Metallized plastic housing
Type	Contact microphone
Range	40 V/mm; 8 Hz to 2.2 kHz
Unique Features	<ul style="list-style-type: none"> • Low noise • Shielded construction • High sensitivity
Accuracy	—
Operating Temp.	5°C to 60°C
Dimensions (mm)	$\varnothing 18 \times 11$ high
Typical Applications	Electronic stethoscope, contact microphone, vibration



FLDT1

Package	Unshielded film element with screen printed leads
Type	Flexible film, adhesive mount
Range	15 mV/ $\mu\epsilon$, up to 1% strain
Unique Features	<ul style="list-style-type: none"> • Thin, flexible • Leads screen printed on film • Connects to standard connector
Accuracy	$\pm 20\%$ (Typical)
Operating Temp.	-40°C to 70°C; (Higher available custom)
Dimensions (mm)	12 x 30 active; (Custom available)
Typical Applications	Event timing, dynamic strain, motion detection

PIEZO FILM SENSORS

PIEZO FILM



Sleep Monitor Strip

Package	Unshielded element with crimps
Type	Flexible film, adhesive mount
Range	15 mV/ $\mu\epsilon$ up to 1% strain
Unique Features	<ul style="list-style-type: none"> Thin, flexible, robust Withstands >2% strain Ultra-low power (Self generating)
Accuracy	$\pm 20\%$ (Typical)
Operating Temp.	-40°C to 70°C (Higher available custom)
Dimensions (mm)	28 μm PVDF; 8mm x 800mm
Typical Applications	Respiration and heart beat monitoring for mattress or seat



BL Traffic Sensor

Center Core: 16 gage copper wire Piezoelectric Material: Piezoelectric film cable Outer Sheath: 0.016" thick brass
Spiral wrapped PVDF piezo film cable
15 mV/ $\mu\epsilon$ up to 1% strain
<ul style="list-style-type: none"> Flexible, durable, available in many lengths Withstands >2% strain Ultra-low power (Self generating)
$\pm 20\%$ (Typical)
-40°C to 70°C (Higher available custom)
0.260" wide x 0.063" thick; 0.005"
Traffic counting, classifying, toll booths, speed detection, red light cameras



Laboratory Amplifier

Bench top
Piezo film lab amp
0.1 Hz to 100 kHz
<ul style="list-style-type: none"> Voltage or charge mode settings Multi-pole high-pass and low-pass filters Adjustable gain
Application dependent
0°C to 40°C
150 x 100 x 100
Low frequency dynamic strain, pyroelectric signals, machine vibration, piezo cable and traffic sensor interface



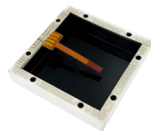
80 KHz Transducers

Pin mounted
Air ultrasound transducer
80 kHz
<ul style="list-style-type: none"> Small size Low mechanical Q Shielded package
Application dependent
-20°C to 80°C
$\varnothing 6 \times 9$
Air ranging, ultrasonic mouse, digitizers



NDT-1

Adhesive mounted
High frequency ultrasound transducer
3 MHz
<ul style="list-style-type: none"> Flexible High bandwidth, low Q Low impedance
Application dependent
-20°C to 60°C
12 x 30
Thickness measurement, speed of sound measurement, pulse/echo NDT



Tamper Box

Flat film or box mounted
Tamper detection sensor
Application dependent
<ul style="list-style-type: none"> Low power Custom shapes and sizes High security
Application dependent
-40°C to 85°C
Application dependent
Encryption modules, POS card readers, PIN entry devices



ACH-01

Ceramic base, plastic cover, shielded cable
Adhesive mount
± 250 g (Typical)
<ul style="list-style-type: none"> Extremely high bandwidth Low cost Ultra-low power
$\pm 20\%$ (Typical)
-40°C to 85°C
18.80 x 13.21 x 6.10
Vibration sensing, gear box and high speed monitoring, high speed bearings and centrifuges, speaker motional feedback



LDTC Family

Piezo film elements with or without mass
Cantilever beam with vertical or horizontal pins
± 10 g (Typical)
<ul style="list-style-type: none"> Very low cost High sensitivity (1 V/g) Ultra-low power (Self generating)
$\pm 20\%$ (Typical)
-40°C to 70°C
19.05 x 6.35 x 6.35
Wake-up switch, load imbalance, antitheft devices, impact sensing, vital signs monitoring

POSITION SENSORS



POSITION SENSORS

ANISOTROPIC MAGNETORESISTIVE (AMR) SENSOR COMPONENTS

Magnetoresistive (MR)



KMY, KMZ

Package	SOT-223, E-line 4 pin
Type	Linear low field sensor
Range	-2 to 2 kA/m magnetic field
Unique Features	<ul style="list-style-type: none"> • High sensitivity • Low hysteresis • Linear to uniaxial field strength
Output	Ratiometric with output voltage range 20 mV/V
Resolution	Typ. 0.1% of range
Accuracy	Typ. 1.0% of range
Operating Temp.	-40°C to 150°C
Dimensions (mm)	SOT: 6.6 x 7.0 x 1.6 E-line: 16 x 4.2 x 2.4
Typical Applications	Non-destructive material testing, spray arm detection in dish washers, magnetic imaging, brake pedal position



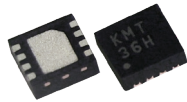
MS32

Package	TDFN
Type	Low field switch sensor
Range	1 to 3 kA/m magnetic switching field
Unique Features	<ul style="list-style-type: none"> • Linearized ratiometric output • Temperature compensated switching point
Output	Ratiometric with output voltage range 10 mV/V
Resolution	Typ. 0.1 kA/m
Accuracy	Typ. 0.1 kA/m
Operating Temp.	-25°C to 85°C
Dimensions (mm)	TDFN: 2.5 x 2.5 x 0.8
Typical Applications	Piston position switch, reed switch replacement



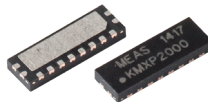
KMT39 (Former 32B), KMT37

Package	TDFN
Type	Angle sensor
Range	180° angle
Unique Features	<ul style="list-style-type: none"> • High accuracy • High resolution
Output	Sine and cosine signals with output voltage range 20 mV/V
Resolution	Typ. 0.01° to 0.1°
Accuracy	Typ. 0.1° to 1.0°
Operating Temp.	-40°C to 150°C (175°C on request)
Dimensions (mm)	TDFN: 2.5 x 2.5 x 0.8 SO-8: 5 x 4 x 1.75
Typical Applications	Steering position, flow meters, rpm meters, rotary encoders



KMT36H

Package	TDFN 2.5 x 2.5
Type	Angle sensor
Range	360° angle
Unique Features	<ul style="list-style-type: none"> • High accuracy • High resolution • 360° full turn
Output	Three 120° phase shifted output signals with output voltage range 20 mV/V
Resolution	Typ. 0.01° to 0.1°
Accuracy	Typ. 0.1° to 1°
Operating Temp.	-40°C to 150°C
Dimensions (mm)	TDFN: 2.5 x 2.5 x 0.8
Typical Applications	Steering position, gage readings, rotary encoders



KMP

Package	DFN 2 x 6
Type	Linear displacement sensor, 3 flat and 3 perpendicular versions
Range	Absolute within magnetic pole pitch, else incremental
Unique Features	<ul style="list-style-type: none"> • For pole pitch • KMP 1000: p= 1 mm • KMP 2000: p= 2 mm • KMP 5000: p= 5 mm
Output	Sine and cosine signals with output voltage range 20 mV/V
Resolution	0.01% to 0.1% of pole pitch
Accuracy	0.1% to 1.0% of pole pitch
Operating Temp.	-40°C to 125°C
Dimensions (mm)	DFN: 2 x 6 x 0.8
Typical Applications	Roller conveyors, circular saws, bending machines



KMA36

Package	TSSOP
Type	Angle sensor with digital output
Range	360° angle
Unique Features	<ul style="list-style-type: none"> • Low cost MR encoder for rotational and incremental measurements • Digital output
Output	Analog and I ² C Digital
Resolution	Typ. 0.1°
Accuracy	Typ. 0.3°
Operating Temp.	-25°C to 85°C
Dimensions (mm)	TSSOP20: 6.5 x 6.4 x 1.2
Typical Applications	Knobs, small robotics, angular/linear position

POSITION SENSORS

ANGULAR POSITION TRANSDUCERS—INDUCTIVE

Absolute



RVIT-Z

Package	PCB for OEM volumes
Resolution	Infinite
Excitation	DC voltage
Output	DC voltage, DC current, digital
Range	Up to $\pm 75^\circ$
Unique Features	<ul style="list-style-type: none"> Absolute position
Operating Temp.	-25°C to 85°C
Dimensions (mm)	Custom
Typical Applications	Viscometers, valve position, robotics, HVACR vane position, ATM's, joysticks



R60D

Package	Servo mount with ball bearing
Resolution	Infinite
Excitation	DC symmetrical ± 15 VDC
Output	± 7.5 VDC
Range	$\pm 60^\circ$
Unique Features	<ul style="list-style-type: none"> Absolute position Low momentum of inertia
Operating Temp.	-25°C to 85°C
Dimensions (mm)	Aluminum case size 11 ($\varnothing 27$ mm)
Typical Applications	Dancer arm position, rotary actuator position feedback, throttle lever position feedback, ball valve position, textile manufacturing equipment, printing presses



R30A

Package	Servo mount with ball bearing
Resolution	Infinite
Excitation	AC operated
Output	AC voltage
Range	$\pm 30^\circ$ to $\pm 60^\circ$
Unique Features	<ul style="list-style-type: none"> Absolute position
Operating Temp.	-55°C to 150°C
Dimensions (mm)	Aluminum case size 11 ($\varnothing 27$ mm)
Typical Applications	Machine tool equipment, rotary actuator feedback, valve positioning, power generation valve position

ANGULAR POSITION—ENCODERS

Absolute



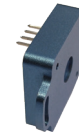
H005, H009

Package	<ul style="list-style-type: none"> 12.7 mm - 22.19 mm/.500 in - .875 in housing diameter 3.170 mm/.1248 in shaft diameter 16.9 mm - 17.4 mm/.670 in - .680 in housing length
Range	Up to 359°
Output Options	Analog/PWM/Serial
Resolution	12-bit analog/PWM 14-bit serial (SPI)
Excitation	—
Unique Features	—
Absolute Linearity	$\pm 0.2\%$
Nominal Supply	5 volts
Operating Temp.	-40°C to 150°C
Rotational Life	> 100 million cycles (Bearing life)
Dimensions (mm)	
Typical Applications	Critical position feedback applications in commercial, industrial, medical, aircraft and military markets



H009, 1200 Dual Output

Package	<ul style="list-style-type: none"> 22.23 mm/.875 in housing diameter 3.170 mm/.1248 in shaft diameter 26.1 mm/1.03 in housing length
Range	Up to 359° (Dual output)
Output Options	Analog/PWM/Serial
Resolution	12-bit analog/PWM 14-bit serial (SPI)
Excitation	—
Unique Features	—
Absolute Linearity	$\pm 0.2\%$ (Dual output)
Nominal Supply	5 volts (Dual output)
Operating Temp.	-40°C to 150°C
Rotational Life	> 100 million cycles (Bearing life)
Dimensions (mm)	
Typical Applications	Critical position feedback applications in commercial, industrial, medical, aircraft and military markets



R36

Package	Heavy duty shaftless
Range	180°
Output Options	Voltage
Resolution	Analog 1.4°
Excitation	5 VDC
Unique Features	<ul style="list-style-type: none"> Rugged housing Shaftless No optical degradation
Absolute Linearity	—
Nominal Supply	—
Operating Temp.	-40°C to 85°C
Rotational Life	—
Dimensions (mm)	37.36 x 25.4 x 7.62
Typical Applications	Feedback sensor or human machine interface device, rudder control, servomotor position and speed control

POSITION SENSORS

TILT SENSORS

Single Axis



E-Series

Package	Ceramic housing
Type	Inclination sensor module
Range	$\pm 5^\circ$, $\pm 15^\circ$
Output	Voltage
Unique Features	<ul style="list-style-type: none">• Easy to handle• Minimal temperature drift• Good long term stability
Accuracy	$\pm 0.2^\circ$ to $\pm 0.5^\circ$
Operating Temp.	-25°C to 85°C
Dimensions (mm)	29 x 17 x 16.5
Typical Applications	Road construction, building monitoring, weighing systems, mobile and stationary cranes, platform leveling



AccuStar EA

Package	LCP housing
Type	Inclinometer sensor module
Range	$\pm 45^\circ$ to $\pm 60^\circ$
Output	Voltage
Unique Features	<ul style="list-style-type: none">• Compact• Low power• Vertical and horizontal mount
Accuracy	0° to $10^\circ \pm 0.1\%$ accuracy 10° to $60^\circ \pm 0.75\%$ reading
Operating Temp.	-30°C to 65°C
Dimensions (mm)	65.91 x 51.56 x 30.5
Typical Applications	Wheel alignment, construction, equipment, antenna positioning, robotics, crane/boom angle



APS System

Package	Plastic housing
Type	Inclination system
Range	$\pm 45^\circ$, $\pm 90^\circ$
Output	Analog/digital
Unique Features	<ul style="list-style-type: none">• Stand alone system• Separate system and sensor
Accuracy	0° to $10^\circ \pm 0.1\%$ accuracy 10° to $45^\circ \pm 0.75\%$ of reading
Operating Temp.	-25°C to 65°C
Dimensions (mm)	127.5 x 88 x 32.2
Typical Applications	Tower crane safety, RV and mobile trailer leveling, water and oil well drilling rigs, mining equipment

POSITION SENSORS

TILT SENSORS

Single Axis



G-Series

Package	Aluminum housing IP67
Type	Inclinometer
Range	$\pm 10^\circ$
Output	Switch
Unique Features	<ul style="list-style-type: none"> • Programmable • EMC standard • High switch accuracy
Accuracy	$\pm 0.25^\circ$
Operating Temp.	-25°C to 85°C
Dimensions (mm)	80 x 75 x 57.5
Typical Applications	Lift platforms, building device control, train inclination monitoring, position switch



IT9000

Package	Aluminum or stainless
Type	Inclinometer
Range	$\pm 45^\circ$ to $\pm 240^\circ$
Output	Voltage divider, 4 - 20 mA
Unique Features	<ul style="list-style-type: none"> • Rugged industrial design, IP67/68 • Submersible • Designed for brutal environments • CSA, CENELEC certification for hazardous area applications
Accuracy	$\pm 1\%$
Operating Temp.	-34°C to 90°C
Dimensions (mm)	$\varnothing 130$ x 100
Typical Applications	Waste water control, tainter gates, draw bridges, heavy industrial applications



AccuStar IP66

Package	Aluminum housing IP66
Type	Inclinometer
Range	$\pm 3^\circ$ to $\pm 45^\circ$
Output	Current
Unique Features	<ul style="list-style-type: none"> • EMI and RFI rated • CE pending • Water tight enclosure
Accuracy	0° to 10° $\pm 0.1\%$ linearity 10° to 45° $\pm 1\%$ linearity
Operating Temp.	-25°C to 60°C
Dimensions (mm)	98.04 x 63 x 35.05
Typical Applications	Tower crane safety, RV and mobile trailer leveling, water and oil well drilling rigs, mining equipment

TILT SENSORS

Dual Axis



DPL, DPN

Package	PCB board
Type	Inclination board module
Range	$\pm 2^\circ$ to $\pm 30^\circ$
Output	Voltage/RS 232/SPI
Unique Features	<ul style="list-style-type: none"> • High resolution • Minimal temperature drift • User configurable
Accuracy	$\pm 0.05^\circ$ to $\pm 0.8^\circ$
Operating Temp.	-40°C to 85°C
Dimensions (mm)	45 x 45 x 20
Typical Applications	Laser leveling, weighing systems, mobile and stationary cranes, hydraulic leveling, building monitoring, wind power



DOG2

Package	Plastic PA 6.6 housing, IP67
Type	Inclinometer
Range	$\pm 25^\circ$, $\pm 45^\circ$, $\pm 90^\circ$
Output	Voltage/Current/J1939/CANopen®
Unique Features	<ul style="list-style-type: none"> • Plug and play • Wide measurement range • Cost-efficient • Cable with connector • Fast MEMS sensor
Accuracy	$\pm 0.5^\circ$ (Full temp. range)
Operating Temp.	-40°C to 85°C
Dimensions (mm)	70.5 x 45 x 15
Typical Applications	Off road vehicle, fork lift, truck leveling, man lift, harvester, farm machine, tip over protection, solar panel control



DPG

Package	Aluminum housing IP67
Type	Inclinometer
Range	$\pm 5^\circ$ to $\pm 30^\circ$
Output	RS232/Voltage
Unique Features	<ul style="list-style-type: none"> • CE approved • Rugged housing • Easy to use • User configurable
Accuracy	$\pm 0.05^\circ$ to $\pm 0.3^\circ$
Operating Temp.	-40°C to 85°C
Dimensions (mm)	84 x 70 x 34.2
Typical Applications	Platform leveling, road construction machines, tunnel drilling, mobile leveling



D-Series

Package	Aluminum housing IP67
Type	Inclinometer
Range	$\pm 5^\circ$ to $\pm 30^\circ$
Output	RS232/Voltage/Current/Switch/PWM/CANopen®
Unique Features	<ul style="list-style-type: none"> • High accuracy • Rugged housing • Programmable • CE approved
Accuracy	$\pm 0.04^\circ$ to $\pm 0.8^\circ$
Operating Temp.	-40°C to 85°C
Dimensions (mm)	84 x 70 x 46
Typical Applications	Drilling machines, mobile and stationary cranes, wind power, antenna/radar leveling

POSITION SENSORS

PROXIMITY SENSORS



PS801
 Stainless steel
 Type
 • Proximity sensor
 • Used with proximity magnet
 Unique Features
 SPST reed switch, normally open
 Operating Temp.
 -30°C to 120°C
 Dimensions (mm)
 Ø12 x 65
 Typical Applications
 Door interlocks, hook switches, security systems, safety interlocks, position indication



PS811
 Nylon 6.6
 Type
 • Proximity sensor
 • Used with proximity magnet
 Unique Features
 SPST reed switch, normally open
 Operating Temp.
 -30°C to 110°C
 Dimensions (mm)
 Ø10 x 38
 Typical Applications
 Door interlocks, hook switches, security systems, safety interlocks, position indication



PS831
 Stainless steel
 Type
 • Proximity sensor
 • Used with proximity magnet
 Unique Features
 SPST reed switch, normally open
 Operating Temp.
 -30°C to 130°C
 Dimensions (mm)
 Ø12 x 32
 Typical Applications
 Door interlocks, hook switches, security systems, safety interlocks, position indication



PS2011AB
 Glass filled nylon 6.6
 Type
 • Proximity sensor
 • Used with proximity magnet
 Unique Features
 SPST reed switch, normally open
 Operating Temp.
 -30°C to 105°C
 Dimensions (mm)
 29 x 7 x 20
 Typical Applications
 Door interlocks, hook switches, security systems, safety interlocks, position indication



PS2021AB
 Glass filled nylon 6.6
 Type
 • Proximity sensor
 • Used with proximity magnet
 Unique Features
 SPST reed switch, normally closed
 Operating Temp.
 -30°C to 105°C
 Dimensions (mm)
 29 x 7 x 20
 Typical Applications
 Door interlocks, hook switches, security systems, safety interlocks, position indication



PS2031AB
 Glass filled nylon 6.6
 Type
 • Proximity sensor
 • Used with proximity magnet
 Unique Features
 SPDT reed switch
 Operating Temp.
 -30°C to 105°C
 Dimensions (mm)
 29 x 7 x 20
 Typical Applications
 Door interlocks, hook switches, security systems, safety interlocks, position indication



PS501
 Glass filled nylon 6.6
 Type
 • Proximity sensor
 • Used with proximity magnet
 Unique Features
 SPST reed switch, normally open
 Operating Temp.
 -30°C to 130°C
 Dimensions (mm)
 Ø6 x 32
 Typical Applications
 Door interlocks, hook switches, security systems, safety interlocks, position indication

POSITION SENSORS

PROXIMITY MAGNET



PM101

Package	Glass filled nylon 6.6
Type	<ul style="list-style-type: none"> • Proximity magnet • Used with proximity sensor
Unique Features	Housed magnet
Operating Temp.	-30°C to 105°C
Dimensions (mm)	29 x 7 x 20
Typical Applications	Door interlocks, hook switches, security systems, safety interlocks, position indication



PM50

Package	Glass filled nylon 6.6
Type	<ul style="list-style-type: none"> • Proximity magnet • Used with proximity sensor
Unique Features	Housed magnet
Operating Temp.	-30°C to 70°C
Dimensions (mm)	Ø6 x 32
Typical Applications	Door interlocks, hook switches, security systems, safety interlocks, position indication



PM81

Package	Nylon 6.6
Type	<ul style="list-style-type: none"> • Proximity magnet • Used with proximity sensor
Unique Features	Housed magnet
Operating Temp.	-30°C to 120°C
Dimensions (mm)	Ø10 x 38
Typical Applications	Door interlocks, hook switches, security systems, safety interlocks, position indication



PM83

Package	Stainless steel
Type	<ul style="list-style-type: none"> • Proximity magnet • Used with proximity sensor
Unique Features	Housed magnet
Operating Temp.	-30°C to 120°C
Dimensions (mm)	Ø12 x 32
Typical Applications	Door interlocks, hook switches, security systems, safety interlocks, position indication

LINEAR POSITION TRANSDUCERS

Cable Extension Transducers



PT1, PT5

Range	0 - 2 to 0 - 250 inches
Output	Voltage divider, 0 - 5 VDC, 0 - 10 VDC, 4 - 20 mA, incremental encoder, CANbus, DeviceNet™, RS-232
IP Rating	IP65, IP67 (PT5)
Enclosure	Aluminum and abs plastic (PT1)
Accuracy	±0.04% to ±0.25%
Unique Features	<ul style="list-style-type: none"> • Designed for most factory environments • Industry standard output signals • User serviceable • Compact design (PT1)
Operating Temp.	-40°C to 90°C
Dimensions (mm)	85 x 100 x 70 (PT1) 100 x 175 x 80 (PT5)
Typical Applications	Factory automation, industrial, die casting, injection molding



PT8000

Range	0 - 2 to 0 - 60 inches
Output	Voltage divider, 0 - 5 VDC, 0 - 10 VDC, 4 - 20 mA, incremental/absolute encoder, CANbus, DeviceNet™, RS-232
IP Rating	IP67, IP68
Enclosure	Aluminum or stainless
Accuracy	±0.04% to ±0.25%
Unique Features	<ul style="list-style-type: none"> • Heavy duty, submersible • Designed for extreme industrial and marine environments • CSA, CENELEC certification for hazardous area applications • High accuracy, high acceleration • Free-release proof with VLS option • M12 and DEUTSCH connector options
Operating Temp.	-40°C to 90°C
Dimensions (mm)	90 x 140 x 135
Typical Applications	Steel mills, lumber and paper mills, factory automation, die-casting, injection molding, mobile construction and mining



PT9000

Range	0 - 75 to 0 - 1700 inches
Output	Voltage divider, 0 - 5 VDC, 0 - 10 VDC, 4 - 20 mA, incremental/absolute encoder, CANbus, DeviceNet™, RS-232
IP Rating	IP67, IP68
Enclosure	Aluminum or stainless
Accuracy	±0.04% to ±0.25%
Unique Features	<ul style="list-style-type: none"> • Heavy duty, submersible • Proven workhorse for long stroke applications • Designed for extreme industrial and marine environments • CSA, CENELEC certification for hazardous area applications • Free-release proof with VLS option • M12 and DEUTSCH connector options
Operating Temp.	-40°C to 90°C
Dimensions (mm)	200 x 135 x 125
Typical Applications	Mobile hydraulic boom position, water resource management, mining and tunnel boring equipment, telescoping mechanism position, theater stage control

POSITION SENSORS

LINEAR POSITION TRANSDUCERS

Cable Extension Transducers



M150, MTA

Range	0 - 1.5 to 0 - 5 inches
Output	Voltage divider
Environment/ IP Rating	IP50
Enclosure	Aluminum
Accuracy	±0.4% to ±1%
Unique Features	<ul style="list-style-type: none"> • M150: one of the world's smallest string potentiometer • Designed for space-critical and testing applications
Operating Temp.	-40°C to 85°C (M150) -55°C to 100°C (MTA)
Dimensions (mm)	19 x 19 x 10 (M150)
Typical Applications	Aerospace, automotive instrumentation, automotive crash testing, automotive and motorcycle racing



MT2, MT3

Range	0 - 3 to 0 - 30 inches
Output	Voltage divider, incremental encoder
Environment/ IP Rating	IP50, IP67 (MT3A)
Enclosure	Aluminum and polycarbonate
Accuracy	±0.25% to ±1.1%
Unique Features	<ul style="list-style-type: none"> • Designed for test applications • Dual-axis measuring cable alignment • Tracks high-acceleration linear position up to 136g's • High-frequency response • GAM EG 13 certification
Operating Temp.	-55°C to 125°C
Dimensions (mm)	55 x 45 x 55
Typical Applications	Automotive crash testing, aerospace and flight testing



SM, SP

Range	0 - 2.5 to 0 - 50 inches
Output	Voltage divider, 0 - 10 VDC, 4 - 20 mA
Environment/ IP Rating	IP50, IP67 (SP)
Enclosure	Polycarbonate with stainless steel bracket
Accuracy	±0.25% to ±1%
Unique Features	<ul style="list-style-type: none"> • Compact design • M12 connection • Adjustable mounting bracket • Free-release tolerant • Custom configurations for OEMS
Operating Temp.	-18°C to 70°C (SM) -40°C to 85°C (SP)
Dimensions (mm)	120 x 140 x 140
Typical Applications	Factory automation, light industrial, seismic testing, racing instrumentation, medical imaging systems, fume hood position



SG, SR

Range	0 - 80 to 0 - 175 inches
Output	Voltage divider, 0 - 5 VDC, 0 - 10 VDC, 4 - 20 mA, incremental encoder, CANbus
Environment/ IP Rating	IP67
Enclosure	Polycarbonate with stainless steel bracket
Accuracy	±0.35% to ±0.5%
Unique Features	<ul style="list-style-type: none"> • Low cost, high value string potentiometer • Versatile stainless steel mounting bracket • Simple one-button user scalable stroke range (SR) • Custom configurations available for OEM customers
Operating Temp.	-40°C to 85°C
Dimensions (mm)	100 x 120 x 200
Typical Applications	Outdoor mobile construction equipment, outrigger positioning, hydraulic lifts, water and power controls



SK

Range	0 - 250 and 0 - 400 inches
Output	4 - 20 mA, 0 - 10 V, voltage divider, CAN J1939, CANopen®, Encoder drive
Environment/ IP Rating	IP67
Enclosure	Polycarbonate with stainless steel bracket
Accuracy	±.25% FS
Unique Features	<ul style="list-style-type: none"> • Compact design • M12 connectivity • Adjustable mounting bracket
Operating Temp.	-40°C to 85°C
Dimensions (mm)	120 x 140 x 140
Typical Applications	Mobile construction equipment, factory automation



PTX, PT101

Range	0 - 2 to 0 - 100 inches
Output	Voltage divider, 0 - 5 VDC, 0 - 10 VDC, 4 - 20 mA, incremental encoder, velocity output (DV301)
Environment/ IP Rating	IP50
Enclosure	Aluminum
Accuracy	±0.04% to ±0.25%
Unique Features	<ul style="list-style-type: none"> • Original classic design • High precision • Proven track record
Operating Temp.	-40°C to 90°C
Dimensions (mm)	Model and range specific
Typical Applications	Aerospace testing, architectural and structural testing, factory automation

POSITION SENSORS

LINEAR POSITION TRANSDUCERS—INDUCTIVE

Absolute



	HR	M12	HC
Package	AISI-400 series stainless steel	AISI-304 series stainless steel	AISI-400 series stainless steel
Linearity	±0.25% of range	±0.25% of range	±0.25% of range
Excitation	AC operated	AC operated	AC and DC operated versions
Output	AC voltage	AC voltage	AC or DC voltage, 4 - 20 mA loop or RS-485
Range	±0.05 to ±10 inches	±10 to ±100 mm	±0.05 to ±10 inches
Unique Features	<ul style="list-style-type: none"> • Large bore to core clearance • Broad range of excitation frequencies • Variety of options • Mild radiation resistance option 	<ul style="list-style-type: none"> • Metric series • High stroke to length ratio • Constant sum of secondaries • Excellent temperature coefficient 	<ul style="list-style-type: none"> • Hermetically sealed • Welded connector • Double shielding • Intrinsically safe version • CE mark for DC versions
Operating Temp.	-55°C to 150°C (220°C optional)	-55°C to 150°C (220°C optional)	-55°C to 150°C (AC); 0°C to 70°C (DC)
Diameter (mm)	20.6	12	19
Typical Applications	General industrial	Hydraulic spool valve position feedback, flight simulators, aircraft flight control feedback	Harsh environments, submersible applications, process controls, valve position feedback



	XS-C	DC-SE	XS-D
Package	AISI-304 series stainless steel	AISI-400 series stainless steel	AISI-400 series stainless steel
Linearity	±0.25% of range	±0.25% of range	±2% of range
Excitation	AC operated	8.5 to 28 VDC	AC operated
Output	AC voltage	0 - 5 VDC (4 wire), 1 - 6 VDC (3 wire)	AC voltage
Range	±0.25, ±0.5 and ±1 inches	0 - 0.1 to 0 - 6 inches	±1 to ±10 inches
Unique Features	<ul style="list-style-type: none"> • High pressure • Bulkhead mounting • Hermetically sealed welded assembly 	<ul style="list-style-type: none"> • CE mark • Low current consumption (6 mA typical) • Synchronous demodulation • Shielded cable 	<ul style="list-style-type: none"> • Very high stroke to body length ratio
Operating Temp.	-55°C to 150°C	-25°C to 85°C	-55°C to 150°C
Diameter (mm)	19	19	20.6
Typical Applications	Hydraulic actuators, other pressurized vessels	Positioning sensing feedback, battery operated systems, test labs, ram guide, platen position	Where sensor installation length is restricted, ideal replacement for linear potentiometers

POSITION SENSORS

LINEAR POSITION TRANSDUCERS—INDUCTIVE

Absolute



MACRO HSTA/R

Package	AISI-410 stainless steel
Linearity	±0.25% of range
Excitation	AC operated
Output	AC voltage
Range	±0.050 to ±10.0 inches
Unique Features	<ul style="list-style-type: none"> • IP68 rating, hermetically sealed • Mild radiation resistant (30 Mrad) optional • Axial or radial connector with thru-bore construction
Operating Temp.	-55°C to 200°C standard (Contact factory for higher temperature)
Diameter (mm)	19
Typical Applications	High temperature steam and gas valves, nuclear power plants, harsh and corrosive environments, environments with heavy dust, dirt, and humidity



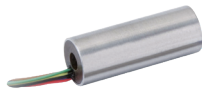
MACRO SSI/R

Package	Alloy 625
Linearity	±0.10% of range
Excitation	AC or DC operated
Output	AC or 4-20 mA loop digital CANbus available
Range	±1.0 to ±10.0 inches
Unique Features	<ul style="list-style-type: none"> • Operating pressure to 5,000 psi (7,500 psi proof) • Seawater submersible IP68 • Standard Seacon connector • Axial or radial connection
Operating Temp.	-40°C to 80°C
Diameter (mm)	23.9
Typical Applications	Off-shore drilling platforms, pipeline monitoring, choke valves, mooring cables, extensometers, pulp and paper mills



MACRO HPGS 750

Package	AISI-410 stainless steel
Linearity	±0.25% of range
Excitation	AC operated
Output	AC voltage
Range	±0.050 to ±10.0 inches
Unique Features	<ul style="list-style-type: none"> • Radial screw-on 38999 connector • IP68 rating, hermetically sealed • Designed for high vibration applications
Operating Temp.	-55°C to 200°C
Diameter (mm)	19
Typical Applications	Nuclear power generation equipment, hydraulic cylinder position, steam valve positioning, power generation equipment, corrosive environments, high-vibration environments



MACRO CD375

Package	AISI-410 stainless steel
Linearity	±0.25% of range
Excitation	AC operated
Output	AC voltage
Range	± 0.025 to ±1 inches
Unique Features	<ul style="list-style-type: none"> • Compact design • Operating pressure to 20,000 psi+
Operating Temp.	-55°C to 200°C
Diameter (mm)	9.5
Typical Applications	Machine tools, robotic grippers, medical equipment, valve position sensing, hydraulic cylinder, down-hole equipment



MACRO GHSE/R

Package	AISI-410 stainless steel
Linearity	±0.1% of range
Excitation	DC operated
Output	0 - 10 VDC
Range	0.100 to 4 inches
Unique Features	<ul style="list-style-type: none"> • Spring loaded design • IP68 rating, hermetically sealed • Axial and radial connection • Low pressure air-extend/spring-retract version available (GHSER 750-A)
Operating Temp.	-20°C to 70°C
Diameter (mm)	19
Typical Applications	Industrial gaging systems, replaces dial indicators, fabricated metal products gaging

POSITION SENSORS

LINEAR POSITION TRANSDUCERS—INDUCTIVE

Dimensional Gaging Products



	LBB Spring-Extend	LBB Air-Extend	PCA 375	GC	Ultimate-Precision Digital LBB
Linearity	±0.2% of range	±0.2% of range	±0.5% of range	±0.25% (Voltage) to ±0.5% (4 - 20 mA) of range	Accuracy ±0.2%
Excitation	AC operated	AC operated	AC operated	AC or DC voltage	5 VDC USB (Bus or external)
Output	AC voltage	AC voltage	AC voltage	AC or DC voltage, RS-485, or 4 - 20 mA loop	RS485; USB
Range	±0.02 to ±0.20 inches	±0.04 and ±0.1 inches	±0.02 to ±1 inches	±0.05 to ±2 inches	1, 2, 5 and 10 mm
Unique Features	<ul style="list-style-type: none"> • 0.000004 inch (0.1 μm) repeatability • Removable tungsten carbide contact tip • Double shielded LVDT • Repairable 	<ul style="list-style-type: none"> • 0.000004 inch (0.1 μm) repeatability • Removable tungsten carbide contact tip • Double shielded LVDT • Repairable 	<ul style="list-style-type: none"> • Longer strokes • IP65 cable exit • Accepts industry standard contact tips • Heavy duty return spring 	<ul style="list-style-type: none"> • Hermetically sealed • Welded MS connector (MIL-C-5015) " • CE mark for DC versions • Special tips available • Air extend spring retract available 	<ul style="list-style-type: none"> • Plug-and-play • 14-bit resolution • COM libraries provided • CE mark • USB adapter and power supply available
Operating Temp.	-40°C to 70°C	-40°C to 70°C	-20°C to 70°C	-55°C to 150°C (AC) 0°C to 70°C (DC)	0°C to 60°C
Diameter (mm)	8 or 9.5	8 or 9.5	9.5	19 mm body, 1/2 - 20 threads	Stackable gage system
Typical Applications	Process standards, manufacturing on-line inspection, robotics, replaces dial indicators in manual measurement systems	Process standards, manufacturing on-line inspection, robotics, replaces dial indicators in manual measurement systems	High density gaging fixtures, resistance weld verification, pressing applications, X-Y stage position feedback, rough casting inspection	Harsh environments, environments requiring hermetic seal, high temperatures (150°C for AC units)	Multi-channel electronic dimensional gaging, precision dimensional measurement, optics inspection systems, SPC data collection, hand tools

LINEAR POSITION ENCODERS

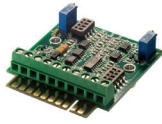
Incremental



	ED32i
Package	IP67 aluminum
Range	Magnetic scale, 5 mm pole pitch, typically up to 100 m absolute version up to 100 mm range on request
Excitation	5 VDC
Output	5 V TTL ABZ differential quadrature; RS-485
Resolution	≥10 μm; field programmable
Max. Speed	4 m/s
Unique Features	<ul style="list-style-type: none"> • Contactless incremental measurement • Very high accuracy, programmable resolution • High speed up to 4 m/s • Error detection, missing scale function • Adapter plate for easy mounting
Operating Temp.	-25°C to 85°C
Dimensions (mm)	60 x 20 x 10
Typical Applications	Linear displacement measurement in industrial and medical applications

POSITION SENSORS

LVDT/RVDT INSTRUMENTATION



LVM-110, LiM-420

Package	Open circuit board
Supply	DC voltage
Output	DC voltage or current
Operating Temp.	0°C to 55°C
Unique Features	<ul style="list-style-type: none"> • Master/slave for multi-up applications • Dip switch selectable excitation frequencies • Plug-in PCB or wire termination • Small form factor
Dimensions (mm)	63 x 56 x 21
Typical Applications	OEM applications



LDM-1000

Package	DIN rail mount
Supply	10 to 30 VDC
Output	DC voltage and current
Operating Temp.	-25°C to 85°C
Unique Features	<ul style="list-style-type: none"> • Operates with 4, 5 & 6 wire LVDT/RVDTs • Adjustable zero, span and phase • Status LEDs • CE mark
Dimensions (mm)	115 x 99 x 23
Typical Applications	Automotive test track instrumentation, gas and steam turbine controls, factory automation



ATA-2001

Package	1/8 DIN panel mount
Supply	115 and 220 VAC, 50 - 400 Hz
Output	DC voltage and current
Operating Temp.	-40°C to 85°C
Unique Features	<ul style="list-style-type: none"> • Push button programmable • Splash proof front panel • LED status lights • Mounting hardware included • CE mark
Dimensions (mm)	267 x 99 x 49
Typical Applications	Precision metrology labs, power generation valve position monitoring



PML 1000

Package	1/8 DIN panel mount
Supply	90 to 265 VAC, 50 - 60 Hz or 24 VDC
Output	DC voltage and current (RS-485 optional)
Operating Temp.	10°C to 55°C
Unique Features	<ul style="list-style-type: none"> • 5 digit LED display • Auto-calibration • Programmable • Splash proof front panel • Mounting hardware included • CE mark
Dimensions (mm)	173 x 97 x 49
Typical Applications	Remote monitoring stations, measurement test stands, process monitoring



MP 2000

Package	1/4 DIN panel mount
Supply	100 to 240 VAC, 47 - 63 Hz
Output	DC voltage and RS-232
Operating Temp.	0°C to 55°C
Unique Features	<ul style="list-style-type: none"> • Programmable set point controller • Dual channel with math functions • Digital I/O • Large LCD display • Splash proof front panel
Dimensions (mm)	178 x 92 x 92
Typical Applications	LVDT based weighing systems, pass/fail parts sorting, quality inspection



MMX Mini Module

Package	DIN rail mount
Supply	15 to 30 VDC
Output	DC voltage or 4-20 mA
Operating Temp.	0°C to 70 °C
Unique Features	<ul style="list-style-type: none"> • Push-button calibration • Flame retardant mini-module housing • Master/slave excitation synchronization (Up to 10 channels) • LED status lights • Supports all standard AC LVDTs, RVDTs, and VR half-bridge sensors
Dimensions (mm)	85.1 x 70.4 x 17.8
Typical Applications	Automotive test instrumentation, factory automation

POSITION SENSORS

LINEAR POSITION—POTENTIOMETERS



MLP, CLP

Package	Aluminum body, steel rod, IP65, IP67
Range	0 - 0.5 to 0 - 6" (MLP) 0 - 1 to 0 - 10" (CLP)
Linearity	±0.5 to ±1% (MLP) ±0.1 to ±0.2% (CLP)
Excitation	Up to 40 VDC max.
Output	Voltage divider
Resolution	Essentially infinite
Max. Speed	10 m/s
Unique Features	<ul style="list-style-type: none">• Extended temperature range, miniature design• First choice for auto racing applications• Perfect for high cycle applications
Operating Temp.	-40°C to 90°C
Dimensions (mm)	Diameter/cross section: Ø9.5 mm (MLP) 15 mm x 15 mm (CLP)
Typical Applications	Vehicle testing, autosport instrumentation, structural and architectural testing and robotics.

LINEAR POSITION—POTENTIOMETERS



5903, 5905 Linear Motion

Package	<ul style="list-style-type: none">• 7.94 mm - 12.7 mm/0.312" - 0.500" housing diameter• 1.98 mm - 3.18 mm/0.078" - 0.125" shaft diameter
Resistance	1K/5K/10K
Range	5903 series - up to 50.8 mm/2" stroke 5905 series - up to 101.6 mm/4" stroke
Linearity	±1%
Output Smoothness	<0.1%
Resolution	Infinite
Operating Temp.	-65°C to 125°C
Stroke Life	50 million cycles min
Typical Applications	Critical position feedback applications in commercial, industrial, medical, aircraft and military markets

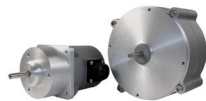
POSITION SENSORS

ANGULAR POSITION—POTENTIOMETERS



	6000 Servo Mount	6200 Bushing Mount	6900 Element/Wiper/Insulator	6100 Hollow Shaft
Package	<ul style="list-style-type: none"> • 12.7 mm - 50.8 mm/0.500" - 2.00" housing diameter • 3.170 mm - 6.34 mm/0.1248" - 0.2498" shaft diameter • 12.7 mm - 1.74 mm/0.500" - 0.680" housing length • 11.11 mm - 47.62 mm/0.438" - 1.875" mounting pilot diameter 	<ul style="list-style-type: none"> • 12.7 mm - 50.8 mm/0.500" - 2.00" housing diameter • 3.170 mm - 6.34 mm/0.1248" - .2498" shaft diameter • 12.7 mm - 1.74 mm/0.500" - 0.680" housing length • 3/8 32 NEF thread/10.31 mm/0.4062" pilot diameter 	<ul style="list-style-type: none"> • 17.81 mm - 45.85 mm/0.702" - 1.805 in element outside diameter • 4.724 mm - 11.05 mm/0.186" - 0.435" element inside diameter • 3.175 mm - 6.35 mm/0.125" - 0.250 shaft insulator inside diameter • 4.064 mm - 7.80 mm/0.160" - 0.307" mating wiper inside diameter • 5.08 mm/0.200" assembled package height 	<ul style="list-style-type: none"> • 27.94 mm - 66.5 mm/1.100" - 2.62" housing diameter • 3.175 mm - 19 mm/0.125" - 0.752" hollow shaft diameter
Resistance	1K - 20K Ω	1K - 20K Ω	1K/5K/10K Ω	1K - 20K Ω
Range	Up to 355°	Up to 355°	Up to 350°	Up to 355°
Linearity	\pm 0.5%	\pm 0.5%	\pm 0.5%	\pm 0.5%
Output Smoothness	<0.1%	<0.1%	< 0.1%	< 0.1%
Resolution	Infinite	Infinite	Infinite	Infinite
Operating Temp.	-65°C to 125°C	-65°C to 125°C	-65°C to 125°C	-65°C to 125°C
Rotational Life	50 million cycles/minute	50 million cycles/minute	50 million cycles/minute	50 million cycles/minute.
Typical Applications	Critical position feedback applications in commercial, industrial, medical, aircraft and military markets	Critical position feedback applications in commercial, industrial, medical, aircraft and military markets	Critical position feedback applications in commercial, industrial, medical, aircraft and military markets	Critical position feedback applications in commercial, industrial, medical, aircraft and military markets

ANGULAR POSITION—POTENTIOMETERS



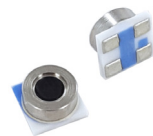
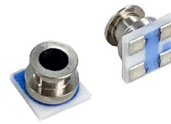
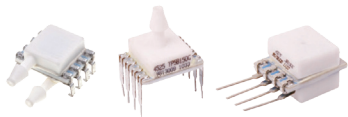
	RT8, RT9
Package	Aluminum or stainless IP67, IP68
Resolution	\pm 0.15% to \pm 1.25%
Unique Features	<ul style="list-style-type: none"> • Absolute rotary • Designed for heavy industrial applications • CSA, CENELEC certification for hazardous area applications
Output	Voltage divider, 0 - 5 V, 0 - 10 V, 4 - 20 mA, incremental encoder, CANbus, DeviceNet™
Range	0 - 0.125 to 0 - 200 turns
Operating Temp.	-40°C to 90°C
Dimensions (mm)	Ø65 x 100 (RT8) Ø115 x 60 (RT9)
Typical Applications	Valve control, airport passenger loading bridge, water management, factory automation

PRESSURE SENSORS



BOARD LEVEL PRESSURE SENSORS

Digital Output and Altimeter

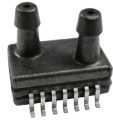


	MS4515DO, MS4525DO	MS5803	MS5837	MS5840
Package	8 pin DIL	Surface mountable	Surface mountable	Surface mountable
Type	Gage, compound (MS4515DO) Gage, absolute, differential, compound (MS4525DO)	Absolute	Absolute	Absolute
Pressure Range	0 - 2 to 30" H ₂ O (MS4515DO) 0 - 1 to 150 psí (MS4525DO)	0 - 1 to 30 bar	0 - 2 bar 0 - 30 bar	0 - 2 bar Operating range: 300 to 1200 mbar
Output/Span	14-bit ADC SPI or I ² C	24-bit ADC I ² C and SPI (Mode 0, 3)	24-bit ADC I ² C	24-bit ADC I ² C
Resolution	—	12 µbar (MS5803-01BA) 0.5 mbar (MS5803-30BA)	0.016 mbar (2 bar) 0.2 mbar (30 bar)	13 cm of air
Unique Features	<ul style="list-style-type: none"> • Optional gel coat, low power • Pressure and temperature measurement • Single supply of 3.3 or 5.0 VDC • Top, side barbed or manifold o-ring port • J lead or thru hole pins 	<ul style="list-style-type: none"> • 24-bit digital sensor, software calibration and temperature compensation (I²C and SPI), no external components • Supply voltage 1.8 to 3.6 V 	<ul style="list-style-type: none"> • Supply voltage: 1.5 to 3.6 V • Pressure and temperature measurement • Excellent long term stability • Hermetically sealable for outdoor devices • Sealing designed for 1.8 x 0.88 mm o-ring 	<ul style="list-style-type: none"> • Supply voltage: 1.5 to 3.6 V • Pressure and temperature measurement • Low power, 0.6 µA (standby ≤ 0.1 µA at 25°C) • Protected against direct sunlight
Linearity/Absolute Accuracy	0.25%/1% TEB	±1.5 mbar at 25°C (MS5803-01BA) ±250 mbar at 0°C to 40°C (MS5803-30BA)	±5 mbar (2 bar) ±400 mbar (30 bar)	±0.5mbar at 20°C ±4mbar from -20°C to 85°C
Overpressure	300 psi	10 bar (1, 2 bar) 30 bar (5, 7, 14 bar) 50 bar (30 bar)	10 bar (2 bar) 50 bar (30 bar)	—
Operating Temp.	-10°C to 85°C (MS4515DO) -25°C to 105°C (MS4525DO)	-40°C to 85°C	-20°C to 85 °C	-20°C to 85 °C
Dimensions (mm)	12.5 x 9.9	6.4 x 6.2 x 2.9	3.3 x 3.3 x 2.75	3.3 x 3.3 x 1.7mm
Typical Applications	Medical instruments, air flow measurements, process control, leak detection	Precision altimeter, diving and multi-mode watches, in-building navigation, variometers/flight instruments	Mobile water depth measurement systems, diving computers, adventure or multi-mode watches, data loggers	Altimeter and barometer applications, adventure or multi-mode watches, drones, bike computers

PRESSURE SENSORS

BOARD LEVEL PRESSURE SENSORS

Digital Output and Altimeter



MS5525DSO

Package	SOIC-14
Type	Gage, absolute, differential, compound
Pressure Range	0 - 1 to 30 psi
Output/Span	24-bit ADC SPI or I ² C protocol
Resolution	—
Unique Features	<ul style="list-style-type: none"> • 24-bit digital small outline sensor • Pressure and temperature measurement • Single supply of 1.8 or 3.6 VDC • Barb, tube and hole package style options
Linearity/Absolute Accuracy	0.25%/2.5% TEB
Overpressure	3X range
Operating Temp.	-40°C to 125°C
Dimensions (mm)	12.5 x 7.9
Typical Applications	Medical respirators, ventilators, factory automation, altitude and airspeed measurements, leak detection, home appliances



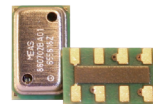
MS5607, MS5611, MS5637

Package	Surface mountable
Type	Absolute
Pressure Range	10 - 2K mbar
Output/Span	24-bit ADC I ² C
Resolution	0.016 mbar
Unique Features	<ul style="list-style-type: none"> • 24-bit digital sensor • 13 cm resolution (MS5607, MS5637) • 10 cm resolution (MS5611) • Supply voltage: 1.5 to 3.6 V (MS5637) Supply voltage: 1.8 to 3.6 V (MS5607, MS5611) • Low power, 0.6 μA (Standby ≤ 0.1 μA at 25°C)
Linearity/Absolute Accuracy	±2.0 mbar at 25°C
Overpressure	6 bar
Operating Temp.	-40°C to 85°C
Dimensions (mm)	3 x 3 x 0.9 (MS5637) 5 x 3 x 1 (MS5607, MS5611)
Typical Applications	Smart phones, tablets, personal navigation devices, tire pressure monitoring, compressors



MS5805

Package	Surface mountable
Type	Absolute
Pressure Range	10 - 2K mbar
Output/Span	24-bit ADC I ² C
Resolution	0.02 mbar
Unique Features	<ul style="list-style-type: none"> • 24-bit digital sensor • 20 cm resolution • Supply voltage: 1.8 to 3.6 V • Sealing designed for 2.5 x 1 mm o-ring • Silicone gel protection • Waterproof
Linearity/Absolute Accuracy	±2.0 mbar at 25°C
Overpressure	5 bar
Operating Temp.	-40°C to 85°C
Dimensions (mm)	4.5 x 4.5 x 3.5
Typical Applications	Mobile altimeter and barometer systems, bike computers, adventure or multi-mode watches, variometers, data loggers



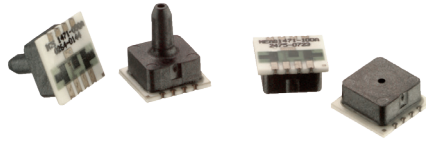
MS8607

Package	Surface mountable
Type	Absolute
Pressure Range	10 - 2K mbar
Output/Span	24-bit ADC I ² C
Resolution	0.016 mbar
Unique Features	<ul style="list-style-type: none"> • Integrated pressure, humidity and temperature • Supply voltage: 1.5 to 3.6 V • Fully factory calibrated sensor
Linearity/Absolute Accuracy	±4 mbar
Overpressure	6 bar
Operating Temp.	-40°C to 85°C
Dimensions (mm)	5 x 3 x 1
Typical Applications	Mobile water depth measurement systems, diving computers, adventure or multi-mode watches, data loggers

PRESSURE SENSORS

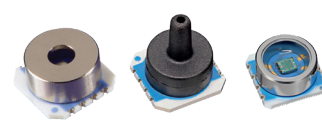
BOARD LEVEL PRESSURE SENSORS

mV Output



MS1451, MS1471

Package	Surface mountable
Type	Gage, absolute
Pressure Range	0 - 5 to 500 psi
Output/Span	60 mV typical
Unique Features	<ul style="list-style-type: none"> • Low cost • Coarse calibrated at room temp. (MS1471) • With gel to protect against moisture • Tube or hole
Accuracy	±0.25% non-linearity
Operating Temp.	-40°C to 125°C
Dimensions (mm)	7.6 x 7.6, application dependent
Typical Applications	Altitude measurement, barometric pressure, medical instrumentation, consumer appliances, tire pressure

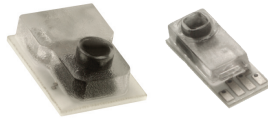


MS52xx, MS54xx

Package	Surface mountable
Type	Gage, absolute
Pressure Range	0 - 1 to 12 bar
Output/Span	150 mV, 240 mV
Unique Features	<ul style="list-style-type: none"> • Small size (MS54xx) • High linearity or high sensitivity options • Plastic tube or metal ring options • With gel to protect against moisture • High endurance (Option HM)
Accuracy	±0.05%, ±0.15% FS non-linearity (MS52xx) ±0.05%, ±0.2% FS non-linearity (MS54xx)
Operating Temp.	-40°C to 125°C
Dimensions (mm)	7.6 x 7.6, application dependent (MS52xx) 6.4 x 6.2 (MS54xx)
Typical Applications	Absolute pressure sensor systems, engine controls, high resolution altimeters, variometers, waterproof watches, diver computers, barometers, tire pressure monitoring systems (TPMS), medical instrumentation, pneumatic controls

DISPOSABLE MEDICAL PRESSURE SENSORS

mV Output



1620, 1630

Package	Hybrid assembly
Type	Gage
Pressure Range	-30 to 300 mmHg
Output/Span	5 µV/V/mmHg
Unique Features	<ul style="list-style-type: none"> • Low cost, disposable design • Supplied in tape and reel • Compliant to AAMI spec • ISO13485 certified
Operating Temp.	10°C to 40°C
Dimensions (mm)	1620: 11.43 x 8.13 x 4.20 1630: 12.7 x 5.08 x 3.94
Typical Applications	Disposable blood pressure, surgical procedures, ICU, kidney dialysis machines, medical instrumentation



Fully Assembled 1620 (Customized per customer specifications)

Package	Plastic housing
Type	Gage
Pressure Range	-30 to 300 mmHg
Output/Span	5 µV/V/mmHg
Unique Features	<ul style="list-style-type: none"> • Low cost, disposable design • Compliant to AAMI spec • Custom designs available
Operating Temp.	10°C to 40°C
Dimensions (mm)	42.8 x 30.3 x 19.0
Typical Applications	Disposable blood pressure, kidney dialysis machines, surgical procedures and intensive care units. Ready to use, fully assembled disposable sensor units with cable, connector, stop cock, flush device in a plastic housing.

PRESSURE SENSORS

MEDIA ISOLATED PRESSURE SENSOR MODULES

Digital Output



85BSD

Package	<ul style="list-style-type: none"> • 13 mm diaphragm diameter • Weldable or threaded process fittings
Type	Gage, absolute
Pressure Range	0 - 0.35 to 20 bar / 0 - 5 to 300 psi
Output/Span	14-bit ADC I ² C or SPI
Unique Features	<ul style="list-style-type: none"> • Pressure and temperature read-out • Cable and connector options • Low power option
Accuracy	±0.25% span
Total Error Band	±1.0% FSO
Overpressure	2X
Operating Temp.	-40°C to 125°C
Dimensions (mm)	Ø15.85 x 7.9
Typical Applications	Level controls, tank level measurement, corrosive fluids and gas measurement systems, sealed systems, manifold pressure measurement, submersible depth monitoring



86BSD

Package	<ul style="list-style-type: none"> • 16 mm diaphragm diameter • O-ring mount
Type	Gage, absolute
Pressure Range	0 - 0.07 to 20 bar / 0 - 1 to 300 psi
Output/Span	14-bit ADC I ² C or SPI
Unique Features	<ul style="list-style-type: none"> • Pressure and temperature read-out • Cable and connector options • Low power option
Accuracy	±0.25% span
Total Error Band	±1.0% FSO
Overpressure	2X
Operating Temp.	-40°C to 125°C
Dimensions (mm)	Ø15.82 x 9.3
Typical Applications	Level controls, tank level measurement, corrosive fluids and gas measurement systems, sealed systems, manifold pressure measurement, submersible depth monitoring



89BSD

Package	<ul style="list-style-type: none"> • 9 mm diaphragm diameter • Threaded or weldable
Type	Absolute, sealed gage
Pressure Range	0 - 6 to 30 bar
Output/Span	24-bit ADC I ² C
Unique Features	<ul style="list-style-type: none"> • Pressure and temperature read-out • Low power: 1 µA (Standby < 0.15 µA)
Accuracy	±0.3% span
Total Error Band	±3.0% FSO max.
Overpressure	2X
Operating Temp.	-40°C to 85°C
Dimensions (mm)	Ø9.04 x 7.5
Typical Applications	Level controls, tank level measurement, corrosive fluids and gas measurement systems, sealed systems, manifold pressure measurement, dive computers



154BSD

Package	<ul style="list-style-type: none"> • 19 mm diaphragm diameter • O-ring mount
Type	Gage, absolute
Pressure Range	0 - 1 to 300 psi
Output/Span	14-bit ADC I ² C or SPI
Unique Features	<ul style="list-style-type: none"> • Pressure and temperature read-out • Cable and connector options • Low power option
Accuracy	±0.25% span
Total Error Band	±1.0% FSO
Overpressure	2X
Operating Temp.	-40°C to 125°C
Dimensions (mm)	Ø19 x 13.8
Typical Applications	Level controls, tank level measurement, corrosive fluids and gas measurement systems, sealed systems, manifold pressure measurement, submersible depth monitoring

TRANSDUCERS AND TRANSMITTERS

Industrial Wireless



M5600, U5600

Type	Gage, sealed, absolute, compound
Pressure Range	0 - 50 to 15K psi (M5600), 0 - 5 to 10K psi (U5600)
Output/Span	24-bit ADC I ² C
Unique Features	<ul style="list-style-type: none"> • Pressure and temperature • 2.3 - 3.6 V supply voltage • Compact and battery-powered • Weather resistant (IP66 and IP67) • Stainless steel and polycarbonate enclosure
Accuracy	±0.25% FS (M5600) Down to ±0.1% FS (U5600)
Operating Temp.	-20°C to 85°C
Dimensions (mm)	24 x 24 x 69
Typical Applications	Industrial process control and monitoring, advanced HVACR systems, refrigeration systems, automotive test stands, off-road vehicles, pumps and compressors, hydraulic and pneumatic systems, agriculture equipment, energy generation and management
Agency Approvals	CE, FCC



MSP100

Type	Gage
Pressure Range	0 - 100 to 500 psi
Output/Span	100 mV typical
Unique Features	<ul style="list-style-type: none"> • Microfused • Low cost stainless steel isolated transducer • No threads needed for pressure connect • Highly customized for OEM application • Small size • Solid state reliability
Accuracy	±0.5% FSO
Operating Temp.	0°C to 55°C
Dimensions (mm)	12.7 x 24.38 x 20.32
Typical Applications	Beverage dispensing systems, automation, HVACR controls, energy and water management, pumps, compressors, pneumatic equipment
Agency Approvals	—



MSP300, MSP340

Type	Gage
Pressure Range	0 - 100 to 10K psi (MSP300) 0 - 50 to 10K psi (MSP340)
Output/Span	0 - 100 mV, 0.5 - 4.5 VDC, 1 - 5 VDC, 4 - 20 mA
Unique Features	<ul style="list-style-type: none"> • Microfused • Highly customized for OEM applications • Small size • Solid state reliability
Accuracy	±1% FSO
Operating Temp.	-20°C to 85°C
Dimensions (mm)	MSP300: 22.23 x 22.23 x 55.88 MSP340: 15.88 x 15.88 x 75.44
Typical Applications	Paint sprayers, braking systems, HVACR controls, energy and water management, pumps, compressors, pneumatic equipment, off road heavy equipment, agriculture equipment
Agency Approvals	UL 508 (MSP300)

PRESSURE SENSORS

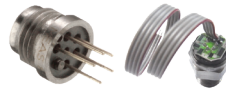
MEDIA ISOLATED PRESSURE SENSOR MODULES

Analog Output



82, 85 with Fittings

Package	Weldable (85) or process fitting
Type	Gage, absolute, vacuum gage
Pressure Range	0 - 5 to 500 psi (85), 0 - 1 to 500 psi (82)
Output/Span	100 mV typical
Unique Features	• Modular design
Non-linearity	±0.3% FSO (1 psi) ±0.2% FSO (5 psi) ±0.1% FSO (≥15 psi)
Operating Temp.	-40°C to 125°C
Dimensions (mm)	Fittings: application dependent
Typical Applications	Medical, process control, refrigeration compressor, oceanography, level systems



89 Button, 89 with Fittings

Package	Weldable or process fitting
Type	Sealed gage, absolute
Pressure Range	0 - 1K to 10K psi
Output/Span	100 mV typical
Unique Features	• High pressure • Modular design
Non-linearity	±0.25% FSO
Operating Temp.	-40°C to 125°C
Dimensions (mm)	89 Button: Ø9.04 x 13.2 89 with Fittings: application dependent
Typical Applications	Air tank pressure, hydraulics, process control, robotics, refrigeration compressors, oceanography



86A Amplified

Package	5/8" (16 mm) diameter o-ring mount
Type	Gage, absolute
Pressure Range	0 - 1 to 150 psi
Output/Span	0.5 - 4.5 VDC
Unique Features	• Small diameter, amplified output • Bar ranges available
Non-linearity	±1.0% FSO
Operating Temp.	-20°C to 85°C
Dimensions (mm)	Ø15.82 x 9.3
Typical Applications	Level measurement, OEM transmitters and transducers, process control

MEDIA ISOLATED PRESSURE SENSOR MODULES

Analog Output



82, 85, 85F, 86, 154N

Package	• 3/4" (19 mm) diameter o-ring mount (82, 154N) • 5/8" (16 mm) diameter o-ring mount (86) • 1/2" (13 mm) diameter o-ring flush mount (85F) • 1/2" (13 mm) diameter o-ring mount (85)
Type	Gage, absolute, vacuum gage (82, 85, 86, 154N) Gage, absolute (85F)
Pressure Range	0 - 1 to 500 psi (Absolute, gage: 82, 154N) 0 - 5 to 500 psi (Absolute, gage: 85, 86) 0 - 15 to 500 psi (85F, vacuum gage: 82, 85, 86, 154N)
Output/Span	100 mV typical
Unique Features	• High performance • High stability for OEM applications • Minimizes trapped volume (85F)
Non-linearity	±0.3% FSO (1 psi), ±0.2% FSO (5 psi) ±0.1% FSO (≥15 psi), ±0.1% FSO (85F)
Operating Temp.	-40°C to 125°C (82 / 85 / 86 / 154N), -20°C to 125°C (85F)
Dimensions (mm)	82: Ø19 x 6.48 86: Ø15.82 x 11.4 154N: Ø18.97 x 13.8 85F: Ø17.2 x 11.33 85: Ø15.85 x 9.3
Typical Applications	Hydraulic controls, process control, oceanography, refrigeration/compressors, pressure transmitters, level systems, dialysis machines, infusion pumps, medical systems



DP86 O-Ring Mount, with Fittings/Cable

Package	• 5/8" (16 mm) diameter o-ring mount or threaded process fittings
Type	Differential
Pressure Range	0 - 1 to 500 psi
Output/Span	100 mV typical/sensitivity dependent
Unique Features	• Wet/wet differential pressure • Line pressure max. 1,000 psi
Non-linearity	±0.3% FSO (1 psi) ±0.2% FSO (5 psi) ±0.1% FSO (≥15 psi)
Operating Temp.	-40°C to 125°C
Dimensions (mm)	O-ring: Ø15.82 x 17.5 Fittings: Application dependent
Typical Applications	Level controls, tank level measurement, corrosive fluids and gas measurement systems, flow measurement



U86B

Package	• Mountable with o-ring seal
Type	Sealed gage, absolute
Pressure Range	0 - 5 to 13 bar/0 - 50 to 200 psi
Output/Span	0.5 - 4.5 VDC (Ratiometric output)
Unique Features	• Amplified
Non-linearity	±0.5% FSO
Operating Temp.	-7°C to 105°C
Dimensions (mm)	Ø15.82 x 13.6 Socket spacing: 31.75
Typical Applications	Urea level, urea pressure, air brakes, corrosive fluid measurement for engine & vehicle applications

PRESSURE SENSORS

TRANSDUCERS AND TRANSMITTERS

Industrial



	US300	AST20HA, AST20PT, AST20SW	AST4000, AST4100, AST4200
Type	Gage, absolute	Gage, sealed gage, absolute	Gage, sealed gage, compound
Pressure Range	0 - 15 to 5K psi	0 - 1 to 60K psi	0 - 25 to 10K psi
Output/Span	0 - 10 mV/V, 0.5 - 4.5 V, 1 - 5 V, 4 - 20 mA	0.5 - 4.5 V (Ratiometric) 1 - 5 V 4 - 20 mA, 0 - 5 V, 0 - 10 V, switch (AST20SW)	0.5 - 4.5 V (Ratiometric), 1 - 5 V, 1 - 10 V, 4 - 20 mA, 0.5 - 2.5 V
Unique Features	<ul style="list-style-type: none"> • UltraStable technology • Highly customized for OEM applications • Small size • Solid state reliability 	<ul style="list-style-type: none"> • Excellent performance over temperature • Semi-custom designs available • Fault mode condition settings • Four standard sensor material options • Additional temperature output (AST20PT) 	<ul style="list-style-type: none"> • Four standard sensor material options • Rugged construction • 100 V/m EMI/RFI protection • Semi-custom designs available
Accuracy	±0.15% FSO (15 - 1K psi), ±0.25% FSO (>1K psi)	±0.1% FSO	±0.5% FSO
Operating Temp.	-40°C to 105°C	-40°C to 85°C	-40°C to 85°C
Dimensions (mm)	15.88 x 15.88 x 98.00	Application dependent	Application dependent
Typical Applications	Paint sprayers, braking systems, HVACR controls, energy and water management, pumps, compressors, pneumatic equipment, off road heavy equipment, agriculture equipment	Test and measurement, industrial controls	Water, hydraulic equipment, HVACR, industrial controls
Agency Approvals	—	ABS, CE	UL/cUL508, ABS, CE



	M3200	M5200	U5200, U5300	D5100
Type	Gage, Compound	Gage, sealed, compound	Gage, sealed, absolute, compound	Differential wet/wet
Pressure Range	0-7bar to 500 bar / 0-100 to 7,500 Psi	0 - 3.5 to 1K bar/0 - 50 to 15K psi	0 - 0.14 to 700 bar/0 - 2 to 10K psi	0 - 0.07 to 35 bar/0 - 1 to 500 psi
Output/Span	100mV, 0.5 - 4.5 V, 1 - 5 V, 0 - 5 V, 0 - 10 V, 4 - 20 mA and I ² C Digital Output	0.5 - 4.5 V, 1 - 5 V, 0 - 5 V, 0 - 10 V, 4 - 20 mA, 1 - 6 V	0.5 - 4.5 V, 1 - 5 V, 0 - 5 V, 0 - 10 V, 4 - 20 mA, 1 - 6 V	80 mV / 100 mV, 0.5 - 4.5 VDC, 1 - 5 VDC, 4 - 20 mA
Unique Features	<ul style="list-style-type: none"> • Microfused technology • High performance at a low cost • Solid state reliability • ±1.5% FSO TEB (-20°C to 85°C) • Weatherproof - IP67 with cable • 14bit digital output for Pressure 	<ul style="list-style-type: none"> • Microfused technology • High performance at a low cost • Solid state reliability • ±1% FSO TEB (-20°C to 85°C) • Weatherproof • 17 - 4 PH or 316L SS 	<ul style="list-style-type: none"> • UltraStable technology • High performance at a low cost • ±0.75% FSO TEB (-20°C to 85°C, >5 psi and ≤5000 psi) (U5200) • ±0.5% FSO TEB (-20°C to 85°C) (U5300) • Weatherproof • High accuracy (U5300) 	<ul style="list-style-type: none"> • UltraStable technology • High performance at a low cost • Solid state reliability • ±1% FSO TEB (-20°C to 85°C) • Line pressure max. 1000 psi
Accuracy	±0.25% FSO	±0.25% FSO	±0.1% FSO (>5 and ≤500 psi)	±0.3% FSO (<5 psi), ±0.25% FSO (5 psi), ±0.1% FSO (≥15 psi)
Operating Temp.	-40°C to 125°C	-40°C to 125°C	-40°C to 125°C	-40°C to 125°C
Dimensions (mm)	22.2 on Hex x 58 max	24 X 24 X 82 max.	24 X 24 X 82 max.	25.4 x 58.4 x 72.0
Typical Applications	Suitable for measurement of liquid or gas pressure, even for difficult media such as contaminated water, steam, and mildly corrosive fluids.	Industrial process control and monitoring, advanced HVACR systems, refrigeration systems, automotive test stands, off road vehicles, pumps and compressors, hydraulic and pneumatic systems, agriculture equipment, energy generation and management	Industrial process control and monitoring, advanced HVACR systems, refrigeration systems, automotive test stands, off road vehicles, pumps and compressors, hydraulic and pneumatic systems, agriculture equipment, energy generation and management, military and aerospace test stands, calibration equipment, high accuracy applications, stationary motor fuel control, high end industry machinery	Process controls, tank level measurement, filter performance monitoring, corrosive fluids and gas measurement systems, flow measurement
Agency Approvals	CE (EMC)	CE (EMC)	CE (EMC), UL 508	CE (EMC)

PRESSURE SENSORS

TRANSDUCERS AND TRANSMITTERS

Heavy Industrial



M7100, U7100

Type	Gage, no vent gage (M7100) Gage, sealed gage, absolute (U7100)
Pressure Range	0 - 10 to 700 bar/0 - 150 to 10K psi (M7100) 0 - 1 to 10 bar/0 - 15 to 150 psi (U7100)
Output/Span	0.5 - 4.5 VDC [Ratiometric output] 1 - 5 VDC [Regulated] (M7100) 0.5 - 4.5 VDC [Ratiometric output] (U7100)
Unique Features	<ul style="list-style-type: none"> • ±1% FSO TEB (-20°C to 85°C) • Solid state reliability • Survives high vibration and immersion • Microfused technology (M7100) • UltraStable technology (U7100) • Copper tube for HVACR (M7100)
Accuracy	0.25% FSO
Operating Temp.	-40°C to 125°C
Dimensions (mm)	26.7 x 26.7 x 50.0
Typical Applications	HVACR refrigeration controls, off road vehicles engine control, compressors, hydraulic, energy and water management
Agency Approvals	CE (EMC), UL 508

P900, P981, P1200, P700, P9000

Type	Gage, absolute
Pressure Range	0 - 5 bar to 700 bar/0 - 75 to 10K psi
Output/Span	0 - 5 VDC, 0 - 10 VDC, 4 - 20 mA
Unique Features	<ul style="list-style-type: none"> • High overpressure (10X over pressure) • Shock and vibration resistant • Heavy industrial grade transducer (P9000) • Advanced digital compensation / calibration • Mechanical over pressure stops • High temperature operation
Accuracy	0.1% to 0.2% FSO
Operating Temp.	-54°C to 120°C
Dimensions (mm)	Application dependent
Typical Applications	Steel mills, hydraulic controls, power generation equipment, torpedo depth, military and aerospace, vehicle braking systems
Agency Approvals	CE, CENELEC (Intrinsically Safe)

P101, P105, P125

Type	Gage
Pressure Range	0 - 10 to 7K bar/0 - 150 to 100K psi
Output/Span	7.5 to 20 mV (4 V; 5 V optional)
Unique Features	<ul style="list-style-type: none"> • Stainless steel diaphragm • Female pressure connectors: M16 x 1.5, M20 x 1.5, 1/4 NPT • Metal to metal seal
Accuracy	±0.3% FSO
Operating Temp.	-20°C to 80°C
Dimensions (mm)	Ø29 x 85 max.
Typical Applications	Harsh environments, aggressive liquids
Agency Approvals	—

TRANSDUCERS AND TRANSMITTERS

Miniature



XP

Type	Gage, sealed, absolute
Pressure Range	0 - 1 to 350 bar/0 - 15 to 5K psi (XP5, XPM10) 0 - 5 to 200 bar/0 - 75 to 3K psi (XPM4) 0 - 100 to 1K bar/0 - 1.5K to 15K psi (XPM6)
Output/Span	20 - 100 mV, 4 V FSO (Amplified)
Unique Features	<ul style="list-style-type: none"> • Titanium construction (XP5, XPM4) • Stainless steel housing (XPM6, XPM10) • Amplified output options (XP5, XPM6, XPM10) • Cable and connector options • For static and dynamic applications
Accuracy	Down to ±0.25% FSO (XP5, XPM6, XPM10), down to ±0.35% FSO (XPM4)
Operating Temp.	-40°C to 120°C
Dimensions (mm)	XPM4: M4 x 0.7 thread; Hex 8 XP5: M5 x 0.8 or 10-32 UNF thread; Hex 10 XPM6: M6 x 1 thread; Hex 12 XPM10: M10 x 1 thread; Hex 15
Typical Applications	Corrosive liquids and gases, braking system pressure, onboard equipment monitoring, military and aerospace, explosive test benches, robotics and effectors, laboratory and research, extreme miniature devices

XPC10

Type	Gage, sealed, absolute
Pressure Range	0 - 10 to 500 bar/0 - 150 to 7.5K psi
Output/Span	12 mV FSO, 4 V FSO (Amplified)
Unique Features	<ul style="list-style-type: none"> • Amplified output available • For static and dynamic applications • Optional IP67 ingress protection • High temperature operation
Accuracy	Down to ±0.25% FSO
Operating Temp.	-40°C to 220°C
Dimensions (mm)	M10 x 1 or 3/8-24 UNF thread; Hex 15
Typical Applications	Aerospace, test benches, oven monitoring equipment, cooling regulation systems

PRESSURE SENSORS

TRANSDUCERS AND TRANSMITTERS

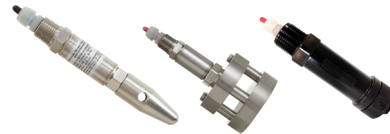
Miniature



	EB, EPRB	EPIH	EPB, EPB-PW, EPL
Type	Gage, sealed, absolute	Gage, sealed, absolute	Gage, sealed, absolute
Pressure Range	0 - 0.35 to 700 bar/0 - 5 to 10K psi	0 - 0.35 to 20 bar/0 - 5 to 300 psi	0 - 0.35 to 350 bar/0 - 5 to 5K psi
Output/Span	0.5 to 4.5 VDC	12 mV to 75 mV	10 mV to 125 mV
Unique Features	<ul style="list-style-type: none"> • High accuracy • Miniature design • UltraStable technology • EMI protected • Combined pressure and temperature 	<ul style="list-style-type: none"> • Diffused silicon diaphragm with a large variety of sizes and shapes available as small as 0.05" outside diameter • High frequency response (To 1.7 MHz) • Ultra-miniature design 	<ul style="list-style-type: none"> • Miniature flush mountable • Flush stainless steel diaphragm, flanged or non-flanged • Bonded silicon gage, high frequency response (To 400 KHz) • IP68 ingress protection in Titanium construction (EPB-PW)
Accuracy	±0.25% FSO	±1.0% FSO	±0.5 to ±1% FSO
Operating Temp.	-40°C to 125°C (Available option up to 150°C)	-40°C to 120°C	-40°C to 120°C
Dimensions (mm)	11 body diameter	Application dependent	3.2 to 7 outside diameter
Typical Applications	Motor sport, hydraulic/pneumatic systems, automotive test stands, military and aerospace test stands	Aerospace testing, wind tunnels, biomedical testing, aircraft body and wing dynamics, high frequency measurements	Air flow testing, hydraulic pressure systems, air pressure systems, bearing studies, ballistics, water hammer, miniature scale model testing, centrifuge pore water pressure measurements
Agency Approvals	CE (EMC)	—	—

TRANSDUCERS AND TRANSMITTERS

Liquid Level



	U5700	AST45xx
Type	Gage, sealed, absolute, compound	Gage, absolute
Pressure Range	0 - 2 to 10K psi	0 - 1 to 100 psi (AST4500, AST4510, AST4520)
Output/Span	0.5 - 4.5 V, 1 - 5 V, 0 - 5 V, 0 - 10 V, 4 - 20 mA, 1 - 6 V	0.5 - 4.5 V [Ratiometric], 1 - 5 V, 4 - 20 mA, 0.5 - 2.5 V
Unique Features	<ul style="list-style-type: none"> • UltraStable technology • High accuracy • IP68 rated connection and submersible • Polyurethane jacketed cable • Optional Polyoxymethylene cap 	<ul style="list-style-type: none"> • Intrinsically safe ratings • Material options including: 316L, alloy C276, and PVDF • Low power options • High quality cable options
Accuracy	0.1% FSO	±0.25% FSO
Operating Temp.	-10°C to 60°C	-40°C to 85°C
Dimensions (mm)	22.23 x 22.23 x 98.04	Application dependent
Typical Applications	Industrial process control and monitoring, advanced HVACR systems, refrigeration systems, automotive test stands, off road vehicles, pumps and compressors, hydraulic/pneumatic systems, agriculture equipment, energy generation and management, liquid level applications	Diesel tanks, chemical tanks, water tanks
Agency Approvals	CE (EMC)	UL/CSA Class I Div I, ATEX/IECEx Exia, ABS, CE

PRESSURE SENSORS

TRANSDUCERS AND TRANSMITTERS

Hazardous Location



AST43xx, AST44xx

Type	Gage, sealed gage, compound, absolute
Pressure Range	0 - 1 to 15 psi (AST43LP, AST44LP) 0 - 25 to 20K psi (AST4300, AST4400, AST4401)
Output/Span	0.5 - 4.5 V [Ratiometric], 1 - 5 V, 4 - 20 mA, 0.5 - 2.5 V
Unique Features	<ul style="list-style-type: none"> • Available with 316L, Hastalloy C276, or Inconel 718 materials • Low current consumption options • Low power options • High proof and burst pressure
Accuracy	±0.25% FSO
Operating Temp.	-40°C to 85°C
Dimensions (mm)	Application dependent
Typical Applications	Compressors, well sites, ships, factory automation, SCADA equipment, offshore equipment
Agency Approvals	UL/CSA Class I Div I and II, ATEX/IECEX Exia/Exn, CCOE, CNEx, ABS, CE



AST46xx

Type	Gage, sealed gage, compound, absolute
Pressure Range	0 - 1 to 20K psi
Output/Span	0.5 - 4.5 V [Ratiometric], 1 - 5 V, 4 - 20 mA, 0.5 - 2.5 V, switch (AST46SW)
Unique Features	<ul style="list-style-type: none"> • Available with 316L, Hastalloy C276, or Inconel 718 materials • Low current consumption options • Low power options • Local display (AST46DS) • Additional temperature output
Accuracy	±0.25% FSO (AST4600, AST46DS), ±0.1% FSO (AST46HA, AST46PT)
Operating Temp.	-40°C to 85°C
Dimensions (mm)	Application dependent
Typical Applications	SCADA/RTU, well sites, offshore equipment, hydraulic controls
Agency Approvals	CSA Class I/II Div I, ATEX/IECEX Exd, ABS, CE



AST5100, AST5300, AST5400

Type	Differential
Pressure Range	0 - 5 H ₂ O to 5K psi
Output/Span	0.5 - 4.5 V [Ratiometric], 0 - 5 V, 1 - 5 V, 4 - 20 mA
Unique Features	<ul style="list-style-type: none"> • Wide range of pressures available • Full line pressure on either side without zero shifts • Hazardous location approvals (AST5300, AST5400)
Accuracy	±0.25% FSO (AST5100, AST5300), 1% TEB (AST5400)
Operating Temp.	-40°C to 85°C
Dimensions (mm)	Application dependent
Typical Applications	Filter monitoring, flow measurement, tank level measurement
Agency Approvals	CSA Class I/II Div I and II, ATEX/IECEX Exd/Exn, ABS, CE



AST2000H2

Type	Gage, sealed gage
Pressure Range	0-10 PSI to 10000 PSI
Output/Span	0.5 - 4.5 V [Ratiometric] 1 - 5 V, 4 - 20 mA
Unique Features	<ul style="list-style-type: none"> • 20 bar, 448 bar, 900 bar • High pressure H2 Storage • CE EN61326
Accuracy	±0.25% BFSL
Operating Temp.	-40°C to 85°C
Dimensions (mm)	Application dependent
Typical Applications	PEM fuel cells, hydrogen storage, hydrogen filling stations, backup power
Agency Approvals	EC-79 e24*79/2009*406/2010*0006*02 CE EN61326

RATE AND INERTIAL SENSORS



RATE SENSORS AND GYROS



	11206AC	11207AC	31206B/31207B	610	603
Package	Electroless nickel plated Aluminum	Electroless nickel plated Aluminum	Electroless nickel plated Aluminum	Anodized aluminum	Anodized aluminum
FS Ranges	±50, ±180°/sec	±300°/sec	±50, ±180, ±1,000°/sec	±500 to ±50K°/sec	±100 to ±24K°/sec
Unique Features	<ul style="list-style-type: none"> • IdentiCal™ interchangeable sensor • ±0.5% accuracy from -40°C to +85°C • Silicon MEMS gyro • EN61000-6-2/-4 certified for industrial environment 	<ul style="list-style-type: none"> • IdentiCal™ interchangeable sensor • High stability • Low noise • Vibration-rejecting 	<ul style="list-style-type: none"> • Triaxial angular rate sensor • Stable performance over temperature • Power supply regulation • Temperature calibration data 	<ul style="list-style-type: none"> • Small, lightweight package • SAE-J211, ISO-6487, NHTSA approved • Crash testing certified • Insensitive to shock 	<ul style="list-style-type: none"> • MEMS triaxial rate sensor • SAEJ211 compliant • Shock resistant housing • Rugged compact package
Accuracy	±0.1% non-linearity	±0.01% non-linearity	±0.1% non-linearity	±0.5% non-linearity	±0.5% non-linearity
Excitation Voltage	8.5 - 36 VDC	10 - 36 VDC	8.5 - 36 VDC	5 - 16 VDC	5 - 16 VDC
Operating Temp.	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 105°C	-40°C to 105°C
Dimensions (mm)	24 x 24 x 27.30	24 x 24 x 27.30	24 x 24 x 28.30	14.6 x 10.2 x 7.6	20.8 x 20.8 x 14.5
Typical Applications	Wind turbine, weapons testing, test and measurement	Wind turbine, weapons testing, test and measurement	Weapons testing, boat stabilization, test and measurement	Automotive safety crash testing, roll-over testing, motor sports, biomechanics, weapons testing	Automotive safety crash testing, pedestrian impact, biomechanics, robotics

RATE AND INERTIAL SENSORS

6 DEGREES OF FREEDOM SENSORS



633

Package	Stainless steel
FS Ranges	±500 to ±50K°/sec ±50g to ±6,000g
Unique Features	<ul style="list-style-type: none"> • Complete six degree-of-freedom (6DoF) analog sensor • Shock resistant rugged housing • Silicon MEMS gyros • PR MEMS high-g shock sensors
Accuracy	±0.5% non-linearity
Excitation Voltage	5 - 16 VDC
Operating Temp.	-40°C to 105°C
Dimensions (mm)	21.3 x 21.3 x 15.2
Typical Applications	Aerospace testing, weapons testing, biomechanics, shock and impact testing



634

Package	Anodized aluminum
FS Ranges	±100 to ±18K°/sec ±2g to ±100g
Unique Features	<ul style="list-style-type: none"> • 6DoF analog sensor • Signal conditioned output • Silicon MEMS gyros • UltraStable VC MEMS low-g sensors
Accuracy	±0.1% non-linearity
Excitation Voltage	5 - 16 VDC
Operating Temp.	-40°C to 105°C
Dimensions (mm)	30.5 x 30.5 x 24.6
Typical Applications	Automotive testing, motion measurements, biomechanics

INERTIAL SENSORS



65210E

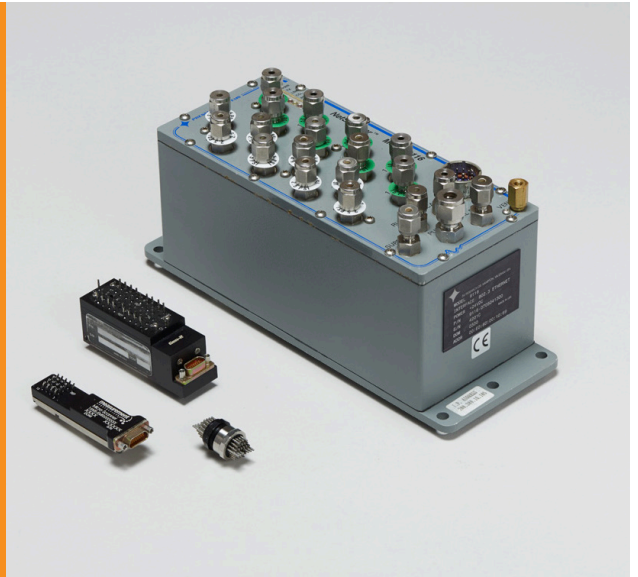
Package	Electroless nickel plated Aluminum
FS Ranges	±1K to ±20K°/sec, ±10g to ±100g
Unique Features	<ul style="list-style-type: none"> • 6DoF and telemetry kit • User configurable, IRIG encoder • Parabolic and radome ring mounting adaptor options • Up to 4hr battery options
Accuracy	±0.2% non-linearity error
Excitation Voltage	Li-Ion battery included
Operating Temp.	-40°C to 85°C
Dimensions (mm)	Ø69.85 x 197.3 length
Typical Applications	Weapons separation testing, captive carry testing, GTV and JTV test vehicles



65210ES

Package	Electroless nickel plated Aluminum
FS Ranges	±1K to ±20K°/sec, ±10g to ±100g
Unique Features	<ul style="list-style-type: none"> • 6DoF and telemetry kit • Parabolic and radome ring mounting adaptor options • AES encryption option • Wide range of signal conditioning modules
Accuracy	±0.2% non-linearity error
Excitation Voltage	Li-Ion battery included
Operating Temp.	-40°C to 85°C
Dimensions (mm)	Ø69.85 x 161.3 length
Typical Applications	Weapons separation testing, captive carry testing, GTV and JTV test vehicles

SCANNERS AND SYSTEMS



PRESSURE AND TEMPERATURE SCANNERS

NetScanners



NetScanner 9216

Measurement Type	Pressure
Media	Dry
Accuracy	±0.05% FS
# of Channels	16
EU Throughput Rate	500 Hz/chan/sec
Operating Temp.	-30°C to 80°C
Enclosure	IP66/30 g vibration
Typical Applications	Engine testing, portable data acquisition, wind tunnel research, process monitoring



NetScanner 9146-R

Measurement Type	Temperature
Media	RTD/TC/Volt
Accuracy	±0.25°C
# of Channels	16/32
EU Throughput Rate	33 Hz/chan/sec
Operating Temp.	-30°C to 70°C
Enclosure	IP66/30 g vibration
Typical Applications	Engine testing, portable data acquisition, wind tunnel research, process monitoring



NetScanner 9146-T

Measurement Type	Temperature
Media	TC
Accuracy	±0.25°C
# of Channels	16
EU Throughput Rate	33 Hz/chan/sec
Operating Temp.	-30°C to 70°C
Enclosure	IP54/30 g vibration
Typical Applications	Engine testing, portable data acquisition, wind tunnel research, process monitoring



NetScanner 9022

Measurement Type	Pressure
Media	Liquid
Accuracy	±0.05% FS
# of Channels	12
EU Throughput Rate	100 Hz/chan/sec
Operating Temp.	-30°C to 70°C
Enclosure	IP64/30 g vibration
Typical Applications	Engine testing, third party transducers, close coupled requirements, high pressure

SCANNERS AND SYSTEMS

PRESSURE SCANNERS & TRANSDUCERS

NetScanners, Transducers, and Accompanying Equipment



NetScanner 9032, 9033

Measurement Type	Barometer, Differential Standard
Media	Dry
Accuracy	±0.01% FS
# of Channels	1
EU Throughput Rate	10 Hz
Operating Temp.	-10°C to 60°C
Enclosure	Laboratory grade
Typical Applications	Barometric monitor, precision reference



NetScanner 9034, 9038

Measurement Type	Calibrator
Media	Dry
Accuracy	±0.01% FS
# of Channels	1
EU Throughput Rate	10 Hz
Operating Temp.	-10°C to 60°C
Enclosure	Laboratory grade
Typical Applications	Calibration, transfer standard, verification testing



NetScanner 9916, 98RK-1 Rack

Measurement Type	Pressure
Media	Dry
Accuracy	±0.05% FS
# of Channels	128
EU Throughput Rate	100 Hz/chan/sec
Operating Temp.	0°C to 50°C
Enclosure	19" rackmount/4U
Typical Applications	Turbine engine test, control room location



NetScanner 9400 Transducer

Measurement Type	Pressure
Media	All-media
Accuracy	±0.05%
# of Channels	1
EU Throughput Rate	Analog Output
Operating Temp.	-30°C to 100°C
Enclosure	IP66
Typical Applications	Turbine Engine Test, liquids, hydraulics

ELECTRONIC & MINIATURE PRESSURE SCANNERS

ESP & MicroScanner



ESP 64HD DTC

Type	Pressure
Media	Dry
Accuracy	±0.03% FS
# of Channels	64
Thermal Comp.	Active (DTC)
Operating Temp.	-25°C to 80°C
Multiplex Scan Rate	70 KHz
Port Sizes (Inches)	0.040
Typical Applications	Wind tunnel research, flight test, on vehicle research



ESP 32HD DTC

Type	Pressure
Media	Dry
Accuracy	±0.03% FS
# of Channels	32
Thermal Comp.	Active (DTC)
Operating Temp.	-25°C to 80°C
Multiplex Scan Rate	70 KHz
Port Sizes (Inches)	0.040 or 0.063
Typical Applications	Wind tunnel research, flight test, on vehicle research



ESP 64HD, 32HD, 16HD

Type	Pressure
Media	Dry
Accuracy	±0.05% FS
# of Channels	64, 32 or 16
Thermal Comp.	Passive
Operating Temp.	-25°C to 80°C
Multiplex Scan Rate	20 KHz
Port Sizes (Inches)	0.040 or 0.63
Typical Applications	Wind tunnel research, flight test, on vehicle research



MicroScanner 16MS

Type	Pressure
Media	Dry
Accuracy	±0.05%
# of Channels	16
Thermal Comp.	Active
Operating Temp.	-20°C to 100°C
Multiplex Scan Rate	100 KHz
Port Sizes (Inches)	Direct mount
Typical Applications	For confined space, wind tunnel, flight test

DATA ACQUISITION SYSTEMS

Multi-Scanner Data Acquisition Systems



Optimus

Type	Pressure scanning
Media	Dry
Accuracy	±0.03% FS
# of Channels	2048
EU Throughput Rate	2000 Hz
Operating Temp.	0°C to 50°C
Enclosure	Laboratory grade
Typical Applications	Aerospace development



Initium

Type	Pressure scanning
Media	Dry
Accuracy	±0.05% FS
# of Channels	512
EU Throughput Rate	1200 Hz
Operating Temp.	0°C to 70°C
Enclosure	Laboratory grade
Typical Applications	Wind engineering



mSDI Interface

Type	A/D conversion
Media	Dry
Accuracy	±0.05% FS
# of Channels	512
EU Throughput Rate	2000 Hz
Operating Temp.	-25°C to 80°C
Enclosure	Miniature
Typical Applications	In-model placement, Optimus System interface



Pneumatics

Type	Quick disconnect
Media	Dry
Accuracy	—
# of Channels	19, 31, 36, 55
EU Throughput Rate	—
Operating Temp.	-40°C to 80°C
Enclosure	Miniature
Typical Applications	Pressure connections for confined spaces

SPEED SENSORS



SPEED SENSORS

3 & 4 CHANNELS HALL EFFECT SPEED SENSORS



Jaquet DSD 25

Technology	Differential Hall Effect three and four channels
Package	<ul style="list-style-type: none">• Stainless steel• Shaft length 29 mm• Shaft diameter 24.5 mm
Frequency Range	0 - 20 kHz
Nominal Supply Voltage	Nominal 15VDC (9 VDC to 30 VDC)
Output Signal	3 & 4 channels push-pull
Operating Temp.	-40°C to 125°C
Typical Applications	Railway

DUAL CHANNEL HALL EFFECT SPEED SENSOR



Jaquet DSD 70

Technology	Differential Hall Effect two channels
Package	<ul style="list-style-type: none">• Stainless steel• Shaft length 29 mm• Shaft diameter 16 mm
Frequency Range	0 - 20 kHz
Nominal Supply Voltage	Nominal 15VDC (9 VDC to 30 VDC)
Output Signal	2 channels push-pull
Operating Temp.	-40°C to 125°C
Typical Applications	Railway

EDDY CURRENT SPEED SENSORS



Jaquet DSH

Technology	Eddy Current single channel
Package	<ul style="list-style-type: none">• Stainless steel• Shaft length 42 mm• Shaft diameter 18 mm
Frequency Range	up to 20 kHz
Nominal Supply Voltage	10 - 30VDC
Output Signal	Square Wave
Operating Temp.	-40°C to 125°C
Typical Applications	Industrial (Power Generation, Hydraulic, Engines, Industry)



Jaquet DSH 16

Technology	Eddy Current two channels
Package	<ul style="list-style-type: none">• Stainless steel• Shaft length 29 mm• Shaft diameter 16 mm
Frequency Range	up to 20 kHz
Nominal Supply Voltage	Nominal 15 VDC (8 VDC to 30 VDC)
Output Signal	2 channels push-pull
Operating Temp.	120°C
Typical Applications	Railway

TORQUE SENSORS



STATIC TORQUE SENSORS



CS1060

Package	Square male coupling
Operating Mode	Reaction
Unique Features	<ul style="list-style-type: none"> • Optional high level output • Keyed shaft connection • Static measurements
FS Ranges	±5 to ±7,000 Nm ±4 to ±5,600 lbf-ft
Max. Over-range	1.5X FS
Output/Span	±20 mV , 0.5-4.5V
Combined Non-linearity & Hysteresis	< ±0.25% FS
Operating Temp.	-20°C to 100°C
Dimensions (mm)	Application dependent
Typical Applications	Non-rotating parts torque measurement, robotics and effectors, laboratory and research



CS1120

Package	Keyed shaft connections
Operating Mode	Reaction
Unique Features	<ul style="list-style-type: none"> • Optional high level output • Static torque measurement • Excellent temperature stability
FS Ranges	±5 to ±2,500 Nm ±4 to ±2,000 lbf-ft
Max. Over-range	1.5X FS
Output/Span	±20 mV , 0.5-4.5V
Combined Non-linearity & Hysteresis	< ±0.25% FS
Operating Temp.	-20°C to 100°C
Dimensions (mm)	Application dependent
Typical Applications	Non-rotating parts torque measurement, robotics and effectors, laboratory and research



CS1210

Package	Collar mechanical fittings
Operating Mode	Reaction
Unique Features	<ul style="list-style-type: none"> • High stiffness • Low transverse sensitivity • Optional high temp option
FS Ranges	±160 to ±10,000 Nm ±128 to ±8,000 lbf-ft
Max. Over-range	1.5X FS
Output/Span	±20 mV , 0.5-4.5V
Combined Non-linearity & Hysteresis	< ±0.25% FS
Operating Temp.	-40°C to 150°C
Dimensions (mm)	Application dependent
Typical Applications	Non-rotating parts torque measurement, robotics and effectors, laboratory and research

TORQUE SENSORS

DYNAMIC TORQUE SENSORS



CD1050

Package	Square male couplings
Operating Mode	Dynamic rotary
Unique Features	<ul style="list-style-type: none"> • Optional high level output • Rugged • Slip ring measurement interface
FS Ranges	± 5 to $\pm 7,000$ Nm ± 4 to $\pm 5,600$ lbf-ft
Max. Over-range	1.5X FS
Output/Span	± 20 mV, 0.5-4.5V
Combined Non-linearity & Hysteresis	$< \pm 0.25\%$ FS
Operating Temp.	-20°C to 80°C
Dimensions (mm)	Application dependent
Typical Applications	Engine efficiency, robotics and effectors, laboratory and research



CD1095

Package	Keyed shaft couplings
Operating Mode	Dynamic rotary
Unique Features	<ul style="list-style-type: none"> • High accuracy • Built-in amplifier • Bi-directional measurement
FS Ranges	± 5 to $\pm 2,500$ Nm ± 4 to $\pm 2,000$ lbf-ft
Max. Over-range	1.5X FS
Output/Span	± 20 mV, 0.5-4.5V
Combined Non-linearity & Hysteresis	$< \pm 0.25\%$ FS
Operating Temp.	-20°C to 80°C
Dimensions (mm)	Application dependent
Typical Applications	Process control equipment, robotics and effectors, test and measurement



CD1110

Package	Keyed shaft couplings
Operating Mode	Dynamic rotary
Unique Features	<ul style="list-style-type: none"> • Low range measurements • Bi-directional measurement • Mechanical over-range stops
FS Ranges	± 0.05 to ± 2 Nm ± 0.04 to ± 1.6 lbf-ft
Max. Over-range	10X FS
Output/Span	± 20 mV, 0.5-4.5V
Combined Non-linearity & Hysteresis	$< \pm 0.25\%$ FS
Operating Temp.	-20°C to 80°C
Dimensions (mm)	Application dependent
Typical Applications	Process control equipment, robotics and effectors, test and measurement

CONTACTLESS TORQUE SENSORS



CD1140

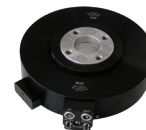
Package	Keyed shaft couplings
Operating Mode	Contactless
Unique Features	<ul style="list-style-type: none"> • High accuracy • Built-in amplifier • Speed and angle detection
FS Ranges	± 0.05 to $\pm 20,000$ Nm ± 0.04 to $\pm 16,000$ lbf-ft
Max. Over-range	2X FS
Output/Span	± 10 V (60 pulses/rev)
Combined Non-linearity & Hysteresis	$\pm 0.1\%$ FS
Operating Temp.	0°C to 60°C
Dimensions (mm)	Application dependent
Typical Applications	Process control equipment, robotics and effectors, test and measurement



CD9515

Package	Keyed shaft couplings
Operating Mode	Contactless
Unique Features	<ul style="list-style-type: none"> • Economical • Small form factor • Speed and angle detection
FS Ranges	± 5 to $\pm 1,000$ Nm ± 4 to ± 738 lbf-ft
Max. Over-range	2X FS
Output/Span	± 5 V (60 pulses/rev)
Combined Non-linearity & Hysteresis	$\pm 0.3\%$ FS
Operating Temp.	0°C to 60°C
Dimensions (mm)	Application dependent
Typical Applications	Industrial applications, process control equipment, PLC compatible

AUTOMOTIVE TEST TORQUE SENSORS



FCA7300

Package	Steering wheel adaptable
Operating Mode	Multi-sensing
Unique Features	<ul style="list-style-type: none"> • Dual torque/angle range • Steering velocity measurement • Fits all road vehicles
FS Ranges	10 to 200 Nm (7 lbf-ft to 150 lbf-ft)
Max. Over-range	10X FS
Output/Span	± 10 V
Combined Non-linearity & Hysteresis	$\pm 0.1\%$ FS
Operating Temp.	-20°C to 80°C
Dimensions (mm)	Ø195 x 50
Typical Applications	On-car road test, truck and buses steering test, armored vehicles steering test



CD1124T

Package	Engine shaft dynamic torque meter
Operating Mode	Contactless
Unique Features	<ul style="list-style-type: none"> • Heavy duty vehicles • Telemetry based • Gearbox to engine shaft measurement
FS Ranges	20,000 Nm 16,000 lbf-ft
Max. Over-range	1.5X FS
Output/Span	± 10 V
Combined Non-linearity & Hysteresis	$\pm 1\%$ FS
Operating Temp.	-20°C to 80°C
Dimensions (mm)	Ø195 x 35
Typical Applications	Automotive test benches for engine shaft torque measurement

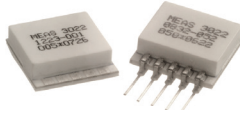
VIBRATION SENSORS



VIBRATION SENSORS

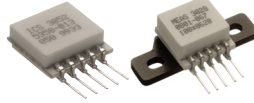
EMBEDDED ACCELEROMETERS

MEMS DC Accelerometer



3022, 3028

Package	Pins or pads
Type	Board level
FS Range	±2g to ±100g
Unique Features	<ul style="list-style-type: none"> • mV output, critically gas damped • Board and screw mount options • Pin or solder pad option
Accuracy	±1.0% non-linearity
Operating Temp.	-40°C to 125°C
Dimensions (mm)	22.8 x 15.2 x 5.3
Typical Applications	Vibration and shock monitoring, tilt applications, motion control, impact testing



3052A, 3058A

Package	Pins or pads
Type	Board level
FS Range	±2g to ±100g
Unique Features	<ul style="list-style-type: none"> • Temperature compensated • Board and screw mount options • Pin or solder pad option
Accuracy	±1.0% non-linearity
Operating Temp.	-40°C to 125°C
Dimensions (mm)	22.8 x 15.2 x 5.3
Typical Applications	Vibration and shock monitoring, tilt applications, motion control, impact testing



3038

Package	SMD
Type	Board level
FS Range	±50g to ±6,000g
Unique Features	<ul style="list-style-type: none"> • Hermetically sealed • High over-range protection • Gas damping
Accuracy	±1.0% non-linearity
Operating Temp.	-54°C to 125°C
Dimensions (mm)	7.5 x 7.5 x 3.3
Typical Applications	Vibration and shock monitoring, embedded systems, shock testing, safe and arm



3255A

Package	SMD
Type	Board level
FS Range	±25g to ±100g
Unique Features	<ul style="list-style-type: none"> • Amplified, signal conditioned • Gas damping • Bidirectional mounting
Accuracy	±1.0% non-linearity
Operating Temp.	-40°C to 125°C
Dimensions (mm)	13.5 x 7.6 x 3.8
Typical Applications	Vibration and shock monitoring, aerospace testing, impact testing, transportation

EMBEDDED ACCELEROMETERS

Piezoelectric Accelerometer



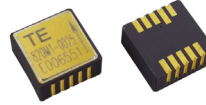
805, 805M1

Package	TO-5
Type	Adhesive (Stud mount option)
FS Range	±20g to ±500g
Unique Features	<ul style="list-style-type: none"> • Hermetically sealed • Case grounded design • Bandwidth to 12 kHz
Accuracy	±1.0% non-linearity
Operating Temp.	-50°C to 125°C
Dimensions (mm)	Ø8.9 x 10.2
Typical Applications	Machine monitoring, data loggers, permanent structures



808, 808M1

Package	TO-8
Type	Adhesive (Stud mount option)
FS Range	±4g to ±50g
Unique Features	<ul style="list-style-type: none"> • Hermetically sealed • Case grounded design • Bandwidth to 8 kHz
Accuracy	±1.0% non-linearity
Operating Temp.	-50°C to 100°C
Dimensions (mm)	Ø15.2 x 16.6
Typical Applications	Machine monitoring, data loggers, embedded applications



820M1

Package	Board level
Type	SMD
FS Range	±25g to ±500g
Unique Features	<ul style="list-style-type: none"> • Small size, low cost • Dynamic response • Wide >6000Hz bandwidth
Accuracy	±2.0% non-linearity
Operating Temp.	-40°C to 125°C
Dimensions (mm)	8.9 x 8.9 x 4.2
Typical Applications	Embedded predictive maintenance, condition monitoring, data loggers



832, 832M1

Package	SMD
Type	Board mount
FS Range	±25g to ±500g
Unique Features	<ul style="list-style-type: none"> • SMT mount, triaxial • Wide bandwidth >6000Hz • Low power consumption
Accuracy	±2.0% non-linearity
Operating Temp.	-20°C to 80°C (832) -40°C to 125°C (832M1)
Dimensions (mm)	18.8 x 14.2 x 4.3
Typical Applications	Data logging, asset monitoring, impact monitoring



834, 834M1

Package	SMD
Type	Board mount
FS Range	±2,000g to ±6,000g
Unique Features	<ul style="list-style-type: none"> • SMT mount, triaxial • Wide bandwidth >6,000Hz • Low power consumption
Accuracy	±2.0% non-linearity
Operating Temp.	-20°C to 80°C (834) -40°C to 125°C (834M1)
Dimensions (mm)	18.8 x 14.2 x 4.3
Typical Applications	Data logging, asset monitoring, impact monitoring

VIBRATION SENSORS

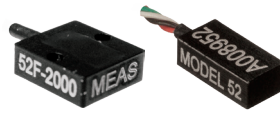
PLUG AND PLAY ACCELEROMETERS

Uniaxial DC Response



40A, 40B

Package	Anodized aluminum
Type	Screw mount
FS Range	±25g to ±2,000g
Unique Features	<ul style="list-style-type: none"> • Critically damped • Euro NCAP certified • Compact
Accuracy	±1.0% non-linearity
Operating Temp.	-20°C to 80°C
Dimensions (mm)	16.7 x 10.0 x 5.0
Typical Applications	Pedestrian crash testing, Euro NCAP testing



52, 52M30, 52F

Package	Anodized aluminum
Type	Adhesive and Screw mount
FS Range	±50g to ±6,000g
Unique Features	<ul style="list-style-type: none"> • SAE-J211/2570 and ISO-6487 compliant • Gas damping, thin profile • Over-range stops
Accuracy	±1.0% non-linearity
Operating Temp.	-40°C to 90°C
Dimensions (mm)	11.2 x 10.1 x 3.8
Typical Applications	Vibration and shock testing, safety impact testing, side-impact testing



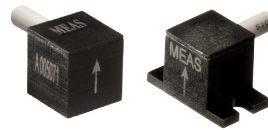
58

Package	Anodized Aluminum
Type	Adhesive mount
FS Range	±50g to ±6,000g
Unique Features	<ul style="list-style-type: none"> • Most reliable crush zone accelerometer available • Rugged, water proof • Mounting on any sides of housing
Accuracy	±1.0% non-linearity
Operating Temp.	-20°C to 85°C
Dimensions (mm)	14.0 x 6.3 x 6.3
Typical Applications	On-vehicle crash and impact testing, drop testing, harsh environment



64B, 64C, 64X

Package	Anodized aluminum
Type	Screw mount
FS Range	±50g to ±6,000g
Unique Features	<ul style="list-style-type: none"> • SAE-J211/2570 and ISO-6487 compliant • ATD dummy certified • Market performance leader
Accuracy	±0.7% non-linearity
Operating Temp.	-40°C to 121°C
Dimensions (mm)	13.1 x 10.0 x 5.0
Typical Applications	In-dummy crash and impact testing, Euro NCAP testing



1201, 1201F

Package	Anodized aluminum
Type	Adhesive/screw mount
FS Range	±50g to ±2,000g
Unique Features	<ul style="list-style-type: none"> • Cube form factor, low noise cable • Adhesive or screw mount • Over-range stops
Accuracy	±1.0% non-linearity
Operating Temp.	-20°C to 85°C
Dimensions (mm)	8.9 x 8.9 x 9.4
Typical Applications	On-vehicle crash and impact testing, vibration and shock monitoring

VIBRATION SENSORS

PLUG AND PLAY ACCELEROMETERS

Uniaxial DC Response



3801A, 4801A

Package	Stainless steel
Type	Stud mount
FS Range	4801A; $\pm 2g$ to $\pm 200g$ 3801A; $\pm 50g$ to $\pm 6,000g$
Unique Features	<ul style="list-style-type: none"> Hermetically sealed sensor mV and amplified output options Integral connector, detachable cable
Accuracy	$\pm 0.1\%$ non-linearity on 4801A
Operating Temp.	-54°C to 121°C
Dimensions (mm)	15.9 x 15.2
Typical Applications	Impact testing, structural testing, test and instrumentation, environmental testing



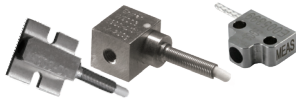
3700

Package	Stainless steel
Type	Screw mount
FS Range	$\pm 50g$ to $\pm 6,000g$
Unique Features	<ul style="list-style-type: none"> No zero shift mV output 20,000 g over-range protection
Accuracy	$\pm 1.0\%$ non-linearity
Operating Temp.	-54°C to 121°C
Dimensions (mm)	14.2 x 8.1 x 3.8
Typical Applications	Impact and shock testing, structural testing, drop testing, aerospace testing



EGAXT, EGAXT3

Package	Stainless steel
Type	Adhesive/screw mount
FS Range	$\pm 5g$ to $\pm 2,500g$
Unique Features	<ul style="list-style-type: none"> Sub-miniature, fluid damped Miniature single and triaxial designs 10,000 g over-range protection
Accuracy	$\pm 1.0\%$ non-linearity
Operating Temp.	-40°C to 120°C
Dimensions (mm)	EGAXT; 7.2 x 4.6 x 4.6 EGAXT3; 12.7 x 12.7 x 12.7
Typical Applications	Flight test and control, launch, crash, impact testing, robotics



EGCS-D0, EGCS-D1S, EGCS-D5

Package	Stainless steel
Type	Screw/stud mount
FS Range	$\pm 5g$ to $\pm 10,000g$
Unique Features	<ul style="list-style-type: none"> Rugged housing Critically damped 20,000 g over-range protection
Accuracy	$\pm 1.0\%$ non-linearity
Operating Temp.	-40°C to 120°C
Dimensions (mm)	D0: 19.0 x 19.0 x 7.6 D1S: 12.7 x 12.7 x 15.2 D5: 14.2 x 12.7 x 5.6
Typical Applications	Impact and shock testing, destructive testing, engine testing



4602, 4604

Package	Anodized aluminum
Type	Screw mount
FS Range	$\pm 2g$ to $\pm 200g$
Unique Features	<ul style="list-style-type: none"> UltraStable MEMS Low noise, signal conditioned <2% TEB (total error band)
Accuracy	$\pm 0.1\%$ non-linearity
Operating Temp.	-54°C to 125°C
Dimensions (mm)	21.1 x 21.6 x 7.6
Typical Applications	Flight testing on engines, flutter test, road load and transportation testing



4610, 4810A

Package	Stainless steel
Type	Screw mount
FS Range	$\pm 2g$ to $\pm 200g$
Unique Features	<ul style="list-style-type: none"> UltraStable MEMS Hermetically sealed <2% TEB (total error band)
Accuracy	$\pm 0.1\%$ non-linearity
Operating Temp.	-55°C to 125°C
Dimensions (mm)	25.4 x 29.1 x 7.6
Typical Applications	Low frequency monitoring, road testing, motion analysis

VIBRATION SENSORS

PLUG AND PLAY ACCELEROMETERS

Triaxial DC Response



53A, 53AF

Package	Anodized aluminum
Type	Adhesive mount
FS Range	±50 to ±2,000g
Unique Features	<ul style="list-style-type: none"> • Low cost • Gas damping • Low power
Accuracy	±1.0% non-linearity
Operating Temp.	-20°C to 85°C
Dimensions (mm)	18.3 x 13.2 x 7.1
Unique Features	Auto safety, passenger comfort, transportation, NVH analysis



68CM1

Package	Stainless steel
Type	Screw mount
FS Range	±50 to ±2,000g
Unique Features	<ul style="list-style-type: none"> • World SID • Gas damping • Low power
Accuracy	±1.0% non-linearity
Operating Temp.	-20°C to 85°C
Dimensions (mm)	12.7 x 12.7 x 12.7
Unique Features	Auto safety, in-dummy crash, on-vehicle crash



4630

Package	Anodized aluminum
Type	Screw mount
FS Range	±2g to ±200g
Unique Features	<ul style="list-style-type: none"> • UltraStable MEMS • Low noise, signal conditioned • <2% TEB (total error band)
Accuracy	±0.1% non-linearity
Operating Temp.	-40°C to 115°C
Dimensions (mm)	26.2 x 26.2 x 23.4
Unique Features	Road testing, motion control, structural testing



4020, 4030

Package	Molded plastic
Type	Screw mount
FS Range	±2g to ±6g
Unique Features	<ul style="list-style-type: none"> • Low cost • Biaxial, with triaxial option • DC response
Accuracy	±1.0% non-linearity
Operating Temp.	-40°C to 85°C
Dimensions (mm)	71.2 x 40.0 x 15.2
Unique Features	Structural monitoring, seismic array, bridge testing



606M1

Package	Nitrile rubber pad
Type	Removable
FS Range	±25g
Unique Features	<ul style="list-style-type: none"> • 606M2 IEPE option • Triaxial, hermetic • Seat pad accelerometer
Accuracy	±1.0% non-linearity
Operating Temp.	-20°C to 85°C
Dimensions (mm)	199 x 4
Unique Features	Off road equipment, amusement rides, commercial aircraft



4835A

Package	Titanium
Type	Screw mount
FS Range	±2g to ±200g
Unique Features	<ul style="list-style-type: none"> • UltraStable MEMS • Welded connector, hermetic • <2% TEB (total error band)
Accuracy	±0.1% non-linearity
Operating Temp.	-55°C to 125°C
Dimensions (mm)	22.9 x 22.9 x 17.1
Typical Applications	Road testing, motion control, flight testing



4630M12, 4630M14

Package	Titanium
Type	Screw mount
FS Range	±2g to ±200g
Unique Features	<ul style="list-style-type: none"> • UltraStable MEMS • Compact, rugged and double shielded cable • <2% TEB (total error band)
Accuracy	±0.1% non-linearity
Operating Temp.	-55°C to 125°C
Dimensions (mm)	22.9 x 22.9 x 16.0
Typical Applications	Road load testing, transportation testing



4332M3

Package	Stainless steel
Type	Screw mount
FS Range	±2g to ±50g
Unique Features	<ul style="list-style-type: none"> • Low noise ranges • Temperature compensated • High over-range
Accuracy	±1.0% non-linearity
Operating Temp.	-40°C to 115°C
Dimensions (mm)	34.5 x 34.5 x 31.2
Typical Applications	Structural monitoring, bridge testing



XL403D

Package	Nickel plated aluminum
Type	Screw mount
FS Range	±2g to ±15g
Unique Features	<ul style="list-style-type: none"> • Digital triaxial accelerometer • Smart, onboard processing • Temperature output included
Accuracy	±0.25% non-linearity
Operating Temp.	-40°C to 85°C
Dimensions (mm)	36.5 x 25.4 x 17.5
Typical Applications	Smart sensor function, vibration monitoring and alarm functions

VIBRATION SENSORS

PLUG AND PLAY ACCELEROMETERS

IEPE AC Response



7100A, 7101A

Package	Stainless steel/titanium
Type	Center-hole mount
FS Range	±50g to ±2,000g
Unique Features	<ul style="list-style-type: none"> • Single axis, shear mode • Isolated mounting surface • Wide bandwidth, >10 kHz
Operating Temp.	7100A: -55°C to 150°C 7101A: -55°C to 125°C
Dimensions (mm)	7100A: 9.9 x 22.3, 7101A: 5.8 x 14.5
Typical Applications	Flight testing, general purpose, vibration monitoring



7102A

Package	Titanium
Type	Adhesive mount
FS Range	±50g to ±2,000g
Unique Features	<ul style="list-style-type: none"> • Single axis, shear mode • Wide bandwidth
Operating Temp.	-55°C to +125°C
Dimensions (mm)	4.4 x 11.9
Typical Applications	Small structures monitoring, minimal mass loading, general purpose testing



7108A

Package	Stainless steel
Type	Adhesive mounting
FS Range	±50g to ±500g
Unique Features	<ul style="list-style-type: none"> • Single axis, shear mode • Wide bandwidth • Small size
Operating Temp.	-55°C to 125°C
Dimensions (mm)	9.5 x 10.2
Typical Applications	Vibration monitoring, modal testing, general purpose



7104A, 7105A

Package	Stainless steel
Type	Stud mounting
FS Range	±50g to ±2,000g
Unique Features	<ul style="list-style-type: none"> • Single axis, shear mode • Wide bandwidth
Operating Temp.	-55°C to 125°C
Dimensions (mm)	7104A: 11.11 x 14.10, 7105A: 11.11 x 19.05
Typical Applications	General purpose IEPE accel, vibration monitoring, lab testing



7131A, 7132A

Package	Titanium
Type	Adhesive/stud mounting
FS Range	±50g to ±2,000g
Unique Features	<ul style="list-style-type: none"> • Triaxial, shear mode • >12 kHz bandwidth • Hermetically sealed
Operating Temp.	-55°C to 125°C
Dimensions (mm)	7131A: 11.0 x 11.0 x 11.0, 7132A: 15.2 x 15.2 x 14.5
Typical Applications	General purpose, modal testing, vibration monitoring



7135A

Package	Stainless steel
Type	Adhesive mounting
FS Range	±50g to ±500g
Unique Features	<ul style="list-style-type: none"> • Triaxial, through hole mount • Case isolated, internally shielded • Hermetically sealed
Operating Temp.	-55°C to 125°C
Dimensions (mm)	28.6 x 14.0
Typical Applications	AD&M monitoring, HUMS, structural applications



8011-01, 8021-01

Package	Stainless steel
Type	Stud mount
FS Range	±5g to ±500g
Unique Features	<ul style="list-style-type: none"> • Industrial accelerometer • Case isolated, internal shielding • Low cost
Operating Temp.	-55°C to +125°C
Dimensions (mm)	22.2 x 50.8
Typical Applications	Industrial applications, machine monitoring, wind turbines



8032-01

Package	Stainless steel
Type	Stud/center-hole mount
FS Range	±10g to ±100g
Unique Features	<ul style="list-style-type: none"> • Industrial accelerometer • Case isolated, internal shielding • Reverse wiring protection
Operating Temp.	-55°C to 125°C
Dimensions (mm)	22.2 x 48.3
Typical Applications	Industrial applications, machine monitoring, intrinsic safety



8811-01

Package	Stainless steel
Type	Stud mount
FS Range	±50g to ±500g
Unique Features	<ul style="list-style-type: none"> • Industrial accelerometer • Case isolated, internal shielding • Low cost, molded strain relief
Operating Temp.	-40°C to 100°C
Dimensions (mm)	14.3 x 45.3
Typical Applications	Industrial applications, machine monitoring



8032-01

Package	Stainless steel
Type	Stud mount
FS Range	±5g to ±500g
Unique Features	<ul style="list-style-type: none"> • Certified for wind turbines • ±2,500VAC lightning protection • Case isolated, internal shielding
Operating Temp.	-55°C to +125°C
Dimensions (mm)	22.2 x 50.8
Typical Applications	Industrial applications, machine monitoring, wind turbines

PLUG AND PLAY ACCELEROMETERS

4-20mA AC Accelerometer



8011, 8021-AR/AP

Package	Stainless steel
Type	Stud/center-hole mount
FS Range	5g to 50g
Unique Features	<ul style="list-style-type: none"> • Industrial 4-20mA accelerometer • Case isolated, internal shielding • Top mount or side mount connector
Operating Temp.	-40°C to 85°C
Dimensions (mm)	22.2 x 48.3
Typical Applications	Industrial applications, machine monitoring, intrinsic safety



8011, 8021-VR/VP

Package	Stainless steel
Type	Stud/center-hole mount
FS Range	0.5in/sec to 5.0in/sec
Unique Features	<ul style="list-style-type: none"> • Industrial 4-20mA velocity transmitter • Case isolated, internal shielding • Top mount or side mount connector
Operating Temp.	-40°C to 85°C
Dimensions (mm)	22.2 x 48.3
Typical Applications	Industrial applications, machine monitoring, intrinsic safety

PLUG AND PLAY ACCELEROMETERS

3 Wire Voltage AC Accelerometer



8102A

Package	Anodized aluminum
Type	Screw mount
FS Range	±25g to ±6,000g
Unique Features	<ul style="list-style-type: none"> • Triaxial PE accel, low cost • Environmentally sealed, rugged • <22µA current consumption
Operating Temp.	-40°C to 125°C
Dimensions (mm)	25.4 x 21.6 x 10.8
Typical Applications	Impact and shock testing, R&D and lab applications

VIBRATION SENSORS

PLUG AND PLAY ACCELEROMETERS

PE Charge Accelerometer



7500A

Package	Stainless steel
Type	Center-hole mount
Sensitivity	7pC/g to 20pC/g
Unique Features	<ul style="list-style-type: none"> • Single axis, shear mode • Hermetically sealed • Isolated mounting surface
Operating Temp.	-73°C to 260°C
Dimensions (mm)	8.4 x 22.3
Typical Applications	Gearbox vibration monitoring, flight test, high temp. applications



7501A

Package	Titanium
Type	Center-hole mount
Sensitivity	5.6pC/g
Unique Features	<ul style="list-style-type: none"> • Single axis, shear mode • Hermetically sealed • Bandwidth to >15 kHz
Operating Temp.	-73°C to 260°C
Dimensions (mm)	5.8 x 14.5
Typical Applications	Gearbox vibration monitoring, flight test, high temp. applications



7502A

Package	Titanium
Type	Adhesive mounting
Sensitivity	1.8pC/g
Unique Features	<ul style="list-style-type: none"> • Single axis, shear mode • Hermetically sealed • Miniature, <1 gram
Operating Temp.	-73°C to 260°C
Dimensions (mm)	4.4 x 11.9
Typical Applications	Small structures monitoring, minimal mass loading, high temp. applications



7504A, 7505A

Package	Stainless steel
Type	Stud mount
Sensitivity	5.6pC/g
Unique Features	<ul style="list-style-type: none"> • Single axis, shear mode • Top and side connector option • >15 kHz Bandwidth
Operating Temp.	-73°C to 260°C
Dimensions (mm)	7504A; 11.1 x 14.1, 7505A; 11.1 x 19.0
Typical Applications	Small structures monitoring, general purpose, high temp. applications



7514A

Package	Stainless steel
Type	Stud mounting
Sensitivity	30pC/g to 100pC/g
Unique Features	<ul style="list-style-type: none"> • Single axis, shear mode • >12 kHz bandwidth • High sensitivity
Operating Temp.	-73°C to 260°C
Dimensions (mm)	15.0 x 15.0
Typical Applications	Low frequency vibration, general purpose, high temp. applications



7531A

Package	Titanium
Type	Adhesive mount
Sensitivity	1.8pC/g
Unique Features	<ul style="list-style-type: none"> • Triaxial, shear mode • Miniature, light weight • >10 kHz bandwidth
Operating Temp.	-73°C to 260°C
Dimensions (mm)	11.0 x 13.6 x 11.0
Typical Applications	High temp. applications, flight testing, structural monitoring

PLUG AND PLAY ACCELEROMETERS

Amplifiers



121

Type	Bench top
No. of Channels	3
Gain Range	x0.001 to 9999
Unique Features	<ul style="list-style-type: none"> • Universal DC amplifier • Low noise operation with auto-zero • For bridge type sensors
Dimensions (mm)	301 x 258 x 102
Typical Applications	Instrumentation labs, test benches, R&D facilities



130

Type	In-line charge converter
No. of Channels	1
Gain Range	x0.1, 1, 10
Unique Features	<ul style="list-style-type: none"> • Low noise, small package • BNC male or female • Wide bandwidth
Dimensions (mm)	Ø13.8 x 52.2
Typical Applications	Instrumentation labs, high temperature testing PE accelerometer



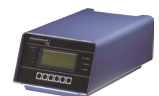
140A & 142A

Type	Inline amplifier with auto-zero
No. of Channels	1
Gain Range	x10, 25, 50, 100, 200
Unique Features	<ul style="list-style-type: none"> • ±1.5 mV auto-zero • 140A for bridge type sensor, 142A for strain gages • 5 to 30 VDC excitation
Dimensions (mm)	57 x 25 x 13
Typical Applications	Instrumentation labs, test benches, R&D facilities



160

Type	Bench top
No. of Channels	1
Gain Range	x1, 10
Unique Features	<ul style="list-style-type: none"> • Economical IEPE power supply • Portable, compact • Rechargeable battery
Dimensions (mm)	101 x 83 x 32
Typical Applications	Instrumentation



161

Type	Bench top
No. of Channels	4
Gain Range	x0.001 to 999.9
Unique Features	<ul style="list-style-type: none"> • Charge and IEPE conditioner • Sensitivity normalization • Support IEEE 1451.4 TEDS
Dimensions (mm)	310 x 180 x 115
Typical Applications	Instrumentation labs, PE/IEPE sensors

WATER LEVEL SENSORS



WATER LEVEL SENSORS

WATER LEVEL DATA LOGGERS



TruBlue Logger 555 Level, 575 Baro, 585 CTD

Accuracy	±0.05% FS TEB (TruBlue 555, 575, 585) 1% of reading or 20 µs/cm (TruBlue 585)
Range	0 - 692 ft (TruBlue 555, 585) 8 - 16 psia (TruBlue 575) 5 - 200,000µs/cm (TruBlue 585)
Max. Over-range	2X FS (TruBlue 555, 585) 32 psia (TruBlue 575)
Output	RS-485, SDI - 12
Data Logging Memory	8 MB
Operating Temp.	0°C to 50°C
Dimensions (mm)	Ø19.0 x 390.0
Typical Applications	Groundwater monitoring, surface water monitoring, oceanographic research, barometric pressure monitoring



TruBlue Logger 255 Level

Accuracy	0.05% FS TEB
Range	0 - 658 ft H ₂ O
Max. Over-range	3X FS
Output	RS 485, SDI - 12
Data Logging Memory	8 MB or 56 MB
Operating Temp.	0°C to 50°C
Dimensions (mm)	Ø19.0 x 222.0
Typical Applications	Flood and storm monitoring, wave studies and rapid sampling, stream and stage gaging, slug and pump test, aquifer characterization



TruBlue Logger 275 Baro

Accuracy	0.05% FS TEB
Range	8 - 16 psia
Max. Over-range	3X FS
Output	RS 485, SDI-12
Data Logging Memory	8 MB or 56 MB
Operating Temp.	0°C to 50°C
Dimensions (mm)	Ø19.0 x 222.0
Typical Applications	Barometric pressure monitoring

DIGITAL LEVEL SENSORS



KPSI 500, 501

Accuracy	±0.05% FS TEB (KPSI 500) ±0.01 ft H ₂ O (KPSI 501)
Range	10 - 230 ft (KPSI 500) 10 - 50 ft (KPSI 501)
Max. Over-range	2X FS
Output	SDI - 12, RS-485
Operating Temp.	-20°C to 60°C
Dimensions (mm)	Ø25.4 x 197.0
Typical Applications	Groundwater monitoring, surface water monitoring, oceanographic research



KPSI 351, 353, 355

Accuracy	±0.10% FS TEB (KPSI 353) ±0.05% FS TEB (KPSI 355) ±0.01 ft H ₂ O (KPSI 351)
Range	10 - 230 ft (KPSI 353, 355) 10 - 50 ft (KPSI 351)
Max. Over-range	2X FS
Output	SDI - 12, RS-485
Operating Temp.	-20°C to 60°C
Dimensions (mm)	Ø19.0 x 243.0
Typical Applications	Groundwater monitoring, surface water monitoring, oceanographic research



KPSI 600, 601 - Ceramic

Accuracy	±0.05% FS TEB (KPSI 600) ±0.01 ft H ₂ O (KPSI 601)
Range	10 - 230 ft (KPSI 500) 10 - 50 ft (KPSI 501)
Max. Over-range	5X FS
Output	SDI - 12, RS-485
Operating Temp.	-20°C to 60°C
Dimensions (mm)	Ø25.4 x 197.0
Typical Applications	Dissolved gas monitoring, trailrace egress monitoring, ground water monitoring, oceanographic research

WATER LEVEL SENSORS

DIGITAL TEMPERATURE SENSORS



	KPSI 380
Accuracy	±0.1°C
Range	-20°C to 60°C
Connection	Open port nosepiece
Output	SDI - 12, RS-485
Operating Temp.	-20°C to 60°C
Dimensions (mm)	Ø19.0 x 127.0
Typical Applications	Groundwater monitoring, surface water monitoring, storm water, dam operations and stream gaging

ANALOG LEVEL SENSORS

1" Bore



	KPSI 700, 710, 720	KPSI 730, 735
Accuracy	±1.00%, ±0.50%, ±0.25% FSO	±0.10%, ±0.05% FSO
Range	Custom ranges from: 2.3 - 700 ft H ₂ O (Vented) 10 - 700 ft H ₂ O (Sealed) 35 - 700 ft H ₂ O (Absolute)	Custom ranges from: 5 - 700 ft H ₂ O (Vented: KPSI 730) 0 - 5 ft H ₂ O to 0 - 700 ft H ₂ O (Sealed, Absolute: KPSI 730) 6 - 700 ft H ₂ O (Vented KPSI 735)
Max. Over-range	2X FS	2X FS
Output	4 - 20 mA, 0 - 5 VDC, 0 - 2.5 VDC, 0 - 4 VDC, 0 - 10 VDC, 1.5 - 7.5 VDC	4 - 20 mA, 0 - 5 VDC, 0 - 2.5 VDC, 0 - 4 VDC, 0 - 10 VDC, 1.5 - 7.5 VDC
Operating Temp.	-20°C to 60°C	-20°C to 60°C
Dimensions (mm)	Ø25.4 x 86.6	Ø25.4 x 86.6
Typical Applications	Groundwater monitoring, surface water monitoring, oceanographic research, pump control, life stations, landfill leachate	Groundwater monitoring, surface water monitoring, oceanographic research, pump control, life stations, landfill leachate
Agency Approvals	CE, WEEE, RoHS, UL and FM (Intrinsically safe)	CE, WEEE, RoHS, UL and FM (Intrinsically safe)

ANALOG LEVEL SENSORS

0.75" Bore



	KPSI 320, 330, 335, 342	KPSI 300DS
Accuracy	±0.10%, ±0.05% FSO (KPSI 330, 335) ±0.25% FSO (KPSI 320) ±0.25% FS TEB (KPSI 342)	±0.50% FSO
Range	Custom ranges from: 5 - 700 ft H ₂ O (Vented: KPSI 320, 330, 335) 10 - 700 ft H ₂ O (Vented KPSI 342) 0 - 5 ft H ₂ O to 0-700 ft H ₂ O (Sealed: KPSI 330, 342) 10 - 700 ft H ₂ O (Sealed: KPSI 320) 35 - 700 ft H ₂ O (Absolute: KPSI 320, 330, 342)	Custom ranges from: 700 - 6,921 ft H ₂ O
Max. Over-range	2X FS	2X FS
Output	4- 20 mA, 0 - 5 VDC, 0 - 2.5 VDC, 0 - 4 VDC, 0 - 10 VDC, 1.5 - 7.5 VDC (KPSI 320, 330, 335) 4 - 20 mA (KPSI 342)	4 - 20 mA, 0 - 5 VDC, 0 - 2.5 VDC, 0 - 4 VDC, 0 - 10 VDC, 1.5 - 7.5 VDC
Operating Temp.	-20°C to 60°C (KPSI 320, 330, 335) -20°C to 85°C (KPSI 342)	-20°C to 60°C
Dimensions (mm)	Ø19.0 x 151.0	Ø19.0 x 215.0
Typical Applications	Groundwater monitoring, surface water monitoring, oceanographic research, pump control, lift stations, landfill leachate, tailrace and forebay monitoring	Down hole, level control, pump control
Agency Approvals	CE, WEEE, RoHS, UL and FM (Intrinsically safe) (KPSI 320, 330, 335) CE, WEEE, RoHS (KPSI 342)	CE, WEEE, RoHS