



SENSORS

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iSensor™ Calibrated and Programmable Motion Sensing

ADI's iSensor™ products provide precision motion sensing measurement for acceleration, inclination, shock, vibration, and rotation. Sensor biases and sensitivities are factory-calibrated, making system integration simpler and more cost-effective. Most devices are easily interfaced and programmed over an SPI port, enabling the optimization of many industrial applications in motion analysis and navigation.



iSensor motion sensor products

Features ▶

- SPI serial interface
- Programmable filtering, sample rate, alarms, and power management
- In-system auto-zero
- Digital self-test
- Single supply operation

Benefits ▶

- Factory calibration eliminates the need for costly motion tests
- Fully integrated, requiring only SPI and power supply interfaces
- Tunable in-system for fast prototyping and application optimization
- Faster time-to-market and reduced development time and cost
- Higher precision from embedded calibration, integration, and processing

Applications ▶

- Motion control and analysis
- General navigation, inertial measurement
- Platform control and stabilization
- Robotics
- Condition monitoring, safety systems

Product Specifications ▶

Part Number	Description	Features	Applications	Sensors	Bandwidth	Output	Supply Voltage (V)	Package
ADIS16003	Digital accelerometer	±1.7g response; dual axis; fully integrated	Motion detection; platform stabilization	Accelerometer and temperature	2.25 KHz	SPI	3-5.25	7 mm LGA, 12 leads
ADIS16006	Digital accelerometer	±5g response; dual axis; fully integrated	Motion detection; platform stabilization; crash sensor	Accelerometer and temperature	2.25 KHz	SPI	3-5.25	7 mm LGA, 12 leads
ADIS16201	Programmable inclinometer and accelerometer	±90° (±1.7g) response; dual axis; factory-calibrated; fully tunable over SPI port; alarms	Tilt sensing; platform stabilization; process controls; motion monitoring; robotics	Accelerometer and temperature	2.25 KHz	SPI	3-3.6	9 mm LGA, 16 leads
ADIS16203	Programmable inclinometer	360° response; single axis; factory-calibrated; fully tunable over SPI port; alarms	Tilt sensing; platform stabilization; process controls; motion monitoring; robotics	Accelerometer and temperature	2.25 KHz	SPI	3-3.6	9 mm LGA, 16 leads
ADIS16204	Programmable Hi-G impact sensor	±70/35g response; dual-axis; peak sample and hold; RSS; fully tunable; event recorder	Impact detection; condition monitoring; safety systems; shock sensor	Accelerometer and temperature	400 Hz	SPI	3-3.6	9 mm LGA, 16 leads
ADIS16100	Digital angular rate sensor	±300°/sec. yaw rate response; fully integrated	Navigation; image/platform stabilization; robotics	Gyro and temperature	40 Hz	SPI	4.75-5.25	8 mm LGA, 16 leads
ADIS16080	Digital angular rate sensor	±80°/sec. yaw rate response; fully integrated	Navigation; image/platform stabilization; robotics	Gyro and temperature	40 Hz	SPI	4.75-5.25	8 mm LGA, 16 leads
ADIS16250	Programmable angular rate sensor	Digital range scaling (80-320); factory-calibrated; fully tunable over SPI port; alarms	Instrumentation control; platform stabilization; navigation; robotics	Gyro and temperature	50 Hz	SPI	4.75-5.25	11 mm LGA, 20 leads
ADIS16251	Programmable angular rate sensor	Digital range scaling (20-80); factory-calibrated; fully tunable over SPI port; alarms	Instrumentation control; platform stabilization; navigation; robotics	Gyro and temperature	50 Hz	SPI	4.75-5.25	11 mm LGA, 20 leads
ADIS16255	Precision programmable angular rate sensor	Digital range scaling (80-320); factory-calibrated over temperature; fully tunable over SPI port; alarms	Instrumentation control; platform stabilization; navigation; robotics	Gyro and temperature	50 Hz	SPI	4.75-5.25	11 mm LGA, 20 leads
ADIS16120	Low noise angular rate sensor	300°/sec. range; factory-calibrated; improved vibration rejection	Guidance and control; avionics instrumentation; IMUs; stabilization	Gyro and temperature	320 Hz	Analog	4.75-5.25	35 mm x 42 mm, 24 leads
ADIS16130	Digital low noise angular rate sensor	300°/sec. range; factory-calibrated; improved vibration rejection; integrated ADC	Guidance and control; avionics instrumentation; IMUs; stabilization	Gyro and temperature	320 Hz	SPI	4.75-5.25	35 mm x 42 mm, 24 leads
ADIS16350	Tri-axis inertial sensor	Six degrees of freedom measurements; factory-calibrated; alignment compensation; fully tunable over SPI port; programmable condition monitoring	IMUs; general navigation; robotics; platform stabilization; guidance and control; motion analysis	Gyro (3) and accelerometer (3) and temperature	350 Hz	SPI	4.75-5.25	23 mm x 23 mm, 24 leads
ADIS16355	High-precision tri-axis inertial sensor	Six degrees of freedom measurements; factory-calibrated over temperature; alignment compensation; fully tunable over SPI port; programmable condition monitoring	IMUs; general navigation; robotics; platform stabilization; guidance and control; motion analysis	Gyro (3) and accelerometer (3) and temperature	350 Hz	SPI	4.75-5.25	23 mm x 23 mm, 24 leads





MLH Series All-Metal Pressure Sensors

MLH Series pressure sensors combine the latest in application-specific integrated circuit (ASIC) technology with proven media-isolated metal diaphragm design. This digitally compensated sensor offers an unparalleled value and performance combination that makes it an ideal pressure-sensing solution for demanding applications. Fully temperature-compensated, calibrated and amplified, the MLH is available in 50 PSI to 8,000 PSI pressure ranges.

Features ▶

- Delivers $\pm 0.25\%$ full-scale accuracy, best-fit straight line (BFSL), and 2% total error at -40°C to $+125^{\circ}\text{C}$ (-40°F to $+257^{\circ}\text{F}$)
- All-metal wetted parts for use in a wide variety of media applications
- No internal elastomeric seals, to help avoid media compatibility issues
- Amplified outputs eliminate cost of external amplifiers

Benefits ▶

- Reverse polarity and overvoltage protection guard against reversed excitation
- Less than 2 ms response time provides accurate, high-speed measurement
- Rated IP65 or better for protection from harsh environments
- Exceeds CE heavy industrial EMC for use in areas of high RFI/EMI

Applications ▶

- Refrigeration and HVAC/R
- General industrial
- General hydraulics
- Off-road vehicles
- Braking systems
- Natural gas vehicles

Product Specifications ▶

Part Number	Pressure Range (PSI)	Pressure Reference (PSI)	Connector	Port Size	Output
MLH100PAG01B	100	A	DIN43650C	1/4 inch NPT	4 mA–20 mA
MLH100PGB01A	100	G	Packard	1/4 inch NPT	0.5 VDC–4.5 VDC
MLH100PGL06A	100	G	1m cable	1/8 inch NPT	0.5 VDC–4.5 VDC
MLH100PGM01B	100	G	3m cable	1/4 inch NPT	4 mA–20 mA
MLH150PSB01A	150	S	Packard	1/4 inch NPT	0.5 VDC–4.5 VDC
MLH150PSB01B	150	S	Packard	1/4 inch NPT	4 mA–20 mA
MLH200PSB06A	200	S	Packard	1/8 inch NPT	0.5 VDC–4.5 VDC
MLH200PSB06B	200	S	Packard	1/8 inch NPT	4 mA–20 mA
MLH250PGB01A	250	G	Packard	1/4 inch NPT	0.5 VDC–4.5 VDC
MLH250PSB01A	250	S	Packard	1/4 inch NPT	0.5 VDC–4.5 VDC
MLH250PSB01B	250	S	Packard	1/4 inch NPT	4 mA–20 mA
MLH250PSB06A	250	S	Packard	1/8 inch NPT	0.5 VDC–4.5 VDC
MLH500PSB01A	500	S	Packard	1/4 inch NPT	0.5 VDC–4.5 VDC
MLH500PSB01B	500	S	Packard	1/4 inch NPT	4 mA–20 mA
MLH500PSB09C	500	S	Packard	1/4 SAE Fem	1 VDC–6 VDC
MLH500PSG01B	500	S	DIN43650C	1/4 inch NPT	4 mA–20 mA
MLH500PSL06A	500	S	1m cable	1/8 inch NPT	0.5 VDC–4.5 VDC
MLH01KPSB01B	1000	S	Packard	1/4 inch NPT	4 mA–20 mA
MLH01KPSB06A	1000	S	Packard	1/8 inch NPT	0.5 VDC–4.5 VDC
MLH01KPSB06B	1000	S	Packard	1/8 inch NPT	4 mA–20 mA
MLH05KPSB01A	5000	S	Packard	1/4 inch NPT	0.5 VDC–4.5 VDC
MLH03KPSB01B	3000	S	Packard	1/4 inch NPT	4 mA–20 mA
MLH03KPSB01G	3000	S	Packard	1/4 inch NPT	1 VDC–5 VDC
MLH03KPSB10B	3000	S	Packard	7/16–20 UNF	4 mA–20 mA
MLH03KPSL01A	3000	S	1m cable	1/4 inch NPT	0.5 VDC–4.5 VDC
MLH03KPSL01G	3000	S	1m cable	1/4 inch NPT	1 VDC–5 VDC
MLH05KPSB01B	5000	S	Packard	1/4 inch NPT	4 mA–20 mA

Honeywell

Industrial Potentiometers

Measure linear and rotary position or displacement. Use a tried and true potentiometric technology originally developed for military applications. The proprietary MystR® conductive plastic has an extensive temperature range and infinite resolution. It provides absolute position measurement on power-up.



Features ▶

- Available with a variety of resistance values
- Superior dynamic noise
- Long rotation life
- Linear taper
- Robust nickel-plated brass shaft and bushings

Benefits ▶

- Provide superior control for applications that require high performance in a cost-effective device
- Military-qualified potentiometers available
- Smooth feel, quiet electrical output
- Multiple terminal configurations

Applications ▶

- Welding/heating equipment and electrohydraulic controls
- Material handling
- Manual controls
- Joysticks
- Telecommunications and powered access

Product Specifications ▶

	Part Number	Series	Description	Resistance Value(s)	Power Rating (W)	Rotational Life	Shaft	Terminal Type	Resistance Tolerance (%)	Electrical Taper	Standards
Industrial	53C1-resistance value	53	Industrial potentiometer with linear electrical taper	100, 250, 500, 1K, 2.5K, 5K, 10K, 25K, 100K, 250K, 500K, 1M	2	25K cycles	2 inch long, round	Solder lug	±10	Linear	NA
	RV4NAYSD__A	RV4	Industrial potentiometer, conductive plastic element	100, 250, 500, 1K, 2.5K, 5K, 10K, 25K, 100K, 250K, 500K, 1M	2	25K cycles	0.875 inch long, round	Solder lug	±10	Linear	Meets MIL-PRF-94
	380C1-resistance value	380	Industrial potentiometer, conductive plastic element	100, 250, 500, 1K, 2.5K, 5K, 10K, 25K, 100K, 250K, 500K, 1M	2	100K cycles	2 inch long, round	Solder lug	±10	Linear	Meets MIL-PRF-94
	C0416392	485	Industrial potentiometer, conductive plastic element	1 kOhm	2	1 million rotations	0.875 inch long, round	Solder lug	±10	Linear	NA
	C0416393	485	Industrial potentiometer, conductive plastic element	5 kOhm	2	1 million rotations	0.875 inch long, round	Solder lug	±10	Linear	NA
	C0416394	485	Industrial potentiometer, conductive plastic element	10 kOhm	2	1 million rotations	0.875 inch long, round	Solder lug	±10	Linear	NA
	485TSG502A	485TS	45° short resistive element	5 kOhm ±10%	1	1 million rotations	.812 inch long, slotted	NA	NA	NA	NA
	485TSG502B	485TS	60° short resistive element	5 kOhm ±10%	1	1 million rotations	.812 inch long, slotted	NA	NA	NA	NA
	485TSG502C	485TS	90° short resistive element	5 kOhm ±10%	1	1 million rotations	.812 inch long, slotted	NA	NA	NA	NA
Precision	578X1G48S102SA	578	Conductive plastic element, PC terminals, 0.5W power rating, 1 kOhm resistance value	1 kOhm	0.5	2.5 million cycles	25 mm (0.984 inch)	PC	±10	Linear	NA
	578X1G48S502SA	578	Conductive plastic element, PC terminals, 0.5W power rating, 5 kOhm resistance value	5 kOhm	0.5	2.5 million cycles	25 mm (0.984 inch)	PC	±10	Linear	NA
	578X1G48S103SA	578	Conductive plastic element, PC terminals, 0.5W power rating, 10 kOhm resistance value	10 kOhm	0.5	2.5 million cycles	25 mm (0.984 inch)	PC	±10	Linear	NA



E3Z series

Photoelectric Sensor with Built-In Amplifier

The E3Z general-purpose range is the perfect choice for the majority of photo-sensing applications. The series makes no compromise on performance thanks to its integrated, high-sensitivity photo-IC, specially designed by Omron. The range incorporates advanced functionality, such as a special algorithm that guarantees reliable detection under a broad range of operating conditions, and advanced pulse-synchronization techniques to ensure high ambient-light immunity.

Features ▶

- Compact housing size and high-power LED for excellent performance/size ratio
- Enclosure rating (IP67-IEC60529)
- Switch-selectable light-on/dark-on operation
- M8 connector-ready or pre-wired models

Benefits ▶

- Photo-IC provides long sensing distance
- Integrated photo-IC improves noise immunity to interference from inverters and other inductive loads
- Tough PBT housing for rugged mechanical resistance
- 1200-PSI washdown-pressure rated

Applications ▶

- Semiconductor industry and electronic components
- Packaging, food products, chemicals, and sanitation
- Pharmaceutical
- Conveyance and automated warehouses

Product Specifications ▶

Part Number	Type/Description	Light Source	Output	Range
E3Z-T61	Through-beam-pre-wired	Infrared/red LED	NPN	15m
E3Z-R61	Polarized retroreflective-pre-wired	Red LED	NPN	100 mm-4m
E3Z-D61	Diffuse reflective-pre-wired	Infrared LED	NPN	5 mm-100 mm (wide view)
E3Z-D62	Diffuse reflective-pre-wired	Infrared LED	NPN	1m
E39-R1	Reflector for retroreflective models, size 40 mm x 60 mm	NA	NA	100 mm-3m
E39-L7	Mounting bracket for E39-R1 reflector	NA	NA	NA
E39-R1S	Reflector for retroreflective models, size 40 mm x 60 mm	NA	NA	100 mm-4m
E39-R2	Reflector for retroreflective models, size 80.8 mm x 60 mm	NA	NA	100 mm-5m
E39-R3	Miniature reflector for retroreflective models, size 22.5 mm x 38 mm	NA	NA	50 mm-1.5m
E39-RSA	Adhesive-back reflector sheet, size 35 mm x 10 mm	NA	NA	150 mm-700 mm
E39-RSB	Adhesive-back reflector sheet, size 40 mm x 35 mm	NA	NA	150 mm-1.1m
E39-L44	L-bracket, vertical mounting bracket	NA	NA	NA
E39-L104	L-bracket, horizontal mounting bracket	NA	NA	NA
E39-L144	Protected top mounting bracket, 5 degree angle adjustability	NA	NA	NA



BI Technologies Precision Potentiometers and Industrial Panel Potentiometers

BI Technologies, a TT Electronics company, has an extensive product offering of rotary and linear precision potentiometers and counting dials. The company has recently released one of the industry's lowest-profile single-turn potentiometers and new versions of precision potentiometers that address the industrial market's heavy side-load application requirement. Additionally, BI has introduced a series of panel potentiometers specifically designated for high-end industrial applications.



Precision potentiometers;
panel potentiometers

Features ▶

- Extended life cycles
- Custom-designed flexibility
- Outstanding standard independent linearity, non-standard available
- Rugged construction
- Sealed versions available

Benefits ▶

- Dependable, long lasting, and a high level of performance in varied applications
- Wide range of product offerings for the design engineer
- Scientists and engineers available to assist with material and design requirements
- Experienced technical sales force
- Outstanding quality and service reputation

Applications ▶

- Position sensing in heavy equipment and robots
- Hydraulic valve controls for heavy equipment
- Power control for welders
- Directional speed controls for forklifts
- Joystick controls for aerial lifts

Product Specifications ▶

Product Series	Product Type	Multi-turn	Single Turn	Diameter	Element	Cycle Life	Std. Linearity	Power Rating (W)
400	Precision linear	NA	NA	.5" travel	Conductive plastic	5 million	1.00	0.25
3381	Precision rotary	NA	Yes	1-5/16"	Conductive plastic	10 million	0.25	2
5100	Precision rotary	NA	Yes	7/8"	WW	500 thousand	0.50	0.75
6130	Precision rotary	NA	Yes	7/8"	Conductive plastic	5 million	1.00	1
6180	Precision rotary	NA	Yes	7/8"	Conductive plastic	5 million	1.00	1
7280	Precision rotary	10	NA	7/8"	WW	1 million	0.25	2
7380	Precision rotary	3	NA	7/8"	WW	300 thousand	0.20	1.5
7480	Precision rotary	5	NA	7/8"	WW	500 thousand	0.25	1.5
8140	Precision rotary	10	NA	7/8"	Hybrid	5 million	0.25	2
Model A	Precision rotary	3	NA	1-13/16"	WW	2 million	0.05	5
P230	Panel potentiometer	NA	Yes	24 mm	Conductive plastic	500 thousand	NA	0.5
P232	Panel potentiometer	NA	Yes	24 mm	Conductive plastic	2 million	NA	0.5
P270	Panel potentiometer	NA	Yes	27 mm	Conductive plastic	1 million	NA	2
RB	Dial	15	NA	1-13/16"	NA	NA	NA	NA
2606	Dial	20	NA	7/8"	NA	NA	NA	NA

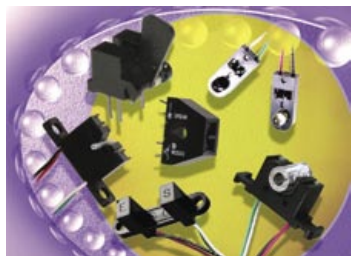
Related Information ▶

All precision and panel potentiometers are RoHS compliant. Precision potentiometers are available in bushing mount and servo mount, and all products are offered with several options.

BI Technologies offers many components for the industrial market—trimmers, thin film and thick film resistor networks, magnetics, and micro-circuits.



Precision potentiometers;
panel potentiometers



Optoelectronic Sensors and Isolators

OPTEK Technology manufactures a wide variety of optoelectronic sensor assemblies that support a broad range of industrial applications for sensing motion, color, and liquids. Our products are also well-suited for applications such as safety and security. OPTEK products are manufactured at the level of quality required to meet the needs of industrial applications.

Features ▶

- Reflective sensors
- Fluid sensor
- Slotted switches
- Flag switches
- LED sensor pairs

Benefits ▶

- Non-contact identification
- Long life: 10+ years
- Low power required

Applications ▶

- Security/safety
- Target identification
- Fluid recognition
- Encoding linear/rotary

Product Specifications ▶

Component Pairs	Part Number	LED Peak Wavelength (nm)	Sensor	$I_{C(OH)}$ Min./Max. (mA)	I_f Typ./Max. (mA)	VCE Typ./Max. (V)	Lead Length/Spacing	
	OPB100-EZ	880	NA	NA	20/100	NA	24"/26 AWG wire	
	OPB100-SZ	NA	Transistor	5/50	NA	5/30		
	OPB100Z*	880		50/1,800	20/50		Use Molex 03-06-2023	
	OPB856Z	935						
Fluid Sensor	Part Number	LED Peak Wavelength	Sensor	Tube Size (inch)	$I_{C(OH)}$ Ratio Typ.	I_f Typ./Max. (mA)	VCE Max. (V)	Lead Length/Spacing
	OPB350	890	Transistor	0.125	1 : 3.0	5/50	24	0.330"/0.320"
	OPB350L062			0.062				1 : 2.3
	OPB350L187			0.188	1 : 3.0			
	OPB350L250			0.25				1 : 2.3
	OPB350W062Z			0.062	1 : 3.0			
	OPB350W187Z			0.188				1 : 2.3
	OPB350W250Z			0.25				
Optoisolator	Part Number			LED	Sensor			Isolation Voltage Min. (V)
	OP11270-032	655	Photo-transistor	20	10	10/40	30	0.5
	OP11270-040							
	OP11270-080							
	OP11280-032	645	Photo-transistor	20	10	10/40	30	0.43
	OP11280-040							
	OP11280-080							
	OP11290-032	645	Photo-logic			Totem pole		

*OPB100Z consists of a packaged pair, OPB100EZ and OPB100SZ



Arrow Industrial Selector Guide

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