What is a linear position sensor?

Linear position sensors are devices that connect to an object or piece of machinery and convert the linear displacement of the object into an electrical signal that is proportional to the object’s displacement. Linear position sensors are available in many mechanical styles and mounting configurations, with a variety of measurement (stroke) lengths. Types of linear position sensors include linear potentiometers that convert the linear displacement to a resistance value via the use of an internal variable resistor or linear position transducers that convert the linear displacement to an analog signal such as 0-10VDC or 4-20mA. The latter are more specialized and used when higher accuracy is required.

Why buy a linear position sensor from us?

There are several distinct advantages to purchasing a linear position sensor from AutomationDirect:

Price
As with all of our product lines, our prices are often well below the list prices of traditional automation suppliers. Our direct business model allows us to operate more efficiently than other suppliers and pass the savings on to you.

Quality
All of our linear potentiometers carry a 3-year warranty, linear transducers have a 1-year warranty and both have a 30-day money-back guarantee. If for any reason you are not satisfied with your purchase, send it back and we will refund your money.

Service
We give you options for self-service but at the same time, we are there when you need us. You can place your order online or call/email our Customer Service. Have a technical question about one of our products or need help gathering up a bill of materials for one of your projects? You can call our free Technical Support.

Selection
We offer a wide variety of styles and sizes for our linear position sensors. Whether you would like a standard cylindrical style potentiometer, a rectangular bodied style, a rodless style or push-in style, we have it. Our linear position sensors come in many stroke lengths and offer a variety of mounting options.
Alliance LVIT Linear Position Sensors™

Linear transducers convert linear displacement of an object to an analog signal with the value being proportional to the change in displacement.

- Signals available in 0 to 10VDC and 4 to 20mA.
- Contactless operation to prevent internal wear out.

GHS Series Transducers

Spring-loaded push-in style transducer great for use in QA labs and other higher precision applications.

- Stroke lengths from 0.25 to 4.0 inches
- 6-pin solder connector
- IP67 environmental protection rating

LRS Series Transducers

Spring-loaded push-in style transducer great for use in automotive testing and packaging equipment.

- Stroke lengths from 0.5 to 4.0 inches
- 1 meter cable connection
- 6-pin solder connector

LZE13 Series Transducers

Miniature rod-style transducer with 12.7mm diameter cylinder designed for use in factory automation or assembly machinery applications where space is a premium.

- Stroke lengths from 0.1 to 8.0 inches
- 0 to 10 VDC output only
- IP67 environmental protection rating

LZE/I19 Series Transducers

Threaded rod-style transducer with 19mm diameter cylinder designed for use in factory automation or assembly machinery applications where space is a premium.

- Stroke lengths from 0.1 to 15.0 inches
- 1 meter cable connection

LRE/I19 Series Transducers

Rod-style linear transducer with 19mm diameter cylinder. Typical applications would be solar cell position, wind turbine positioning and packaging equipment.

- Stroke lengths from 1.0 to 8.0 inches
- Easy mounting using swivel rod eyes
- IP67 environmental protection rating

LRE/I27 Series Transducers

Heavy-duty rod-style transducer with 27mm diameter cylinder. Suitable for industrial and commercial applications where ruggedness is required.

- Stroke lengths from 1.0 to 6.0 inches
- Field adjustable range scaling
- IP67 environmental protection rating

LRLE/I27 Series Transducers

Heavy-duty rod-style transducer similar to the LRE/I27 series but with longer stroke lengths.

- Stroke lengths from 0.0 to 18.0 inches
- Field adjustable range scaling
- IP67 environmental protection rating
- Resistance value of 10k ohms

LVE/I45 Series Transducers

Heavy-duty rod-style linear transducer with 45mm diameter cylinder, specifically targeted for measuring applications requiring rugged devices.

- Stroke lengths from 4.0 to 15.0 inches
- Field adjustable range scaling
- IP67 environmental protection rating

Gefran™ Magnetostrictive Linear Position Transducers

Magnetostrictive linear transducers are contactless devices that have a longer life when compared to other linear position sensors. Since there is no electrical contact on the cursor there is no wear of mechanical components which almost guarantees an infinite life. Since these transducers operate using magnetostrictive technology they are also immune from EMC and are suitable for use in industrial environments with electromagnetic interferences.

- Electrical connection options are standard DIN connector or M12 quick disconnect
- Electromagnetic compatibility EMC 2014/30/EU
- IP67 protection
- Powered from 24VDC

WPG Series Magnetostrictive Linear Position Transducers

Single direct analog output for displacement.

- Analog outputs of 0-10VDC or 4-20mA available
- Stroke lengths from 50 to 500mm
- Working temperature -4 to 167°F
- 18mm DIN 43650 Form A electrical connection
- 0-10VDC or 4-20mA available
- Mounting grooves to provide mounting options not requiring brackets
- Field adjustable range scaling
- IP60 environmental protection rating
- Resistance value of 10k ohms

WPP Series Magnetostrictive Linear Position Transducers

Double analog output models with one directly proportional to the displacement and an additional analog output inversely proportional (reverse) to displacement.

- Mounting grooves to provide mounting options not requiring brackets
- Stroke lengths from 50 to 500mm
- Field adjustable range scaling
- IP60 environmental protection rating
- Resistance value of 10k ohms

For the latest prices, please check AutomationDirect.com.
Inclination Sensors

What is an inclination sensor?
Inclination sensors are used for leveling applications, platform stabilization and monitoring, and position detection in construction equipment. Inclination sensors measure an object’s tilt or inclination angle with respect to gravity.

Inclination Sensor Selection Considerations
- Single or dual-axis
- Output type
- Resolution
- Single or redundant output
- Range of inclination

Gefran inclination sensors use MEMS technology, micro-electromechanical devices integrated onto a single silicon chip, to provide reliable tilt angle measurement. These encapsulated IP67/69K rated sensors are shock and vibration resistant and suitable for the harshest environments. Single and dual-axis sensors are available with integrated axial cables or M12 quick-disconnects.

Gefran GIB series inclination sensors measure tilt angle with respect to gravity and can be used for applications such as agricultural machines, construction machines and material handling equipment.

- Single or dual-axis
- 10 to 36 VDC input power
- 4 to 20 mA or 0 to 10 VDC analog output
- 12-bit resolution
- +/-15 to +/-180 degree measuring range
- PKT312-1QJ magnetic pen included with dual-axis GIB models
- Integrated axial cable
- IP67/IP69K rated for harsh environments
- 3-year warranty

Gefran GIG series inclination sensors are fully redundant tilt angle sensors, featuring two separate sensors in the same housing, for critical applications such as agricultural vehicles, earth-moving machines and hoisting equipment.

- Fully redundant with two sensors in each housing
- Single or dual-axis
- 10 to 36 VDC input power
- 4 to 20mA or 0 to 10 VDC analog output
- 12-bit resolution
- +/-15 to +/-180 degree measuring range
- M12 quick-disconnect (purchase cable separately)
- IP67/IP69K rated for harsh environments
- 3-year warranty

Magnetic Pen
The Gefran magnetic pen zeroes GIB-XY inclination sensors to the horizontal plane. (dual-axis models only)

Applications
- Agricultural vehicles
- Construction equipment
- Mobile hydraulics applications
- Material handling
- Hoisting equipment

For the latest prices, please check AutomationDirect.com.