Linear Position Sensors

LIN Sensors – Kit with magnet

Thin, programmable, non-contact magnetic position sensors with dual outputs available



Description

The LIN Series sensors are non-contact linear position sensors with one or two independent outputs. The sensors operate through the use of Hall Effect technology with magnetic fields generated by permanent magnets. They provide a linear change in voltage output (ratiometric to the input voltage) corresponding to a linear displacement of the actuator magnet.

The included actuator magnet is specifically paired to the sensor and is required to assure proper operation. Other magnets may yield less than optimal performance.

Features

- Easy setup and robust monitoring with M4 screws
- Dual independent (redundant) outputs assure high reliability
- Custom programming available for: range, slope, PWM output
- No mechanical interface means no parts to wear out or jam
- Comes with 20 AWG 305 mm (12”) discrete wire leads or harness with connector
- RoHS Compliant
- IP68*
- Suitable for wide air gap applications
- Compliant to industrial/automotive EMC/EMI/ESD directives

Typical Applications

- Hydraulic valves
- Hydraulic controls
- Electric drives
- Pneumatic controls
- Zero-contact encoder alternative
- Gear selection / shifting position

Environmental Specifications

Operating Temperature	-40 °C to 140 °C (-40 °F to 284 °F)
Ingress Protection	IP68*

*Contact ZF for details on testing conditions

Electrical Specifications

Input		
Supply Voltage	Maximum Overvoltage	Reverse Battery Protection
5.0 VDC ± 10%	16 VDC	12 VDC
Output Signal	0.5 – 4.5 VDC (with nominal input)	
Input Current	Single output	8 mA typ., 10 mA max.
	Dual output	16 mA typ., 20 mA max.
Resolution	12 bit	
Accuracy, overall	±2% Full scale	
Output Linearity	±1%Full scale	

Mechanical Specifications

Measuring Range	Up to 45 mm
Air Gap**	4.5 mm (0.18”)
Maximum Magnet Misalignment	2 mm (0.08”)

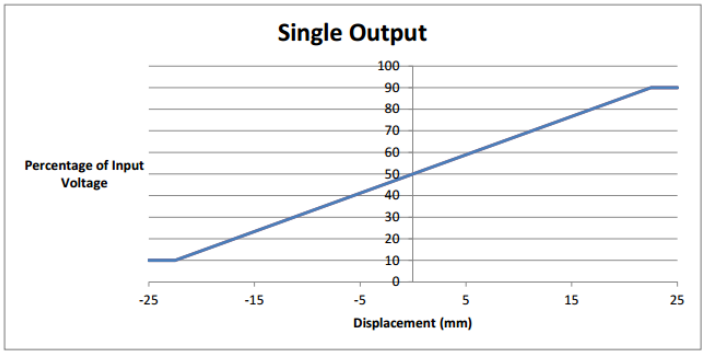
**Output is calibrated to meet spec within air gap shown; any variation will affect performance

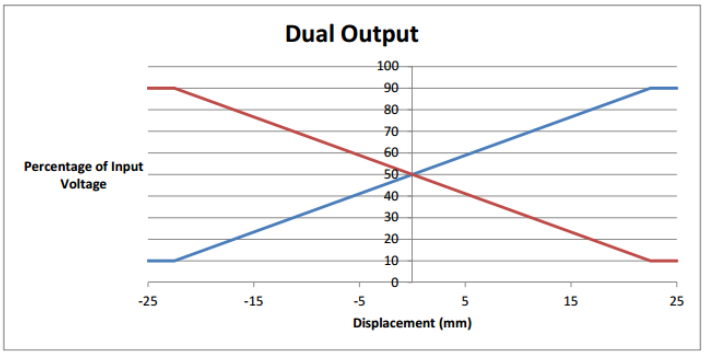
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Products

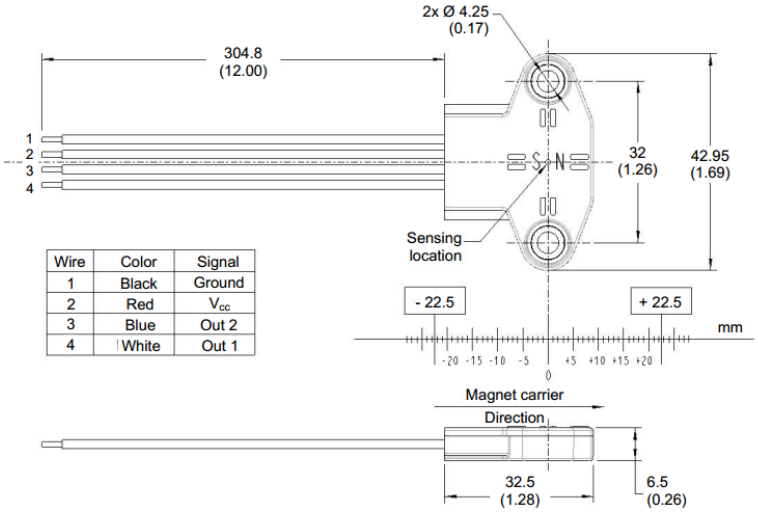
Part Number	Output	Interface
LIN-11HAW1	Analog single	20 AWG x 305 mm (12") discrete wires
LIN-21HAW1	Analog dual	20 AWG x 305 mm (12") discrete wires

Typical Output vs. Linear Displacement (as percentage of input)

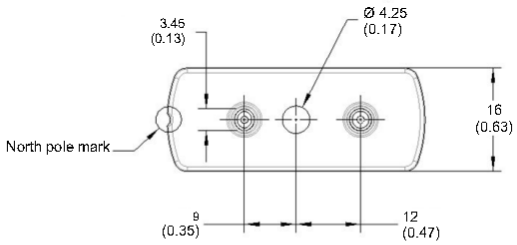


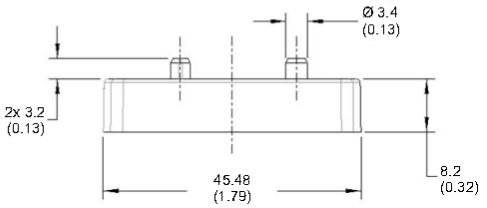


Dimensions mm (inches)



Wire	Color	Signal
1	Black	Ground
2	Red	V_{cc}
3	Blue	Out 2
4	White	Out 1





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