

Data Sheet for Linear Sensors

Hall-Effect Linear Sensor

Series LHK



- Long lifetime - 100 million movements
- No wear-induced degradation of signal quality
- Reliable measurement even at vibration
- Resolution: 12 bit
- Analog output: 0,5..4,5 V
enables wire break detection and short-circuit detection
- Supply voltage: 5 V

The Hall-Effect Linear Sensor LHK is optimal for the detection of small, dynamic movements in automatically regulated systems without loss of accuracy due to wear. Compared to other non-contacting measurement principles it offers an excellent price / performance ratio. The sensor provides an active output signal which eliminates a complicated signal conversion.

Electrical Data

Effective electrical stroke	30 mm ± 0,5 mm
Resolution	12 Bit (4096 steps)
Tolerance independent linearity (IEC 60393)	± 0,5 %
Update rate position value	typ. 0,4 ms
Output signal	0,5..4,5 V ratiometric
Supply voltage	5 V ±10%
Current consumption (no load)	
Singel output	≤ 15 mA
Redundant output	≤ 30 mA
Output load	≥ 10 kOhm
Temperature characteristics of the signal	max. ± 0,8 % V_{out} x FS

Mechanical and Environmental Data

Mechanical stroke	approx. 34 mm
Bearing	Sleeve bearing
Max. friction	
Without spring return	≤ 0,6 N
With spring return	approx. 2,5 N
Life expectancy	
Without spring return	≥ 100 x 10 ⁶ rod movements
With spring return	approx. 20 x 10 ⁶ rod movements
	@ 240 movements/minute and no load on the rod
Protection class (IEC 60529)	IP65
Sealing rod/bearing	no sealing (IP40 equivalent)
Operating temperature	-40..+105°C (increased temperature range on request)
Storage temperature	-40..+105°C
Vibration	20 g (10..2000 Hz, 12 h)
Shock	100 g (6 ms, 18x)
Material housing	Plastic
Material shaft	stainless steel
Weight	approx. 44 g

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Emission / Immunity

EMS	100 V/m (80 Mhz ~ 1 GHz, 1kHz with 80% Amplitude modulation)
ESD	± 8 kV contact discharge ± 15 kV aerial discharge

Order code

Description	Options
Halleffect Linear Sensor Series LHK	LHK
Without spring return	-
With spring return	R
Analog output	A
Single Output	-
Redundant cross-output (second output inverted)	X
Redundant parallel output	P (*)
Stroke	30
With cable	K
Supply voltage / Output signal	
5 V / 0,5..4,5 V	0545

short-term stock types can be found on: <http://www.megatron.de/en/stocklists/linear-sensors/lagerliste.html>

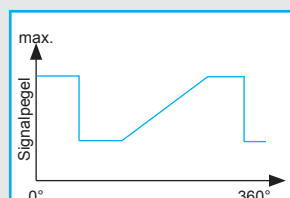
bold print = standard option

(*) = on request available for projects

For higher quantities or on-going demand, additional options are available as described below

For example:

- Machined rod
- Special cable
- Low current consumption



Customized programming of the output signal

For example:

- Other minimum and maximum signal level
- Inverted signal
- Signal plateaus

For technical advice, projects, samples, questions about pricing, delivery times and availability please contact us

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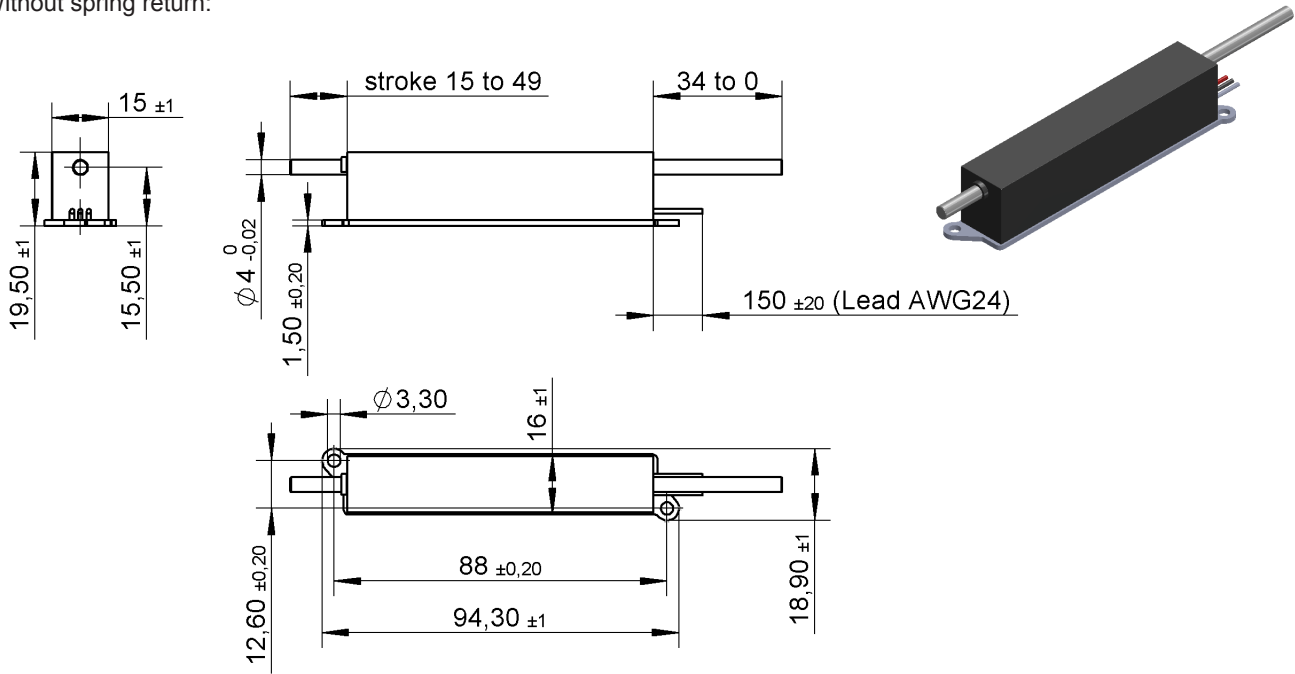
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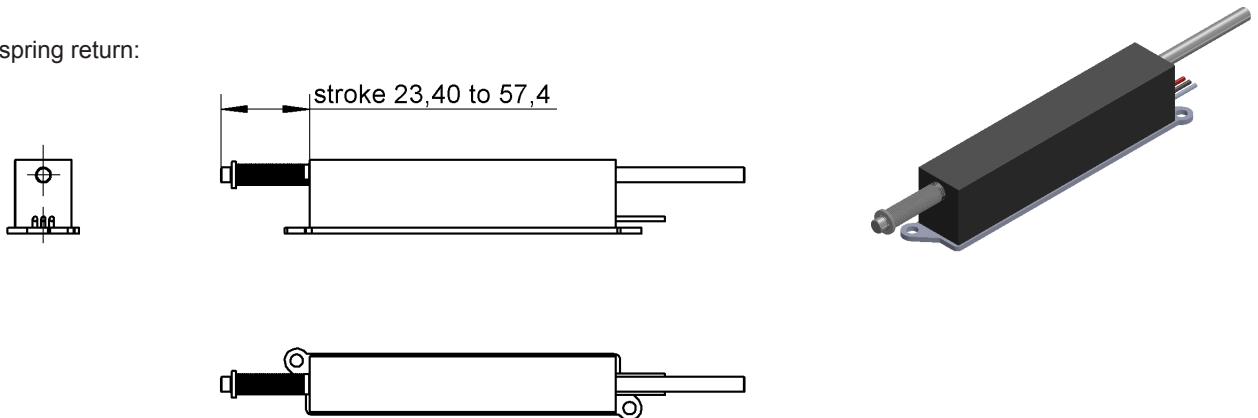
Series LHK

Drawing

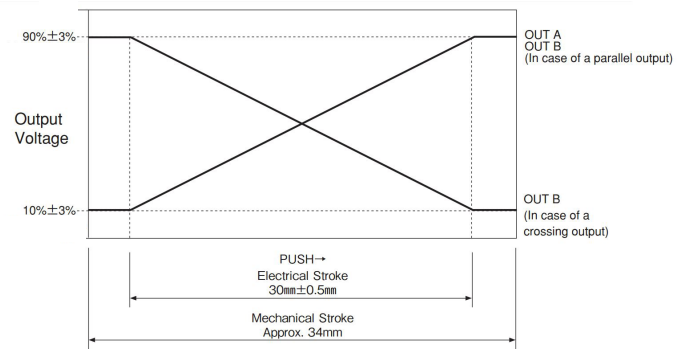
Without spring return:



With spring return:



Cable assignment	Single version	Redundant version
Red	VSUP	VSUP A
Black	GND	GND A
White	OUT	OUT A
Green		VSUP B
Yellow		GND B
Blue		OUT B



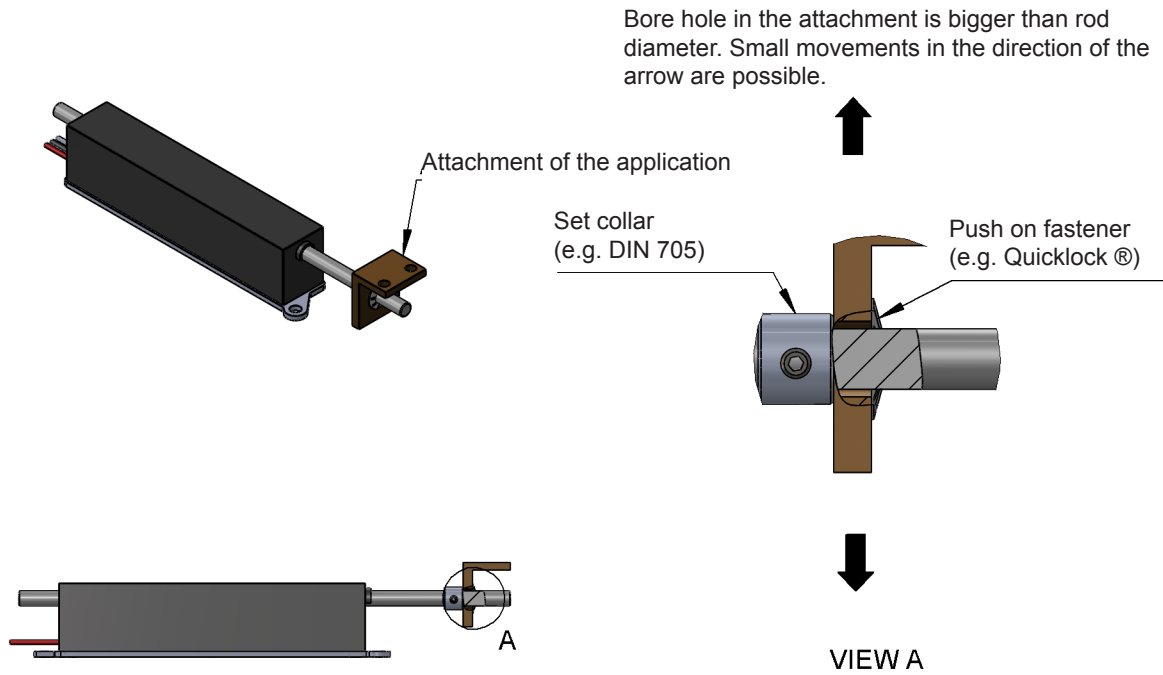
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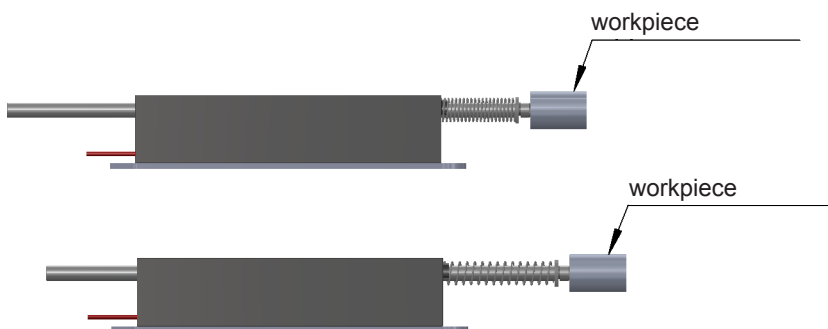
Series LHK

Installation suggestion

Without spring return:



With spring return:



27.10.2014