

Linear measuring technology

Shaft copying system	Ants LES02	Absolute position measurement, SIL3 Measuring range up to 392 m
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Ants LES02 is an extremely robust, compact and contactless measuring system. It uses a contactless measuring principle to measure without any slipping absolute elevator car positions with a resolution of 0.5 mm and a travel speed of 8 m/s. Additional components such as magnetic switches become superfluous. Combined with the PSU02, it allows realizing a wide range of elevator and safety functions.

Especially the easy assembly reduces installation time, thus contributing to overall costs reduction.



Wide measuring range	Resolution	Easy installation	Compact	Robust	Shock / vibration resistant	Reverse polarity protection	Temperature range

Characteristics

- SIL3-certified by TÜV.
- Absolute position values.
- Measuring length up to 392 m.
- Status LED.
- Extremely robust and compact.
- Stainless steel coded band.
- Simple assembly.
- Contactless measuring principle.

Benefits

- Fulfills safety functions in compliance with EN 81-20/-21/-50 (combinable with Kübler PSU02).
- Eliminates components required until now such as limit switches, door zone magnets, ...
- Highest availability - no referencing required in case of power failure.
- 100% slip-free thanks to absolute position measurement directly on the elevator car.
- Suitable for tight installation spaces.
- Reduced installation work.

Order code Sensor	8.LES02 Type	X1 a	X b	XX c	11 d
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a Type of mounting
1 = with mounting plate
2 = without mounting plate ¹⁾

c Type of connection
1 = cable, 3 m [9.84'], open cable end
A = cable, special lengths, shielded, open cable end *)

d Interface profile
11 = CAN proprietary, V1.0.0

b Interface / power supply
1 = CAN / 10 ... 30 V

*) Special lengths on request: 5 m, 7 m, 10 m
order code expansion .XXXX = length in dm
ex.: 8.LES02.111A.1111.0050 (for cable length 5 m)

Order code Coded band, absolute	8.LEX.BA Type	.XXXX a
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a Measuring lengths
XXXX = lengths in meters
(max. length = 392 m)

Standard lengths		
0010 = 10 m	0040 = 40 m	0090 = 90 m
0015 = 15 m	0050 = 50 m	0100 = 100 m
0020 = 20 m	0060 = 60 m	0392 = 392 m
0025 = 25 m	0070 = 70 m	Intermediate lengths < 100 m as from 5 pieces,
0030 = 30 m	0080 = 80 m	> 100 m on request

Stock types	
0010 = 10 m	0030 = 30 m
0015 = 15 m	0040 = 40 m
0020 = 20 m	0392 = 392 m
0025 = 25 m	

1) T-slot mounting.

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Accessories		Order no.
Mounting kit LES.MK	components for installation	8.LES.MK.0001
EMC shield terminal	for an EMC-compliant installation of the cable	8.0000.4G06.0312

Technical data

Mechanical characteristics sensor Ants LES02	
Code	absolute, 16 bit
Max. measuring length	392 m
Speed	certified 8 m/s ¹⁾ functional 12 m/s ²⁾
Resolution	certified 1 mm functional 0.5 mm
Accuracy	±1 mm
Type of connection	cable 3 m with open end further lengths up to max. 10 m on request
Weight	550 g [19.4 oz]
Housing (material)	aluminum
Dimensions	L x W x H 126 x 55 x 37 mm [4.96 x 2.17 x 1.46"]

Electrical characteristics sensor Ants LES02	
Power supply	10 ... 30 V DC
Reverse polarity protection	yes
Power consumption	max. 100 mA
Interfaces	CAN proprietary, V1.0.0

Environmental conditions sensor Ants LES02	
Protection acc. to EN 60529	IP54
Humidity	< 90 % (non condensing)
Working temperature	-10°C ... +70°C [+14°F ... +158°F]
Storage temperature	-15°C ... +80°C [+5°F ... +176°F]
Air pressure (operating altitude)	800 ... 1013 hPA (up to 2000 m above NN)

Technical data coded band LEX.BA	
Material	V2A spring-loaded stainless steel, chamfered edges
Dimensions	16 x 0.4 mm [0.63 x 0.016"]
Max. length	392 m
Weight	50 g / m [1.76 oz/m]
Thermal expansion	16 x 10 ⁻⁶ / K between 20°C ... 100°C

Standards / Directives / Certificates		
Standards	standards for elevators	EN 81-20/-50
	EMC emission	EN 12015
	EMC immunity	EN 12016
	vibration resistance	EN 60068-2-6 / EN 81-50, 5.6.3.1
	shock resistance	EN 60068-2-27 / EN 81-50, 5.6.3.1
	environmental conditions	EN 60068-2-14 / EN 81-50, 5.6.3.2
Directives	EMC directive	2014/30/EU
	elevator directives	2014/33/EU
	RoHS directive	2011/65/EU
UL approval		file no. E498900
CE compliant		Yes

Safety characteristics	
Classification	SIL3
PFH_d value	< 10 ⁻⁸ h ⁻¹
Mission time / Proof test interval	20 years

Terminal assignment Ants LES02

Interface	Type of connection	Cable				
		Signal:	+V	0 V / GND	CAN_H	CAN_L
1 CAN	1, A	Core color:	BN	WH	GN	YE

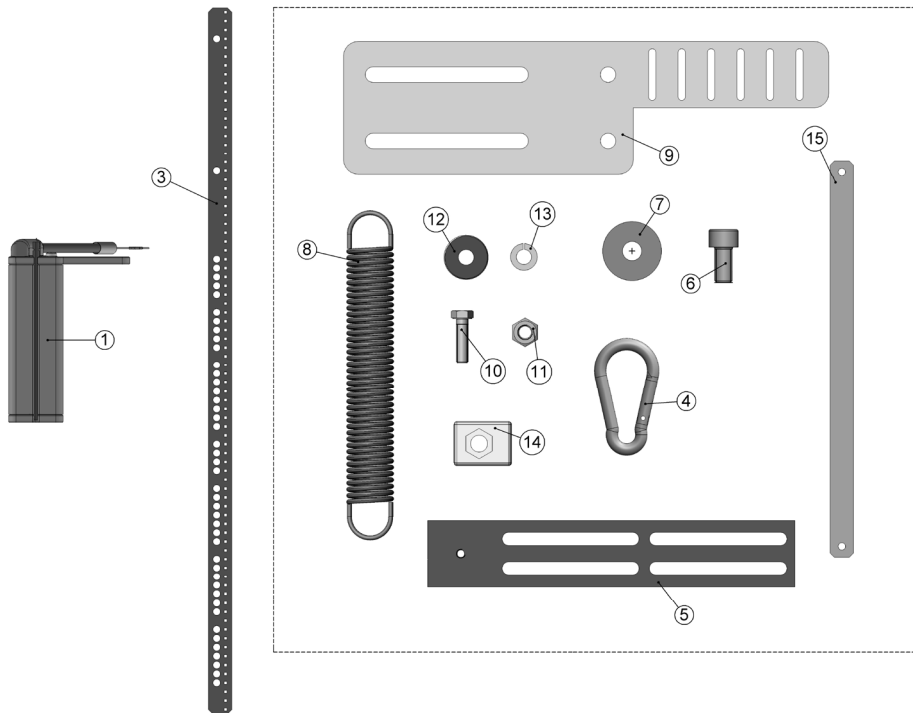
+V: Power supply +V DC
0 V: Power supply ground GND (0 V)

1) Reference is the nominal speed of the elevator facility.
2) The sensor switches to error mode for speeds > 12 m/s.

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Scope of delivery Ants LES02 with LEX.BA and LES.MK



The following components included in the SIL3 certification are required for proper operation.

Ants LES02 (8.LES02.xxxx.xxxx)

- 1** 1 x sensor

Coded band LEX.BA (8.LEX.BA.xxxx)

- 3** 1 x coded stainless steel band

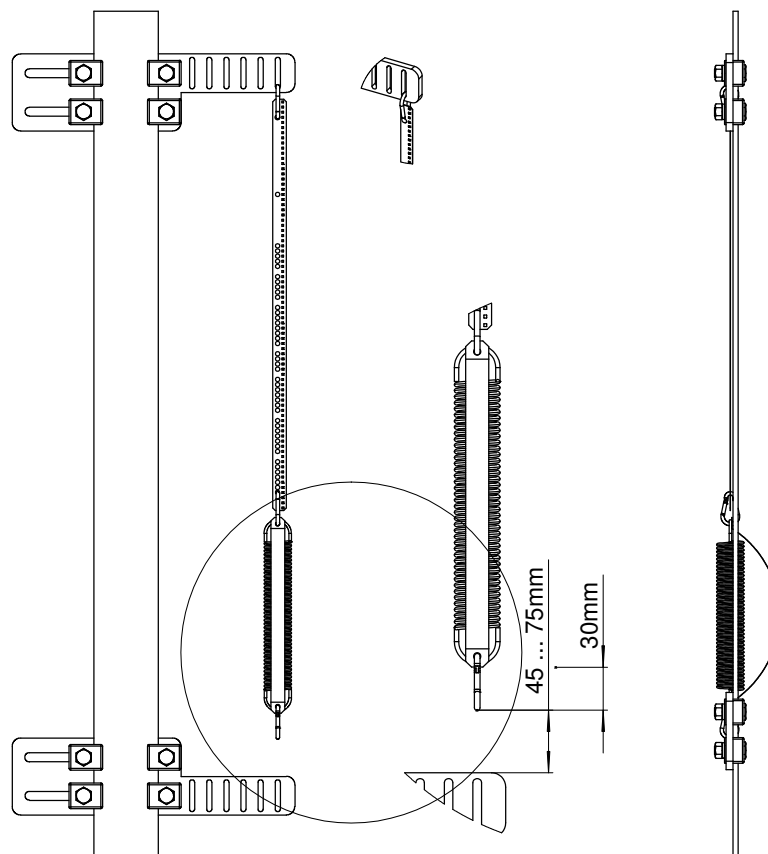
Mounting kit LES.MK (8.LES.MK.0001)

- 4** 3 x carabiners
- 5** 1 x sensor cabin fastening plate
- 6** 1 x sensor fastening screw
- 7** 1 x washer
- 8** 1 x tension spring
- 9** 2 x rail fastening plates
- 10** 8 x M10x30 hexagon head screws
- 11** 8 x M10 hexagon nuts
- 12** 8 x M10 large diameter washers
- 13** 8 x M10 spring washers
- 14** 8 x clamping plates
- 15** 1 x securing band

Technology in detail

Coded band fastening

Ants LES02 stands out in particular for its ease of installation. This saves time and costs.

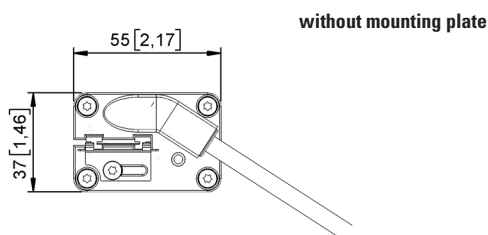
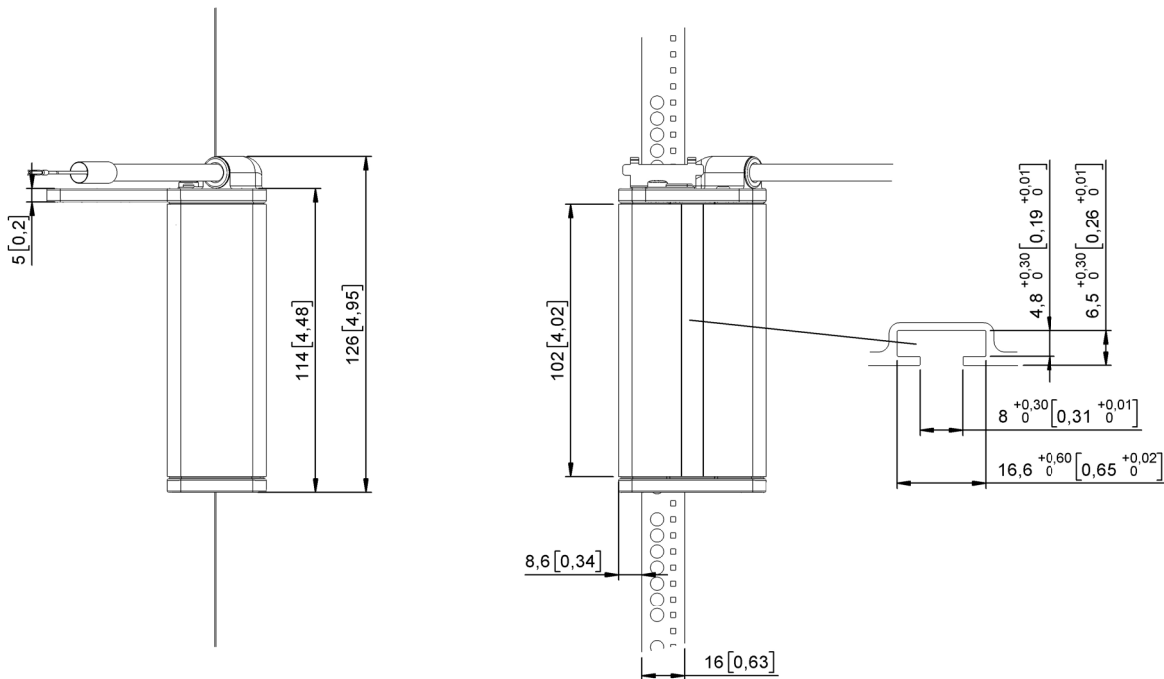


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Measuring range up to 392 m

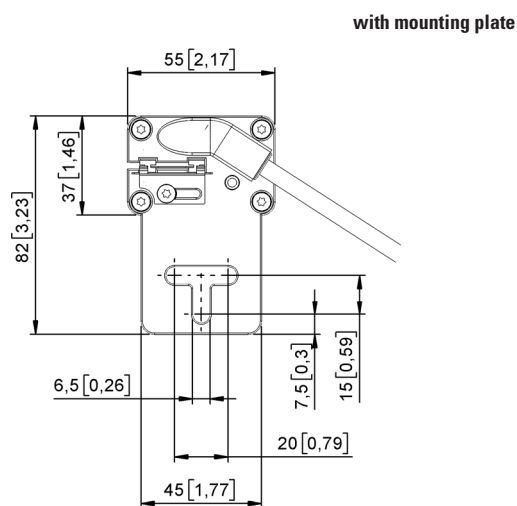
Dimensions

Dimensions in mm [inch]

Sensor



without mounting plate



with mounting plate