

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.

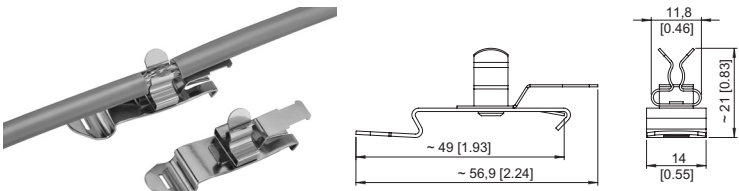
Order code	8.LES02	X	1	X	.XX	11
Sensor	Type	a	b	c	d	
a Type of mounting		1 = with mounting plate		c Type of connection		d Interface profile
		2 = without mounting plate ¹⁾		1 = cable, 3 m [9.84'], open cable end		11 = CAN proprietary, V1.0.0
b Interface / power supply		1 = CAN / 10 ... 30 V		A = cable, special lengths, shielded, open cable end *)		
				*) 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	8.LEX.BA	.XXXX
Coded band, absolute	Type	a
a Measuring lengths	Standard lengths	Stock types
XXXX = lengths in meters	0010 = 10 m	0010 = 10 m
(max. length = 392 m)	0015 = 15 m	0015 = 15 m
	0020 = 20 m	0020 = 20 m
	0025 = 25 m	0025 = 25 m
	0030 = 30 m	0030 = 30 m
	0040 = 40 m	0040 = 40 m
	0050 = 50 m	0050 = 50 m
	0060 = 60 m	0060 = 60 m
	0070 = 70 m	0070 = 70 m
	0080 = 80 m	0080 = 80 m
	0090 = 90 m	0090 = 90 m
	0100 = 100 m	0100 = 100 m
	0392 = 392 m	0392 = 392 m
	Intermediate lengths < 100 m as from 5 pieces,	
	> 100 m on request	

1) T-slot mounting.

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Accessories	Order no.
Mounting kit LES.MK	8.LES.MK.0001
EMC shield terminal  <p>For an EMC-compliant installation of the sensor cable, top-hat rail mounting</p> <p>Clamp: spring steel, galvanized</p> <p>Foot: spring steel</p> <p>Shield diameter: 3.0 ... 12.0 mm</p>	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

Technical data mounting kit LES.MK	
Dimensions	see manual R60205
Material	see manual R60205

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
Directives	environmental conditions	EN 60068-2-14 / EN 81-50, 5.6.3.2
	EMC directive	2014/30/EU
UL approval	elevator directives	2014/33/EU
	RoHs directive	2011/65/EU
CE compliant		file no. E498900

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

Terminal assignment Ants LES02

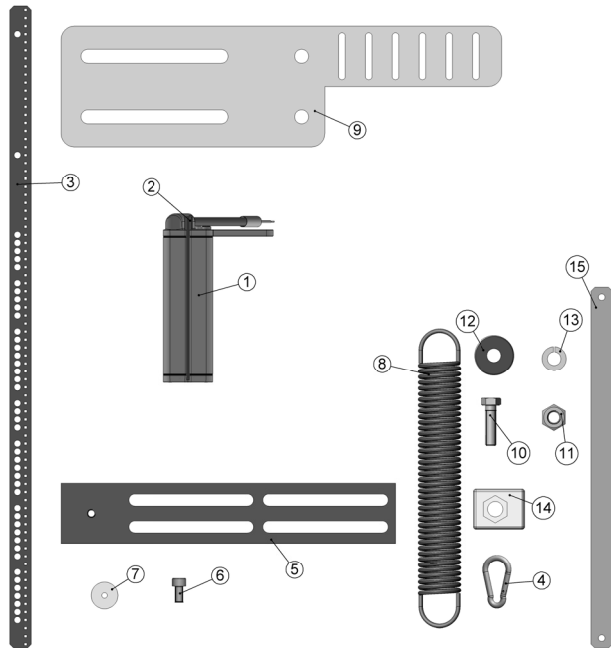
Interface	Type of connection	Cable				
1 CAN	1, A	Signal:	+V	0 V / GND	CAN_H	CAN_L
		Core color:	BN	WH	GN	YE

+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
- 2** 2 x sliding plates, mounted

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

- 3** 1 x stainless steel coded band

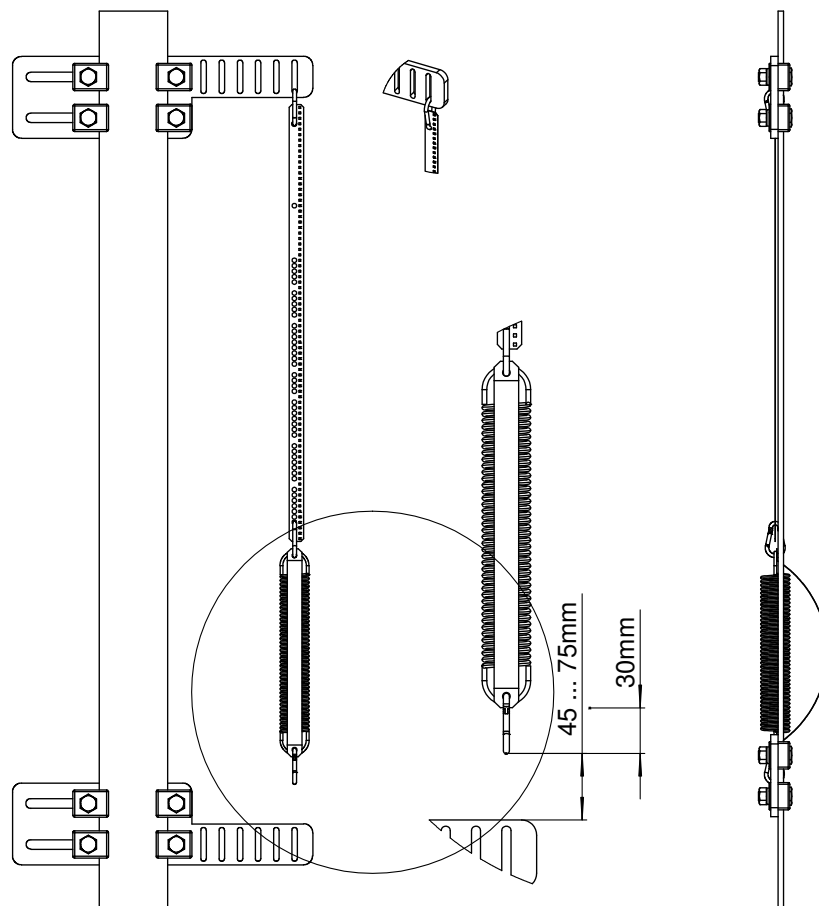
Mounting kit LES.MK (8.LES.MK.0001)

- 4** 3 x stainless steel snap hooks
- 5** 1 x sensor cabin fastening plate
- 6** 1 x sensor fastening screw with Polyfleck coating
- 7** 1 x washer
- 8** 1 x 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 retaining rings
- 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.



Shaft copying system

Ants LES02

Absolute position measurement, SIL3
Measuring range up to 392 m

Dimensions

Dimensions in mm [inch]

Sensor

