

Sensor – Ants Safe	LES02	Safe position detection
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The sensor Ants LES02 is an extremely robust, compact and contactless measuring system. With a resolution of 0.5 mm and a travel speed of up to 8 m/s, absolute position values of the elevator car are determined slip-free via a non-contact measuring principle.

In combination with the PSU02 evaluation unit, numerous elevator and safety functions can be implemented as the **Kübler Safe-System LES02/PSU02**.



Features and benefits

- **Safe position and speed detection**

The SIL3-certified measuring system consisting of sensor and code band provides speed information in addition to the absolute position values.

- **100 % slip-free**

Mounting on, next to or underneath the lift car always provides direct position feedback without the effect of possible slippage of the suspension means.

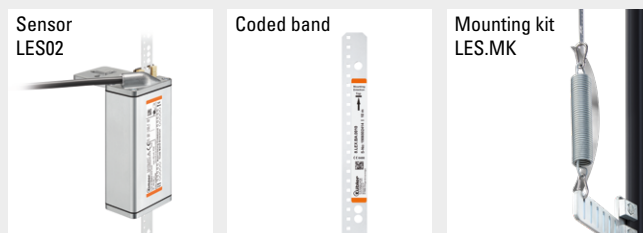
- **Maximum compactness**

With its compactness, the sensor is not only easy to install, but can also be integrated into the tightest installation spaces. Even in glass lifts, it blends in very well with the overall appearance of the lift system.

- **Digitization of elevator systems**

In combination with the PSU02 evaluation unit, numerous elevator and safety functions can be implemented. The digitization of elevator systems saves time and costs.

Required components for the use of the LES02 sensor



Shaft copying systems

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Order code Sensor	<table border="1" style="border-collapse: collapse; text-align: center;"> <tr> <td style="padding: 2px 5px;">8.LES02</td> <td style="padding: 2px 5px;">.X</td> <td style="padding: 2px 5px;">1</td> <td style="padding: 2px 5px;">X</td> <td style="padding: 2px 5px;">.11</td> <td style="padding: 2px 5px;">11</td> </tr> <tr> <td style="font-size: 8px;">Type</td> <td style="font-size: 8px;">a</td> <td style="font-size: 8px;">b</td> <td style="font-size: 8px;">c</td> <td style="font-size: 8px;">d</td> <td></td> </tr> </table>	8.LES02	.X	1	X	.11	11	Type	a	b	c	d	
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<p>a <i>Type of mounting</i> 1 = with mounting plate 2 = without mounting plate (T-slot mounting)</p> <p>b <i>Interface / supply voltage</i> 1 = CAN / 10 ... 30 V</p> <p>c <i>Type of connection</i> 1 = cable, 3 m [9.84'], open cable end A = cable, special lengths, shielded, open cable end *)</p> <p>*) 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)</p>	<p>d <i>Interface profile</i> 11 = CAN (1-channel), proprietary</p>												

Order code Coded band, absolute	<table border="1" style="border-collapse: collapse; text-align: center;"> <tr> <td style="padding: 2px 5px;">8.LEX.BA</td> <td style="padding: 2px 5px;">.XXXX</td> </tr> <tr> <td style="font-size: 8px;">Type</td> <td style="font-size: 8px;">a</td> </tr> </table>	8.LEX.BA	.XXXX	Type	a																				
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<p>a <i>Measuring lengths</i> XXXX = lengths in meters (max. length = 392 m)</p>	<p><i>Standard lengths</i></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">0010 = 10 m</td> <td style="width: 33%;">0040 = 40 m</td> <td style="width: 33%;">0090 = 90 m</td> </tr> <tr> <td>0015 = 15 m</td> <td>0050 = 50 m</td> <td>0100 = 100 m</td> </tr> <tr> <td>0020 = 20 m</td> <td>0060 = 60 m</td> <td>0392 = 392 m</td> </tr> <tr> <td>0025 = 25 m</td> <td>0070 = 70 m</td> <td>Intermediate lengths < 100 m as from 5 pieces,</td> </tr> <tr> <td>0030 = 30 m</td> <td>0080 = 80 m</td> <td>> 100 m on request</td> </tr> </table>	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	<p><i>Stock types</i></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">0010 = 10 m</td> <td style="width: 50%;">0030 = 30 m</td> </tr> <tr> <td>0015 = 15 m</td> <td>0040 = 40 m</td> </tr> <tr> <td>0020 = 20 m</td> <td>0392 = 392 m</td> </tr> <tr> <td>0025 = 25 m</td> <td></td> </tr> </table>	0010 = 10 m	0030 = 30 m	0015 = 15 m	0040 = 40 m	0020 = 20 m	0392 = 392 m	0025 = 25 m	
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Mounting kit LES.MK	<table border="1" style="border-collapse: collapse; text-align: center;"> <tr> <td style="padding: 2px 5px;">8.LES.MK.0001</td> </tr> </table>	8.LES.MK.0001
8.LES.MK.0001		
Mounting kit for sensor Ants LES02		

Accessories	Order no.
EMC - Shield terminal	For an EMC-compliant installation of the cable
	8.0000.4G06.0312

Shaft copying systems

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Technical data

Mechanical characteristics	
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	
Supply voltage	10 ... 30 V DC
Reverse polarity protection	yes
Power consumption	max. 100 mA
Interfaces	CAN proprietär

Environmental conditions	
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)

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

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 81-20/21/50
UL compliant	in accordance with	File no. E498900
CE compliant	in accordance with	
	EMC Directive	2014/30/EU
	RoHS Directive	2011/65/EU
	Elevator Directive	2014/33/EU

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: Supply voltage +V DC
- 0 V: Supply voltage ground GND (0 V)

1) Bezug ist die Nenngeschwindigkeit der Aufzugsanlage.
2) Bei > 12 m/s geht der Sensor in den Fehlermodus.

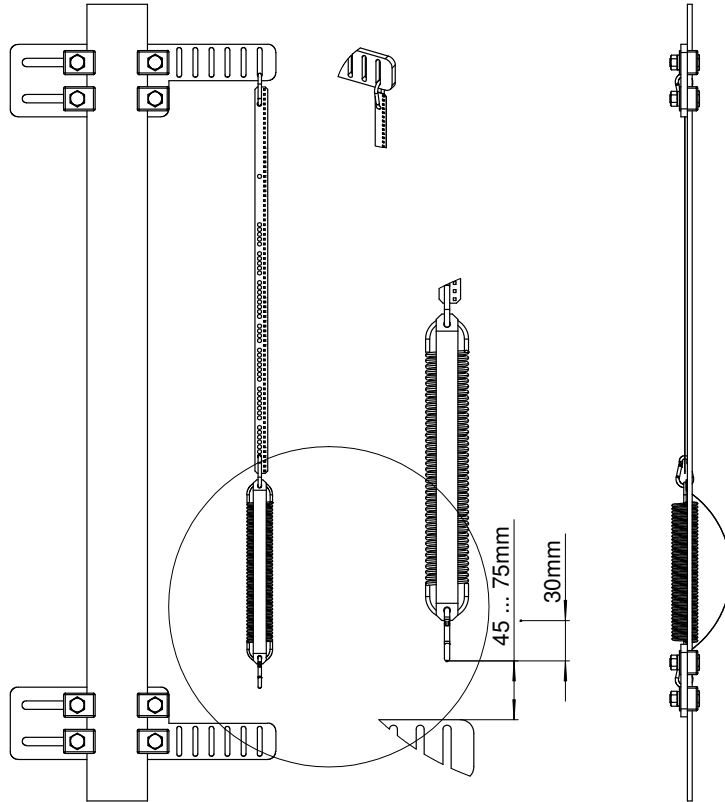
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LES02

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Technology in detail

Coded band fastening with Mounting Kit LES.MK



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Dimensions

Dimensions in mm [inch]

Sensor

