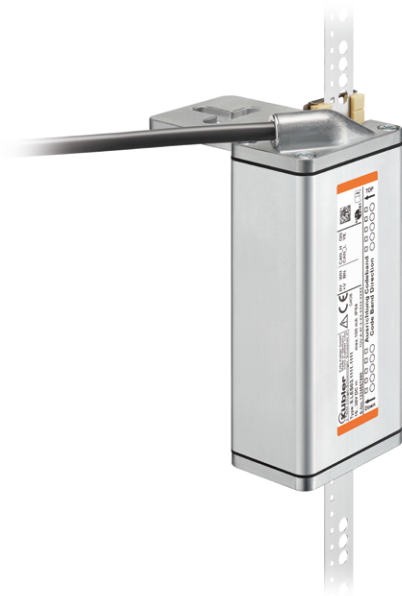


<b>Sensor – Ants Safe</b>	<b>LES03</b>	<b>Safe position and speed detection</b>
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The sensor Ants LES03 is an extremely robust, compact and non-contact measuring system. With a resolution of 0.5 mm and a travel speed of up to 8 m/s, both absolute position values and the speed of the elevator car are determined slip-free via a non-contact measuring principle.

In combination with the Safe Gear Trigger SGT02, mechanical overspeed governors can be replaced as the **Kübler Safe-System LES03/SGT02**.

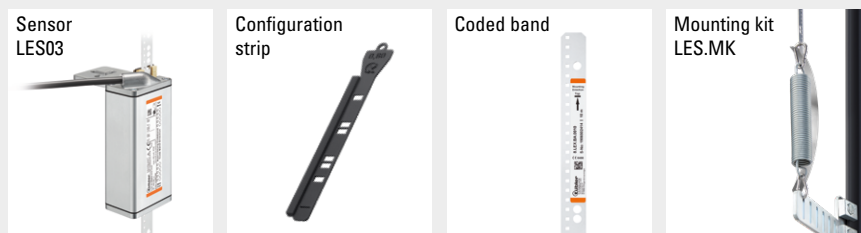
In the **Kübler Safe-System LES03/SGT02/PSU02**, a large number of additional safety functions are realized by the evaluation unit PSU02.



## 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.
- Teaching the rated speed**  
 By means of configuration strips, the sensor can be easily taught to the respective rated speed of the elevator system.
- Electronic overspeed governor**  
 In combination with the SGT02 as a safe system, the traditional mechanical overspeed governor can be replaced.

## Required components for the use of the LES03 sensor



# Shaft copying systems

## Sensor – Ants Safe LES03 Safe position and speed detection

<b>Order code Sensor</b>	<b>8.LES03</b> <small>Type</small>	<b>X</b> <small>a</small>	<b>1</b> <small>b</small>	<b>1</b> <small>c</small>	<b>X</b> <small>d</small>	<b>1</b> <small>e</small>	<b>1</b> <small>e</small>	<b>1</b> <small>e</small>	<b>0000</b>
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**a** *Type of mounting*  
 1 = with mounting plate  
 2 = without mounting plate (T-slot mounting)

**b** *Interface / supply voltage*  
 1 = CAN / 10 ... 30 V

**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 (1-channel), proprietary

**e** *Rated speed of the elevator system*  
 1 = not preset  
 The rated speed must be taught in once with the „Configuration strip“.  
 The speed for the installation mode is preset with 0.3 m/s.

\*) Special lengths on request: 5 m, 7 m, 10 m  
 order code expansion .XXXX = length in dm  
 ex.: 8.LES03.111A.1111.0000.0050 (for cable length 5 m)

<b>Order code Configuration strip</b>	<b>8.CS</b> <small>Type</small>	<b>.</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>XXXX</b> <small>a</small>
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**a** *Rated speed*  
 XXXX = cm/s  
 Ex.: 8.CS.1111.0160 (for 1.6 m/s)

<b>Order code Coded band, absolute</b>	<b>8.LEX.BA</b> <small>Type</small>	<b>.</b>	<b>XXXX</b> <small>a</small>
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<b>a</b> <i>Measuring lengths</i> XXXX = lengths in meters (max. length = 392 m)	<i>Standard lengths</i>		<i>Stock types</i>
	0010 = 10 m	0040 = 40 m	0010 = 10 m
	0015 = 15 m	0050 = 50 m	0015 = 15 m
	0020 = 20 m	0060 = 60 m	0020 = 20 m
	0025 = 25 m	0070 = 70 m	0025 = 25 m
	0030 = 30 m	0080 = 80 m	0030 = 30 m
		0090 = 90 m	0040 = 40 m
		0100 = 100 m	0050 = 50 m
		0392 = 392 m	0392 = 392 m
		Intermediate lengths < 100 m as from 5 pieces, > 100 m on request	

<b>Mounting kit LES.MK</b>	<b>8.LES.MK.0001</b>
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Mounting kit for sensor Ants LES03

<b>Accessories</b>	<b>Order no.</b>
<b>EMC - Shield terminal</b>	<b>8.0000.4G06.0312</b>

For an EMC-compliant installation of the cable

# Shaft copying systems

<b>Sensor – Ants Safe</b>	<b>LES03</b>	<b>Safe position and speed detection</b>
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## Technical data

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

Electrical characteristics	
<b>Supply voltage</b>	10 ... 30 V DC
<b>Reverse polarity protection</b>	yes
<b>Power consumption</b>	max. 100 mA
<b>Interfaces</b>	CAN proprietary

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

Safety characteristics	
<b>Classification</b>	SIL3
<b>PFH<sub>d</sub> value</b>	< 10 <sup>-8</sup> h <sup>-1</sup>
<b>Mission time / Proof test interval</b>	20 years

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

Standards / Directives / Certificates		
<b>Standards</b>	standards for elevators	EN 81-20/21/50
<b>UL compliant</b>	in accordance with	File no. E498900
<b>CE compliant</b>	in accordance with	
	EMC Directive	2014/30/EU
	RoHS Directive	2011/65/EU
	Elevator Directive	2014/33/EU

### Terminal assignment Ants LES03

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)

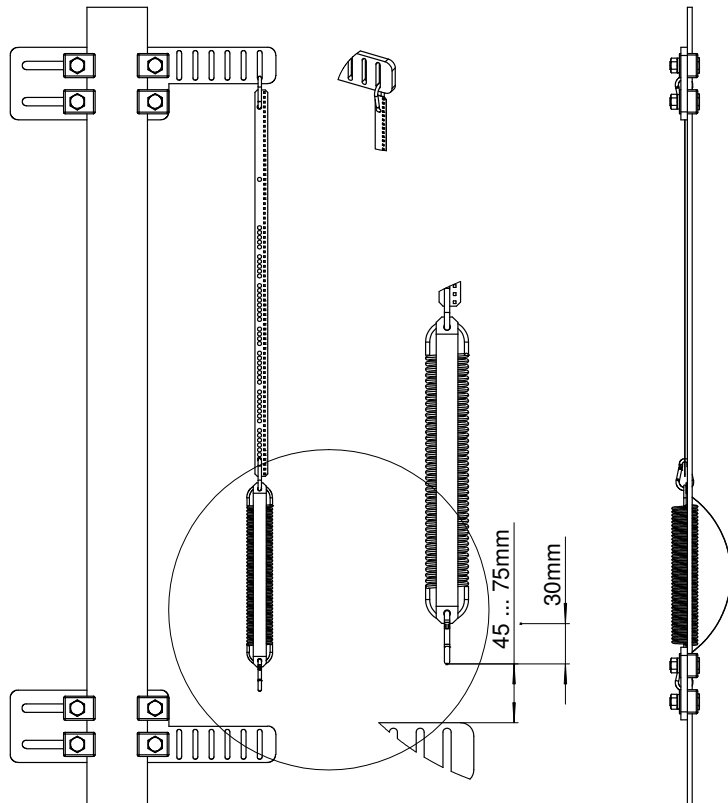
1) Reference is the nominal speed of the elevator facility.  
2) The sensor switches to error mode for speeds > 12 m/s.

# Shaft copying systems

<b>Sensor – Ants Safe</b>	<b>LES03</b>	<b>Safe position and speed detection</b>
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## Technology in detail

### Coded band fastening with Mounting Kit LES.MK



### Teach-in of the rated speed via configuration strips

The configuration strip for the respective rated speed is inserted into the LES03 sensor during commissioning. An LED visualizes the respective taught-in rated speed with a flashing pattern. In this way, the certifying agency can also validate the configuration at any time.



Corresponding configuration strips are available for different rated speeds.



Fastening eyelet

Rated speed

Guide bar



Can be assembled into sets by means of fastening eyelet



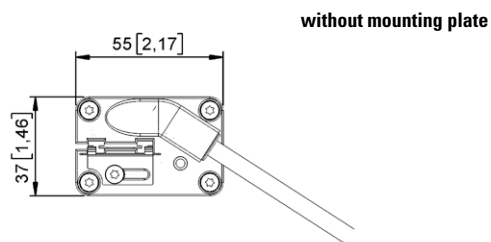
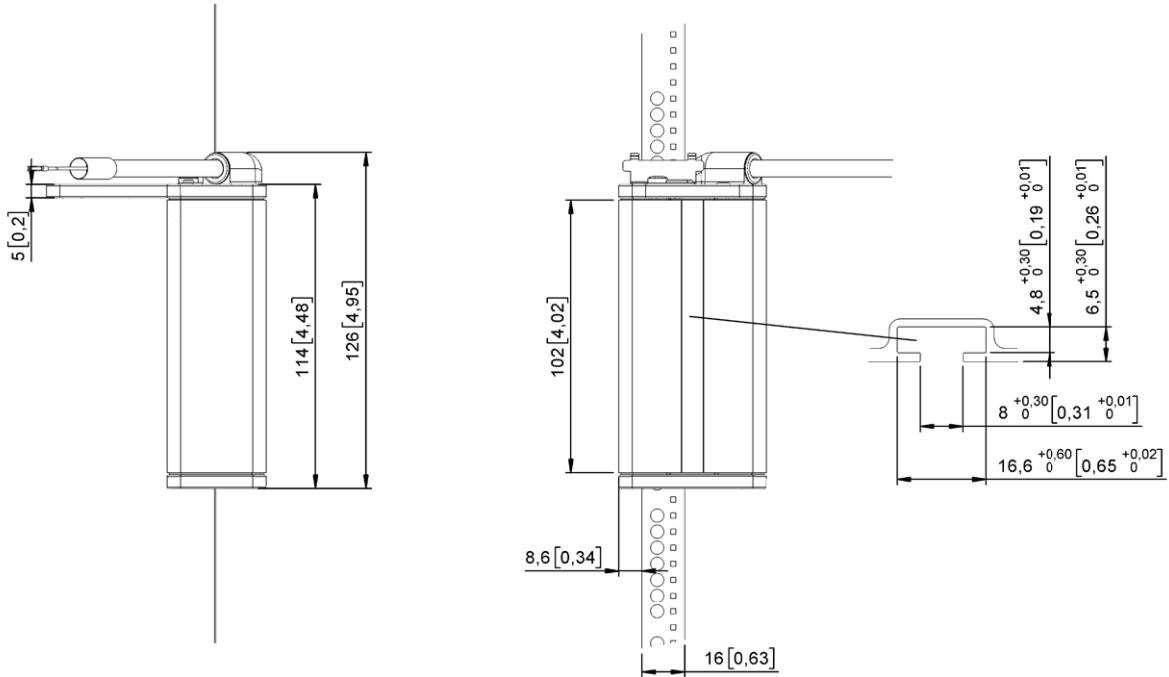
# Shaft copying systems

**Sensor – Ants Safe**      **LES03**      **Safe position and speed detection**

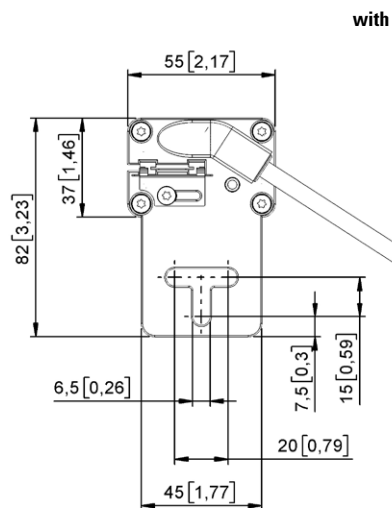
## Dimensions

Dimensions in mm [inch]

### Sensor



without mounting plate



with mounting plate