Системы копирования вала Ants LEB02, Ants LES02D, Ants LES02, Ants LES03

Технические характеристики

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

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 govenors 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.

Functional principle LES03

The sensor Ants LES02D consists of two independently operating detection systems. SCAN1 and SCAN2 are measured sections detected via the micro controllers MC1 and MC2.
The micro controllers compare the recorded data with each other (internal cross comparison) and then transmit the safe speed data, position data and error information via a common channel as a proprietary CAN protocol.

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

Required components for the use of the LES03 sensor

Sensor LES03

Configuration strip CS

Coded band LEX.BA

Mounting kit LES.MK

Order code Sensor

8.LES03	.	X	1	1	X	.	11	1	1	.	0000
Type		a		b	c		d	e			

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 *)

*) 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)

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.

Order code Configuration strip

8.CS	.	1111	.	XXXX
Type				a

a *Rated speed*
XXXX = cm/s

Ex.: 8.CS.1111.0160 (for 1.6 m/s)

Order code Coded band, absolute

8.LEX.BA	.	XXXX
Type		a

a *Measuring lengths*
XXXX = lengths in meters
(max. length = 392 m)

Standard lengths
0010 = 10 m
0015 = 15 m
0020 = 20 m
0025 = 25 m
0030 = 30 m
0040 = 40 m
0050 = 50 m
0060 = 60 m
0070 = 70 m
0080 = 80 m
0090 = 90 m
0100 = 100 m
0392 = 392 m

Intermediate lengths
< 100 m as from 5 pieces
> 100 m on request

Stock types
8.LEX.BA.0010 (10 m)
8.LEX.BA.0015 (15 m)
8.LEX.BA.0020 (20 m)
8.LEX.BA.0025 (25 m)
8.LEX.BA.0030 (30 m)
8.LEX.BA.0035 (35 m)
8.LEX.BA.0040 (40 m)
8.LEX.BA.0392 (392 m)

Mounting kit LES.MK

8.LES.MK.0001

Mounting kit for sensor Ants LES03

Accessories

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

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

Technical data

Mechanical characteristics

Code		absolute, 16 bit
Max. measuring length		392 m
Speed	certified	8 m/s [1]
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 proprietary

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 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

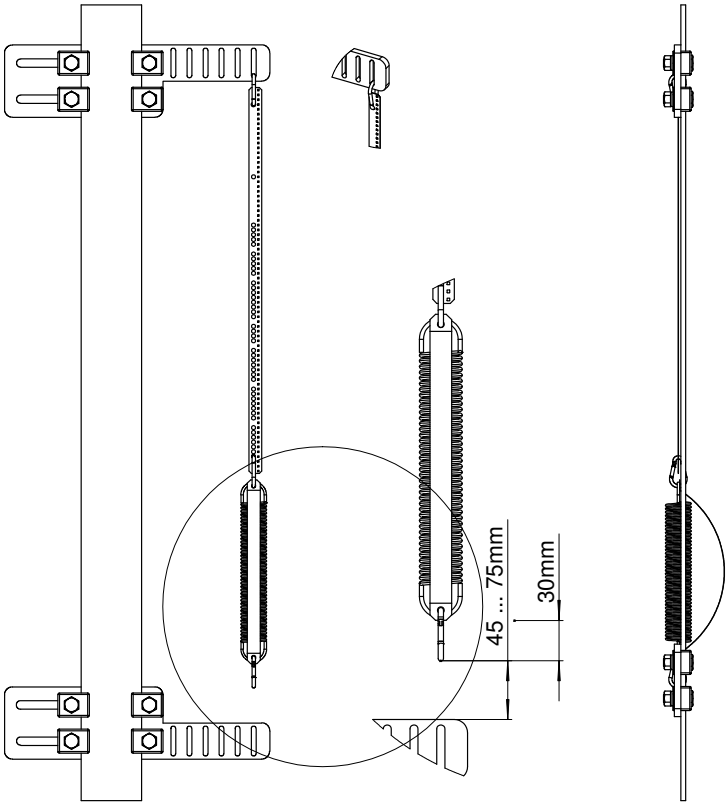
+V: Supply voltage +V DC
0 V: Supply voltage ground GND (0 V)

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

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

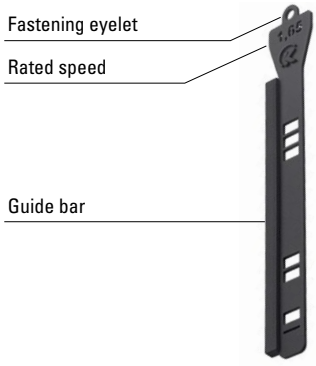
Technology in detail

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.

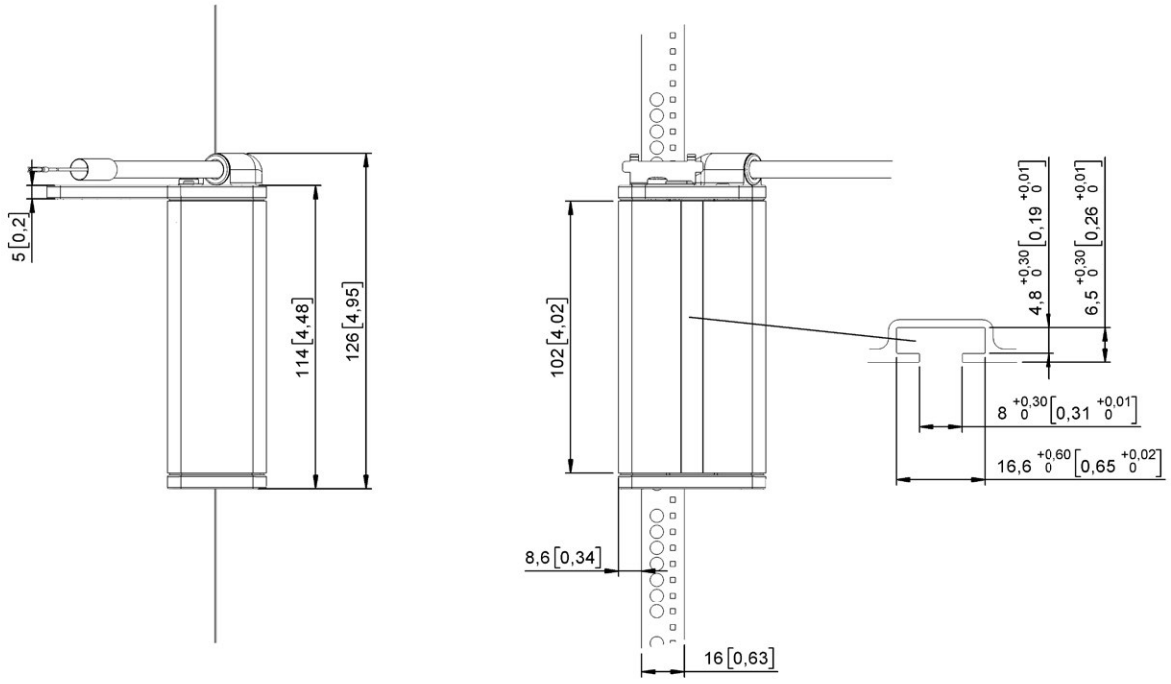
Can be assembled into sets by means of fastening eyelet

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

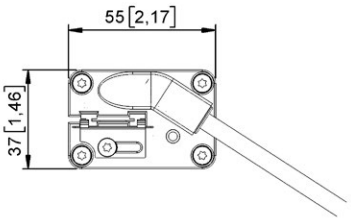
Dimensions

Dimensions in mm [inch]

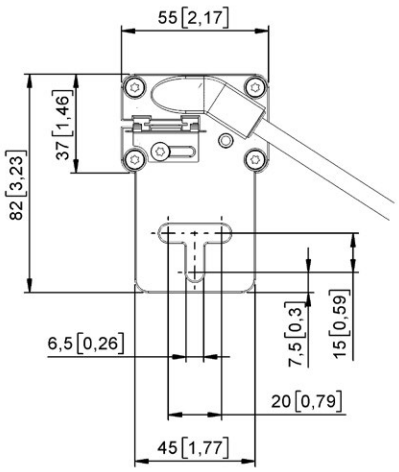
Sensor



without mounting plate



with mounting plate



Sensor – Ants Safe	LES02D	Safe position detection – Dual CAN

The sensor Ants LES02D is an extremely robust, compact and contactless measuring system.
With a resolution of 0.5 mm and a travel speed of up to 10.5 m/s, absolute position values of the elevator car are determined slip-free via a non-contact measuring principle.

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 elevators, it blends in very well with the overall appearance of the elevator system.

Functional principle LES02D - Dual CAN

The sensor Ants LES02D consists of two independently operating detection systems. SCAN1 and SCAN2 are measured sections detected via the micro controllers MC1 and MC2.
The micro controllers transmit speed data, position data and error information via two independent channels (CAN1 and CAN2) as a proprietary CAN protocol.

Sensor – Ants Safe | LES02D | Safe position detection – Dual CAN

Required components for the use of the LES02D sensor

Sensor
LES02

Coded band
LEX.BA

Mounting kit
LES.MK

Order code Sensor

8.LES02D	.	X	1	2	X	.	21	11
Type		ⓐ		ⓑ	ⓒ		ⓓ	

ⓐ *Type of mounting*
1 = with mounting plate
2 = without mounting plate (T-slot mounting)

ⓑ *Interface / supply voltage*
2 = CAN (2-channel) / 10 ... 30 V

ⓒ *Type of connection*
1 = cable, 3 m [9.84'], shielded, open cable end
2 = cable, 3 m [9.84'], shielded, RJ45 connector
A = cable, special lengths, shielded, open cable end *)
B = cable, special lengths, shielded, RJ45 connector *)

*) Special lengths on request: 5 m, 7 m, 10 m
order code expansion .XXXX = length in dm
ex.: 8.LES02D.112A.1111.0000.**0050** (for cable length 5 m)

ⓓ *Interface profile*
21 = CAN (2-channel), proprietary

Order code Coded band, absolute

8.LEX.BA	.	XXXX
Type		ⓐ

ⓐ *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	

Mounting kit LES.MK

8.LES.MK.0001

To the data sheet >

Mounting kit for sensor Ants LES02D

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

Sensor – Ants Safe | LES02D | Safe position detection – Dual CAN

Technical data

Mechanical characteristics

Code		absolute, 16 bit
Max. measuring length		392 m
Speed	certified functional	8 m/s [1] 10.5 m/s [2]
Resolution	certified functional	1 mm 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 (2-channel), proprietary

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 LES02D

Interface	Type of connection	Cable						
2 CAN (2-channel)	1, A	Signal:	+V	0 V / GND	CAN1_H	CAN1_L	CAN2_H	CAN2_L
		Core color:	BN	WH	GN	YE	GY	PK

Interface	Type of connection	Cable with RJ45 connector								
2 CAN (2-channel)	2, B	Signal:	+V	0 V / GND	CAN1_H	CAN1_L	CAN2_H	CAN2_L	n.c.	n.c.
		Pin:	4	3	2	1	8	7	5	6

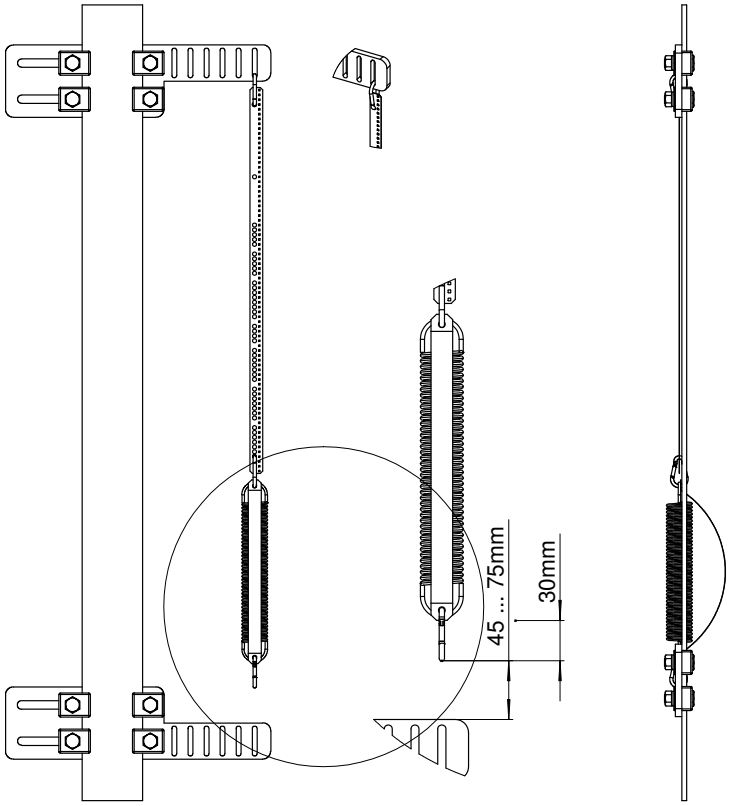
+V: Supply voltage +V DC
0 V: Supply voltage ground GND (0 V)

1) Reference is the rated speed of the elevator system.
2) At > 12 m/s the sensor changes to error mode.

Sensor – Ants Safe	LES02D	Safe position detection – Dual CAN

Technology in detail

Coded band fastening with Mounting Kit LES.MK

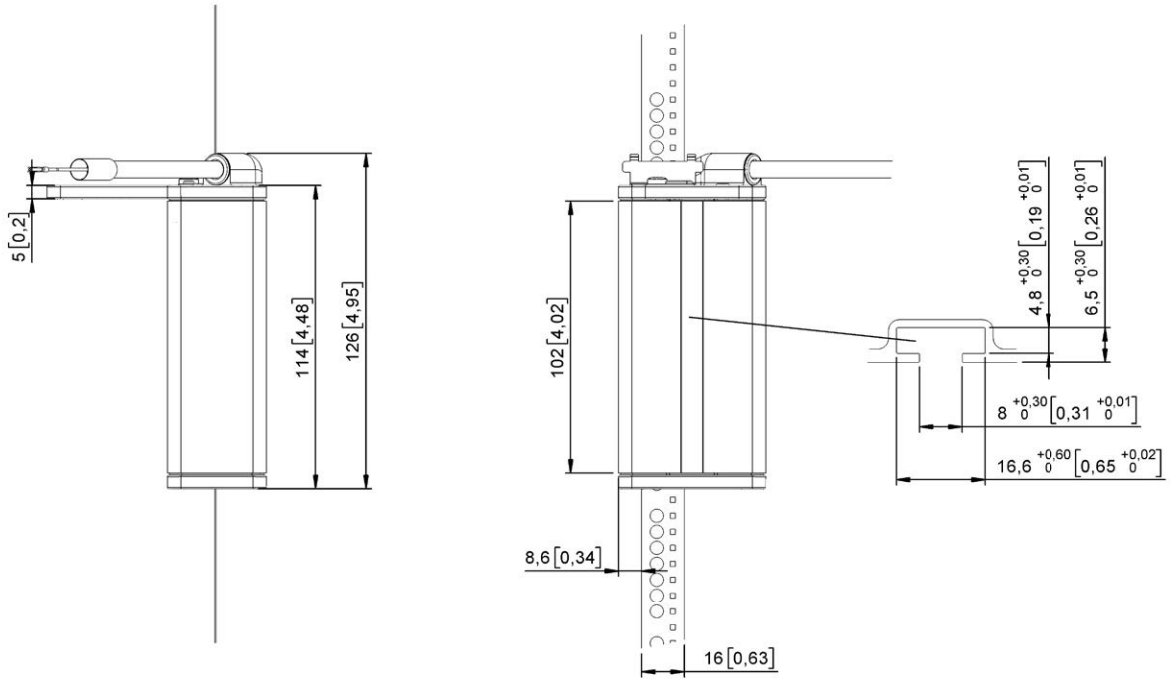


Sensor – Ants Safe	LES02D	Safe position detection – Dual CAN

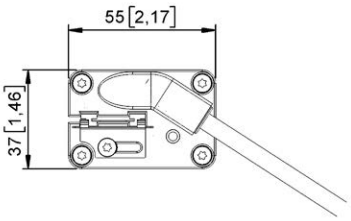
Dimensions

Dimensions in mm [inch]

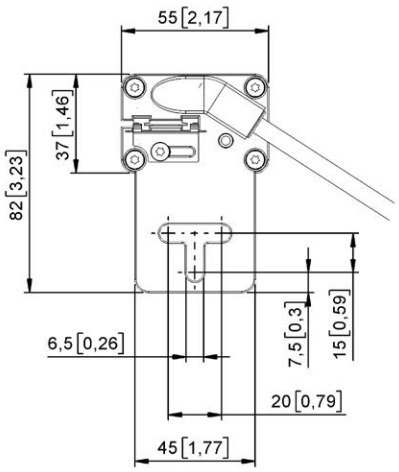
Sensor



without mounting plate



with mounting plate



Sensor – Ants Safe | **LES02** | **Safe position detection**

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**.

To the 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.

Functional principle LES02

The sensor Ants LES02 consists of two independently operating detection systems. SCAN1 and SCAN2 are measured sections detected via the micro controllers MC1 and MC2.
The micro controllers compare the recorded data with each other (internal cross comparison) and then transmit the safe speed data, position data and error information via a common channel as a proprietary CAN protocol.

Sensor – Ants Safe | LES02 | Safe position detection

Required components for the use of the LES02 sensor

Sensor
LES02

Coded band
LEX.BA

Mounting kit
LES.MK

Order code Sensor

8.LES02	.	X	1	1	X	.	11	11
Type		ⓐ		ⓑ	ⓒ		ⓓ	

ⓐ *Type of mounting*
1 = with mounting plate
2 = without mounting plate (T-slot mounting)

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

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

ⓓ *Interface profile*
11 = CAN (1-channel), proprietary

Order code Coded band, absolute

8.LEX.BA	.	XXXX
Type		ⓐ

ⓐ *Measuring lengths*
XXXX = lengths in meters
(max. length = 392 m)

Standard lengths
0010 = 10 m
0015 = 15 m
0020 = 20 m
0025 = 25 m
0030 = 30 m
0040 = 40 m
0050 = 50 m
0060 = 60 m
0070 = 70 m
0080 = 80 m
0090 = 90 m
0100 = 100 m
0392 = 392 m

Intermediate lengths
< 100 m as from 5 pieces
> 100 m on request

Stock types
8.LEX.BA.0010 (10 m)
8.LEX.BA.0015 (15 m)
8.LEX.BA.0020 (20 m)
8.LEX.BA.0025 (25 m)
8.LEX.BA.0030 (30 m)
8.LEX.BA.0035 (35 m)
8.LEX.BA.0040 (40 m)
8.LEX.BA.0392 (392 m)

Mounting kit LES.MK

8.LES.MK.0001

To the data sheet >

Mounting kit for sensor Ants LES02

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

Sensor – Ants Safe | LES02 | Safe position detection

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

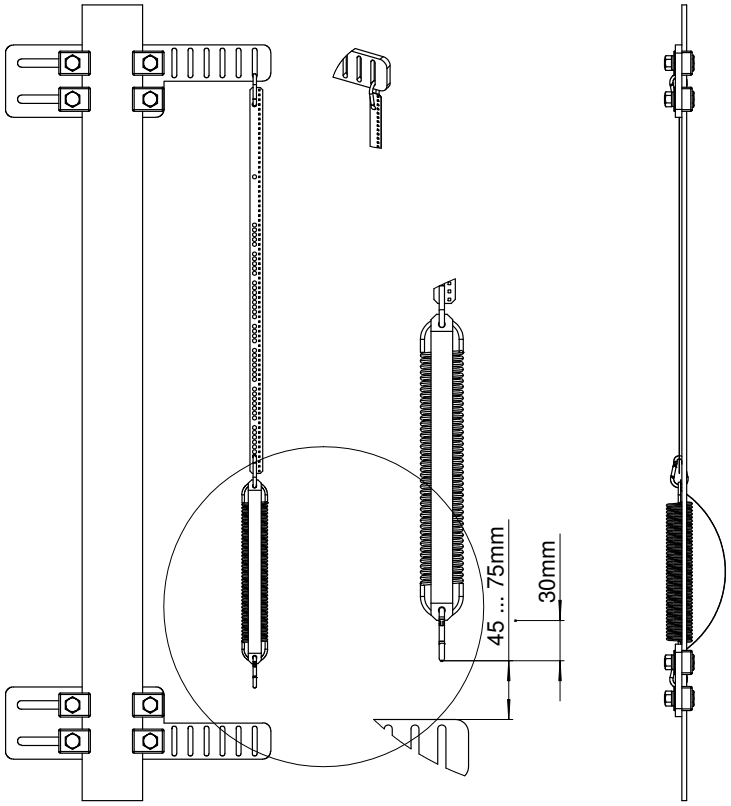
+V: Supply voltage +V DC
0 V: Supply voltage ground GND (0 V)

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

Sensor – Ants Safe	LES02	Safe position detection

Technology in detail

Coded band fastening with Mounting Kit LES.MK

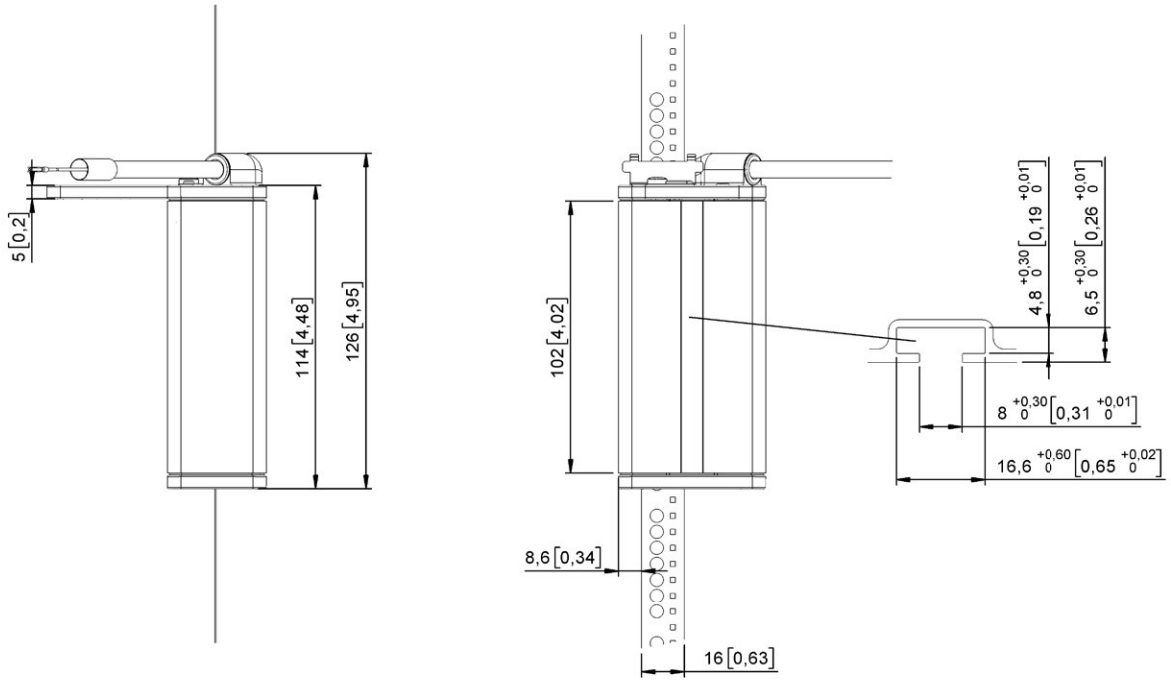


Sensor – Ants Safe	LES02	Safe position detection

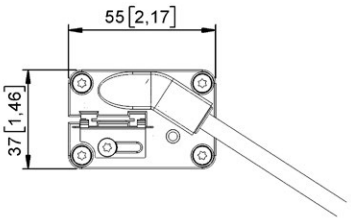
Dimensions

Dimensions in mm [inch]

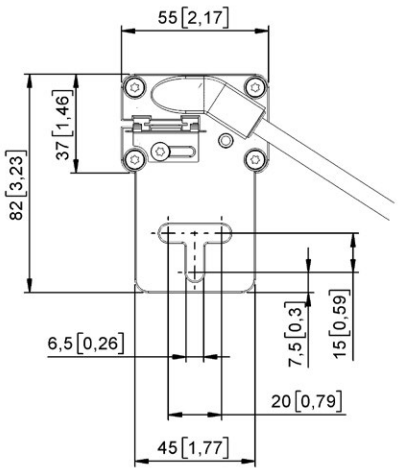
Sensor



without mounting plate



with mounting plate



Sensor – Ants Base | **LEB02** | **Absolute position detection**

Ants LEB02 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 1 mm and a travel speed of 8 m/s. Additional components such as magnetic switches become superfluous.

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

Features and benefits

- **Precise position feedback**
  The sensor system provides absolute position values. No homing necessary after power failure.
- **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.
- **Conveyor heights up to 392 m**
  With a resolution of 1 mm, a travel speed of up to 8 m/s and a maximum code band length of 392 m the measuring system can also be used for high-rise installations.
- **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.

Functional principle LEB02

The Ants LEB02 sensor consists of a detection system (SCAN). Positions and speeds are detected without slippage and transmitted to a controller via CANopen Lift, SSI or RS485.

Sensor – Ants Base | LEB02 | Absolute position detection

Required components for the use of the LEB02 sensor

Sensor
LEB02

Coded band
LEX.BA

Mounting kit
LES.MK

Order code Sensor

8.LEB02 . X a 1 X b X c . XX d 11
Type

a *Type of mounting*
1 = with mounting plate
2 = without mounting plate [1]

b *Interface / supply voltage*
2 = CANopen / 10 ... 30 V
3 = RS485 / 10 ... 30 V
4 = SSI / 10 ... 30 V

c *Type of connection*
1 = cable, 3 m [9.84'], open cable end
2 = cable, 3 m [9.84'], shielded, male connector 9-pin [2]
A = cable, special lengths, shielded, open cable end *)
B = cable, special lengths, shielded, Sub-D male contacts, 9-pin *) [2]

*) Special lengths on request: 5 m, 7 m, 10 m
order code expansion .XXXX = length in dm
ex.: 8.LEB02.112A.2211.**0050** (for cable length 5 m)

d *Interface profile* [3]
22 = CANopen Lift, DS417 V2.2.8
31 = RS485, 9 Byte,
24 bit position data
41 = SSI, Gray, 25 bit

Stock types
8.LEB02.1121.2211

Order code Coded band, absolute

8.LEX.BA . XXXX a
Type

a *Measuring lengths*
XXXX = lengths in meters
(max. length = 392 m)

Standard lengths
0010 = 10 m
0015 = 15 m
0020 = 20 m
0025 = 25 m
0030 = 30 m
0040 = 40 m
0050 = 50 m
0060 = 60 m
0070 = 70 m
0080 = 80 m
0090 = 90 m
0100 = 100 m
0392 = 392 m

Intermediate lengths
< 100 m as from 5 pieces
> 100 m on request

Stock types
8.LEX.BA.0010 (10 m)
8.LEX.BA.0015 (15 m)
8.LEX.BA.0020 (20 m)
8.LEX.BA.0025 (25 m)
8.LEX.BA.0030 (30 m)
8.LEX.BA.0035 (35 m)
8.LEX.BA.0040 (40 m)
8.LEX.BA.0392 (392 m)

Mounting kit LEB.MK

8.LEB.MK . XXXX a
Type

To the data sheet >

a *Mounting type*
0001 = rail fastening
0005 = rail fastening 90°
0004 = dowel fastening

Accessories

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

1) T-slot mounting.
2) With interface RS485 (**b** = 3) on request.

3) Selection depending on selected interface **b**:
CANopen can only be combined with **b** = 2
RS485 can only be combined with **b** = 3
SSI can only be combined with **b** = 4

Sensor – Ants Base | **LEB02** | **Absolute position detection**

Technical data

Mechanical characteristics

Code		absolute, 16 bit
Max. measuring length		392 m
Speed		8 m/s
Resolution		1 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	CANopen Lift, RS485, SSI

Environmental conditions

Protection acc. to EN 60529	IP54
Humidity	< 90 % (non-condensing)
Working temperature	-10 °C ... +70 °C [+14 °F ... +158 °F]
Storage temperature	-20 °C ... +80 °C [-4 °F ... +176 °F]
Air pressure (operating altitude)	800 ... 1013 hPA (up to 2000 m above NN)

Interface characteristics RS485

Baud rate	19.200
Number of data bits	8 bit
Number of Start bits	1 bit
Number of Stop bits	1 bit
Parity	none
Repetition	150 Hz
Number of bytes / transmission	9 bytes
Resolution position	1 mm
Resolution speed	10 mm/s
Position value	24 bit, binary
Speed value	16 bit, two‘s complement

Interface characteristics CANopen Lift (standard factory setting)

Bitrate	250 kbit/s
Identifier	0x18C
Node ID	0x04
Eventtimer	10 ms
Resolution	1 mm
Heartbeat	500 ms
Terminated	yes

Interface characteristics SSI (standard factory setting)

Data transfer	in slave mode double data transmission
Resolution	0.25 mm
Data length	25 bit + 1 power failure bit (Low)
MSB	first
Code	gray
Clock rate	max. 200 kHz
Monoflop time	< 50 µs

A position value must be read by the SSI master over 52 pulses.

1 ... 25:	MSB first absolute position in gray code
26:	Data low (PFB)
27 ... 51:	Second transmission (see 1-25)
52:	Data Low (PFB)

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

Sensor – Ants Base | LEB02 | Absolute position detection

Elevator functions	Standard	Base Sensor
Referencing / correction trip	-	√
Top & bottom inspection limitation	EN 81-20	√
Direct drive-in – depending on complete drive module	-	√
Stopping point shift	-	√
Overspeed during inspection	EN 81-20	√

Terminal assignment

Interface	Type of connection	Cable								
2 CANopen Lift (DS417)	1, A	Signal:	+V	0 V / GND	CAN_H	CAN_L	n.c.	n.c.		
		Core color:	BN	WH	GN	YE	GY	PK		

Interface	Type of connection	Cable with Sub-D, male connector 9-pin								
2 CANopen Lift (DS417)	2, B	Signal:	n.c.	CAN_L	0 V / GND	n.c.	shield	0 V / GND	CAN_H	n.c.	+V
		Pin:	1	2	3	4	5	6	7	8	9

Interface	Type of connection	Cable								
3 RS485	1, A	Signal:	+V	0 V / GND	D+	D-	n.c.	n.c.		
		Core color:	BN	WH	GN	YE	GY	PK		

Interface	Type of connection	Cable								
4 SSI	1, A	Signal:	+V	0 V / GND	C+	C-	D+	D-		
		Core color:	BN	WH	GN	YE	GY	PK		

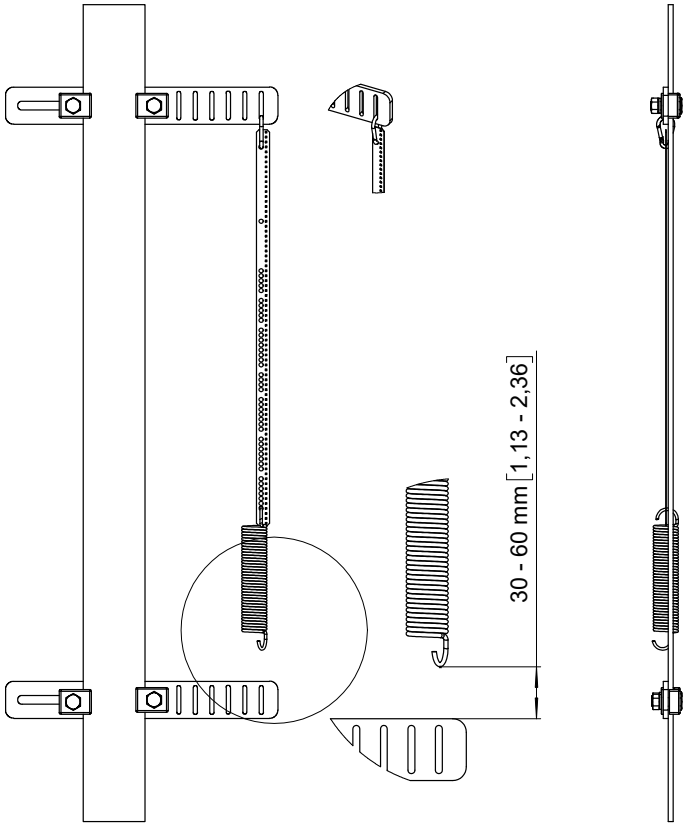
Interface	Type of connection	Cable with Sub-D, male connector 9-pin								
4 SSI	2, B	Signal:	n.c.	C+	shield	D+	0 V / GND	+V	C-	D-	n.c.
		Pin:	1	2	3	4	5	6	7	8	9

+V: Supply voltage +V DC
0 V: Supply voltage ground GND (0 V)
C+, C-: Clock signal
D+, D-: Data signal
n.c. : Do not connect

Sensor – Ants Base	LEB02	Absolute position detection

Technology in detail

Coded band fastening with Mounting Kit LEB.MK

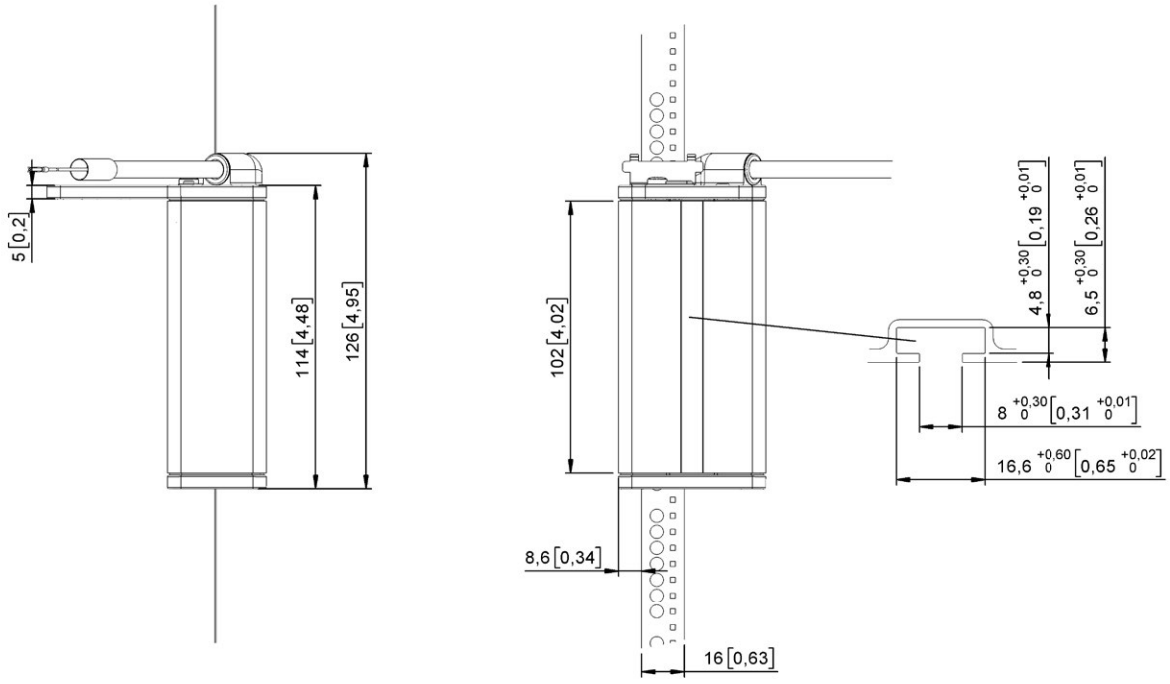


Sensor – Ants Base	LEB02	Absolute position detection

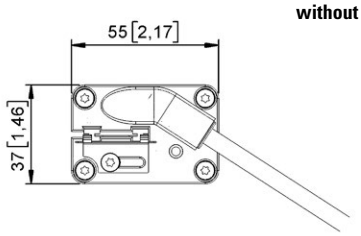
Dimensions

Dimensions in mm [inch]

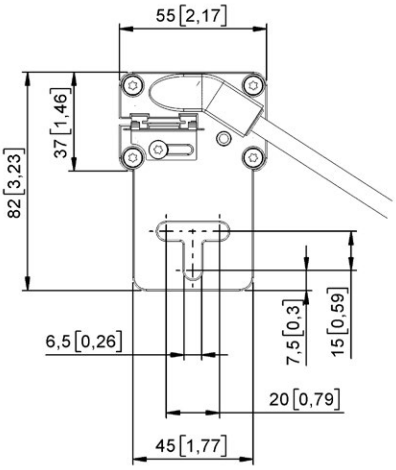
Sensor



without mounting plate



with mounting plate



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