

Operating Instructions

Signal Requesting Device

for Pedestrians and the Visually Impaired

basicguide

EK 524



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1 General information



Caution!

Any person involved in installation, operation and repair of the product must first read, understand and follow these instructions. We accept no liability for damage and operating malfunctions caused by failure to comply with these instructions.

In the interest of further development, we reserve the right to change individual assemblies and accessories as considered necessary for further safety and performance improvements, while preserving the main features.

The copyright to these instructions remains with Langmatz GmbH.

2 Safety information

The product corresponds to the latest state-of-the-art technology at the time of printing and is delivered in operationally safe condition. No unauthorised modifications may be made, particularly to safety-related parts.

Langmatz GmbH warns against misuse.

Devices may only be opened by specialist personnel. Before opening a device, ensure that it is disconnected from the operating voltage.

Operating an open housing carries a risk of contact with live components or cables and/or conductor paths.

Observe the technical data provided (see chapter 4).

The operating company is responsible for installing, operating and maintaining the fixtures.

The operator is responsible for the following:

- Preventing danger to life and limb of users and third parties.
- Ensuring safe operation.
- Precluding downtime and environmental impact due to incorrect handling.
- Ensuring that protective clothing is worn when working with or on the product.

Do not use the product if it is damaged. Please contact the hotline (see chapter 15 Contacts).



Caution!

Applicable occupational safety and environmental protection regulations must be observed during installation, operation and maintenance or repair.

3 Product description

This manual essentially describes installation and operation of the pedestrian signal requesting device for pedestrians and the visually impaired provided by Langmatz.

3.1 Dimensions

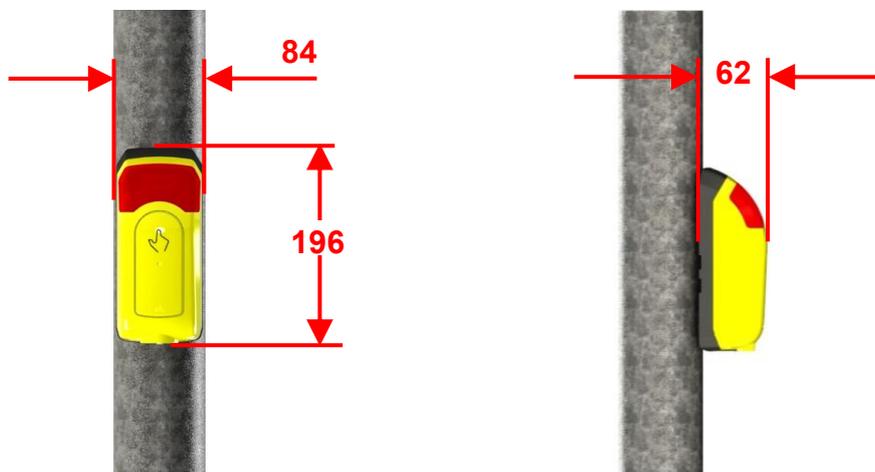


Fig. 1 Fig. 2

4 Technical data

4.1 General

Designation	basicguide EK524 pedestrian signal requesting device
Nominal voltages	24 VDC 40 VAC 230 VAC
Housing colour	Yellow, similar to RAL 1023, solid coloured, UV-resistant. Other colours available on request.
Housing material	Polycarbonate (PC)
Protection class	II
Protection rating	IP54
Housing impact strength	IK10
Energy input	Max. 2.5 Watt
Mounting	2 x M6 x 25 / A2 hexagon socket screws
Lighting-pole adaptor (protection against vandalism)	Universal, stainless steel Suitable for: diameters of 78 mm – 230 mm Optionally for: wall installation
Operating temperature	-25 °C to +60 °C
Height / Width / Depth	196 mm / 84 mm / 62 mm / Push-button 64 mm (distance from pole)
Speaker	300 – 20000 Hz / 2 W / 8 Ohm
Device meets the following standards	DIN VDE 0832 - 100, DIN VDE 0832 - 200 DIN 32981

4.2 Tactile signalling device

Designation	Core	Minimum	Maximum	Unit
Neutral conductor, tactile signalling device	9			
Pedestrian crossing signal, tactile signalling device	1			
Voltage range		0.8 U _{nom} (min. 20 V)	1.2 U _{nom} (max. 253 V)	Volts
Input power		0.5	1.3	Watts

Nominal voltages	24 VDC / 40 VAC / 230 VAC
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4.3 Visual feedback

Designation	Core	Minimum	Maximum	Unit
Neutral conductor, visual feedback	5			
Visual feedback	4			
Voltage range		0.8 U _{nom} (min. 20 V)	1.2 U _{nom} (max. 253 V)	Volts
Input power per input		0.5	1.2	Watts

Nominal voltages	24 VDC / 40 VAC / 230 VAC
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4.4 Signal request by vibrator push-button

Designation	Core	Minimum	Maximum	Unit
Vibrator push-button	6 / 7		Potential-free switching output	
Switching voltage			Max. 250 V AC	
Switching current			Max. 2 A	
Contact types			NC / NO	

4.5 Signal request by sensor (option 1)

Designation	Core	Minimum	Maximum	Unit
Large-surface sensor	8 / 10		Potential-free switching output	
Switching voltage			20-250 V AC / DC	
Switching current			Max. 80 mA	
Contact types			NO	
Bias current			< 1 mA	

4.6 Signal request by push-button (option 2)

Designation	Core	Minimum	Maximum	Unit
Large-surface push-button	8 / 10		Potential-free switching output	
Switching voltage			Max. 250 V AC	
Switching current			Max. 2 A	

Contact types		NC / NO
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Background colour indicates core colour.

4.7 Block diagram

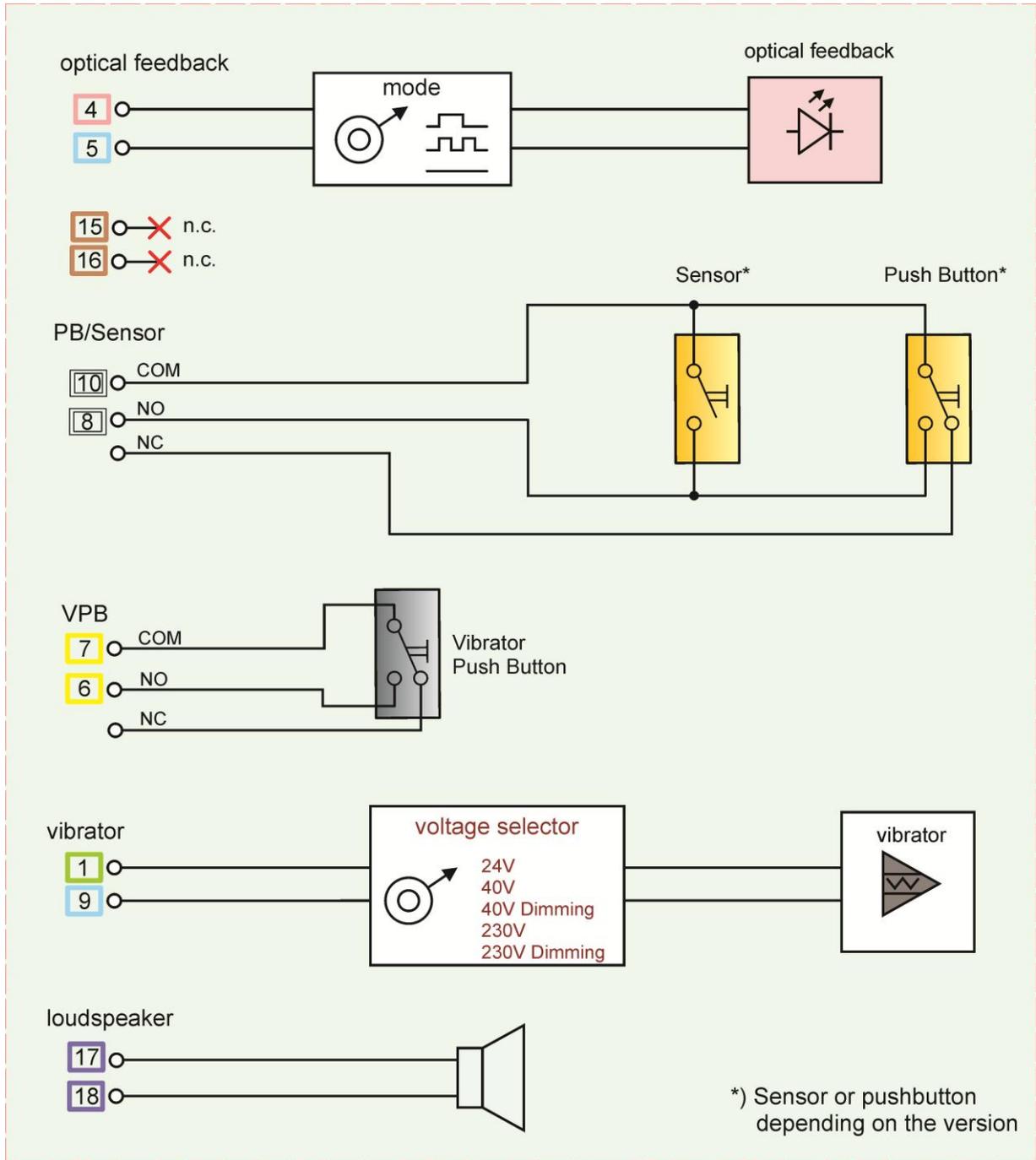


Fig. 3

5 Scope of delivery

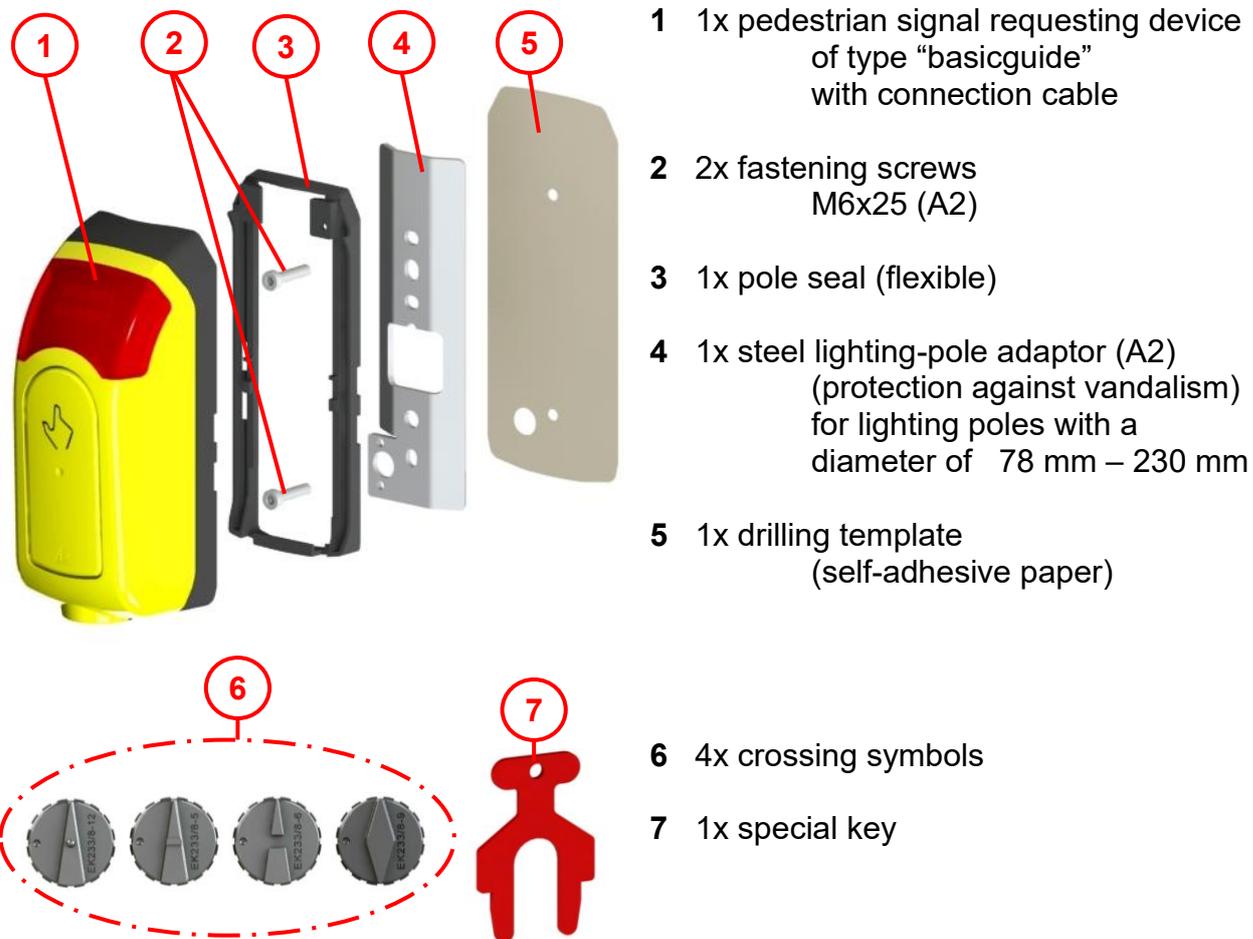


Fig. 4

6 Required tools (not included)

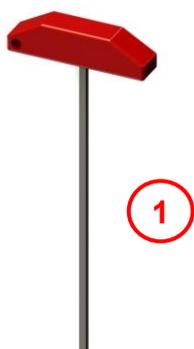


Fig. 5

- SW4 Allen key

7 Installation

7.1 Drilling mounting holes in lighting pole

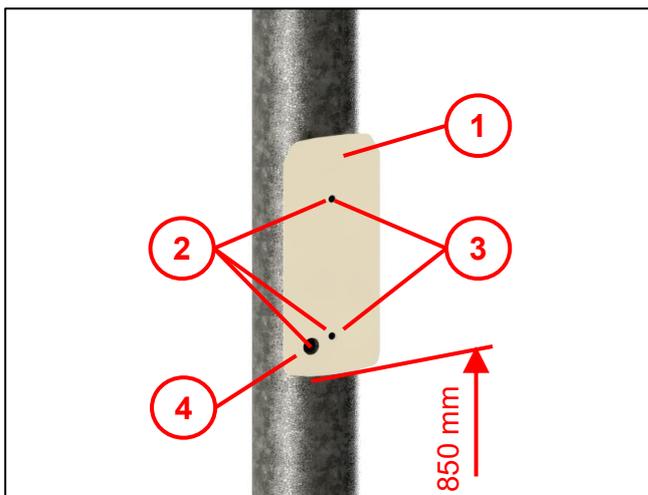


Fig. 6

- Remove the protective film from the drilling template **(1)**.
- Stick the drilling template on the lighting pole so that the bottom edge of the template is 850 mm above the footway.
- Punch-mark 3 drill holes **(2)**.
- Drill 2 holes with a diameter of 5 mm **(3)** (for mounting).
- Cut 2 M6 threads **(3)**.
- Drill 1 hole with a diameter of 14 mm **(4)** (for the cable duct).

Langmatz recommends using a metal drilling jig.

Langmatz item no. 700663080.

See also chapter 9 (Accessories)

7.2 Opening the signal requesting device

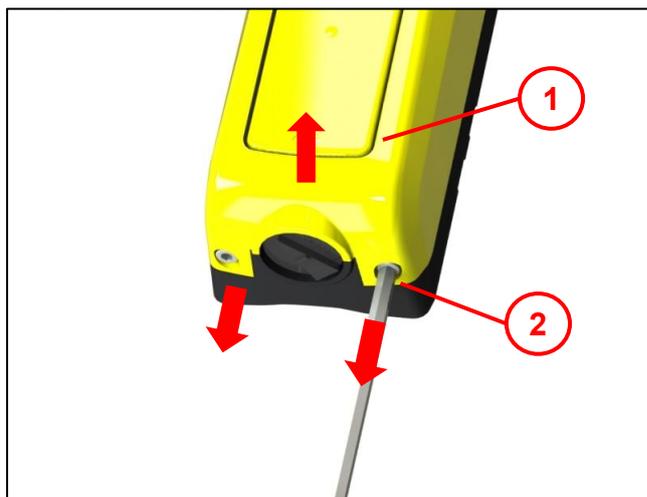


Fig. 7

- On the signal requesting device, open the 2 locking screws **(2)** with an SW4 Allen key and take off the top part **(1)** of the device.

7.3 Mounting the bottom part of signal requesting device

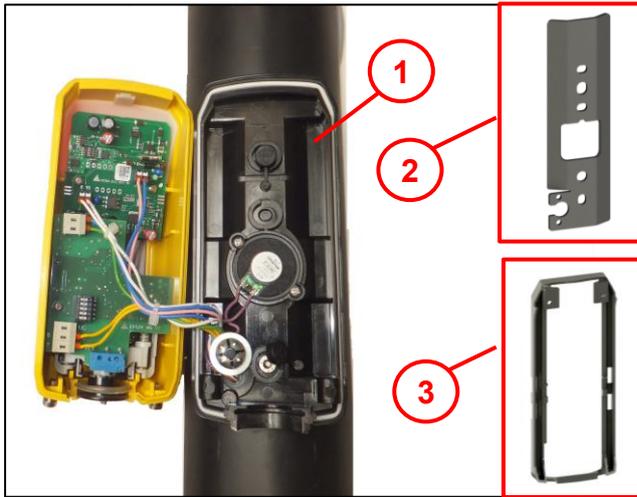


Fig. 8

The bottom part (1) of the device is pre-assembled with the steel lighting-pole adaptor (protection against vandalism) (2) and pole seal (flexible) (3).

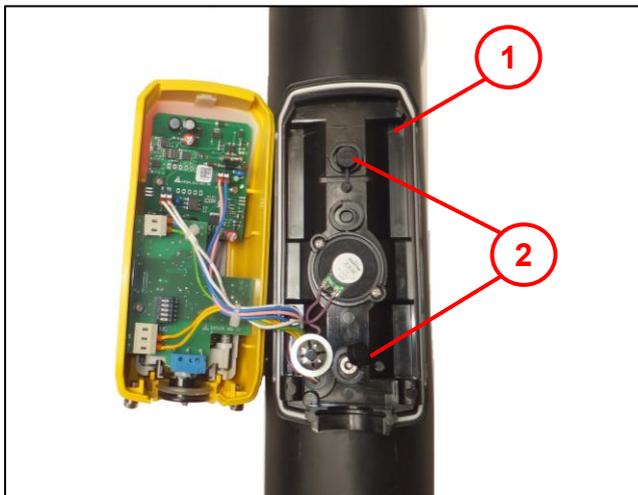


Fig. 9

- Take off the plastic caps (captive) (2).
- Fasten the bottom part (1) of the device to the lighting pole with 2 M6x25 fastening screws.
- **Note:**
 - Torque approx. 5 Nm.
 - Check that the signal requesting device fits correctly on the lighting pole.

- Put on the plastic caps (captive) (2) again.

Note: Check for correct fit. (Protection class!)

- Connect the connection cable to the cable distributor according to the block diagram in chapter 4.7.
- Unused cores must be insulated.

A function test must be carried out when the pedestrian signal requesting device has been installed!

7.4 Installation of replacement device (hole spacing 80 mm)

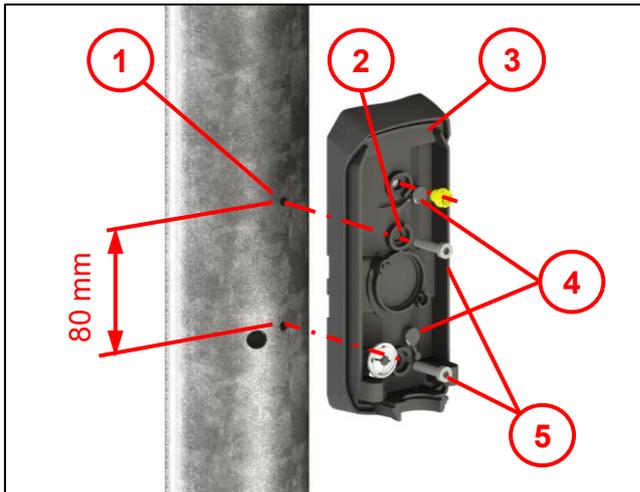


Fig. 10

If mounting holes (1) already exist (thread spacing 80 mm), a predetermined breaking point (2) can be opened in the bottom part (3) of the device.

- Take off the plastic caps (captive) (4).
- Open the predetermined breaking point (2) and deburr.
- Fasten the bottom part (3) of the device to the lighting pole with 2 M6x25 fastening screws (5).
- **Note:**
 - Torque approx. 5 Nm.
 - Check that the signal requesting device fits correctly on the lighting pole.

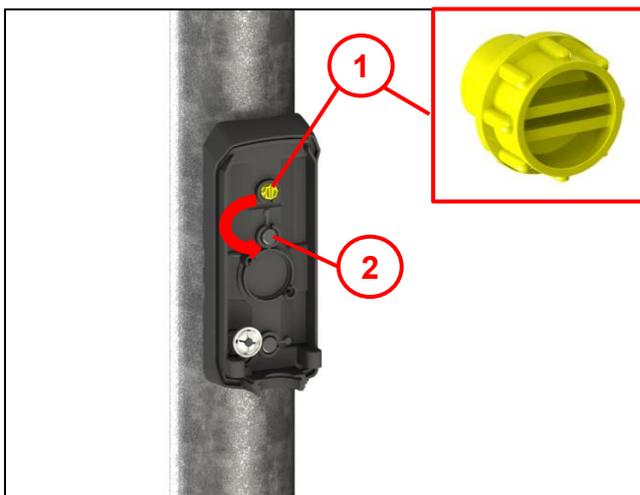


Fig. 11

- Close the upper housing hole with a sealing plug (1) (colour yellow – accessories kit).
- Turn the plastic cap (captive) (2) down and put on to the fastening screw.

Note: Check for correct fit. (Protection class!)

- Connect the connection cable to the cable distributor according to the block diagram in chapter 4.7.
- Unused cores must be insulated.

A function test must be carried out when the pedestrian signal requesting device has been installed!

7.5 Aligning crossing symbol

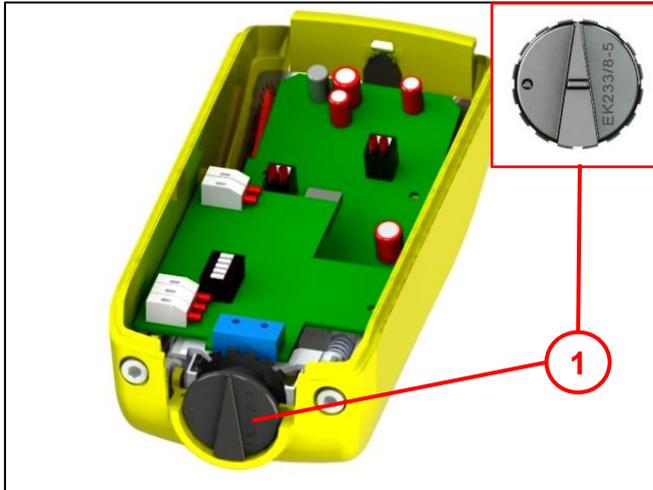


Fig. 12

The pedestrian signal requesting device is factory-fitted with a crossing symbol (1).

If the specified direction of the crossing symbol does not match the direction required, proceed as follows:

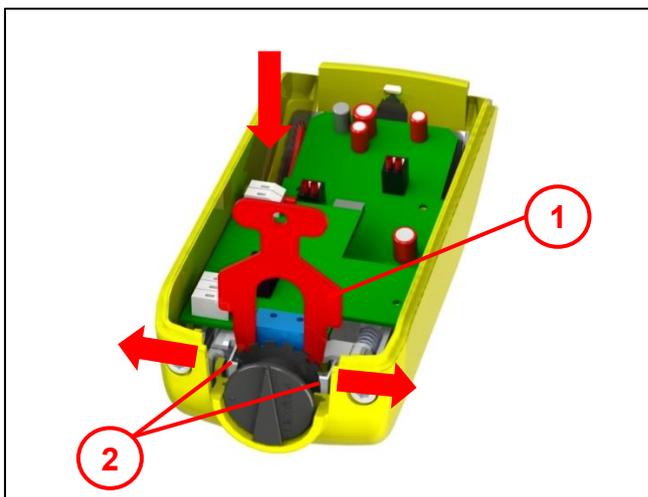


Fig. 13

- Insert the special key (1) behind the crossing symbol and press down.
- The brackets (2) are opened.

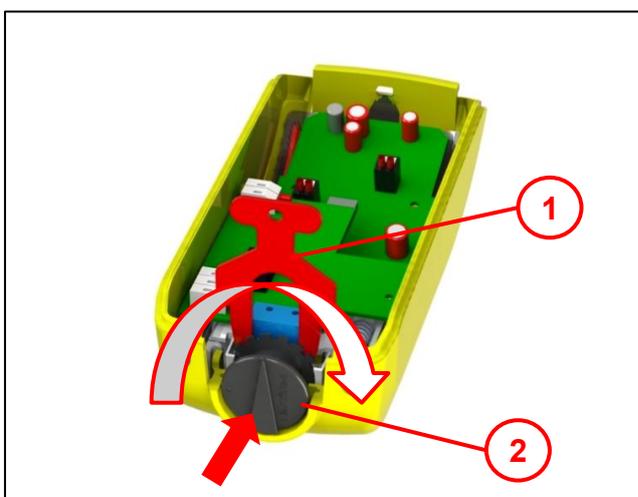
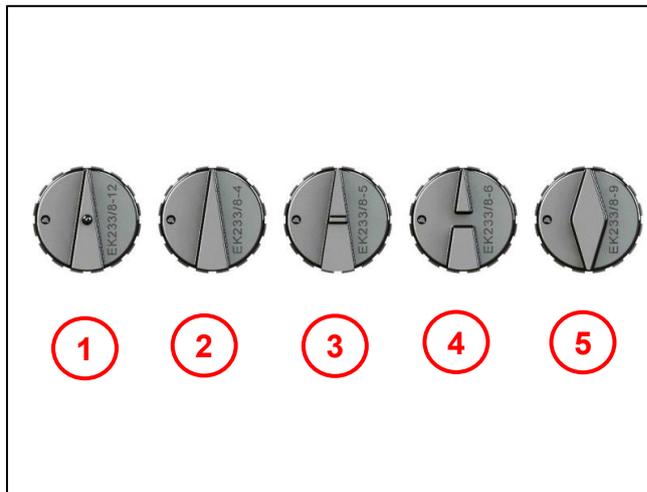


Fig. 14

- Press the crossing symbol (2) in slightly and click it out of place.
- Turn the crossing symbol into the required direction.
Note: The fitted spring must not fall out!
- Remove the special key (1).
- Release the crossing symbol and click it back into place.
Note: Check the built-in seal for correct fit.

7.6 Replacing crossing symbol

7.6.1 Description of the crossing symbols for the visually impaired DIN 32981

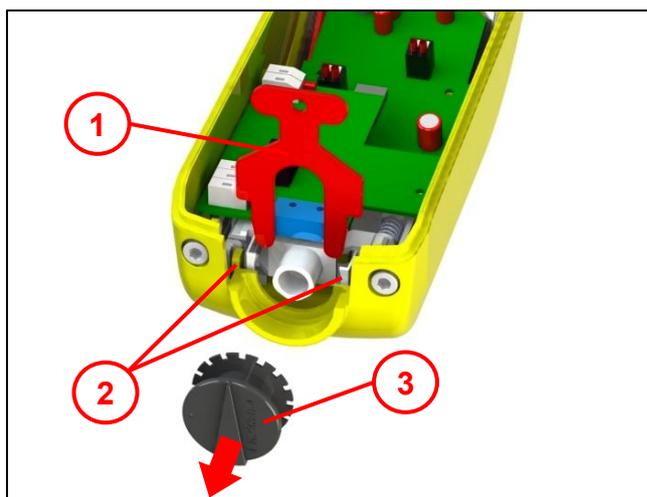


- 1 Crossing with additional request
- 2 Crossing only (factory-fitted)
- 3 Crossing with central island
- 4 Crossing with level crossing
- 5 Crossing in two directions

A more detailed description of the symbols and their functions is specified in DIN 32981.

Fig. 15

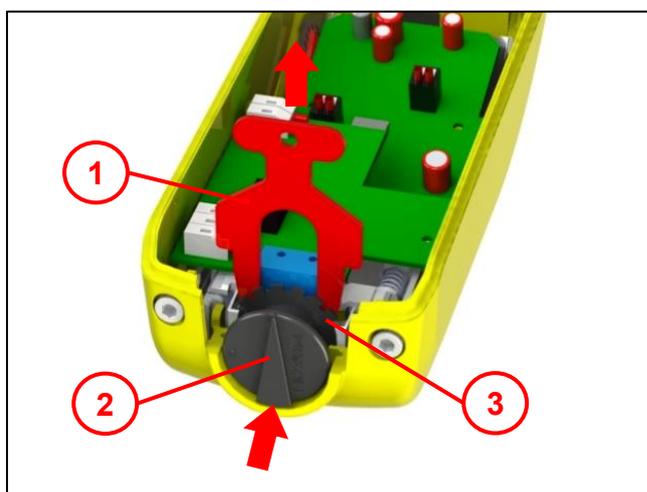
7.6.2 Mounting the crossing symbol



- Open the brackets (2) with the special key (1) (as described in chapter 7.5).
- Press the crossing symbol (3) in slightly and click it out of place.
- Pull the crossing symbol out completely downwards.

Note: The crossing symbol is spring loaded. Catch the spring when pulling out!

Fig. 16



- Insert the new crossing symbol (2).
- Turn the crossing symbol into the required direction.
- **Note:** The fitted spring must not fall out!
- Remove the special key (1).
- Release the crossing symbol and click it back into place.

Note: Check the built-in seal (3) for correct fit.

- Close the device again.

Fig. 17

8 Set-up and function test

8.1 Vibration

The vibrator (tactile signalling device) is connected to the corresponding crossing orientation signal of the traffic light system and can be operated with a voltage of 20 V DC to 253 V AC.

The voltage range is set with a DIP switch.

This ensures that the vibration can only be activated with the set voltage range.

8.1.1 Voltage ranges

24 V nominal voltage	(18 to 30 V DC)
40 V nominal voltage	(30 to 50 V DC)
230 V nominal voltage	(170 to 253 V AC)
40 V dimming nominal voltage	(18 to 50 V AC / DC)
230 V dimming nominal voltage	(110 to 253 V AC)

8.1.2 Settings

The voltage range is set on 230 V on delivery.

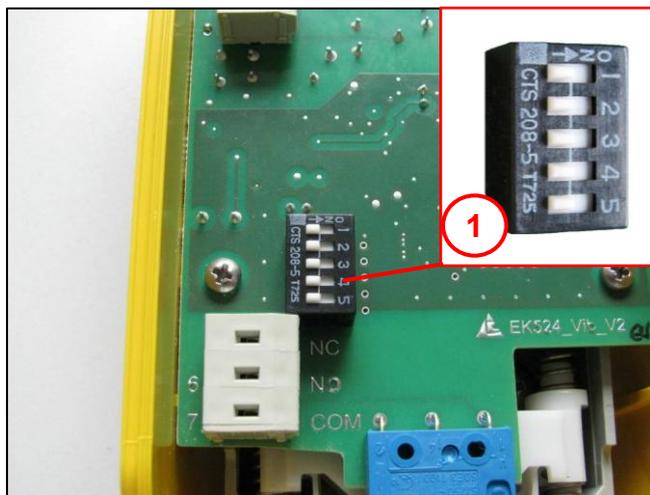


Fig. 18

DIP switch, 5-pole (1)

Only change the switch positions in a de-energised state.

	Operating voltages				
Switch position	230 V	40 V	24 V DC	230 V dim.	40 V dim.
1	OFF	OFF	ON	OFF	OFF
2	OFF	ON	OFF	OFF	ON
3	OFF	OFF	OFF	ON	ON

Fig. 19

	Vibrator clock rate			
Switch position	1 Hz	2 Hz	4 Hz	6 Hz
4	ON	OFF	OFF	ON
5	ON	OFF	ON	OFF

The vibrator clock rate can be set to the clock rate of the pedestrian crossing signal with switch position 4 and 5.

The clock rate is set to 2 Hz on delivery.

Fig. 20

8.2 Vibrator push-button

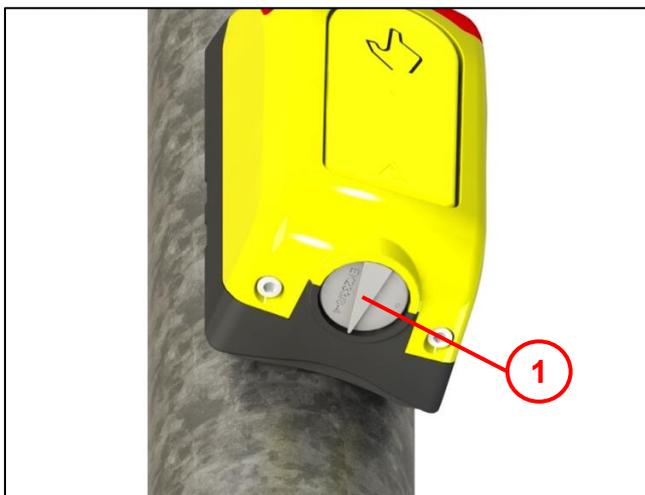


Fig. 21

Important:

When the mounting work has been finished, check that the vibrator push-button works correctly with the crossing symbol (1)!

- Possibility to request a signal in all positions of the vibrator push-button.
- Clearly noticeable vibration at the crossing symbol during signalling of crossing possible.

8.3 Visual feedback (depending on configuration)

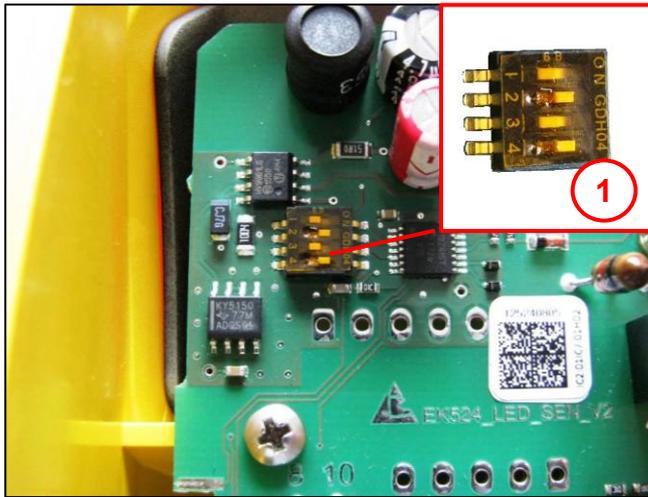


Fig. 22

DIP switch
Visual feedback **(1)**

The voltage range is set to 230 V and constant light on delivery.

Switch position	230 V	40 V	24 V
1	ON/OFF	ON/OFF	ON/OFF
2	ON/OFF	ON/OFF	ON/OFF
3	-	-	-
4	OFF	ON	ON

Fig. 23

Switch position 1 → on = flashing 2 Hz
→ off = flashing 1 Hz

Switch position 2 → on = flashing
→ off = constant light

Switch position 3 → not used

Switch position 4 → on at 24 and 40 Volt
→ off at 230 Volt (Inrush current limiter)

8.4 Signal request

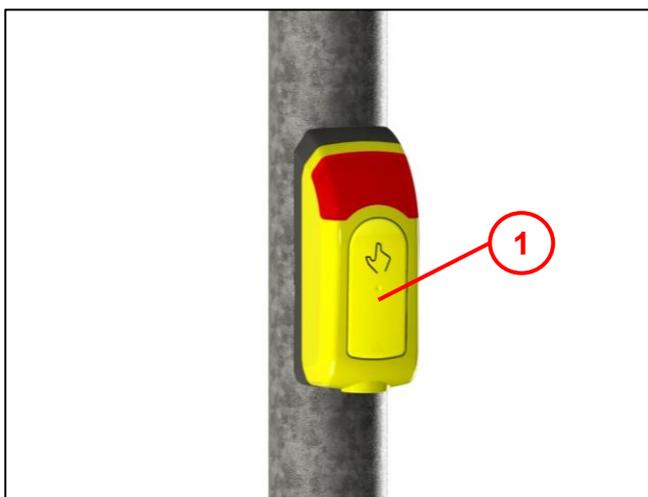


Fig. 24

- Test signal-request function by pressing the large-surface push-button **(1)**.

Optionally with sensor:

- Test signal-request function by touching the sensor surface **(1)**.

8.5 Speaker (depending on configuration)

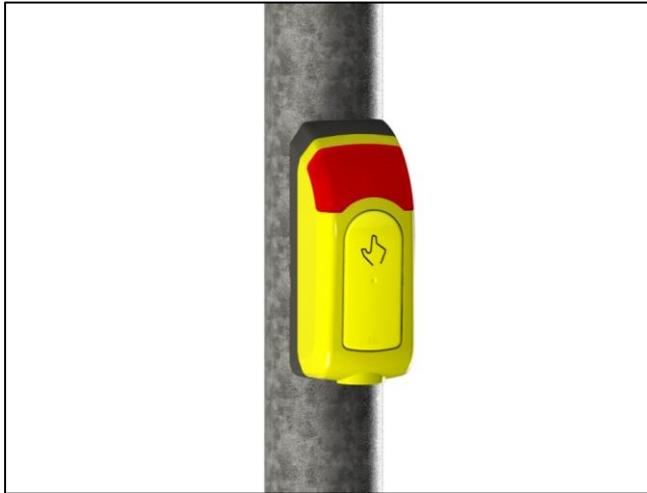


Fig. 25

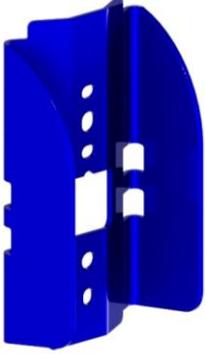
The speaker is available for an external acoustic device.
The function test depends on the type of acoustics used.

Technical data of the speaker:
300-20000 Hz | 2 Watt | 8 Ohm

Note:

If one or more of the above-mentioned settings do not work correctly, check the devices settings and connection configuration.

9 Accessories

Designation	Langmatz item no.	Example illustration of the product
Drilling jig	700663080	
Vandal guard Available in various colours and with various pictograms on customer request	700663090	

10 Maintenance

Measures	Intervals	Remarks
External visual inspection	At least every 12 months or during maintenance measures on the complete installation.	Check the device for external dirt and damage. Note: Do not use abrasive cleaning agents or solvents to clean the housing.
Check crossing symbol		Check correct alignment and corresponding crossing symbol.
Carry out complete function test		If the device is defective, send it in to Langmatz GmbH with a description of the fault. Langmatz GmbH senden.

11 EU Declaration of Conformity

The product meets the requirements of the following applicable harmonisation directives:

2014/30/EU Electromagnetic Compatibility (EMC)
2014/35/EU Low Voltage Directive (LVD)

The following standards were complied with:

EN 50293:2012 (EMC)
EN 50556:2011 (LVD)
DIN 32981:2018-06

The EU Declaration of Conformity for this product can be requested from Langmatz GmbH.

12 Material defects

Langmatz shall assume liability for material defects in the product as per Section 434 BGB (German Civil Code) for 24 months, starting from the date on the purchase receipt.

Within the scope of liability, all parts that become damaged due to manufacturing or material errors shall be replaced or repaired free of charge.

The purchaser must report any deficiency complaints immediately in writing.

Claims for damages by the purchaser due to material defects or whatever legal reason shall not be accepted.

Any damage or failure caused by the following are also excluded from liability:

- incorrect use,
- natural wear and tear,
- intervention by third parties.

We accept no liability for damage caused by *force majeure* or transport.

Repairs due to a deficiency complaint shall not extend the warranty period for the replaced parts or the product.

This product corresponds to the latest state-of-the-art technology. Nevertheless, if you experience any problems with it, please contact our hotline (see chapter 15 Contacts).

13 Quality management

Langmatz GmbH's quality management system is certified to DIN EN ISO 9001.

14 Disclaimer/Warranty

The information in this technical document is presented appropriately and correctly according to technical regulations and to the best of our knowledge. However, this does not confer any guarantee of particular characteristics. The operator of the products supplied by Langmatz GmbH is expressly obliged in this context to decide, based on his/her own judgement, whether the products are suitable and appropriate for the application or use being considered. The product liability accepted by Langmatz GmbH relates exclusively to our conditions of sale, delivery and payment. Langmatz GmbH accepts no liability due to random, indirect and resultant consequential damage, as well as any damage attributable to any use of the product other than for its described and intended purpose.

15 Contacts

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