

## Operating Instructions

Signal requesting device  
for pedestrians and the visually impaired  
basic plus EK523

(Can only be used in conjunction with a soundguide EK598)



***basic plus***

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## 1 General information

These instructions are included with delivery.



### Caution!

Any person involved in the 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 current state-of-the-art technology at the time of printing and is delivered in an operationally safe condition. Unauthorised modifications, particularly to safety-related parts, are prohibited.

Langmatz GmbH warns against misuse of the product.

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

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

Observe the technical data provided (see chapter 3.2).

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

### The operating company is responsible for the following:



- Preventing danger to the life and limb of users and third parties.
- Ensuring operational safety.
- 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 18).



### Caution!

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

### 3 Product description

#### 3.1.1 Dimensions

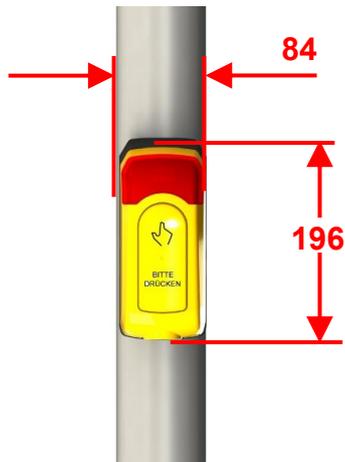


Fig. 1

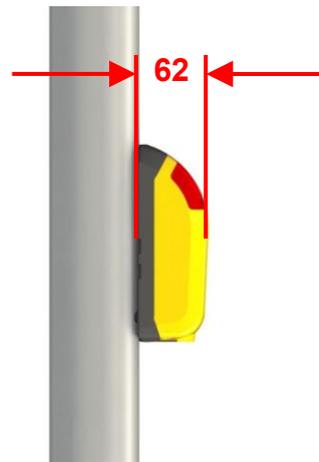


Fig. 2

#### 3.2 Technical data

Designation	Signal requesting device basic plus EK523 for pedestrians and the visually impaired
Nominal voltages Visual feedback, potential-free switch	24 V DC   40 V AC   110 V AC   230 V AC
Supply	12 V DC from the soundguide EK598
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
Enclosure IK rating	IK10
Power consumption	2.5 watts
Mounting	2 x M6 x 25 / A2 hexagon socket head bolts
Pole adapter (protection against vandalism)	Universal, stainless steel, Suitable for: diameters of 78 mm – 230 mm and wall installation.
Operating temperature	-25 °C to +60 °C
Height / Width / Depth	196 mm / 84 mm / 62 mm / push-button 64 mm (distance from the pole)

## 4 Overview of functions

### 4.1 Block diagram, option 1 (basic functions)

(DIP switch detection "S1" not assigned).

- Visual feedback
- Signal request via a sensor or potential-free push-button
- Vibrating push-button, potential-free
- Vibrator actuation via soundguide EK598
- 12 V supply via soundguide EK598

DIP switch position

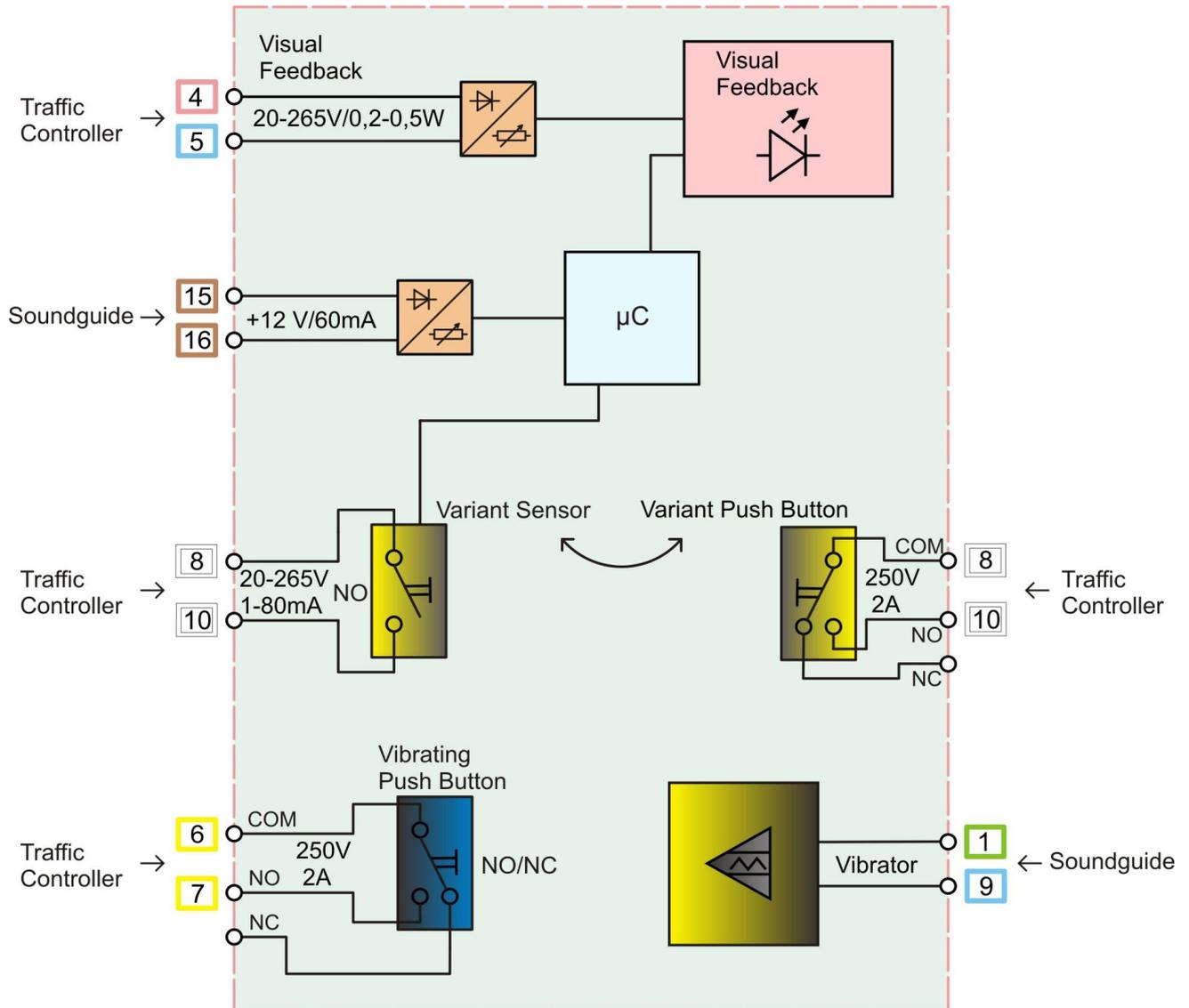
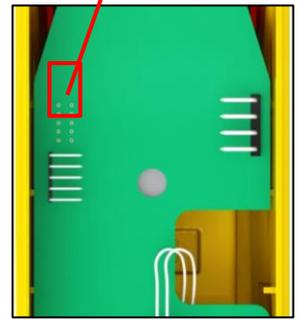


Fig. 3

## 4.2 Block diagram, option 2 (advanced functions)

(DIP switch detection "S1" assigned).

- Visual feedback with flashing function and self-acknowledgement logic
- Acknowledgement sound with signal request
- Orientation sound from pedestrian signal requesting device (loudspeaker).
- Vibrator actuation via soundguide EK598
- 12 V supply via soundguide EK598
- Signal request via a sensor or potential-free push-button
- Vibrating push-button, potential-free
- Adjustable NC / NO switching outputs

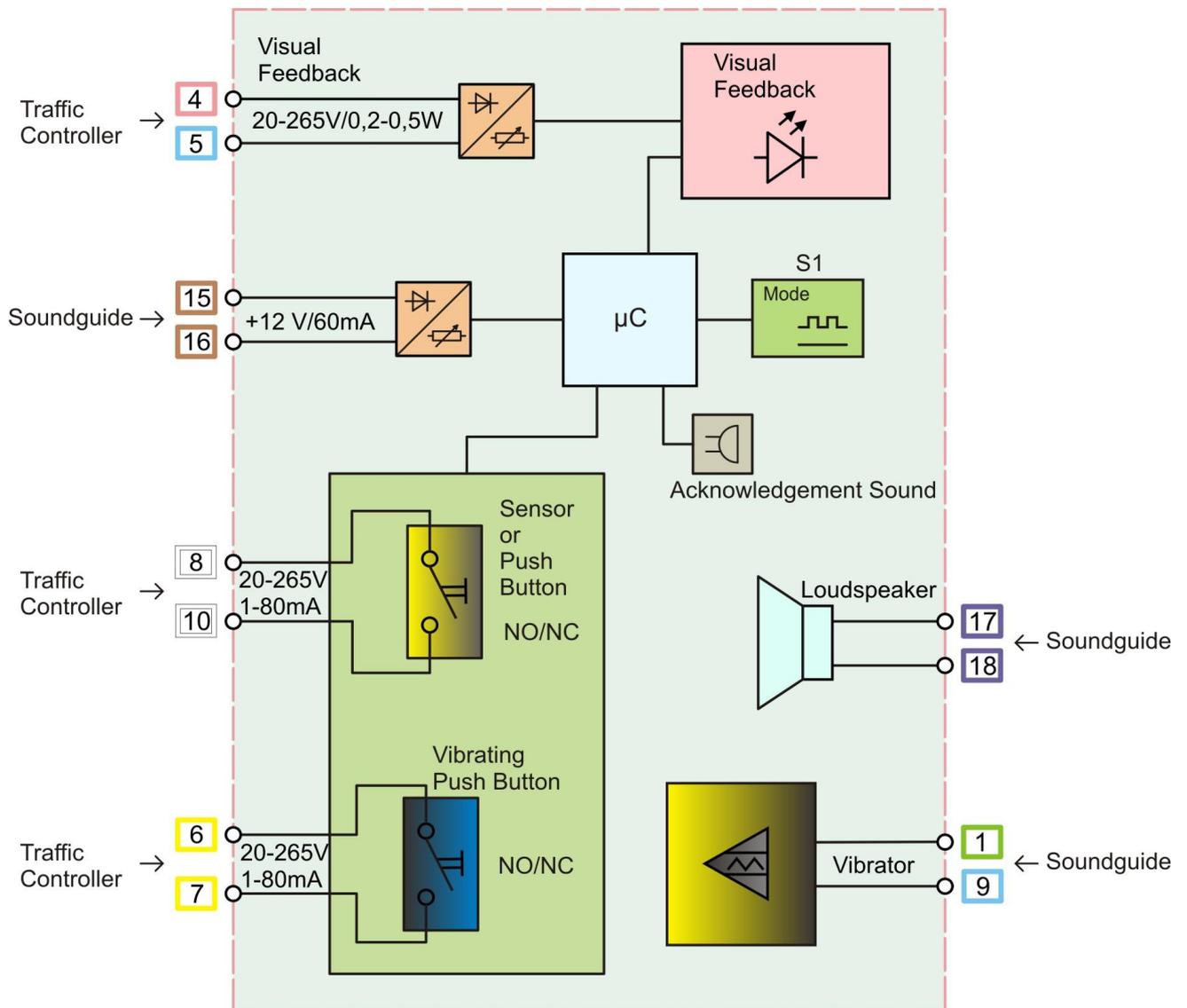
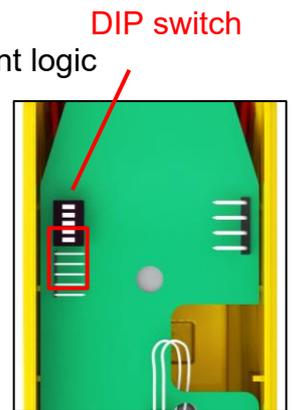


Fig. 4



Note: Push-button version max. current 80 mA.

## 5 Description of functions, option 1

### 5.1 Supply

- The 12 V supply, which is protected against polarity reversal, comes from the soundguide EK598.
- Clamp the cores together as per the numbering.

Designation	Core
Supply	15
Supply	16

### 5.2 Tactile signalling device

- The tactile signalling device (vibrator) is actuated by the soundguide EK598.
- Clamp the cores together as per the colour coding.

Designation	Core
Tactile signalling device	9
Tactile signalling device	1

### 5.3 Visual feedback

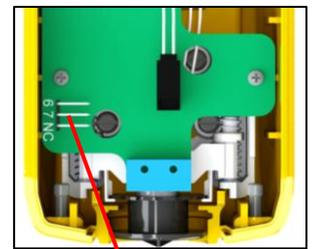
- The acknowledgement LED is directly actuated by the traffic light controller and can be operated with any nominal voltage (universal voltage).

Designation	Core	Minimum	Maximum	Unit
Visual feedback	5			
Visual feedback	4			
Voltage		20	264	volts
Input power			0.5	watts

Nominal voltages	24 V DC   40 V AC   110 V AC   230 V AC
Frequency range	44 – 64 Hz

## 5.4 Signal requesting

### 5.4.1 Signal request by vibrating push-button



- If an NC contact is required, core 7 needs to be reconnected to terminal “NC”.

Designation	Core	
Vibrating push-button	6 / 7	Potential-free switching output
Contact types		NC / NO
Switching voltage		max. 250 V AC
Switching current		max. 2 A

### 5.4.2 Signal request by touch sensor (version 1)

- This requires a 12-volt DC supply from the soundguide EK598 to terminals 15 and 16.

Designation	Core	
Large-surface sensor	8 / 10	Potential-free switching output
Contact type		NO
Switching voltage		max. 265 V AC/DC
Switching current		max. 80 mA

#### 5.4.2.1 Signal request by push-button (version 2)

- The switching output is factory-wired to the normally open contact.
- If an NC contact is required, core 10 needs to be reconnected to terminal “NC” on the push-button circuit board.

Designation	Core	
Large-surface push-button	8 / 10	Potential-free switching output
Contact types		NC / NO
Switching voltage		max. 250 V AC
Switching current		max. 2 A

## 6 Description of functions, option 2

### 6.1 Supply

- The 12 V supply, which is protected against polarity reversal, comes from the soundguide EK598.
- Clamp the cores together as per the numbering.

Designation	Core
Supply	15
Supply	16

### 6.2 Tactile signalling device

- The tactile signalling device (vibrator) is actuated by the soundguide EK598.
- Clamp the cores together as per the colour coding.

Designation	Core
Tactile signalling device	9
Tactile signalling device	1

### 6.3 Visual feedback

- The acknowledgement LED is directly actuated by the traffic light controller and can be operated with any nominal voltage (universal voltage).

Designation	Core	Minimum	Maximum	Unit
Visual feedback	5			
Visual feedback	4			
Voltage range		20	264	volts
Input power			0.5	watts

Nominal voltages	24 V DC   40 V AC   110 V AC   230 V AC
Frequency range	44 – 64 Hz

## 6.4 Signal requesting

### 6.4.1 Signal request by vibrating push-button

- The switching output is factory-configured as a normally open contact and can be changed by switch S1.5 to normally closed (see Fig. 5 and Fig. 6).

Designation	Core	
Vibrating push-button	6 / 7	Potential-free switching output
Contact types		NC / NO
Switching voltage		max. 265 V
Switching current		max. 80 mA

### 6.4.2 Signal request by touch sensor (version 1)

- The switching output is factory-configured as a normally open contact and can be changed by switch S1.4 to normally closed (see Fig. 5 and Fig. 6).  
This requires a 12-volt DC supply from the soundguide EK598 to terminals 15 and 16.

Designation	Core	
Large-surface sensor	8 / 10	Potential-free switching output
Contact types		NC / NO
Switching voltage		max. 265 V AC/DC
Switching current		max. 80 mA

#### 6.4.2.1 Signal request by push-button (version 2)

- The switching output is factory-configured as a normally open contact and can be changed by switch S1.4 to normally closed (see Fig. 5 and Fig. 6).  
This requires a 12-volt DC supply from the soundguide EK598 to terminals 15 and 16.

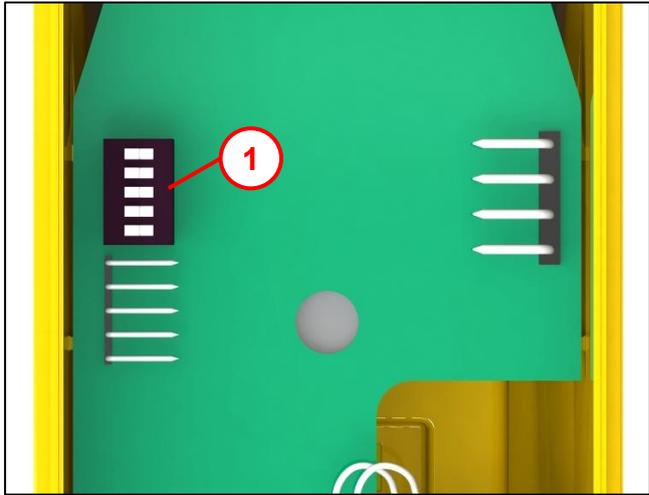
Designation	Core	
Large-surface push-button	8 / 10	Potential-free switching output
Contact types		NC / NO
Switching voltage		max. 265 V AC/DC
Switching current		max. 80 mA

### 6.5 Loudspeaker

The loudspeaker must be connected to the soundguide via cores 17 and 18. The orientation sound is then also emitted by the pedestrian signal requesting device.

Loudspeaker	300 – 20,000 Hz / 2 W / 8 ohms
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### 6.6 Advanced functions



DIP switch “S1” (1)

Fig. 5

### 6.6.1 Switch positions and functions

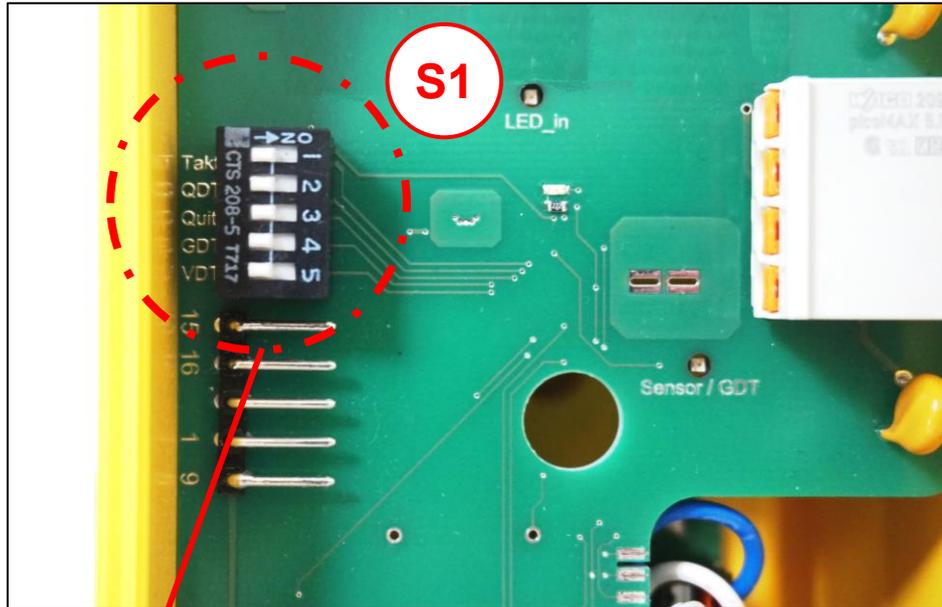


Fig. 6

**1** **Flashing ON / OFF.**  
In flashing mode, the feedback signal is switched to flashing when cores 4 and 5 are actuated or in APB mode.

**2** **APB ON / OFF**  
APB = Visual acknowledgement by push-button or sensor. The device independently acknowledges the signal request through visual feedback.  
The visual feedback is reset when the pedestrian crossing signal is applied to the feedback input (cores 4 and 5).  
A short pulse length of 50 – 500 ms is all that is needed.

**3** **AS ON/OFF**  
AS = Acknowledgement sound. The acknowledgement sound is emitted from the integrated buzzer and audibly confirms the signal request.

**4**

**5** APB switching output / Sensor NC / NO.

Fig. 7

Switching output vibrator NC / NO.



**Note: All switch changes are only applied once the operating voltage has been switched off for a minimum of five seconds and after reactivation.**

## 7 Package includes



**Item 1** 1x pedestrian signal requesting device

type "basic plus"  
with connection cable

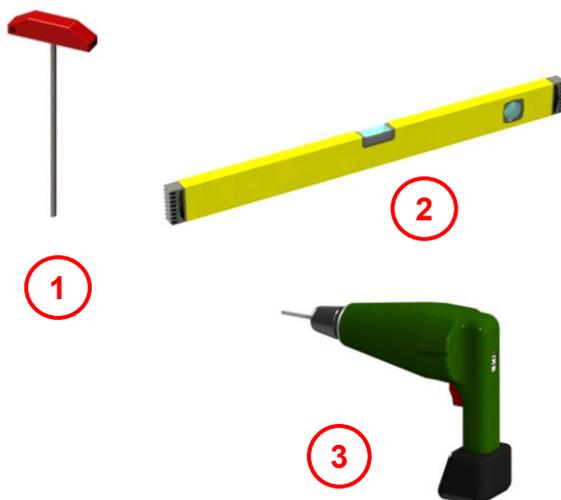
**Item 2** 1x drilling template  
(self-adhesive paper)

**Item 3** 4x tactile pedestrian crossing symbols

**Item 4** 1x special key

Fig. 8

## 8 Required tools (not included)



**Item 1** Size 4 Allen key

**Item 2** Spirit level

**Item 3** Power drill

Not shown:

- Drill bits Ø5 mm and Ø14 mm
- Thread cutter
- Strap

Fig. 9

## 9 Installation

### 9.1 Drilling mounting holes in the pole

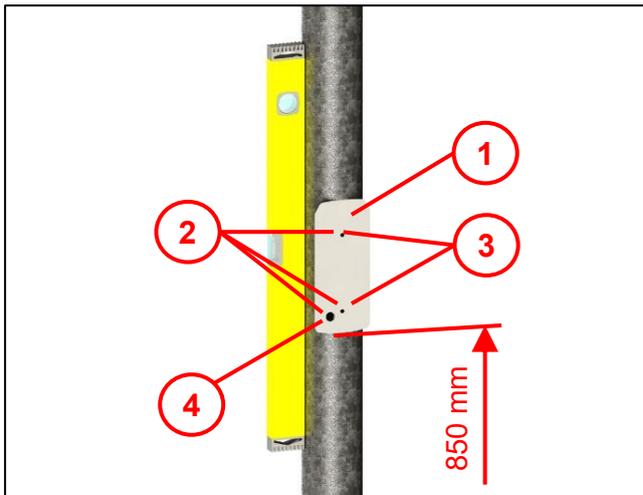


Fig. 10

We recommend using a spirit level to ensure correct levelling.

- Remove the protective film from the drilling template **(1)**.
- Attach the drilling template to the pole so that the bottom edge of the template is 850 mm above the footpath.
- 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 12 (Accessories).

### 9.2 Opening the pedestrian signal requesting device

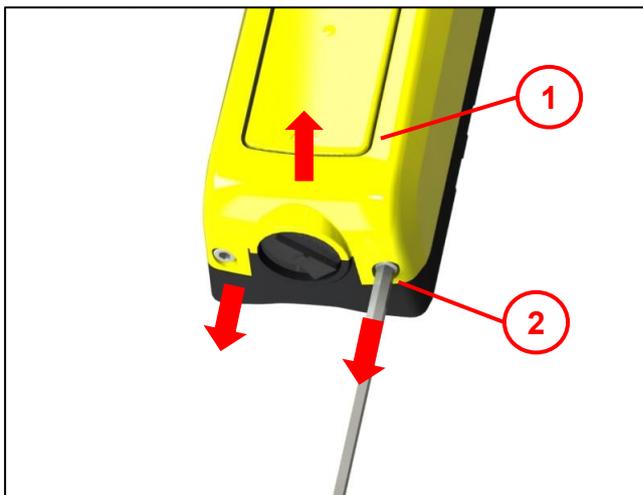


Fig. 11

- On the pedestrian signal requesting device, open the 2 locking screws **(2)** with a size 4 Allen key and remove the top part **(1)** of the device.

### 9.3 Mounting the bottom part of the pedestrian signal requesting device

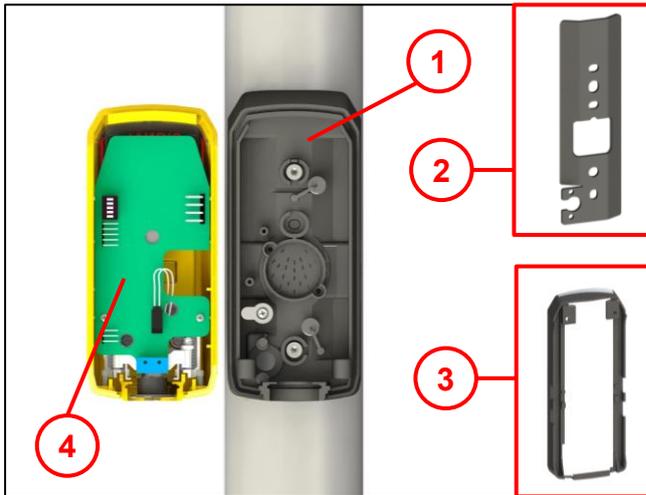


Fig. 12

**Note:**

For ease of installation, unplug all connectors from the PCB in the top part of the housing (4), pulling them towards the centre!

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

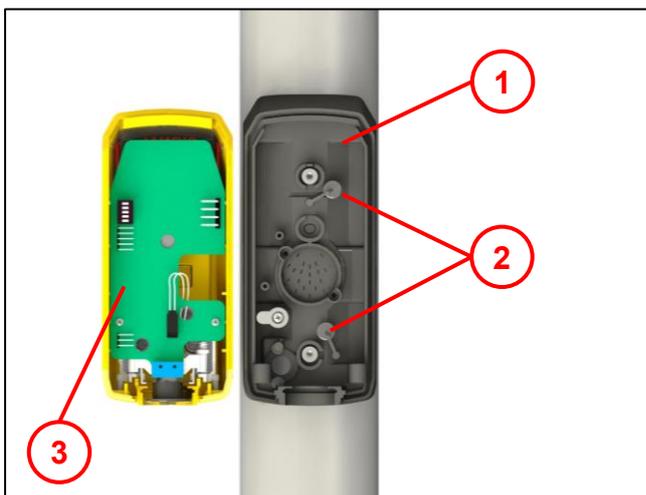


Fig. 13

- Remove the plastic caps (captive) (2).
- Fasten the bottom part (1) of the device to the pole with 2 M6x25 fastening screws.
- **Note:**
  - Torque = 5 Nm.
  - Check that the pedestrian signal requesting device is fitted correctly on the pole.

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

**Note: Check that they are fitted correctly. (Protection class!)**

- Reconnect all connectors to the circuit board in the top part of the housing (3).
- Connect the connection cable to the cable distributor in accordance with the block diagram (see chapter 4).
- Unused cores must be insulated.

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

## 9.4 Installation of a replacement device (hole spacing 80 mm)

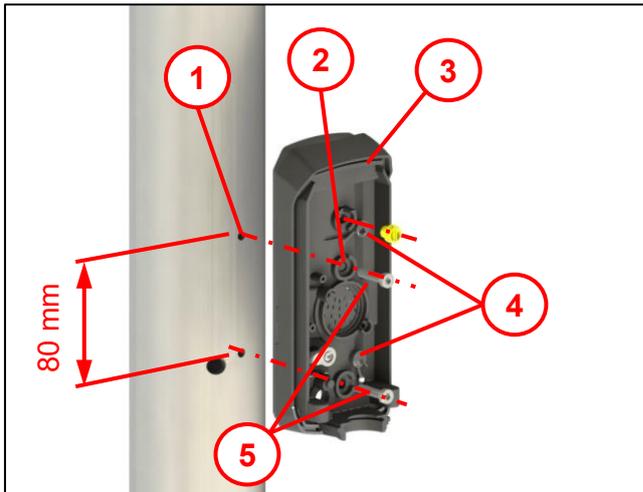


Fig. 14

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.

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

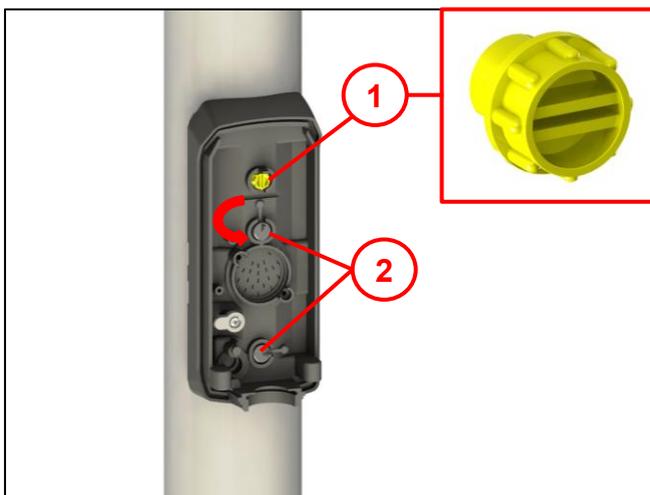


Fig. 15

- Close the upper housing hole with a sealing plug (1) (yellow – accessories kit).
- Turn the plastic caps (captive) (2) downwards and attach to the fastening screw.

**Note: Check that they are fitted correctly. (Protection class!)**

- Connect the connection cable to the cable distributor in accordance with the block diagram (see chapter 4).
- Unused cores must be insulated.

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

## 9.5 Aligning the tactile pedestrian crossing symbol

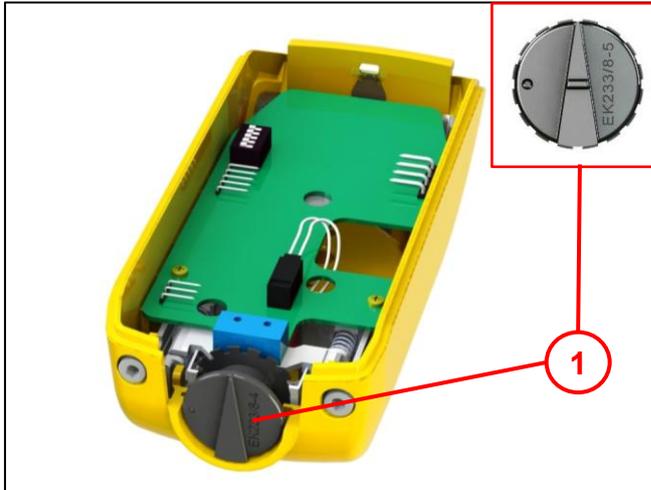


Fig. 16

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

Proceed as follows if the specified direction of the tactile pedestrian crossing symbol does not match the direction required.

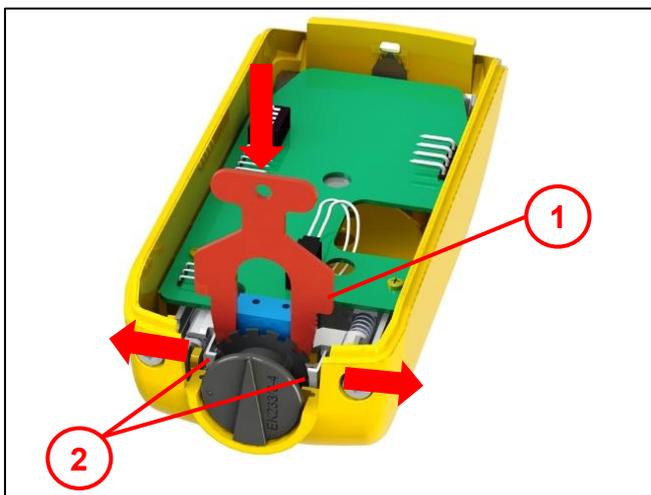


Fig. 17

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

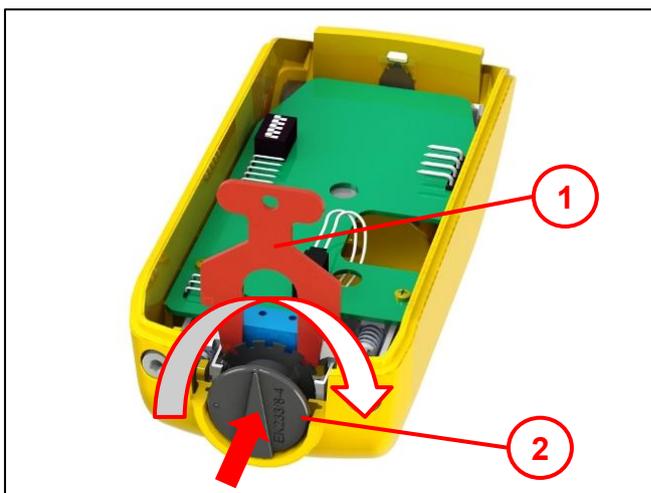
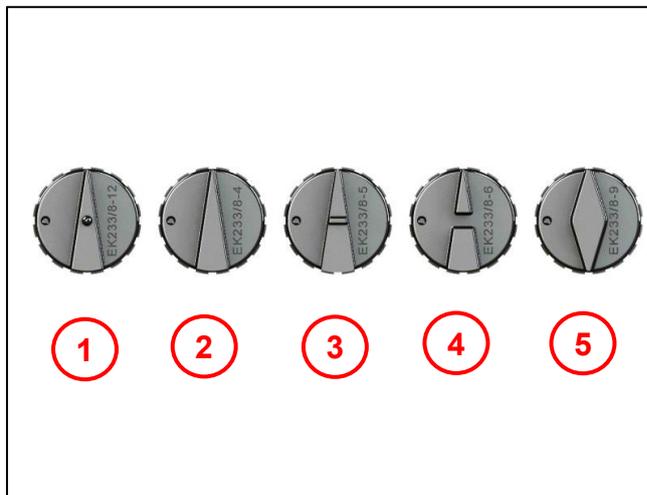


Fig. 18

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

## 9.6 Replacing the tactile pedestrian crossing symbol

### 9.6.1 Description of the tactile pedestrian crossing symbols for the visually impaired DIN 32981

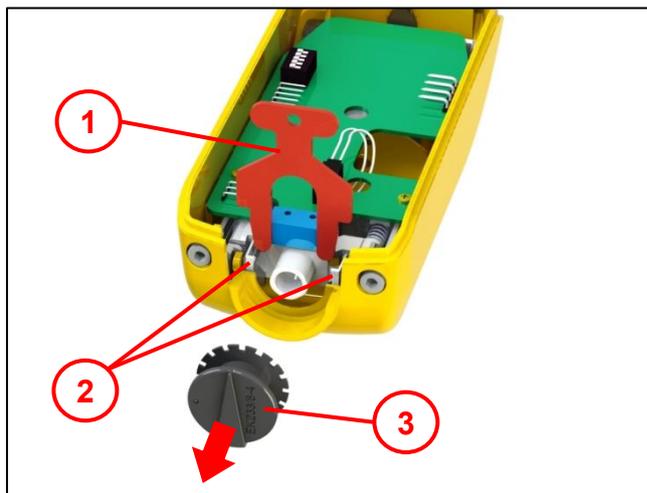


- 1 Crossing with additional signalling request
- 2 Crossing only (factory-fitted)
- 3 Crossing with central island
- 4 Crossing with level crossing
- 5 Crossing in two directions

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

Fig. 19

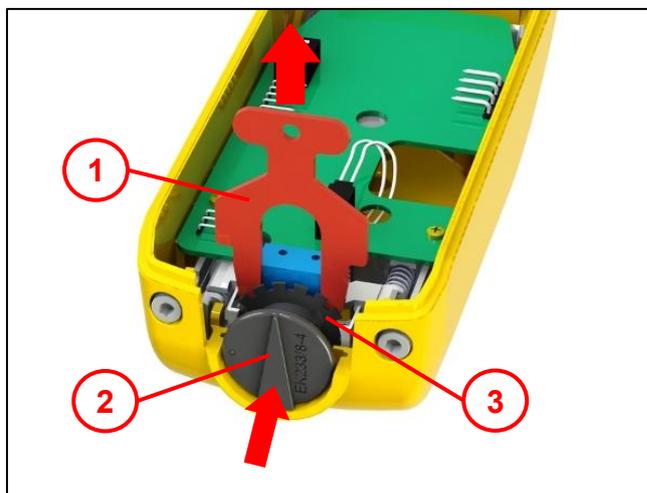
### 9.6.2 Installation of the tactile pedestrian crossing symbol



- Open the brackets (2) with the special key (1) (as described in chapter 9.5).
- Press the tactile pedestrian crossing symbol (3) in slightly and click it out of place.
- Fully pull out the tactile pedestrian crossing symbol downwards.

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

Fig. 20



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

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

- Close the device again.

Fig. 21

## 10 General description of functions

### 10.1 Vibration

Only connect the vibrator (tactile signalling device) to the monitored output of the soundguide EK598.

The vibration clock rate adapts to the crossing signal.

### 10.2 Vibrating push-button (VPB)



Fig. 22

The VPB is factory-supplied as a normally open contact and can be changed or switched over to normally closed (depending on the option) if required.

**Important:**

When installation work has been completed, check that the vibrating push-button works correctly with the tactile pedestrian crossing symbol **(1)**!

- Signal request option on the vibrating push-button.
- Clearly noticeable vibration on the crossing symbol while the pedestrian crossing signal is activated.

### 10.3 Signal request through sensor or large-surface button

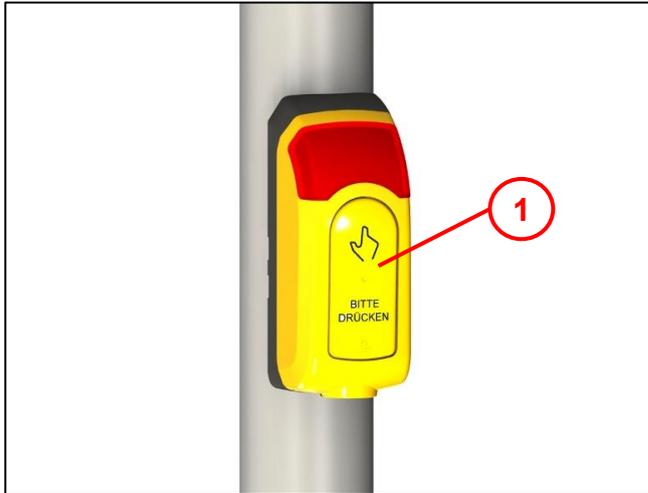


Fig. 23

Depending on the version ordered, the signal is requested by touching the sensor surface or by pressing the large-surface push-button (1).

### 10.4 Loudspeaker



Fig. 24

When the loudspeaker is connected, the pedestrian signal requesting device also plays the orientation sound in addition to the acoustic soundguide.

## 11 Function test

A function test should be carried out with the soundguide EK598. (See Chap. 9 Operating Instructions for EK598 soundguide)

Document the location and serial number of the device.

## 12 Accessories

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

## 13 Maintenance

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

## 14 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**  
**DIN 61508 SIL3**

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

## **15 Material defects**

Langmatz assumes 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 will 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 will 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 do 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 (Chapter 1).

## **16 Quality management**

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

## **17 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.

## 18 Contact

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