

# Security Technology

## Electrical Mini Bolt Lock ESPE/M

### Technical data



#### Description

The electrical mini bolt lock ESPE/M is used together with an alarm system to implement the inevitability condition. The motorized bolt lock additionally locks the door to the set area, preventing unintentional opening of the door when the system is set.

#### Mechanical structure

The stable plastic structure offers a high level of reliability and a long lifespan of considerably more than 50,000 switching cycles. If the bolt lock fails, electrical and mechanical emergency opening options are available.

#### Features of the bolt lock

- Feedback of the bolt position
- Simple installation in the door frame. Only the counterpart is mounted in the door leaf.
- Electrical emergency opening by switching the supply voltage off/on
- Mechanical emergency opening through predetermined break point on the locking bolt
- The locking bolt can also be replaced when installed

#### Technical data

Supply voltage	12 V DC / 8 ... 15 V DC
Current consumption	approx. 55 µA not triggered approx. 1,5 mA (unset) approx. 35 mA during closing operation max. 150 mA blocking (short-time)
Bolt path	12 mm
Maximum distance between housing flange and counterpart	8 mm
Housing dimensions	Ø 12.9 x L 48 mm
Minimum size of the drill hole for installation	Ø 13.0 x L 55 mm (ideally Ø 13.5 mm)
Flange	W 16 x L 38 x D 1.7 mm
Weight without connecting cables	approx. 0.13 kg
Cable length	3.5 m
Material (Housing, locking bolt)	Plastic (polyamide)
Material (screw cap)	aluminum, milled
Counterpart 1	
Internal diameter/external diameter	Ø 10 / Ø 13 mm
Length/bundle diameter	15 mm / Ø 18 mm
Counterpart 2	
Internal diameter/external diameter	Ø 12 / Ø 16 mm
Length/bundle diameter	19 mm / Ø 21 mm
<b>Temperature range</b>	
Operation	– 25 °C ... + 60 °C
Transport	– 40 °C ... + 70 °C
Storage	– 40 °C ... + 70 °C
Protection	IP 43 according to DIN EN 60 529
Environmental class	III to DIN EN 50 130-5
Interference immunity	DIN EN 50 130-4 and 89/336 EEC
VdS number	G 107 102

# Electrical Mini Bolt Lock ESPE/M

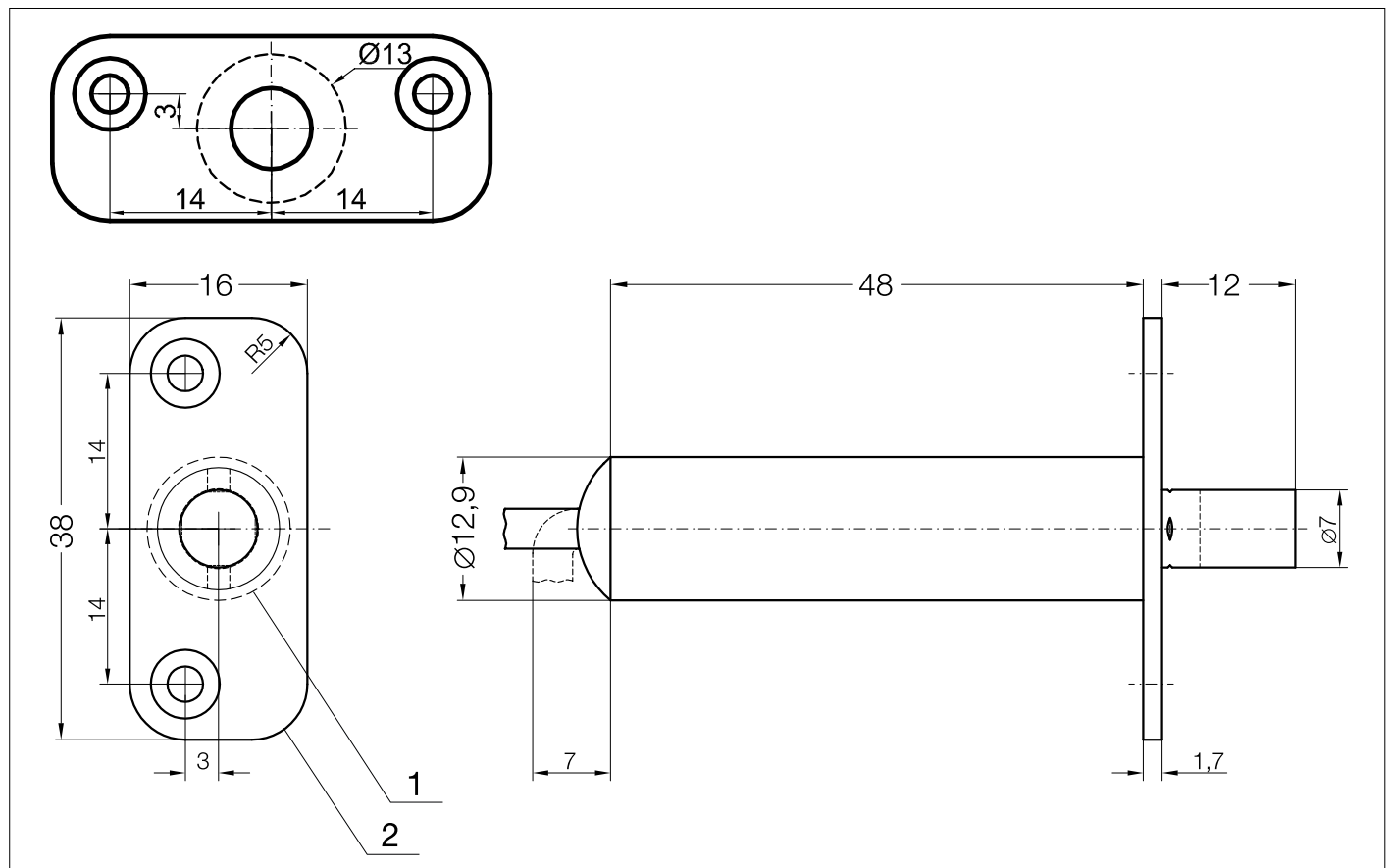
## Installation conditions

The best installation location for the bolt lock is as close as possible to the existing strike plate of the lock, as any warping of the door has the smallest impact here. The bolt lock can be installed in any position.

The following aids are required for installation:

- Drill of at least  $\varnothing$  13 mm for bolt lock (ideally  $\varnothing$  13.5 mm for simplified installation)
- Drill  $\varnothing$  13 mm or  $\varnothing$  16 mm for counterpart
- Mounting aid (adhesive felt) to position the counterpart (included with the bolt lock)
- Stamp pad cushion or dye to color the mounting aid (adhesive felt)

## Dimension drawing



**1** Drill hole,  $\varnothing$  13 mm, for bolt lock: **Depth approx. 55 mm**

**2** Flange reaming: **Depth 1.7 mm**

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## Mounting of the bolt lock

Create a drill hole of Ø 13.5 mm for the bolt lock as well as possible recess for flange (floating mullion) in the door frame. Ensure sufficient room for a cable loop behind the drill hole for the bolt lock or in the further cable duct to provide sufficient reserve cable for the extension of the bolt lock for servicing purposes.

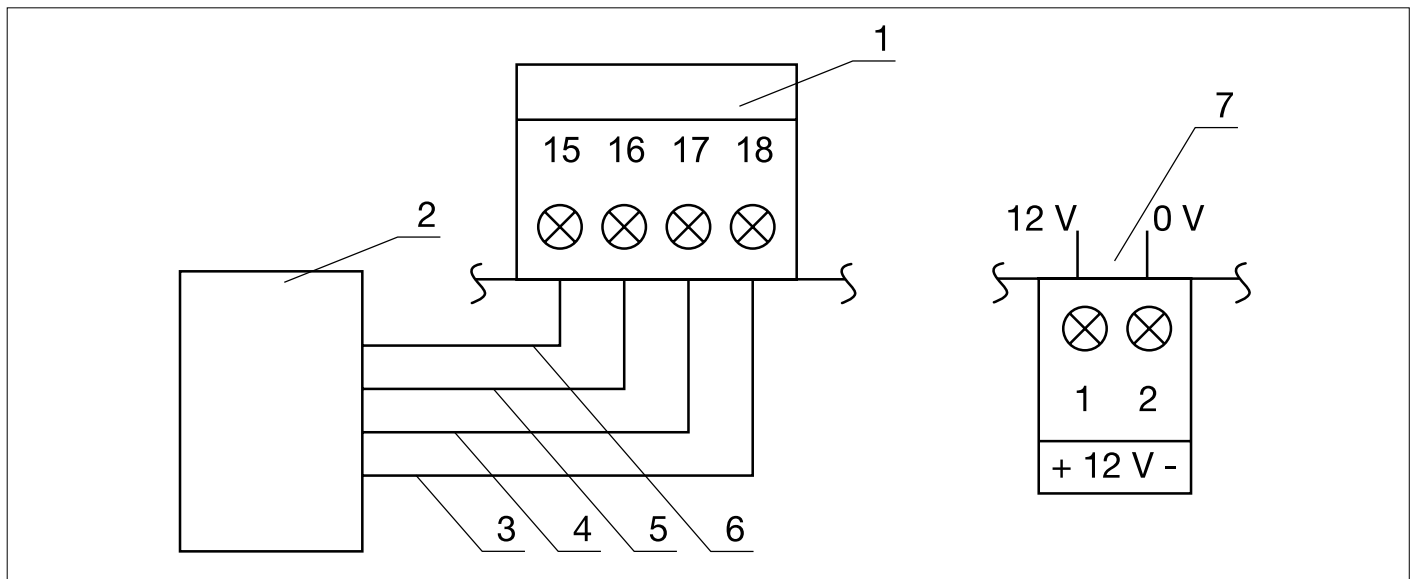
Ideally, select a flange installation direction so that the force on the bolt comes from the direction of the bolt lock fastening screws.

Refer to the dimension drawing and the supplied drilling template for the exact installation dimensions.

## Commissioning

The bolt lock is connected using the 4-pole connection cable supplied with the L240/BS SafeKey Evaluation Module.

## Connection schematic



## Electrical connection of the Mini Bolt Lock (ESPE/M)

- 1 Connection (Sperr) for the bolt lock on the L240/BS SafeKey Evaluation Module
- 2 Electrical Mini Bolt Lock (ESPE/M)
- 3 Yellow
- 4 Green
- 5 Brown
- 6 White
- 7 12 V connection (e.g. from the 12 V output of the GM/A 8.1 KNX Security Panel) on the L240/BS SafeKey Evaluation Module to supply the mini bolt lock externally

### Important

The power supply for the bolt lock must come from the same voltage source (e.g. 12 V output of the GM/A 8.1 or L240) as that of the security bus (S-Bus 1 or XIB). However, the 12 V supply of the bus may not be used.

When the operating voltage is applied, the bolt lock always opens, irrespective of the status of the inputs.

Grinding noises and multiple extension and retraction of the bolt means that the bolt lock is being impeded mechanically. In this case, the mounting position must be adjusted.

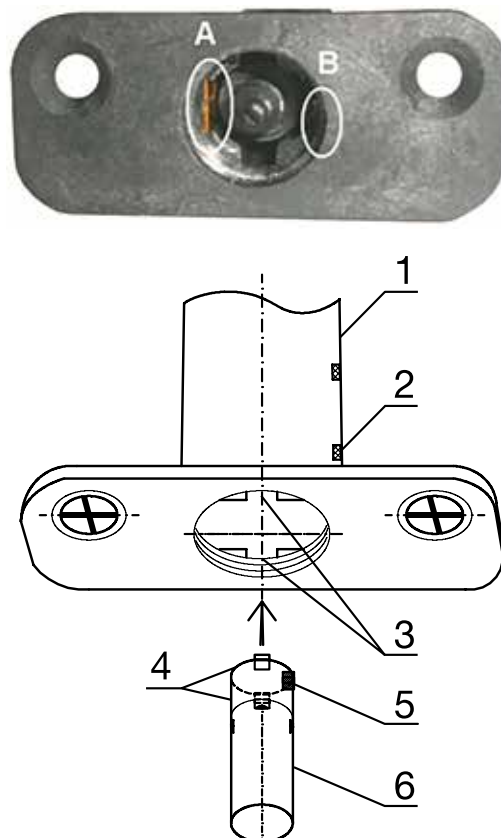
# Electrical Mini Bolt Lock ESPE/M

## Troubleshooting

### Locking bolt

If the locking bolt has broken, then it is possible to replace it without having to remove the bolt lock.

- Firstly, the metallic screw cap must be turned out using the mounting tool.
- After this, the broken bolt must be extended fully. There are two contact areas on the PCB to the left of the bolt (marked with "A" on the diagram). When these two contact areas are shorted, the bolt is extended fully and can be removed from the guide.
- Now, the new bolt can be inserted within 10 seconds, after which the bolt is drawn in automatically.
- A Hall effect sensor (marked with "B" on the diagram) detects whether the bolt is mounted or not.
- Should the bolt not yet be in the bolt lock after this time, then the bolt lock will try every 10 seconds to insert the bolt.
- Hold the correctly turned bolt to the bolt lock. The two guide lugs on the bolt must fit exactly into the guide grooves in the housing. The bolt is drawn in after a few seconds.
- If the bolt is inserted incorrectly by mistake, it will be ejected automatically after a few seconds.
- When the bolt has been drawn in correctly, turn the new screw cap on up to the stop.



- 1 Enclosure
- 2 Sensor side
- 3 Guide grooves
- 4 Guide lugs
- 5 Magnet
- 6 Spare bolt

# Electrical Mini Bolt Lock ESPE/M

## Electrical emergency opening

In an emergency, the bolt lock can be opened, for which the supply voltage must be switched off and on again. Irrespective of which control signals are present, the bolt lock always opens when the supply voltage is applied. During this operation, shake the door slightly, so that the bolt lock can open if mechanical problems on the door are the cause of the trouble.

### Important

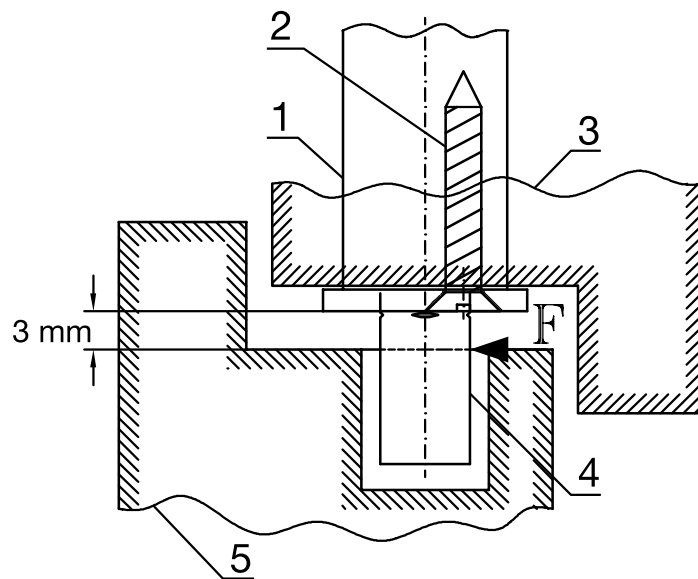
During installation, the supply voltage of a bolt lock should be run to a location accessible in case of error (e.g. behind the bell or intercom system cover), so that it can be interrupted from there.

This type of emergency opening will only be successful when the electronics integrated in the bolt lock are intact.

## Mechanical emergency opening

If the electrical emergency opening option is unsuccessful, then the following mechanical emergency opening option can be used.

The locking bolt of the bolt lock has a predetermined breaking point which will break at a force of more than 1 kN (approx. 100 kg) - at a distance of max. 3 mm from the fastening flange.



- 1 Bolt lock
- 2 Fixing screw
- 3 Door frame
- 4 Bolt
- 5 Door
- F Shearing force

# Electrical Mini Bolt Lock ESPE/M

## Locking bolt is stiff

Should the locking bolt no longer extend, then it can be screwed out manually using a slotted screwdriver of 2.0...2.5 mm. There is a slot for this on the tip of the spindle.



Using a corner of the screwdriver, "push in" an appropriate hole on the front side of the bolt (here, the wall thickness of the bolt is approx. 1 mm). After removing the screw cap, the spindle can be turned in an anti-clockwise direction using the screwdriver. This unscrews the bolt.

# Electrical Mini Bolt Lock ESPE/M

## Order details

Product photo	Description	Short description	Order No.	bbn 40 16779 EAN	Price group	Weight 1 item kg	Pkg unit Qty.
	Electrical Mini Bolt Lock	ESPE/M	2CDG 270 010 R0011	94560 8	P4	0.13	1

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