



Installation instruction

Motor-driven blocking device EasyLock 108360

VdS - Class C
G 107 102



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Installation company instruction Motor-driven blocking device EasyLock

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1 General information

The blocking device 8360 is designated for the following applications:

- To prevent persons from accessing the armed area of a burglar alarm system
- For access control applications in order to allow access only to authorized persons
- Other applications, also if they are not in the field of safety (car, furniture, etc.)

1.1 Mechanic assembly / Safety

Due to the robust assembly made of plastic, a high reliability and durability of more than 50'000 cycles is being achieved. If the blocking device fails, there are electrical and mechanical emergency opening options available.

1.2 Features of the blocking device

- VdS class C registered
- Low noise
- Integrated intelligent control
- Little current consumption of less than 50 mA for the locking / opening process
- Current consumption in rest: <50 μ A (also for active entrance)
- Integrated bolt monitoring
- Several closing trials, switching off when blocking
- Can be directly connected to most systems
- The connection is performed using a 4-pin connecting cable:
 - Distribution voltage +12 V
 - Distribution voltage 0 V
 - Entry opened/closed, 0 V \rightarrow Bolt extends (door locked), open or +12 V \rightarrow Bolt moved in
 - Exit status opened/closed - active 0 V with blocking bolt moved out
- Drive with statistic signal, several blocking devices are connectable
- Feedback signal of the bolt position
- Easy installation in the door frame. Only the counterpart will be installed to the door leaf
- Electrical emergency opening via the distribution voltage switching off / on
- Mechanical emergency opening with predetermined breaking point at the bolt
- The locking bolt can be exchanged when it is installed
- Stable plastic construction

1.3 Additional features with universal connection box

Since today's burglary alarm centers possess arbitrarily programmable entries and exits, it is in most cases possible to directly connect this device.

If you cannot realize a direct connection, you can use a universal connecting box to do so. This way, the following additional features are resulting:

- Can be connected to any EMZ (Alarm System)
- Drive with 0 V or 12 V signals
- Statistic or dynamic drive with one or 2 signals
- Two complementary OC exits, printed circuit board or if required usable with pull-up resistance

2 Installation

The most advantageous installation place is as near as possible to the existing striking plate of the lock since in this position it will have minimum effects if the door gets distorted. The blocking device can be installed at any position. The following devices are required for the installation:

- Wood drill minimum \varnothing 13 mm for the blocking device (optimum \varnothing 13.5 mm to ease the installation)
- Wood drill \varnothing 13 mm or \varnothing 16 mm for the counterpart
- Assembly aid (adhesive felt) to position the counterpart (is delivered together with the blocking device)
- Ink pad to color the assembly aid (adhesive felt)

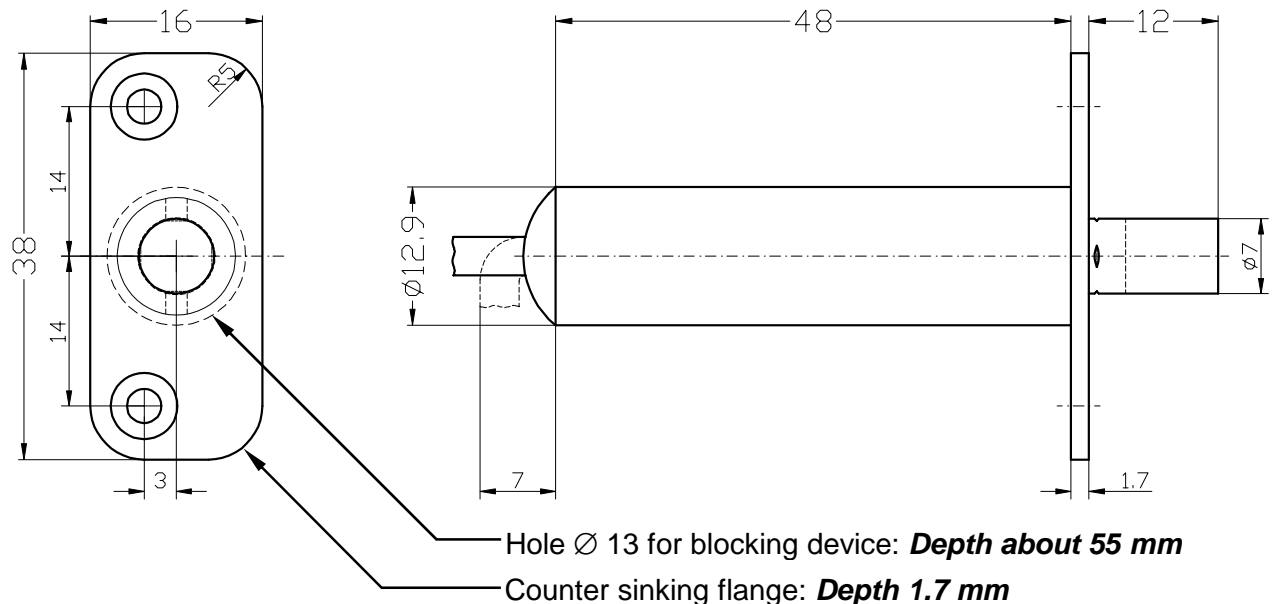
2.1 Assembly of the blocking device

Produce a hole with a \varnothing 13.5 mm for the blocking device as well as if necessary an indentation for the cuff in the door frame. Provide enough space for a cable loop behind the hole for the blocking device or in the further cable duct so that sufficient cable reserves are available to extend the blocking device for service purposes.

The installation direction of the flange should be selected preferably in a way that the power on the bolt will come from the fixing screws of the blocking device – also refer to figure 4.1.

The exact installation dimensions are shown in figure 2.1 as well as in the drilling jig.

Optionally, there are an installation housing and a counterpart available to mount the blocking device.



8360Geh.eps

Illustration 2.1 – Assembly of the blocking device

Attention: Clean the hole before installing the blocking device.
When screwing in the flange fixing screws, pay attention to the position of the cable so that you will not damage it with the fixing screws.

Attention: When installing the blocking device on an emergency fire door, please check which structural measures are allowed so that the door will not lose its certification!

2.2 Assembly of the counterpart

The counterpart is assembled in the door leaf. It needs to be assembled in a way that the locking bolt can extend to the limit stop without contact. The maximum distance between the flange and the counterpart amounts to 5 mm. This way, it is guaranteed that the locking bolt will move far enough into the counterpart.

Assembly steps:

1. After having installed the blocking device, connect it to the test device (*for the connection plan, please refer to chapter 3.1*). After feeding (e.g. using an accumulator) the blocking device will open automatically.
2. Glue the assembly aid (adhesive felt) on the locking bolt of the blocking device and color it using an ink pad.
3. Close the door.
4. Lock the blocking device using the test device. The locking bolt will extend. After several locking trials the locking bolt will move back since it cannot reach the end position.
5. Open the locking device by using the test device.
6. Open the door.
7. On the door leaf you can recognize a color circle which shows the exact position of the counterpart.
8. Mark the center using a center punch and drill the hole according to the counterpart. For the installation dimensions of the counterparts, please refer to the technical data sheet (also see chapter 6).
9. Assemble the counterpart.
10. Close the door and perform a functional check using the test device (*also refer to chapter 3.3*).

Attention: *When installing the blocking device on an emergency fire door, please check which structural measures are allowed so that the door will not lose its certification!*

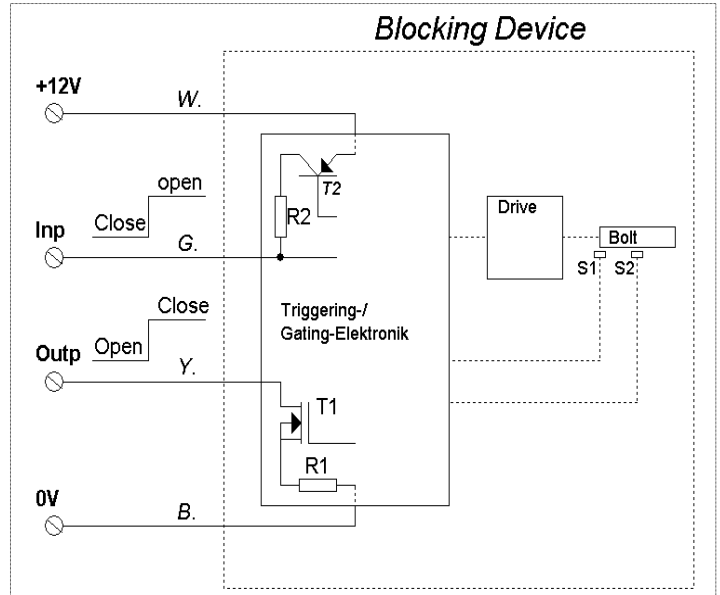
2.3 Emergency opening

Electrical emergency opening:

Guide the leads of the distribution voltage to a place which is accessible in case of a failure (e.g. behind the bell or the cover of the communicator, or others) in order to be able to use the electrical emergency opening options. By shortly interrupting and feeding the distribution voltage the bolt will be moved in – also if the entrance is set to “Closed“. Only after switching over the entry from “Opened“ to “Closed“ the bolt will be extended again.

3 Switching on

The switching on is performed via a 4-pin cable. Two leads are required for the voltage distribution - nominal 12 V DC. The drive is performed with a static signal 0 V-active. Additionally a revertive communication output is available which switches approach to 0 V if the locking bolt is extended.



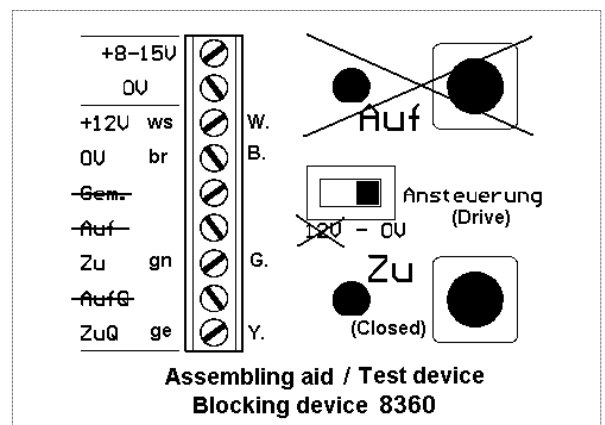
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Illustration 3.1 – Connection plan blocking device

Inputs and outputs of the blocking device		
Signal	Lead color	Description
+12 V	white	Tension distribution +12 V
0 V	brown	Tension distribution 0 V
Input	green	Input "Closed": 0 V → "Closed" open or +12 V → "Opened"
Output	yellow	Open drain exit, active 0 V: Display of the status "closed"

3.1 Connection to the test device 8322.0

During the commissioning and for further test purposes you can use the test device 8322.0. For the connection please refer to the illustration on the right.



8322Ab2.png

Illustration 3.2 – Connection to a test device 8322.0

3.2 Connection

To connect the blocking device you can use the armed or not armed output of a burglary alarm center or a timely limited release signal for the entrance control applications.

When activating the input, the blocking device will close, when deactivating, the blocking device will open.

A) Signal behavior and example for switching on with “0 V-activated”-“armed”-signal:

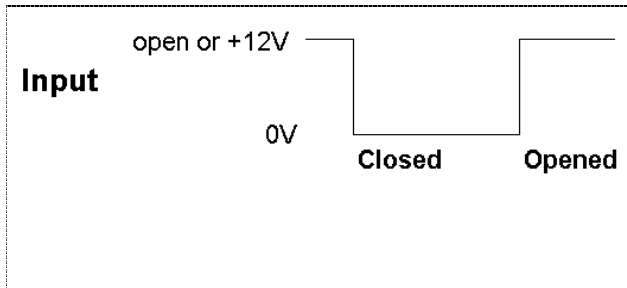


Illustration 3.3 – Input voltage behavior

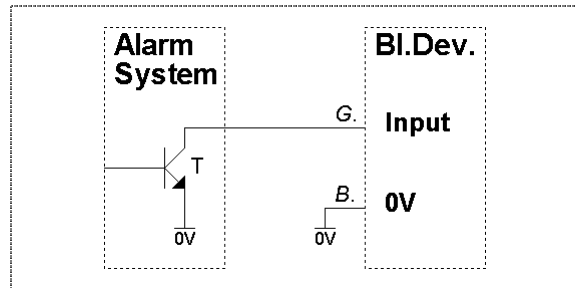


Illustration 3.4 - Ext. armed 0 V-active

The input of the blocking device requires very little current – on average 3...4 μA . If the used control output to activated the Input voltage may have a residual current of a view μA (e.g. due to the corresponding burglary alarm center protective circuit – varistors, **transdiodes**, etc) it may occur that the blocking device will not correctly react when changing over the output from “active“ to "inactive“. In order to work properly, a pull-up resistance can be put between the input and +12 V. The amount of resistance shall not exceed 1 M Ω .

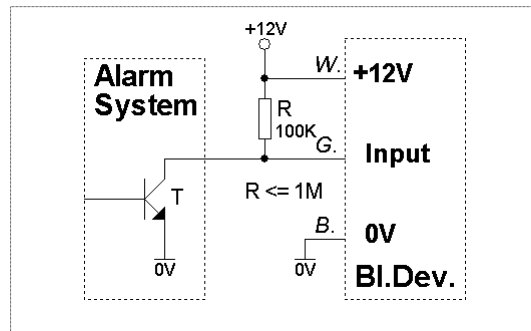


Illustration 3.5 - Ext. armed 0 V-active + Pull-up

Attention: When using a pull-up resistance the quiescent current consumption of the status “closed” will increase according to the distribution voltage and to the used amount of resistance!
 Calculation example: $U = 12\text{V}, R = 100\text{K} \rightarrow I_R = 120\mu\text{A}$

B) Example of switching on with “+12 V-activated”-“not armed”-signal:

When activating the input via a p-n-p transistor a resistance needs to be put between the input and 0 V. The amount of resistance must not exceed 33 k Ω .

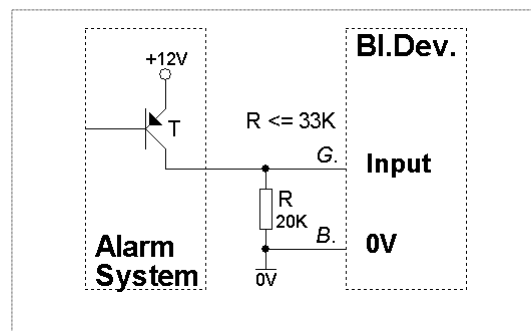
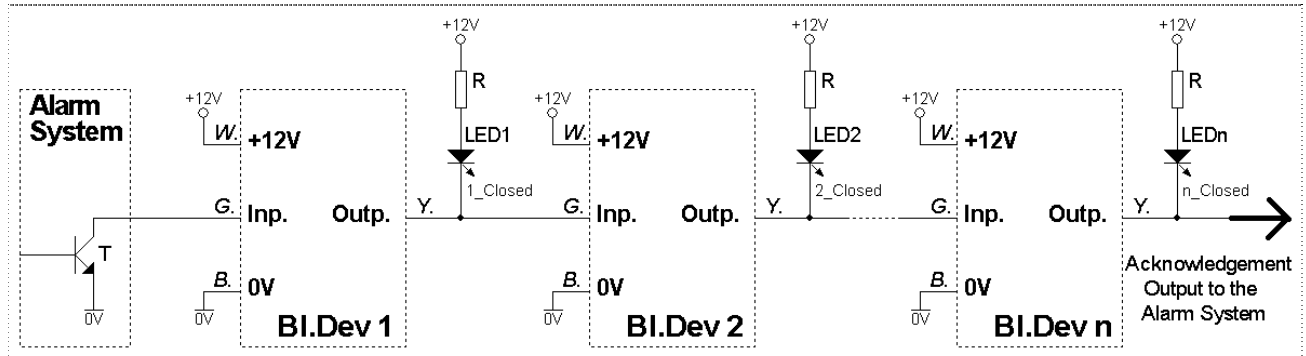


Illustration 3.6 - Ext. fuzzy +12 V-active

3.2.1 Connection of several blocking devices

You can connect several blocking devices in series so that they will close one after another. The low tension side can be used by switching on LEDs to display the status.

Connect several blocking devices in series



8360Kas.png

Illustration 3.7 –Connecting several blocking devices in series

3.3 Commissioning

When impressing the operating voltage on the blocking device will open up in any case independent from the status of the inputs.

Functional check:

- Close and open the blocking device when the door is closed. In doing so, check the following functions:
 - Closing or opening time maximum about ½ second.
 - The locking bolt must neither contact nor interlock on the counterpart. The locking bolt extends without several locking trials.
 - The locking bolt can extend at full length since otherwise it would open up again after several locking trials.
- If the functionality is incorrect then check the wiring on the basis of the signal descriptions and the examples for switching on described in *chapter 3.2*.

4 Trouble shooting

In case of malfunctions, please check the following points:

- **Check wiring:**
 - Are all conductions correctly switched?
- **Check control signals:**
 - Is the distribution voltage of +12 V available on the blocking device?
 - Is the necessary drive signal available on the blocking device?
- **Check the installation:**
 - Does the locking bolt extend at full length?
 - Does the locking bolt contact the counterpart?

If the protected area remains obstructed first use the electrical emergency opening options (*Chapter 4.1*) and if this is ineffective, use the mechanical emergency opening options (*Chapter 4.2*).

4.1 Electrical emergency opening

The blocking device offers the following electrical emergency opening options:

Automatic opening of the blocking device after interrupting and switching on the distribution voltage again

Independent from the fact if the control signal is fed, the blocking device will always open up after feeding the distribution voltage. During this process, rattle at the door so that the blocking device opens if mechanical problems on the door are causing that it does not open.

The distribution voltage of the blocking device needs to be installed at an accessible point when installing it (e.g. behind the bell or the cover of the communicator, or others) so that it can be interrupted there in case of a failure. This emergency opening type will only be successful if the electronic who is integrated in the blocking device is working properly.

4.2 Mechanic emergency opening

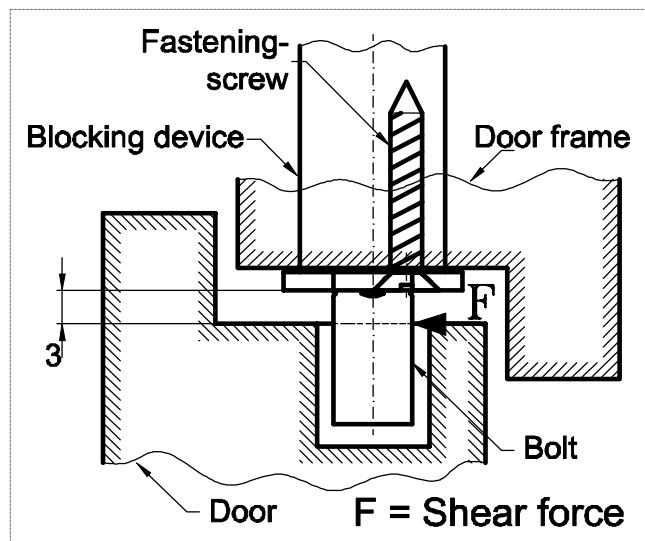
If the electrical emergency opening options is not successful, you can apply the mechanic emergency opening options.

Predetermine breaking point at the locking bolt

The locking bolt of the blocking device possesses a predetermine breaking point which responds at a force of more than 1 kN (about 100 kg) – at max. 3 mm distance from the fixing flange.

Spare – Locking bolts are available under the item No. 8360.B.

In order to realize the distance of 3 mm between the fixing flange of the blocking device and the door, different installation housings and counterparts are available in the range of spare parts for the blocking device.



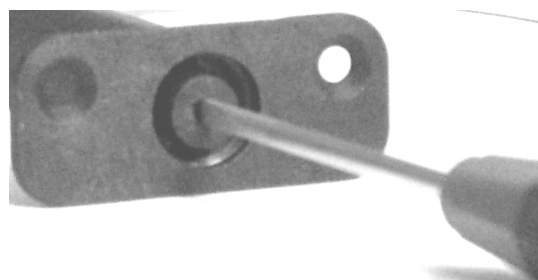
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Illustration 4.1

4.3 Sluggish bolt

If the locking bolt does not extend – due to any reasons whatsoever – it can be manually screwed out by using a 2.0...2.5 mm screwdriver. A slot is provided at the top of the spindle.

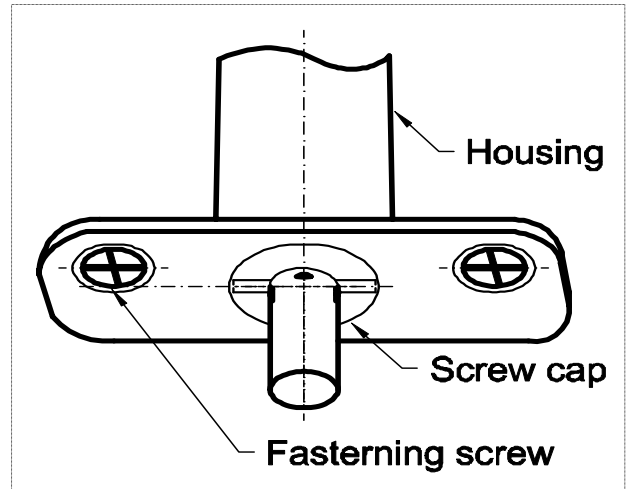
You can “indent” a corresponding hole at the center of the front face of the bolt using the corner of the screwdriver. The wall thickness of the bolt amounts to about 1 mm at this position. After removing the screw cap you can turn the spindle counterclockwise using the screwdriver. This way you can unscrew the bolt.



4.4 Replacing the bolt

If the locking bolt is broken off you have the option to replace it without disassembling the blocking device. You need to perform the following steps:

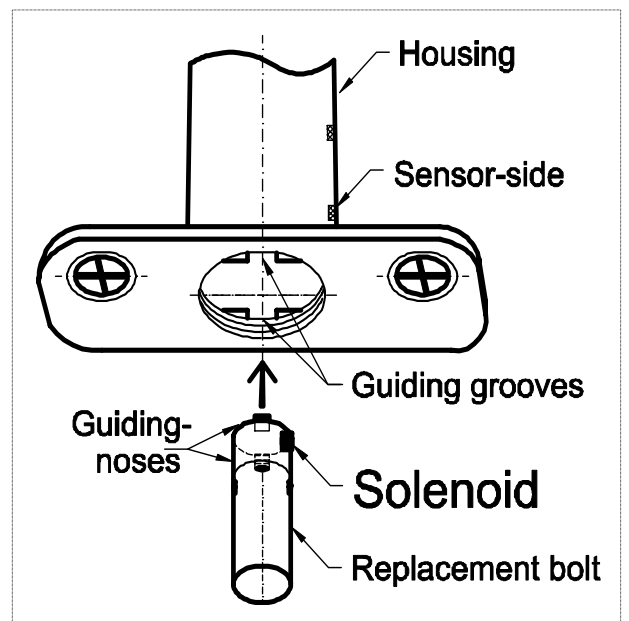
- Unscrew the screw cap from the housing of the blocking device using the assembly tools or the bolt replacement (Item-No. 8360.S)
- The bolt is moved out by activating the SpE input and can be completely removed
- Set the SpE input on “opened” (i.e. do not activate it any longer)



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Illustration 4.2

- Now the blocking device will try to move in the bolt
- Put the bolt in the correct position to the blocking device – refer to the drawing on the right. The two guiding noses on the bolt need to fit exactly to the guiding grooves of the housing. After a few seconds the bolt will be moved in.
- If you put the bolt the other way around by mistake → it will automatically be ejected after a few seconds.
- When the bolt is correctly inserted turn in a new screw cap up to the stop.



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Illustration 4.3

4.5 Product errors

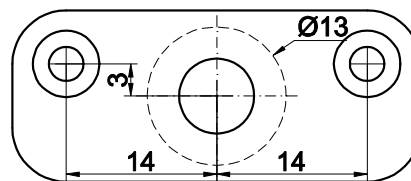
This product is state of the art. Each product is thoroughly controlled regarding quality and functionality before it is delivered. If there are nonetheless any claims regarding the operation please do not hesitate to contact us.

If there are any problems occurring in spite of our thorough control which cannot be repaired on site, we would like to ask you to return the device which is subject to claim including an exact description of the error.

5 Drilling template

Attention: Drilling template on a scale of 1:1

If required copy this page and cut out the drilling template!



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Illustration 5.1

6 Technical data

Operating nominal voltage / voltage range	12 V DC / 8 ... 15 V DC	
Current consumption at rest (Input not actuated) if input is actuated	about 50 μ A additionally about 3...4 μ A	
Current consumption during locking process	about 35 mA	
Current consumption when locking	max. 150 mA (only short term, since automatic switching off)	
Required current to activate the input	< 0,36 mA (short term), on an average < 3 μ A (Connection towards 0V)	
Minimum pulse duration at the inputs	> 200 ms	
Loading capacity of the revertive communication output	50 mA (OC-output switching approach minus) (switches off at overload for min 5 sec.)	
Bolt path	12 mm	
Maximum distance housing flange to counterpart	8 mm, for VdS-Applications 3 mm	
Closing / Opening time	< 0,3 s at 14 V DC operating voltage	
Locking force	> 5 N at 14 V DC operating voltage	
Admissible shearing force	1.0 kN at max. 3 mm distance from the flange 0.5 kN at 8 mm distance from the flange	
Operating temperature / Storage temperature range	-25° C ... +60° C / -40° C ... +70° C	
Ecological class according to VdS (IEC 60 068-2)	Class III	
Degree of protection	IP 43	
Protection against electromagnetic influences (EMV)	89/336 EEC and according to VdS 2110	
Dimensions of the housing	Ø 12.9 x L 48 mm	
Minimum size of the hole for installation	Ø 13.0 x L 55 mm (optimum Ø 13.5 mm)	
Flange	W 16 x L 38 x D 1.7 mm	
Weight without connecting cables	about 0.02 kg	
Cable length	3.5 m	
Material: Housing, locking bolt Screw cap	Plastic material (polyamide plastic) Aluminum, milled	
Inner diameter / Outer diameter	Counterpart 1 Ø 10 / Ø 13 mm	Counterpart 2 Ø 12 / Ø 16 mm
Length / Collar diameter	15 mm / Ø 18 mm	19 mm / Ø 21 mm
VdS approval No – Blocking device	G 107 102	