



Assembly instruction GfS e-Bar®





*GfS e-Bar® mechanical has no display

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1.0 Introduction

1.1.0 Safety instructions

The GfS e-Bar may only be installed acc. to the specifications of the assembly instruction.

- the door must have a smooth running without distortion
- the door leaf should be flat and stiff
- existing door seals must not affect the door function
- the GfS e-Bar® may only be mounted horizontally on doors that open outwards
- the GfS e-Bar® may only be used with approved panic locks and fittings (EN 1125)
- the GfS e-Bar® should be cut to length as required according to the installation instructions
- if used on glass doors, there should be safety glazing
- the GfS e-Bar® is not suitable for use on swing doors



When changing cylinders only use half cylinder with lockable driver! (Type information see technical data)



The assembly must be carried out by qualified staff.
After installation the assembly instruction has to be handed over to the operator.



Protect against water and vandalism!



1.2.0 General functions

Function	GfS e-Bar® mechanic 700 70*	GfS e-Bar® mechanic with floating contacts 700 71*	GfS e-Bar® mechatronic 700 73*	GfS e-Bar® mechatronic with emergency exit switch 700 74*
Communicating display accoustic/visual			X	X
For door leaf left/right	X	X	X	X
Battery-powered (incl. battery control)			X	
External power supply			X	X
Main alarm with floating contact		X	X	X
Pre-alarm with floating contact		X	X	X
Single release (local or remote)		X	X	X
Permanent release (local or remote)			X	X
Visual and acoustic "door-too-long-open" alarm			X	X
Intrusion alarm			X	X
Integrated emergency exit switch				X
Changing display to green/red			X	X
RS 485 MODBUS Interface			X	X
DIP Switch			X	X



1.2.1 Local alarm types



Display: green

GfS e-Bar® activated

When activated the green LEDs of the wired GfS e-Bar is permanently switched on. The green display means that the door is alarm-secured but might be opened at any time. In case of battery supply, the GfS e-Bar® works in an energy saving mode without background light. The display brightens only for about 15 sec.



Display: red

Pre-alarm

While slightly pressing the GfS e-Bar® a red flashing light and an acoustic alarm (95 dB A/1m) is emitted, which expires as soon as the GfS e-Bar® is released. The moment the pre-alarm turns into a permanent alarm can be adjusted with a little screw (see p. 13). The pre-alarm can be transmitted to a central display.



Display: flashes green

Main alarm

When pressing the GfS e-Bar® completely the door is released. At the same time the display flashes an intermittent green light and a permanent alarm sound with 95 dBA. The acoustic and visual alarm can just be switched off by turning the integrated key switch. The main alarm might be transmitted to a central display.

Door-too-long-open-Alarm

Pre-condition for this feature is a Reed contact which is installed on the door and connected to the GfS e-Bar®. When the single release has been activated by the integrated key switch and the door stays open for more than 15 sec. a gentle "Door-too-long-open-Alarm" is emitted in an interval of 3 sec. The alarm sound indicates that an authorized person has left the door open. As soon as the door is closed the sound is off

Battery Control

When battery operated the GfS e-Bar® a gentle warning signal is emitted every 60 sec. as soon as the voltage drops below 7 V. The display is off. The alarm is active till a new battery is connected or the old battery is empty.

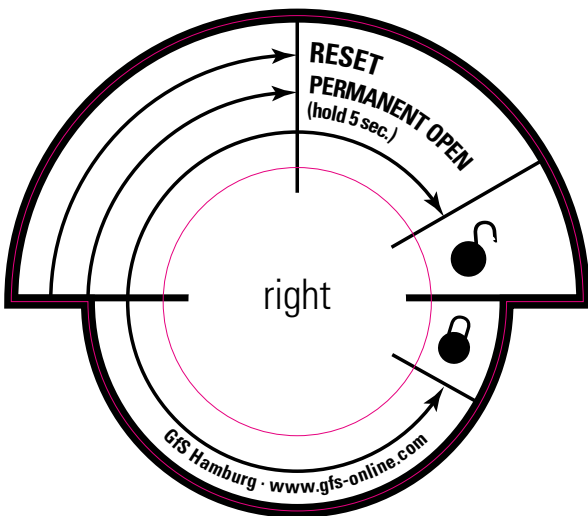
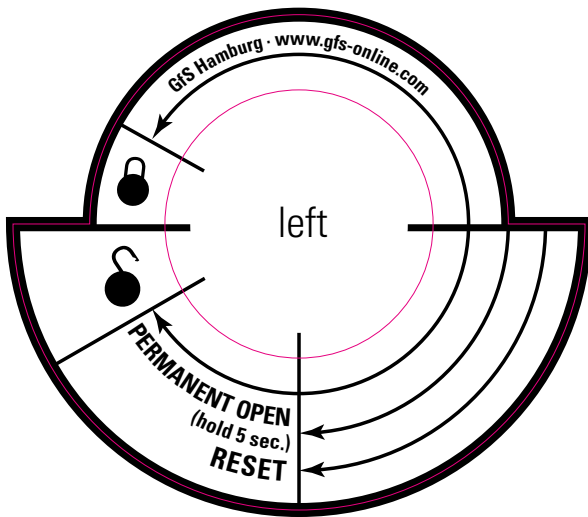


1.2.2 Operation



Reset

By briefly turning the key clockwise the main alarm is deactivated. The key needs to be turned by 90° and back. The impulse should be no longer than 1 sec. 15 sec. after this operation the GfS e-Bar® is alarm secured again which is indicated by a green display (mains supply). When battery operated the green display fades away after another 15 sec.. If a reed contact is installed the GfS e-Bar® will be alarm secured the moment the door closes.



Single release

By using the integrated key switch or by employing an external access control system (p. 22, p.23), an authorized person may pass the emergency exit once without causing an alarm.

By briefly turning the key clockwise the single release mode is triggered. The key needs to be turned by 90° and back. The impulse should be no longer than 1 sec. If a reed contact is installed the GfS e-Bar® will be alarm secured the moment the door closes.

If the door is kept open for more than 15 sec. a gentle "Door-too-long-open-Alarm" resounds till the door is closed again.

Permanent release

By using the integrated key switch an authorized person may deactivate the GfS e-Bar® in order to pass the emergency exit for a longer period of time. The permanent release is triggered by turning the key clockwise for at least 5 sec. The key needs to be turned by 90° and back.

The status is communicated by a raising and lowering brightness of the green display.

The key should be removed. The permanent release is activated till the key is turned again by min. 90° for max. 1 sec. and removed afterwards. Alternatively the permanent release can be set by access control systems, timer etc. (p. 22, p. 23).



1.3.0 Mechanical versions of GfS e-Bar®



1. GfS e-Bar® mechanic

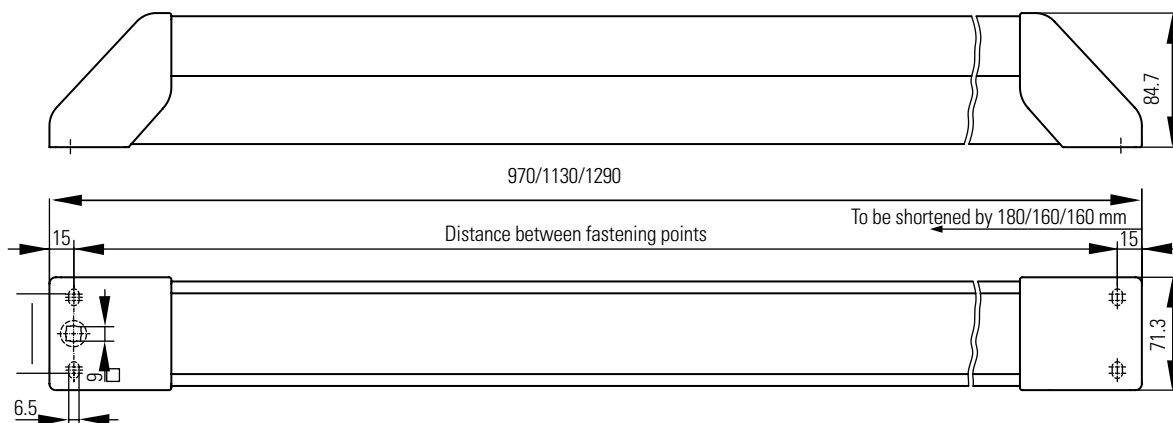
This model is a push bar incl. a picto describing the operation of the GfS e-Bar®. Neither contacts nor electric functions are included. The GfS e-Bar® mechanic will be supplied in three different lengths, which might be shortened individually, in order to adjust the length to the width of the door.

Length in mm	To be shortened by mm	Art. No.
970	180	700 700
1130	160	700 703
1290	160	700 705

2. GfS e-Bar® mechanic with floating contacts

This model is a push bar with floating contacts to generate information on the usage of the push bar. The items will be delivered with a picto describing the operation of the GfS e-Bar®. The GfS e-Bar® mechanic will be supplied in three different lengths, which might be shortened individually, in order to adjust the length to the width of the door.

Length in mm	To be shortened by mm	Art. No.
970	180	700 710
1130	160	700 713
1290	160	700 715





1.3.1 Mechatronic versions of GfS e-Bar®



1. GfS e-Bar® with integrated alarm (battery operated and/or mains supplied)

This model works either with a 9 V battery which is controlled by the PCB or with mains supply of 10–30 V/DC.

The battery control function checks every 10 hours the voltage. If the voltage drops below 7V, all 60 seconds an acoustic alarm is emitted.

The battery has to be changed. When battery operated the GfS e-Bar® works in an energy saving mode which basically means that the green LEDs of the display are permanently switched off.

The intelligent PCB recognizes when an external power supply is connected to the GfS e-Bar®. The communicating display shines permanently green. It indicates that the emergency exit is alarm secured. Delivery includes 1 9V battery, 2 keys, 1 picto for display and key switch as well as one sticker explaining the operation on the door.

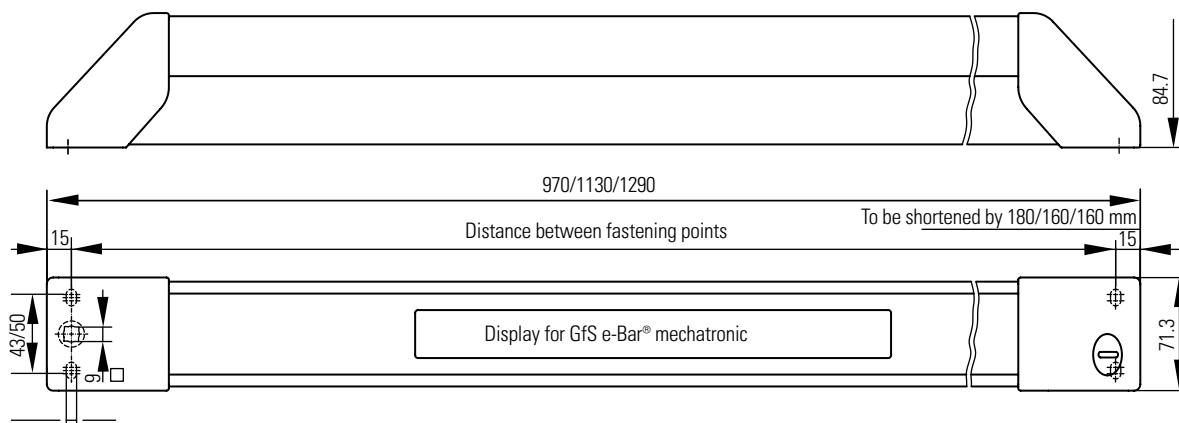
Length in mm	To be shortened by mm	Art. No.
970	180	700 730
1130	160	700 733
1290	160	700 735
Power supply surface mounted		901 366
Power supply flush mounted		700 006

2. GfS e-Bar® with integrated alarm and emergency exit switch for opening electrically locked doors

The GfS e-Bar with integrated emergency exit switch is operated at 10–30 V/DC which is either supplied by an external power supply or the FWS-02 (Emergency exit control unit). The integrated emergency exit switch with 2 opening contacts might be connected to the emergency exit control unit with a max. load of 3A. Additionally it is recommended to install a reed contact which offers additional features such as immediate activation after the door has been closed and door-too-long-open-alarm.

Delivery includes 1 integrated emergency exit switch, 2 keys, 1 picto for the display and the key switch as well as one sticker explaining the operation on the door.

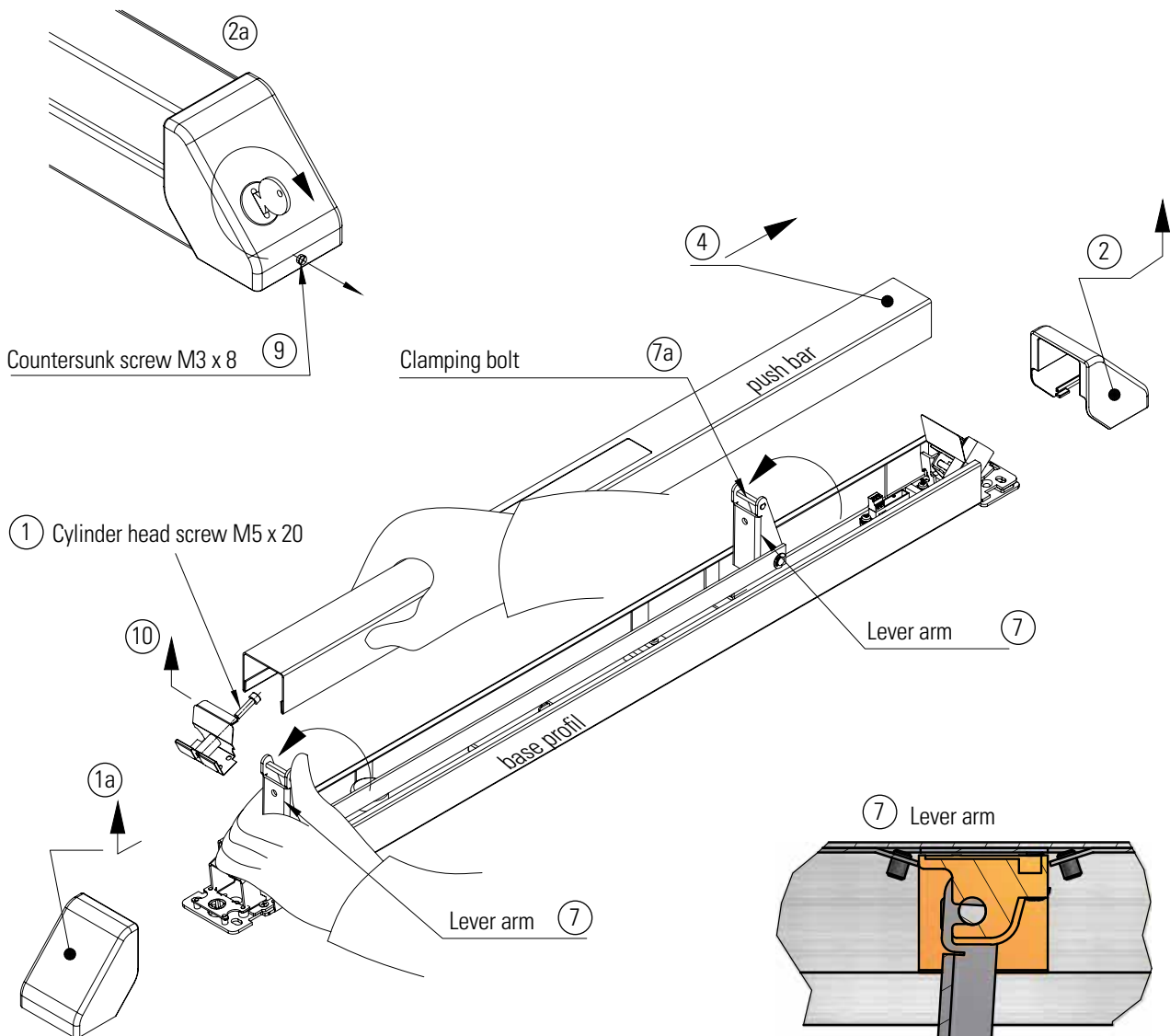
Length in mm	To be shortened by mm	Art. No.
970	180	700 740
1130	160	700 743
1290	160	700 745
Power supply surface mounted		901 366
Power supply flush mounted		700 006





2.0 Assembly

2.1.0 Mounting instructions of GfS e-Bar®



While pressing the push bar profile (4) remove the cylinder head screw M5 x 20 (1).
Tear the cover hood (1a) out of the bayonet joint towards the lock side.

GfS e-Bar® mechatronic

Remove the screw M3 x 8 (9), unlock the cover hood by turning the key clockwise (2a).

GfS e-Bar® mechanic

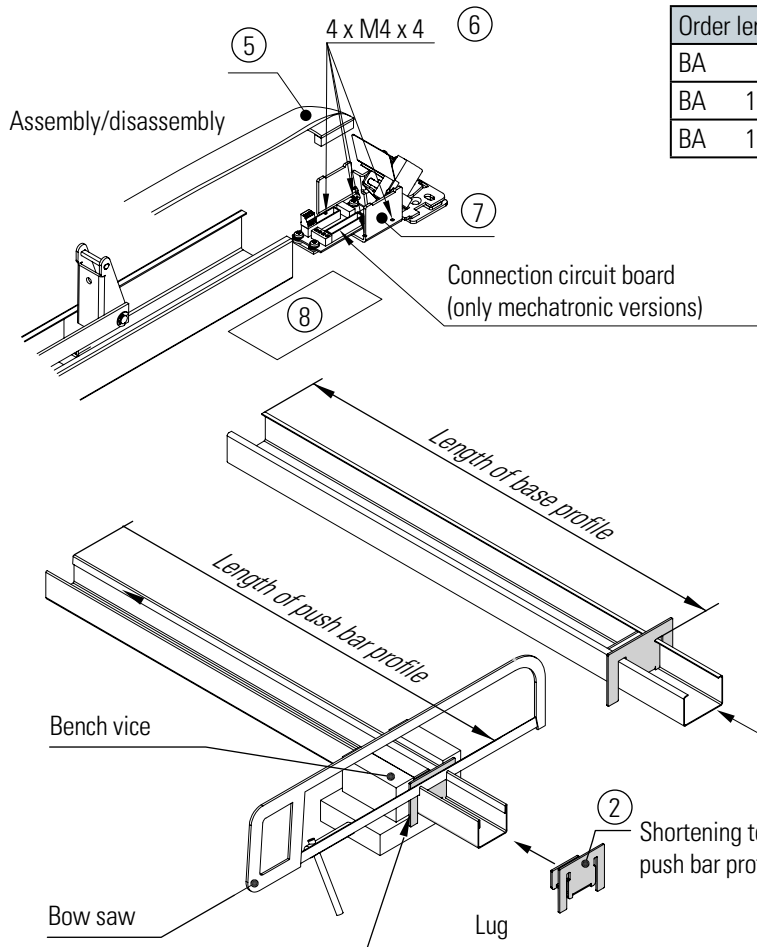
While the push bar is pressed (4) remove the cylinder head screw M5 x 8. Tear the cover hood (2) towards the hinge side.

Remove the protective shield (10).

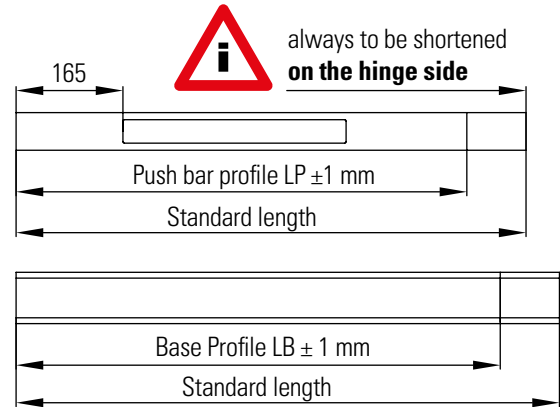
Lift the push bar profile (4) up to its maximum. Hold the lever arm (7) with one hand and remove the push bar profile (4) from the clamping bolt in opposite direction (7a).



2.1.1 Cut to size with tool kit (not included in scope of delivery)

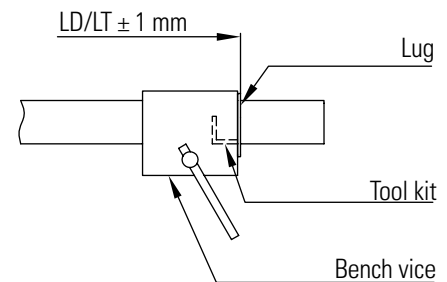


Order length	Length of base profile	Length of push bar profile
BA 940	BA-67 mm	BA-104 mm
BA 1100		
BA 1260		



① Shortening tool for base profile
Art. No. 770 712

② Shortening tool for push bar profile



Just mechatronic versions:

Remove carefully the plug of the ribbon cable (5) from the connection circuit board and keep it safe in the base profile. Loosen the slotted grub screws M4x4 (6) and remove them together with the console. Keep the shims (8) as you need them again for the assembly. Clamp the profiles in a vice. The jaws of the vice serve as stop for the shortening tool.

ATTENTION:

The clamping area should be protected by wood/plastic material in order to avoid scratches on the surface of the profile! Carefully cut the profile with a conventional metal saw along the lug. A straight cut is easier when pressing the blade slightly against the lug. After shortening the profile burr the edges carefully in order to avoid injuries.

ATTENTION:

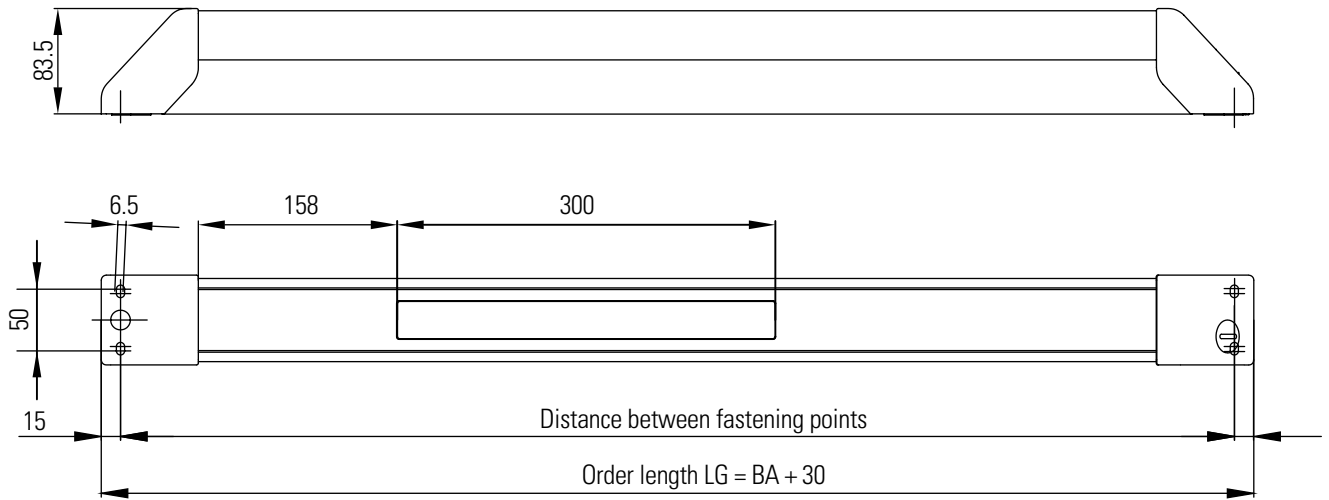
Do not use "lubricants and coolants" when shortening the mechatronic versions of the GfS e-Bar®. Metal chips must not stay in the GfS e-Bar®. Danger of short-circuit! After shortening insert the console (7) into the base profile. Place the shims (8) (0,8 mm thickness) between the console and the base profile.

IMPORTANT:

The shims (8) are designed to avoid pressure marks and deformations by the clamp-connection. Fasten the four cylinder pins M4x4 (6) with a torque between 0.4 Nm and max. 0.5 Nm! Only mechatronic versions: Insert carefully the plug of the ribbon cable (5) into the connection circuit board.



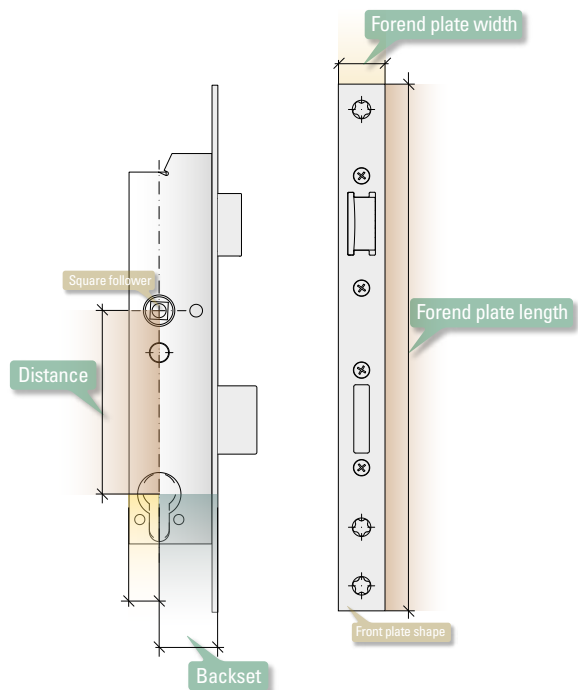
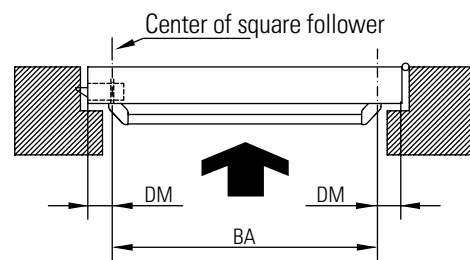
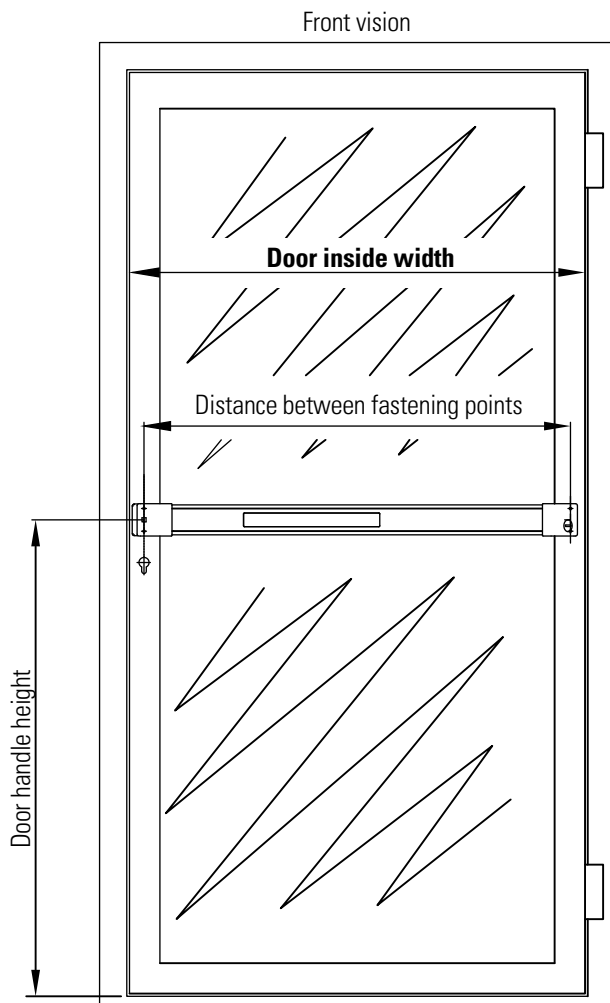
2.2.0 Defining the correct length



Rule of thumb for defining the correct length:

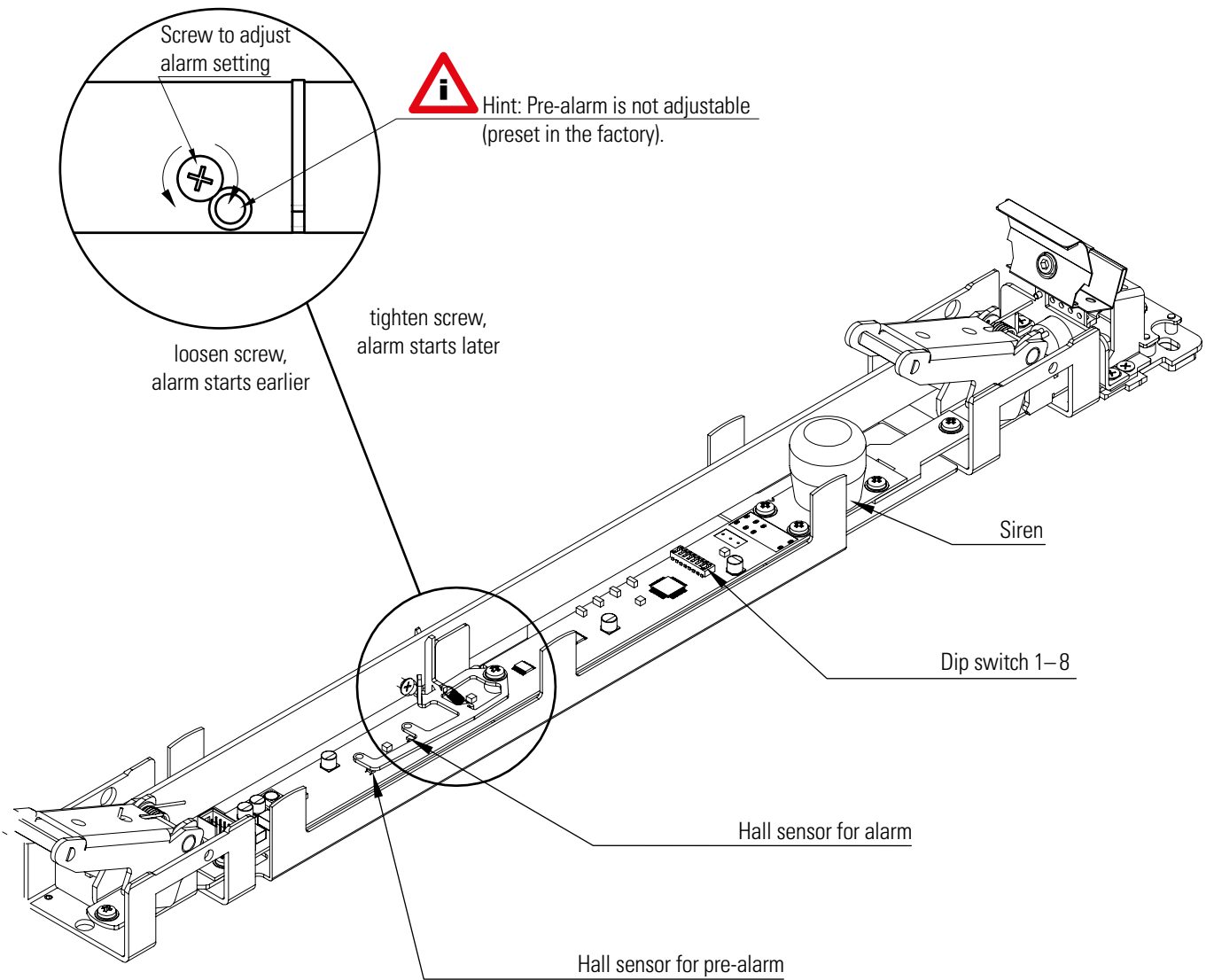
door inside width - 2x backset + 2x lockplate thickness + 30mm = GfS e-Bar® length

Order lengths	Max. shortening length
970 mm	180 mm
1130 mm	160 mm
1290 mm	160 mm





2.3.0 Adjust pre- and main alarm

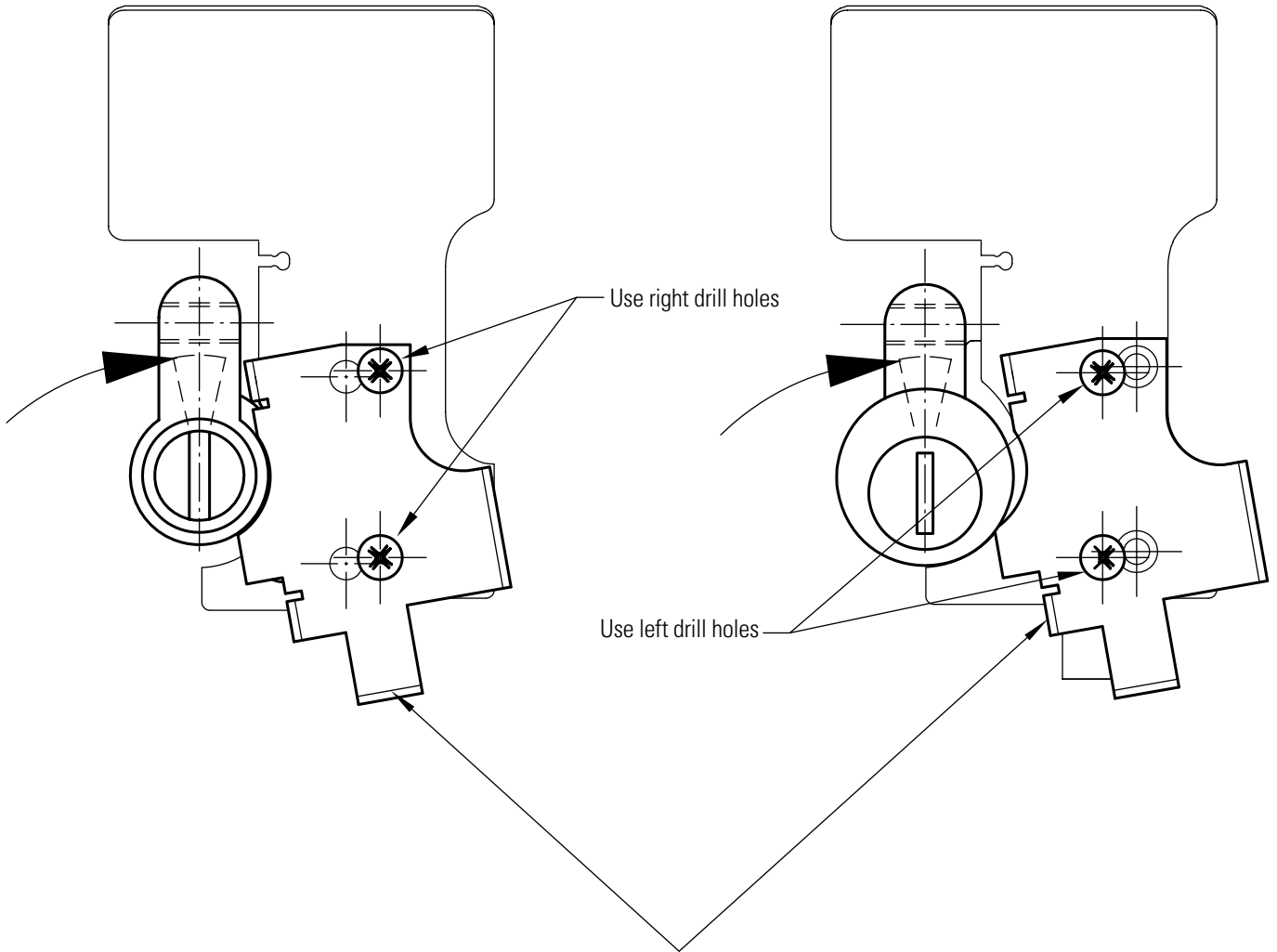




2.4.0 Changing the cylinder

Mounting European profile cylinder (PHZ)

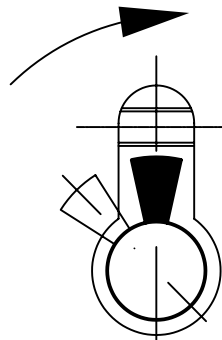
Mounting Swiss round cylinder (RZ)



Battery holder



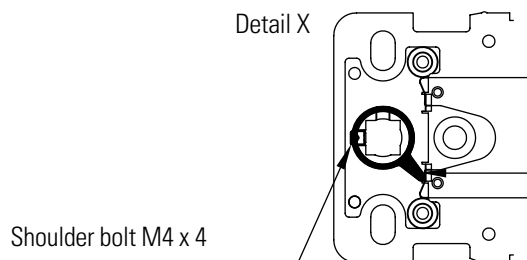
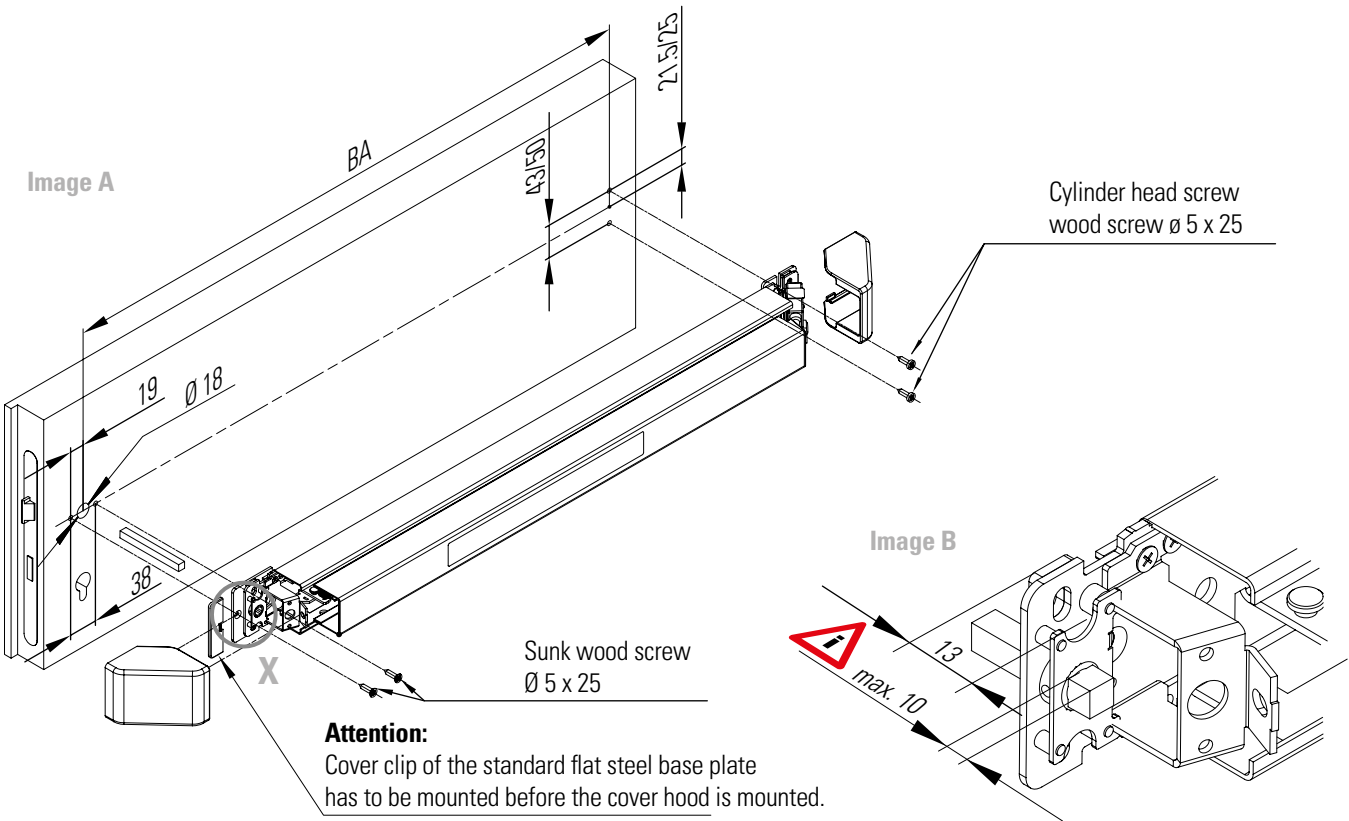
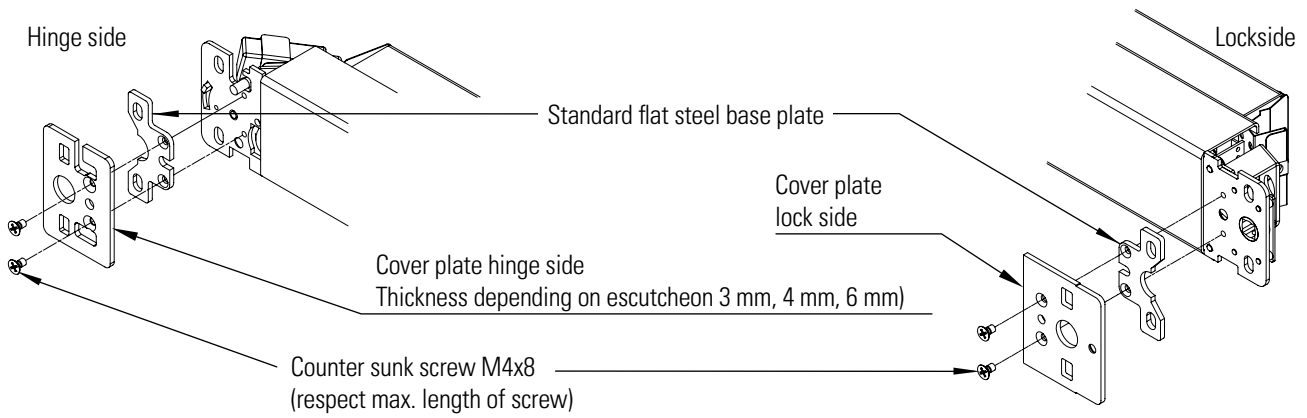
Attention:
Use European profile cylinder with lockable cam.
 Remove key, put cam on 180°!





2.5.0 Mounting on wooden doors

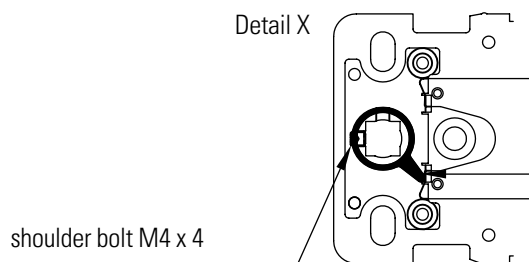
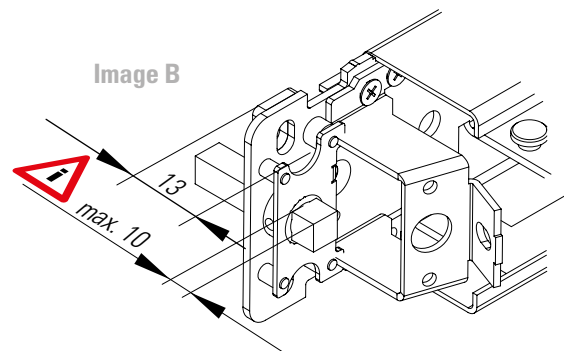
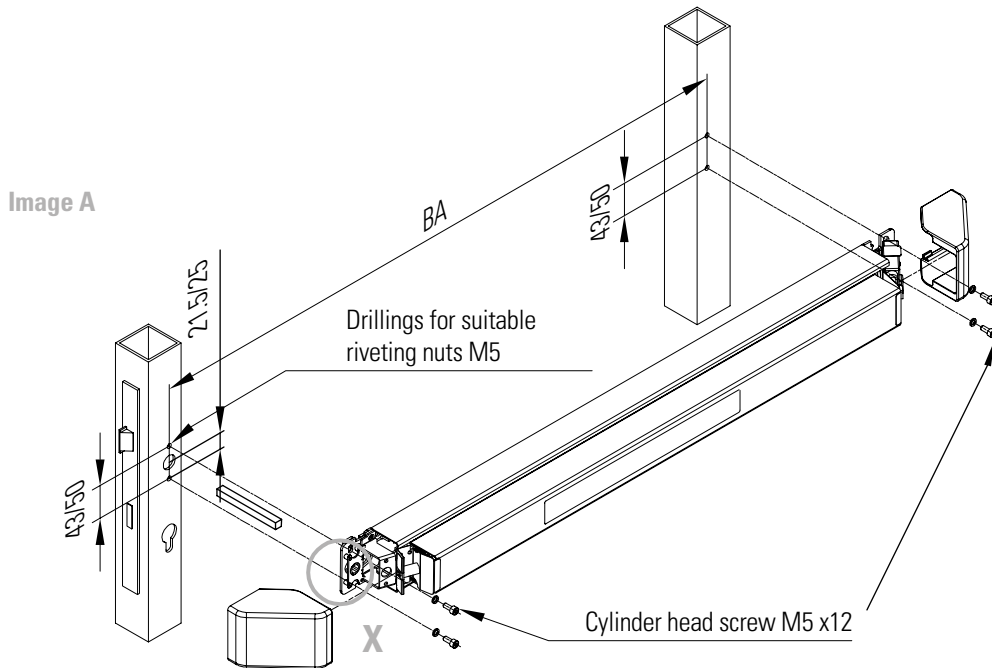
(Metal cover plate 770 013 for wooden doors are not included in shipment)




Attention:
When assembling pay attention to the orientation of the socket. Cam has to show downwards



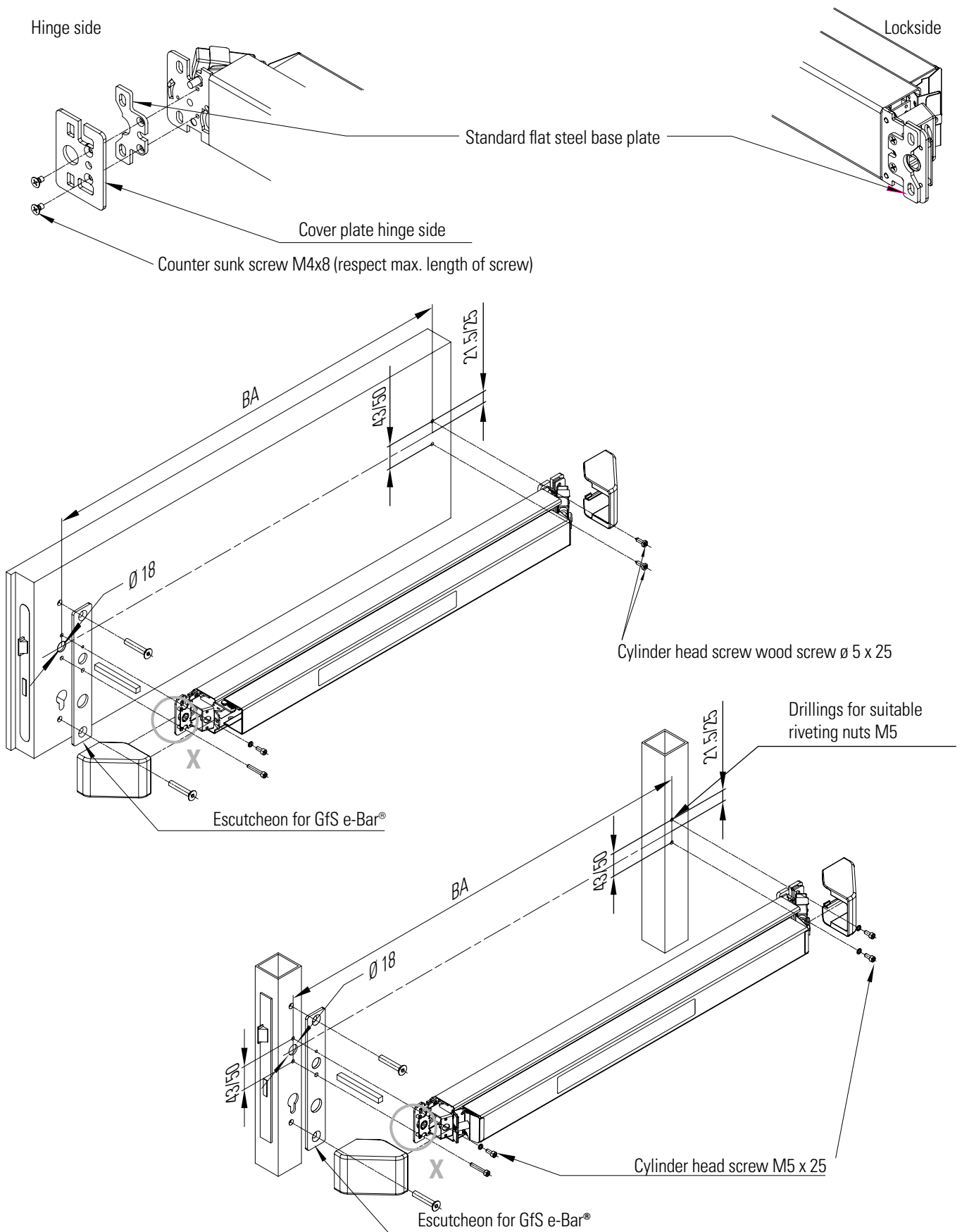
2.5.1 Mounting on metal doors



Attention:
 When assembling pay attention to the orientation of the socket. Cam has to show downwards



2.5.2 Mounting in combination with security escutcheon (4 mm)

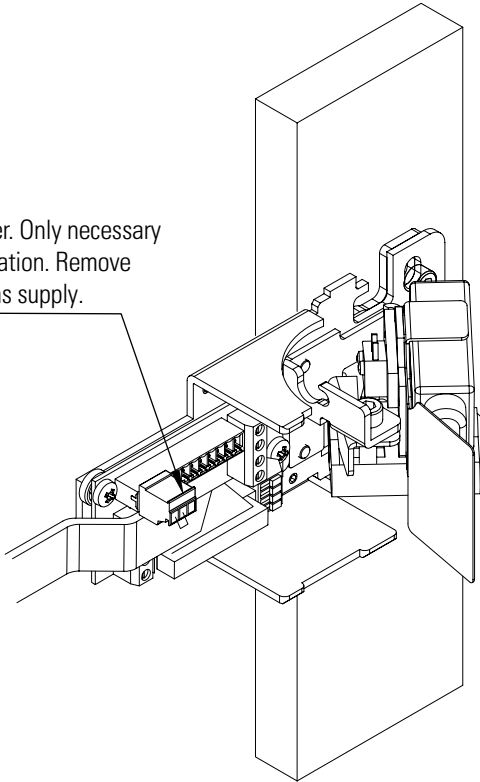




2.6.0 Battery operation/mains supply – wiring of GfS e-Bar®

Installation **without** cables

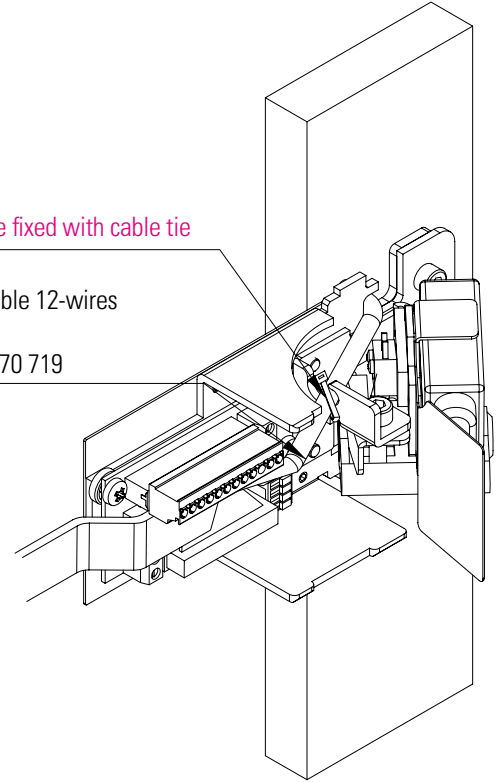
Plug with jumper. Only necessary for battery operation. Remove plug when mains supply.



Installation **with** cables

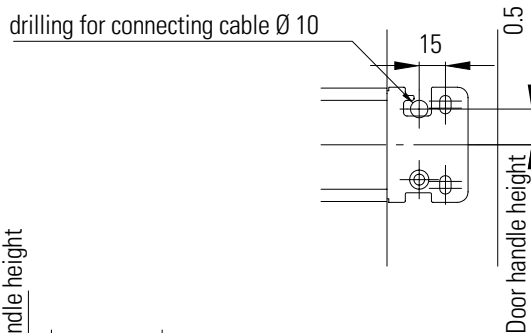
Cable must be fixed with cable tie

Connection cable 12-wires with tie
GfS Art. No. 770 719

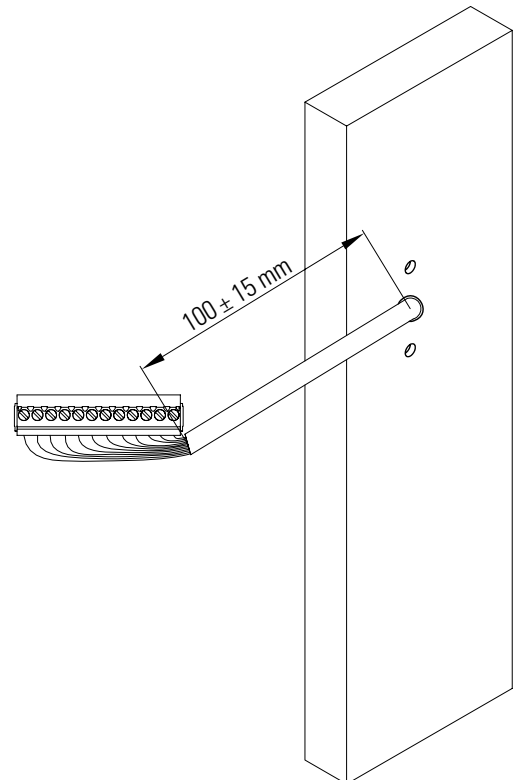
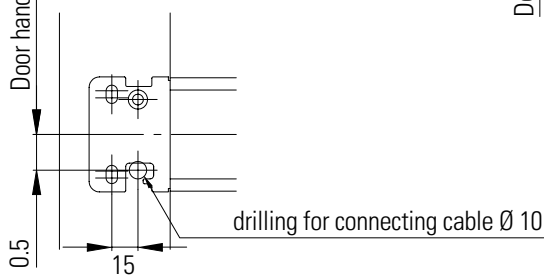


Cable length

DIN left

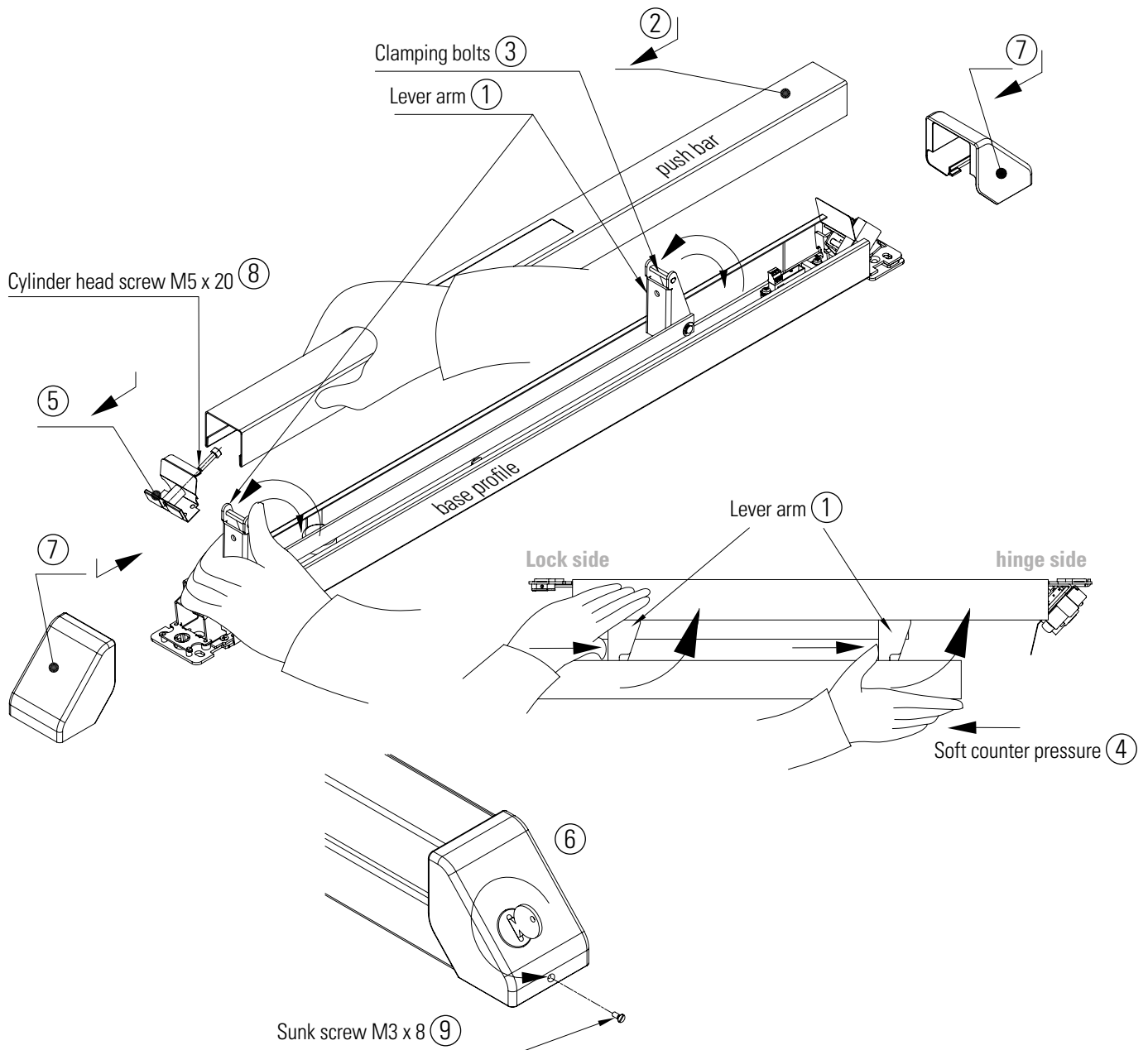


DIN right





2.7.0 Assembly of GfS e-Bar®



Lift the lever arms (1) up to its maximum. Hold the lever arm with one hand and pull the push bar profile (2) from the hinge side on the clamping bolt (3) until the push bar profile is engaged. Lift the lever arm with one hand, give some counter pressure on the push bar profile (4) with the other hand in order to avoid that the push bar snaps-out again.

Important: The push bar profile must smoothly but noticeably snap-in. Do not force the push bar profile. In case of doubt try again.

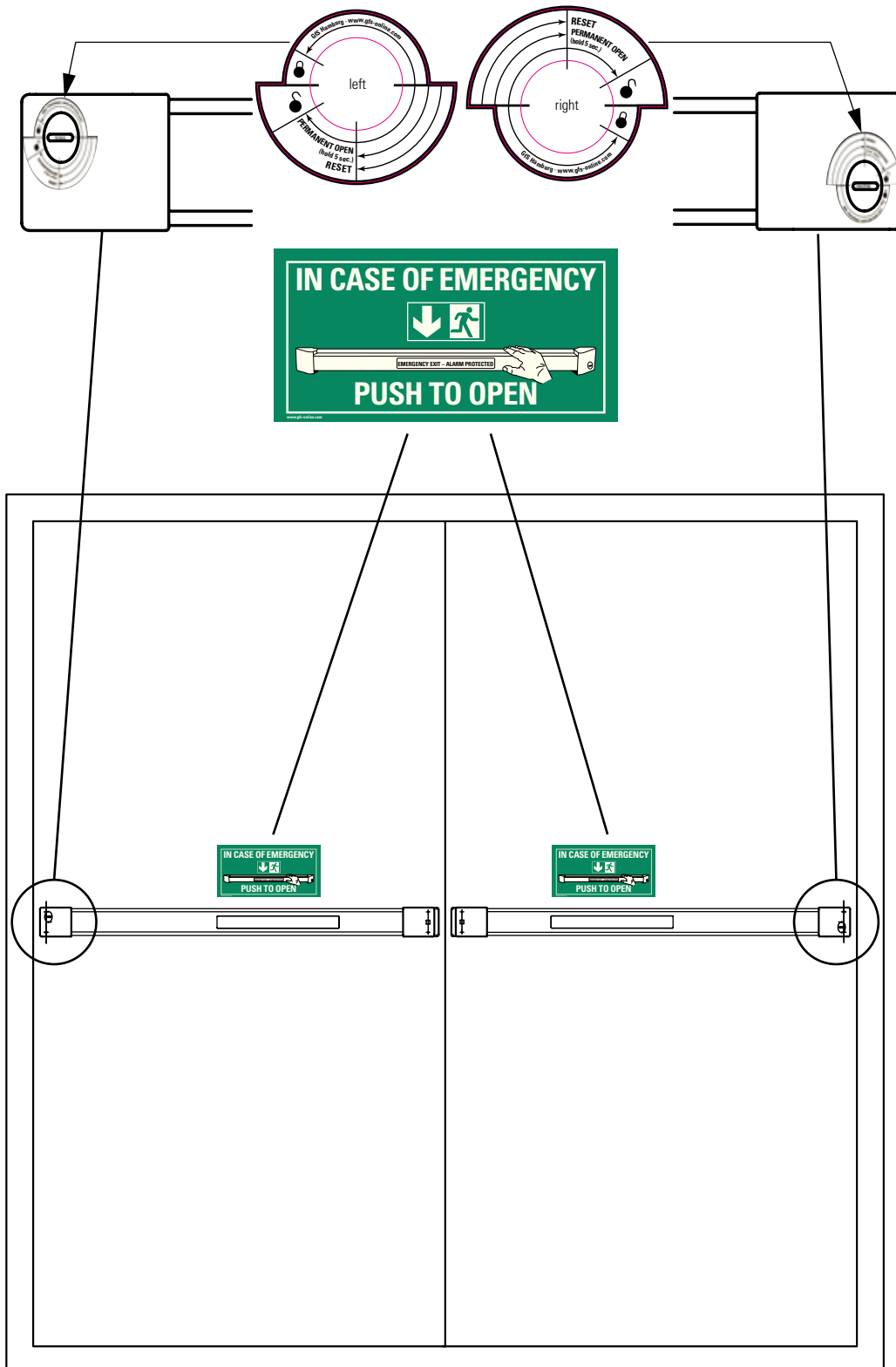
Put the protective shield (5) on the support bracket.

Insert the cover hood (7) in the bayonet joint and push it to the end stop. Fix the cover hood with cylinder head screw M5 x 20 (8).

- a) Mechatronic versions (6): turn the key anti-clockwise. A noticeable click indicates that the cover hood is locked.
- b) Mechanic versions: Fix cover hoods with M5x8 cylinder head screws (like lock side).



2.8.0 Placing the stickers

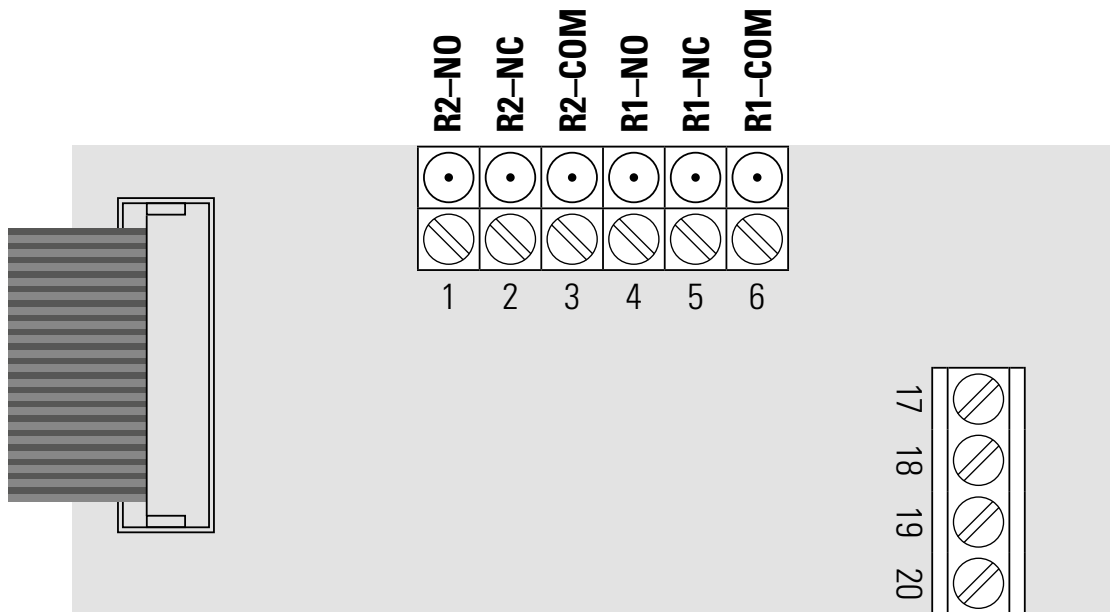




3. Electrical connection

3.1.0 Terminal board GfS e-Bar® 700 71x

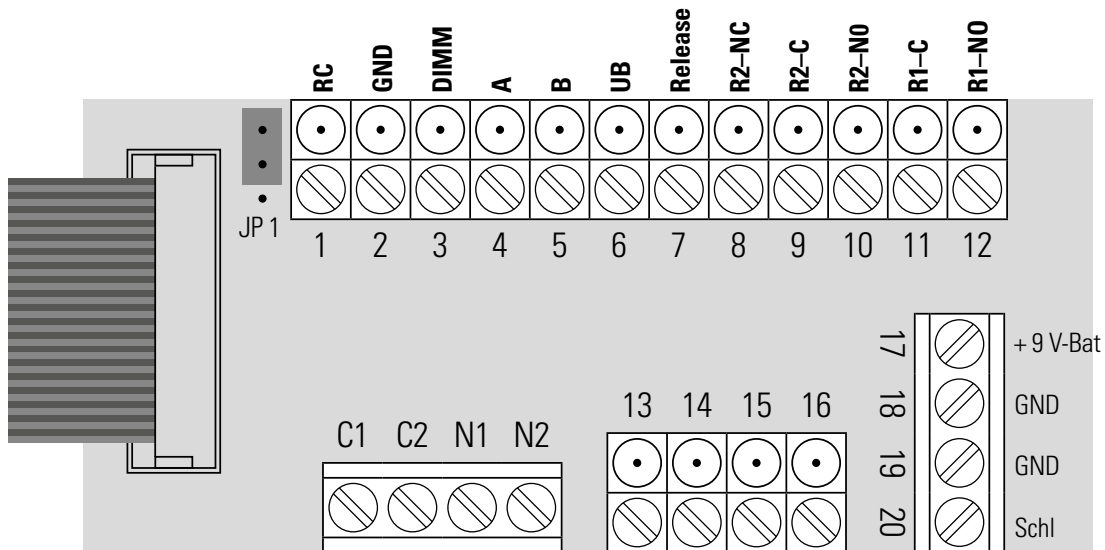
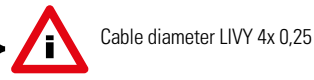
Clamp	Signal	Wire colour	Function
1	NO		Relay 1: Pre-alarm
2	NC		Relay 1: Pre-alarm
3	COM		Relay 1: Pre-alarm
4	NO		Relay 2: Main-alarm
5	NC		Relay 2: Main-alarm
6	COM		Relay 2: Main-alarm
17/18			External key switch message out
19/20			External key switch wiring in



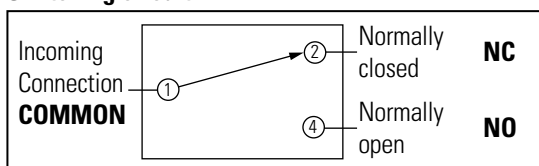


3.1.1 Terminal board GfS e-Bar® 700 73x

Clamp	Signal	Color	Function
1	OV	white	External door reed contact, recommended otherwise jumper (1-2)
2	GND	black	Mains supply GND
3	OV	brown	DIP 8 OFF: DIMM at 10% luminiscence (programmable see page) DIP 8 ON: Radar triggered pre-alarm
4	+5V	green	RS485 A Interface (MODBUS)
5	+5V	yellow	RS485 B Interface (MODBUS)
6	+ 10 V – 30 V	red	Mains supply 10 V–30 V DC
7	OV	violett	Electric pulse for single release or permanent signal for permanent opening (2–7) – not avilable when battery operated
8	NC	grey	Output relay: alarm 30 V/850 mA
9	COM	blue	Output relay: alarm 30 V/850 mA
10	NO	pink	Output relay: alarm 30 V/850 mA
11	COM	red/blue	Output relay: pre-alarm 30 V/850 mA. When pre-alarm contact is opened
12	NO	grey/pink	Output relay: pre-alarm 30 V/850 mA. When pre-alarm contact is closed
13	COM		Internal emergency exit switch 1 min AWG24
14	COM		Internal emergency exit switch 2 min AWG24
15	NO		Internal emergency exit switch 1 min AWG24
16	NO		Internal emergency exit switch 2 min AWG24
17	+9 V		+9 V Battery supply
18	GND	black	GND Battery supply GND
19	GND		Key Switch (Reset/Programming)
20	OV		Key Switch (Reset/Programming)

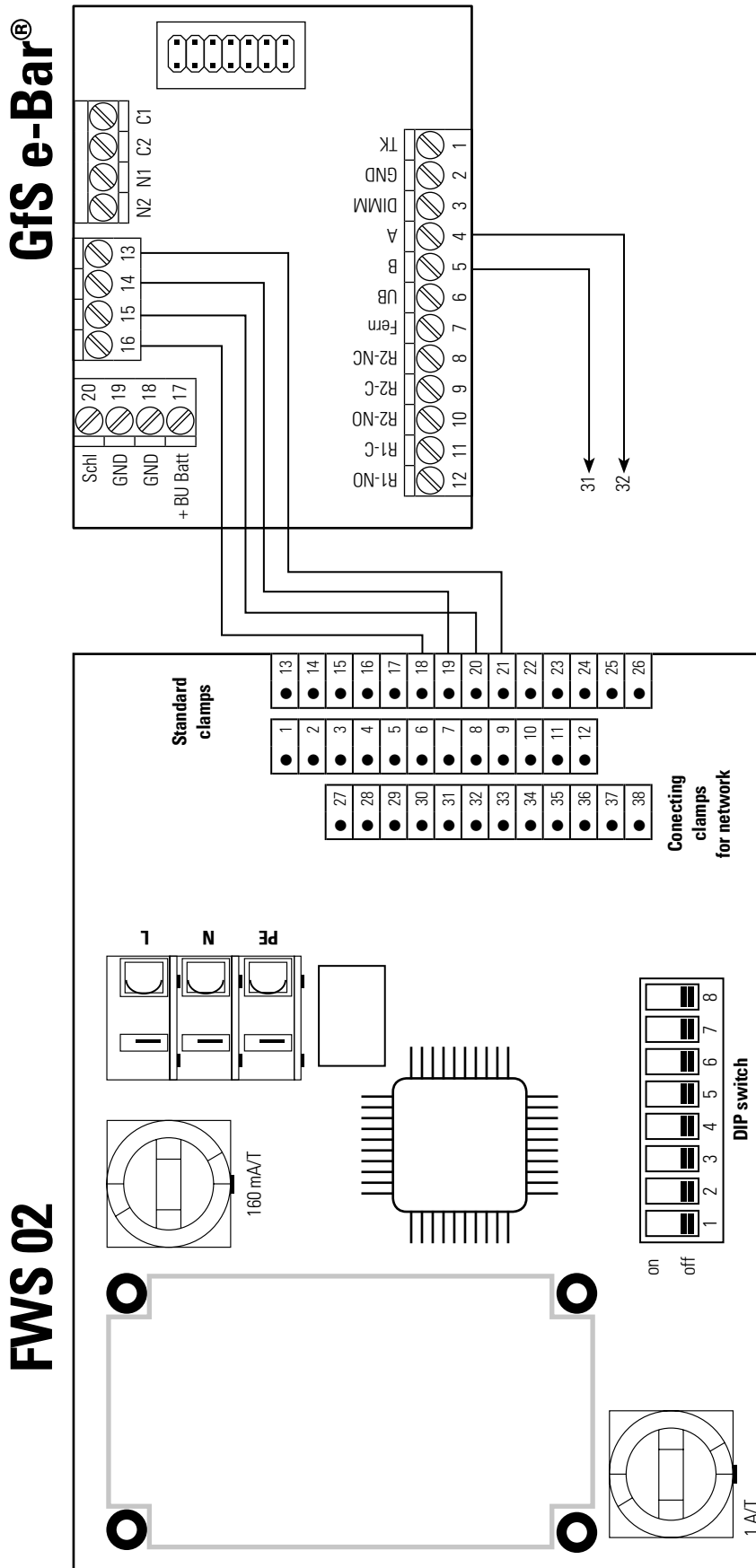


Switching circuit F4



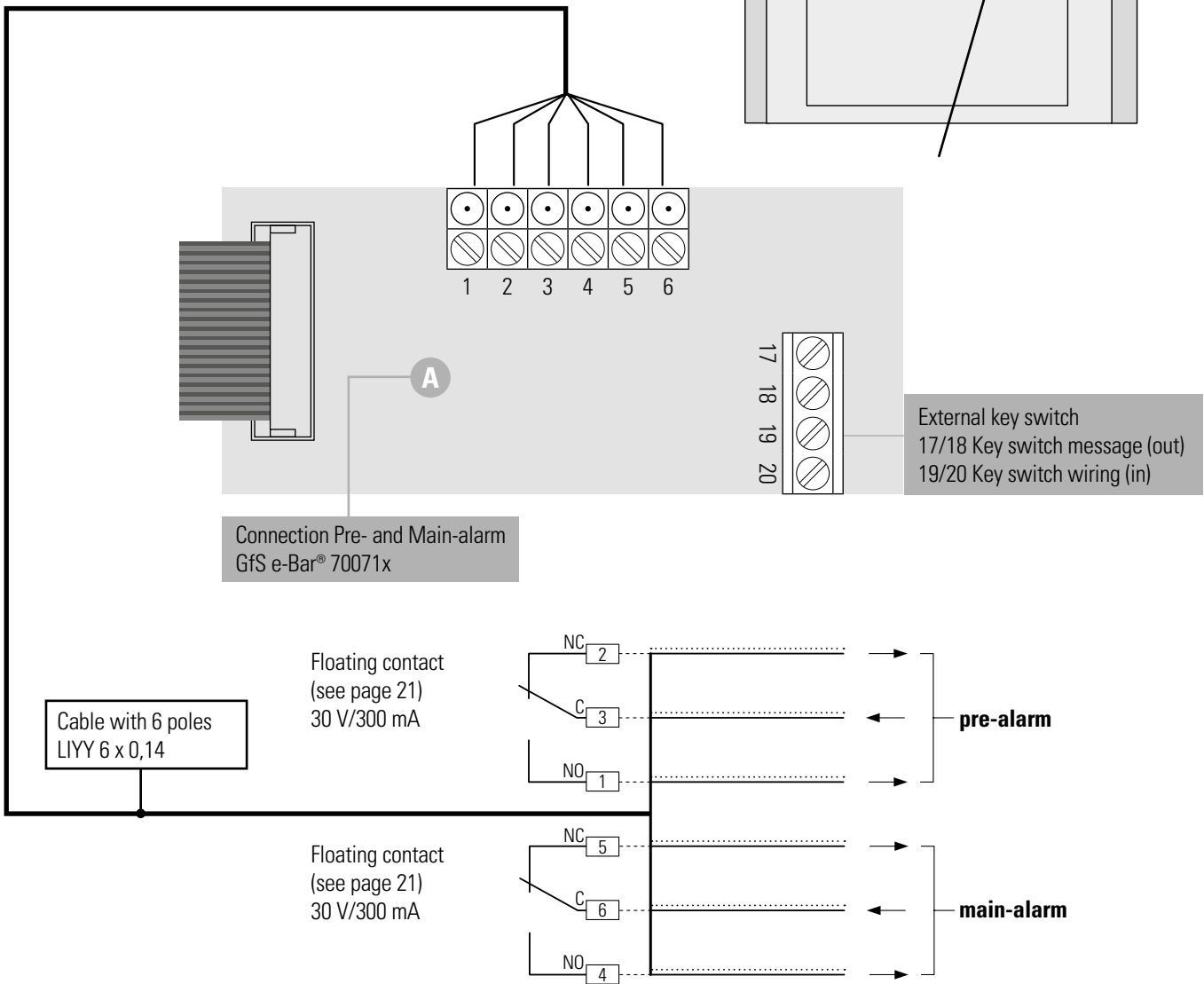
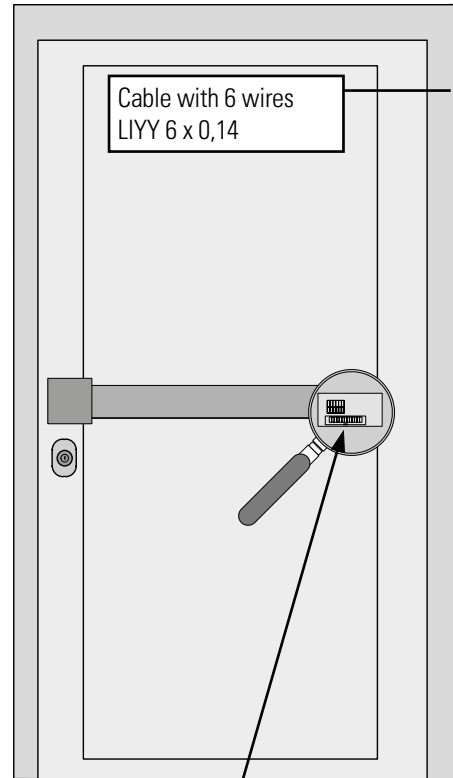


3.1.2 Terminal board GfS e-Bar® 700 74x





3.2.0 Wiring diagram GfS e-Bar® 700 71x

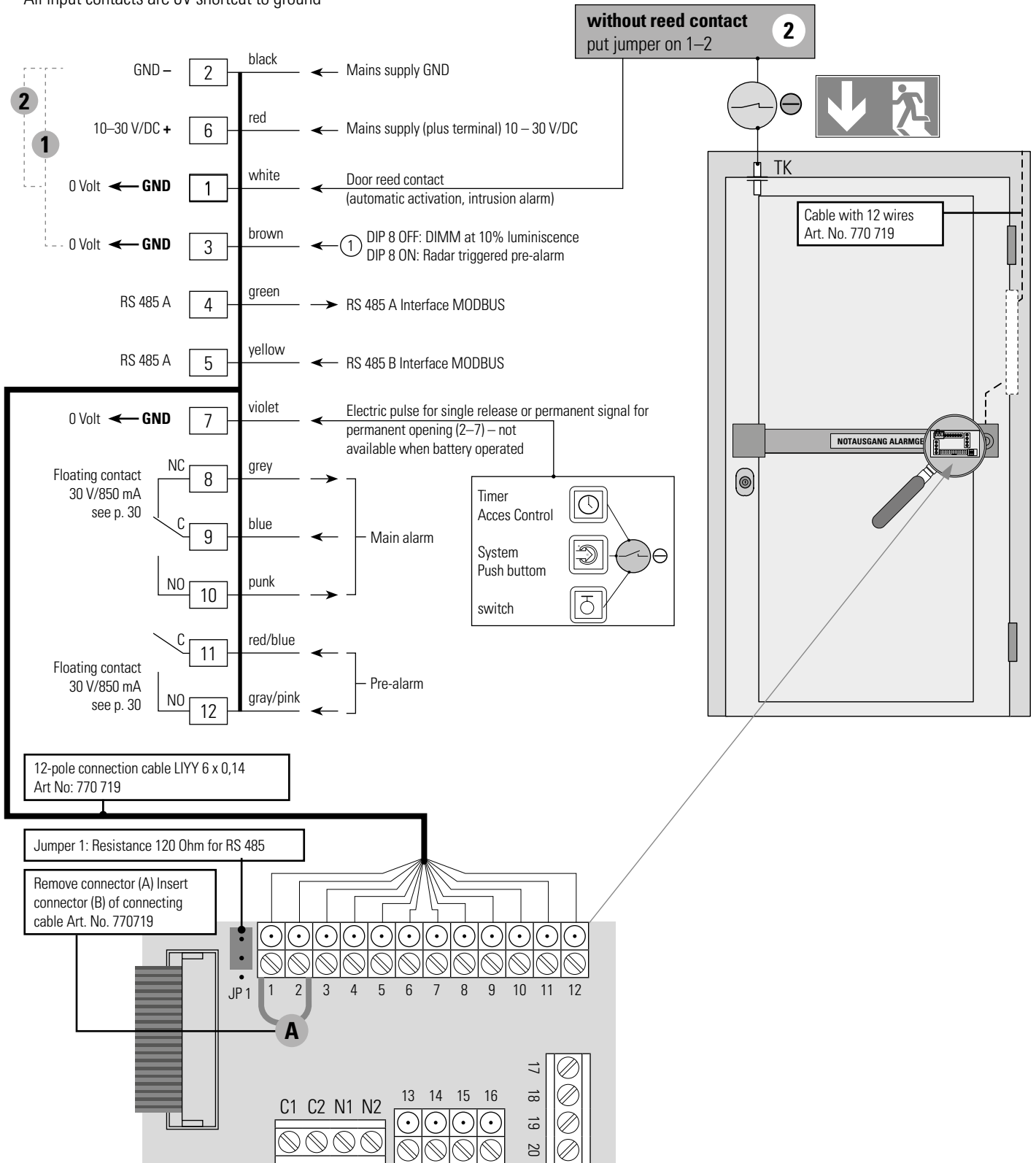




3.2.1 Wiring diagram GfS e-Bar® 700 73x

Important:

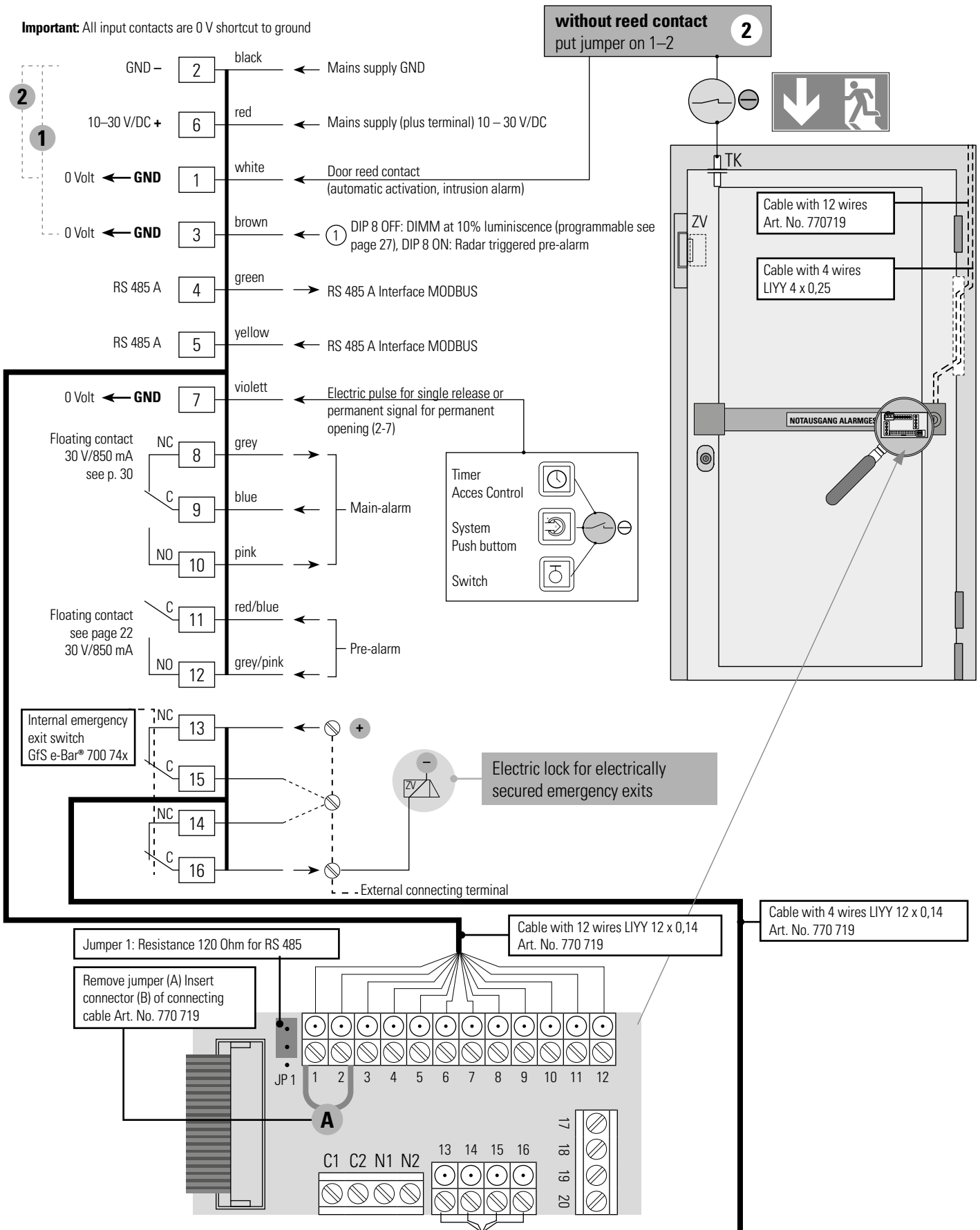
All input contacts are 0V shortcut to ground





3.2.2 Wiring diagram GfS e-Bar® 700 74x

Important: All input contacts are 0 V shortcut to ground






4.0 GfS e-Bar® settings

4.1.0 Activate automatic alarm switch-off

If DIP switch 5 is ON the alarm will automatically switched-off after 3 minutes. If DIP switch 5 is OFF a permanent alarm will resound.

4.1.1 Settings of DIP switch

DIP-Nr.	Function	ON	OFF (factory setting)
1	Hold open time	+ 6 sec.	
2	Hold open time	+ 12 sec.	
3	Back-light while permanent opening	no backlight	LEDs raising and lowering
4	Silent alarm	no alarm	alarm
5	Automatic alarm switch-off	3 min	permanent alarm
6	Intrusion alarm	activated	deactivated
7	Alarm delay	15 sec.	deactivated
8	Special options	Pre-alarm triggered by radar	DIM at 10%
	Attention: The settings of the DIP switch will just be changed after the GfS e-Bar® has been switched-on again. The DIP switch setting will be overwritten by a MODBUS command.		

4.1.2 RS-485 interface with MODBUS protocol

Up to 127 GfS e-Bar® can be networked. The MODBUS protocol which works with a RS-485 interface offers bi-directional communication. It is thus possible to monitor and address up to 127 GfS e-Bar®. The communication between different devices is managed by customized masters.

4.1.3 Switching color green/red

When working with mains supply it is up to the operator/dealer to define the color code of the GfS e-Bar®. The following steps have to be taken:

- Switch-off the power supply of the GfS e-Bar® and remove the battery. Wait for 10 sec.
- Connect the GfS e-Bar® again
- Turn the key clockwise by 90° and wait for approx. 5 sec till the display indicates that the GfS e-Bar® is deactivated (permanent opening)
- During the following 60 sec press the GfS e-Bar® for about 15 sec.
- The color changes every 2 sec. – three times from green to red and back to green
- Release the GfS e-Bar® when the desired color shines and confirm this choice by briefly turning the key clockwise by 90°
- Now the chosen color remains active
- The GfS e-Bar® is not in the programming mode anymore but deactivated (permanent opening) .

In case that the color shall be changed again, you have to restart the process all over again (disconnect the power supply).

4.1.4 Changing brightness

- Switch-off the GfS e-Bar®
- Press entirely the GfS e-Bar®
- Switch-on the GfS e-Bar® again while keeping the GfS e-Bar® pressed for at least 10 sec. until all LEDs shine
- Release the GfS e-Bar® and observe LEDs
- Brightness of LEDs raise and lower for max. 3 times. A too long wait stops the programming mode automatically the desired brightness is achieved confirm the result with the integrated key switch for at least 1 sec.
- Now the value is stored for future operation, the GfS e-Bar leaves the programming mode automatically



Hint: The brightness and darkness need to be confirmed within 1 sec., enough time to operate the key switch.



5.0 Technical data

Power supply	9 V battery or 12–30 V/DC power supply	
Current draw in battery operation mode		
Door alarm secured	14 µA	
Door open	0,5 mA, briefly 90 mA short-term, intermittent	
Pre-alarm	190 mA	
Main-alarm	in average 160 mA intermittent	
Current draw with external power supply (mains supply or FWS 02)		
Door alarm secured	130 mA	
Door open	6 mA, briefly 130 mA short-term intermittent	
Pre-alarm	235 mA	
Main-alarm	in average 190mA intermittent	
Battery low signal	below 7 V (measured during operation)	
Automatic alarm switch off	DIP 5 ON: 3 minutes	
Turning angle	40° standard	9 mm pin
	30° optional	9 mm pin
	45° optional	9 mm pin
Power supply	230 V AC/12 – 30 V DC	
Reed contact	with sabatoge line, incl. 2 m cable, surface or flush mounted (Art-No. 930 110/930 210)	
External connection cable for GfS e-Bar®		
	GfS e-Bar® 70071x/70073x	12 wires, 12 x 0,14 LIYY (Art. No. 770 719)
	GfS e-Bar® 700 74x	20 wires, 20 x 0,25 LIYY
Cable sleeves		
	Metal doors	KÜ 480 (Art. No. 901 802) Cable sleeve with housing, INOX Cable sleeve 370 mm, Housing 22 x 480 x 17 mm
	Wood doors	KÜ-R 480 (Art. No. 901 902) Cable sleeve with housing, INOX Cable sleeve 370 mm, Housing 22 x 480 x 17 mm
Cylinder	30/10 mm European half cylinder with lockable driver	



6.0 Documentation

6.1.0 Service protocol (operator)

GfS e-Bar® _____

Building _____

Manufacturer of lock/lock type _____

Panic function D E B E-SV B-SV

- The installation was done properly.
- Lock, lock plate and door hardware form a system acc. to EN 1125
- The system has been tested and works properly
- The door can be unlocked with little effort (< 80 N)
- Further comments concerning the building environment:

After installation the **escape route is fully accessible**

The system has been verified and approved

City, Date

Company (stamp)

Signature



6.0 Documentation

6.1.0 Service protocol (installer)

GfS e-Bar® _____

Building _____

Manufacturer of lock/lock type _____

Panic function D E B E-SV B-SV

The installer has informed the operator of the following:

- Function and use
- Resetting the alarm
- Special functions
- Possibility to transmit the alarm to a central display
- The operator received the installation and operating manual
- The operator has been informed about the required maintenance activities:
 - Battery control (at least 1 per month)
 - System check (at least 1 per year)
 - Visual check (at least 1 per month)

City, Date

Company (stamp)

Signature



GfS – Gesellschaft für Sicherheitstechnik GmbH

Tempowerkring 15 · 21079 Hamburg · Fon 040-79 01 95-0 · Fax 040-79 01 95 11 · info@gfs-online.com