

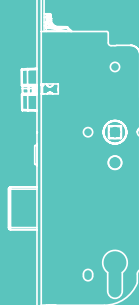
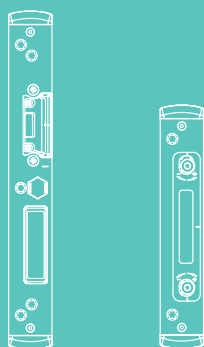


TECHNOLOGY IN MOTION

EXCLUSIVELY
FOR CERTIFIED SPECIALISTS!

MACO PROTECT

DOOR LOCKS



ASSEMBLY INSTRUCTIONS

A-TS
Automatic Door Lock



M119317

maco.eu

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Important Information

Introduction

Read these instructions carefully before starting the A-TS assembly. Mount all hardware parts professionally as described in this manual and observe all safety instructions. Failure to follow these instructions cannot guarantee the proper functioning of the system. In the event of non-compliance, we assume no liability for damage to persons or material.

Match the required fixing material with the building structure and the corresponding load and expand on it if necessary. Any supplied fixing material only meets a part of the requirements.

Target audience for this guide

This documentation is intended exclusively for specialist companies and certified specialists. The work-steps described herein may only be carried out by certified specialists.

Retention of documents / briefing

Retain these assembly instructions for later use and maintenance.

Hand over the user manual (downloadable under maco.eu - Order No. 757585) to the end user and ensure they are briefed.

Installation and operation

Before installation - test doors and safety elements. The integrity and smoothness of the doors must be ensured.

All work (assembly, adjustment, etc.) must be carried out in a powered-down state.

Before installing the drive motor, the current temperature range must be checked for environment suitability.

To fix the hardware, use sufficiently long screws which must extend into the steel reinforcement when using PVC profiles.

Unless otherwise indicated, all measurements are made in millimetres.

All diagrams are only symbolic.

Printing errors, mistakes and changes are reserved.

Declaration of conformity can be found at:



EC declaration of incorporation Motor A-TS



Important Information

Informative note



This indicates important additional information that is important for the error-free assembly of the product.

Key



Backset DM

FFH Sash rebate height



Distance E

K+ Case dimension top



Handle height GM

K- Case dimension bottom



Profile Front Edge



Important note

MF Multi-function latch

EV End piece

Important Information

Intended use

- › The A-TS is intended to be installed in vertical front doors, apartment doors and side doors made of PVC, timber, aluminium or steel and combinations thereof.
- › Mount all hardware parts professionally as described in this manual and observe all safety instructions.
- › In order to avoid errors in the electronics due to damaged cables, all milling/drilling in the area of the cable routing must be carefully deburred!
- › Installation and electrical installations must be carried out in accordance with these instructions. Incorrect wiring can lead to the destruction of the electronics.
- › When screwing in, make sure that the cables are not damaged by the fastening screws!
- › Before installation, ensure that all components are in perfect condition - damaged or faulty components must not be used under any circumstances. Use A-TS only in a perfect condition.
- › Power to the power supply must be switched off before all work on the A-TS and the voltage-carrying components is performed.

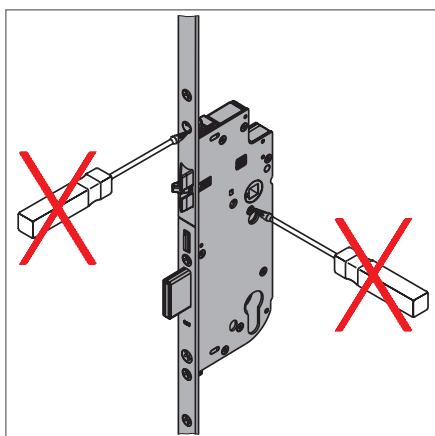
Improper use

- › The A-TS must NOT be used for escape or panic doors according to EN179 or EN1125.
- › The hardware parts described in this guide are made of stainless steel or galvanised passivated steel and sealed in accordance with DIN EN 12329. They must not be used in environments with aggressive, corrosive air content.
- › Do not use acid-curing sealants, as these can lead to corrosion of the hardware parts.

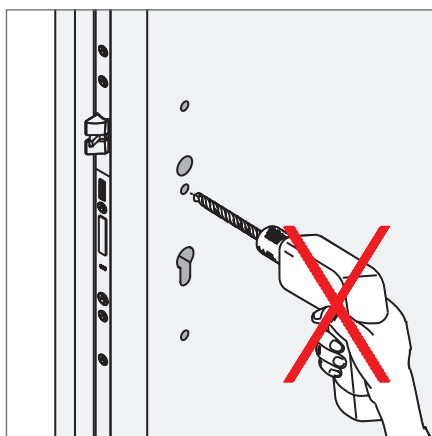
Improper assembly, misuse or unusual use, the use of system accessories not expressly approved by MACO, or modifications or repair work not expressly approved by MACO may lead to malfunctions and must be avoided. Any measures not expressly permitted by MACO shall result in the loss of all liability, warranty and, if necessary, separately agreed warranty claims.

Important Information

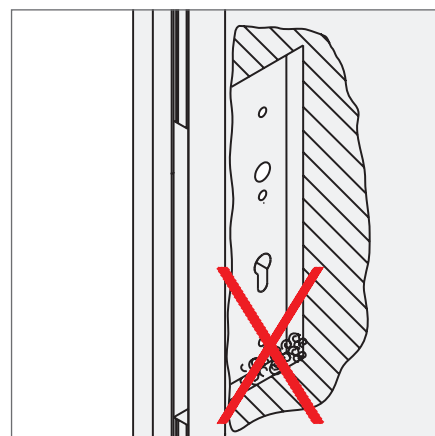
Improper use



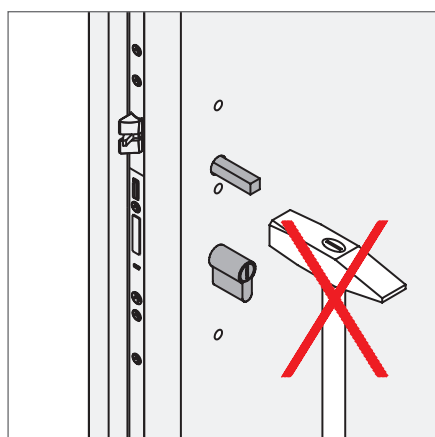
Never open the lock case!



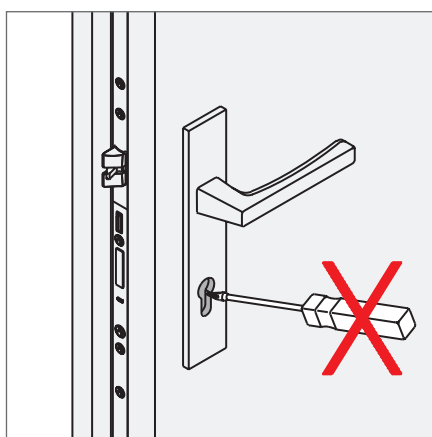
Drill all holes before installation of the lock.



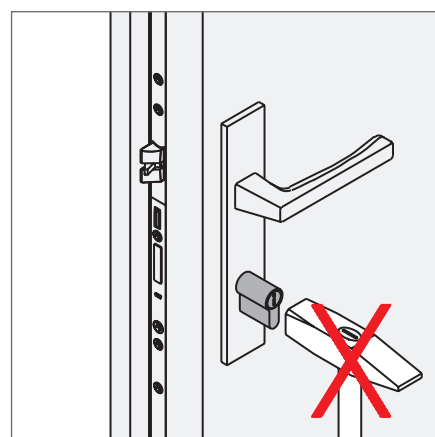
Remove swarf from the routing pockets!



Do not force the handle pin through the lock nut!



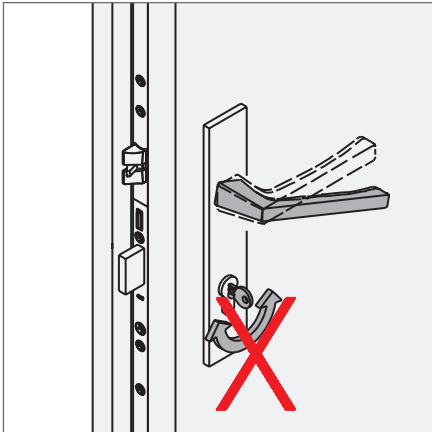
Only close the lock with the corresponding operating key!



Do not use force during the cylinder assembly!

Important Information

Improper use

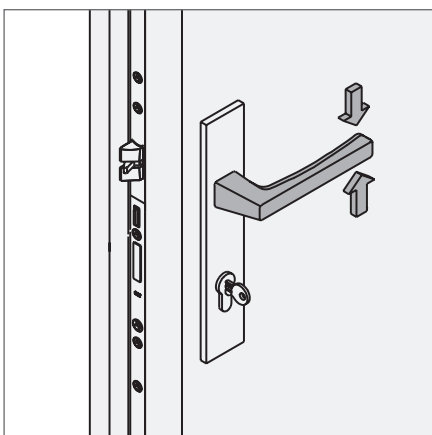


Do not simultaneously press the handle and turn the key!

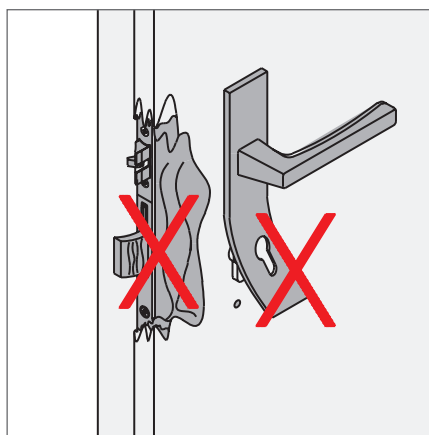


Do not turn the key using force!

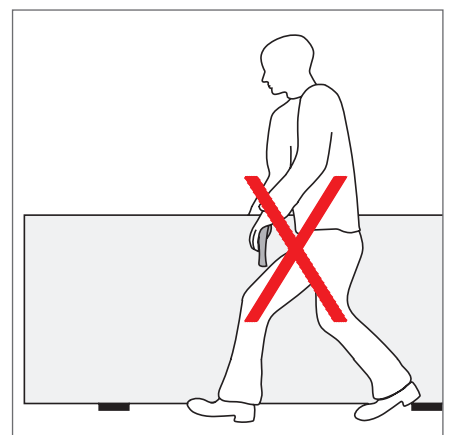
The latch of the main lock must not rub against the striker plate – this also applies to multi-point locks without door acceleration, and all latches of the side locks. For this, use the adjustment option on the striker plates and door hinges. Adjustment of the holes in the striker plates is not permitted.



Only apply load to the handle in the normal direction! Apply a maximum force of 15 kg in the direction of actuation (on the handle).



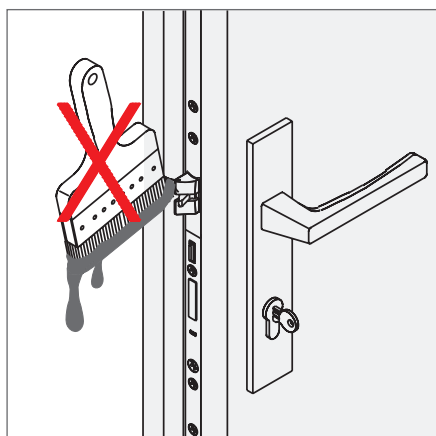
The multi-point lock must be replaced as soon as traces of use of force are visible!



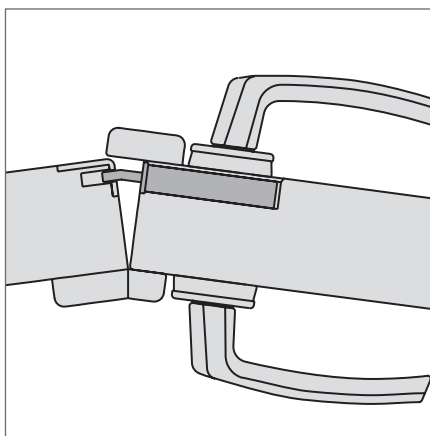
Do not carry the door leaf with the handle!

Important Information

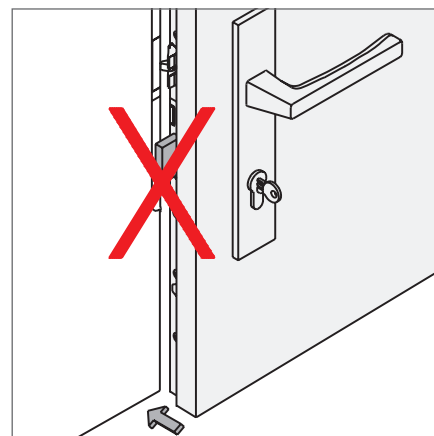
Improper use



Do not paint or varnish over the padlock bolt or latch!



Double-sash doors must not be forced over the inactive leaf!



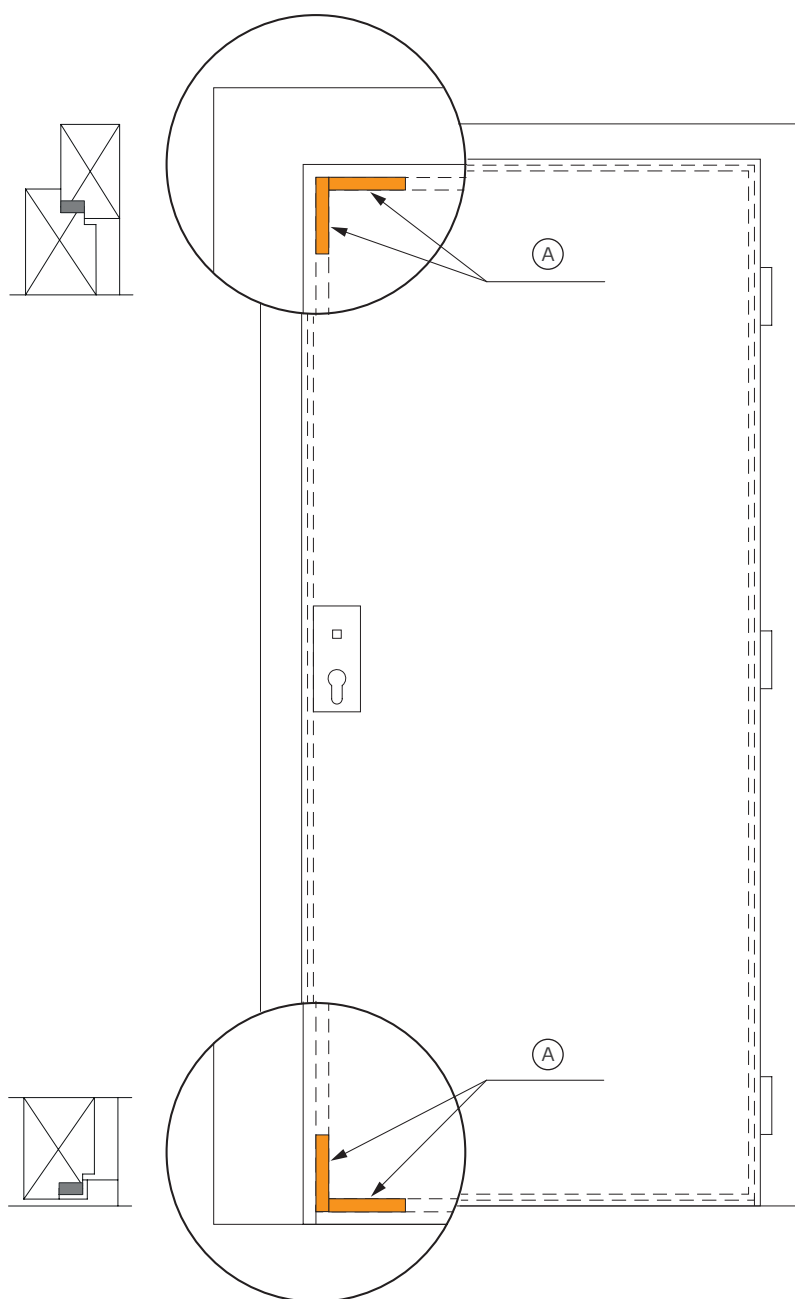
Do not lock the locking bar when the door is open!

Important Information

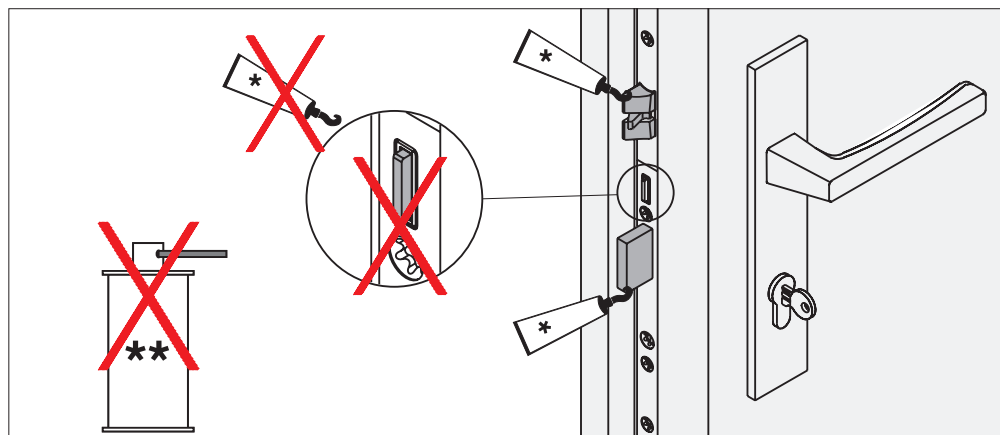
Use of transportation protection devices

Simple transport protection devices, wedges or blocks ensure a safe transport of the entire door element. Remove only after installation.

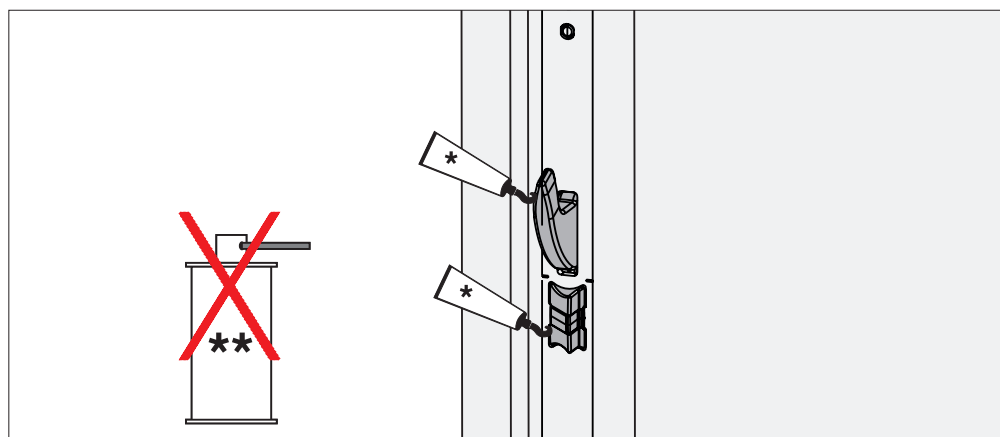
Ⓐ Transport protection device position



Maintenance



The door lock (lock case) is delivered with an intensive lubrication of high performance greases and must **NOT** be re-lubricated! Lubricate the latch and locking bolt 1x annually!



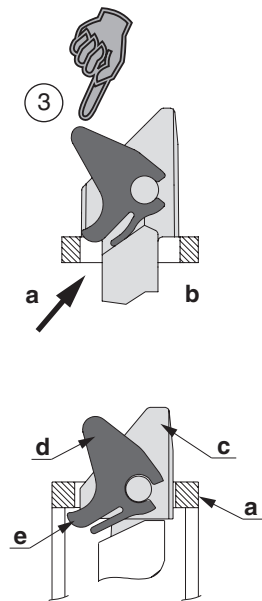
Lubricate the MF-HO locking element 1x annually!



Do not use any lubricating oils, rust remover, silicone sprays etc!
Lubricate only with grease or technical petroleum jelly!

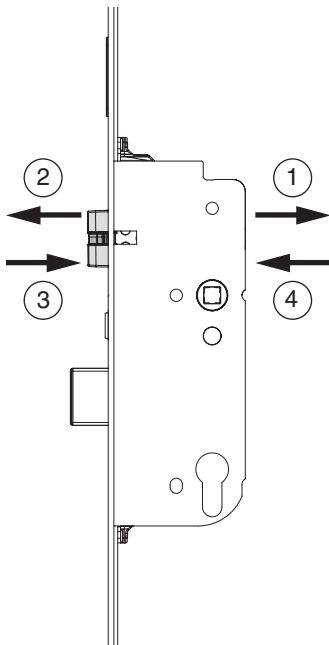
* Spray grease (455341), ** Rust remover

Latch adjustment

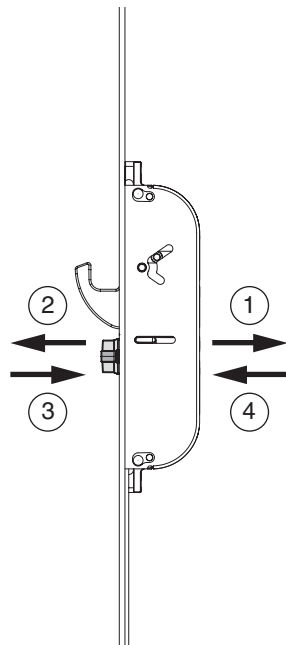


- a** = Faceplate
- b** = Faceplate recess
- c** = Latch
- d** = Latch insert
- e** = insert leg of latch insert

Centre latch



Multifunction latch



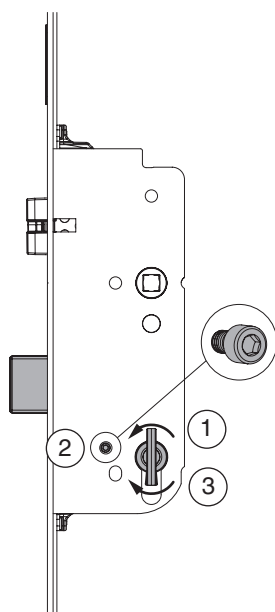
- ① Loosen the screw completely and press forward with a screwdriver!
- ② Remove the latch!
- ③ Turn the latch over and place it on the faceplate (a) so that you can press the insert leg (e) of the latch insert (d) under the faceplate recess (b).
- ④ Only then press the latch in completely! Screw in (torque min. 1.5 Nm to max. 2 Nm)!



Perform functional check!

Installation Instructions

Set lock for day release function (assembler)



Set day release function

- ① Lock
- ② Remove the day release screw
(2.5 mm hex socket)
- ③ Unlock

Manufacture delivery state

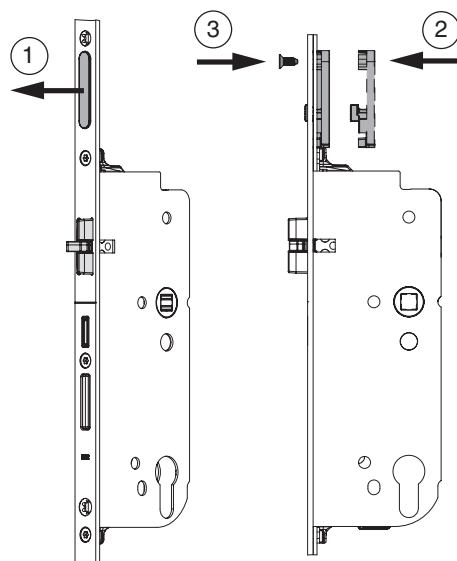
- ① Lock
- ② Insert day release screw
(2.5 mm hex socket)
- ③ Unlock



If the day release function is set, the main latch is not actuated during motorised operation (door does not automatically jump open)!

Installation Instructions

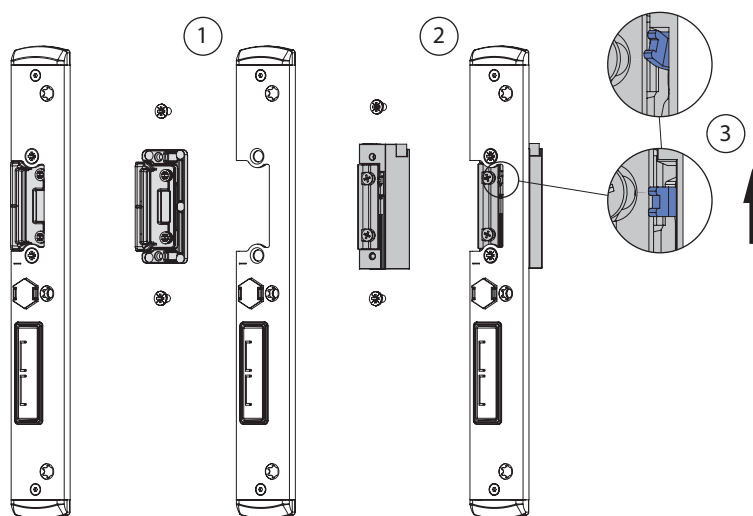
Day release element assembly on the lock (assembler)



- ① Remove the faceplate cover.
- ② Position the day release element on the back of the faceplate (directly on the latch above the lock case).
- ③ Screw on the day release element with the attached TX20 M4x10 screw on the front of the faceplate!

Installation Instructions

MACO day release opener assembly on the striker plate (assembler)

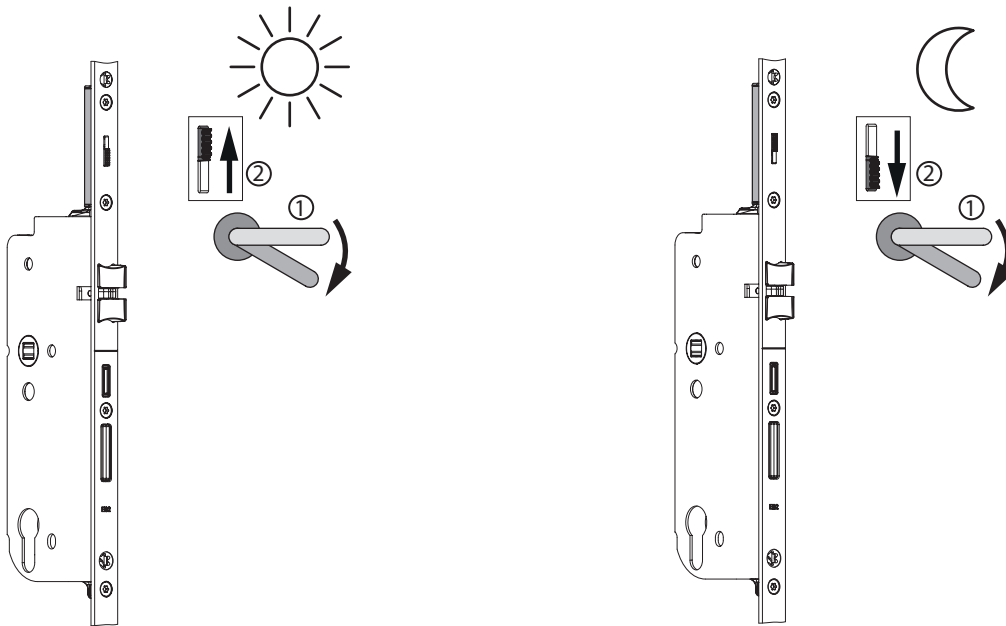


- ① Remove the latch insert.
- ② Assemble the MACO day release opener.
- ③ Activate the mechanical unlocking on the day release opener using the lever*.

* Mechanical unlocking can remain activated as the day release function is controlled by the day release slider on the lock (see "Day Release Function" user manual, page 16).

Installation Instructions

Day release function user manual (end customer)



Activate day release function

- ① Press the handle so that the locking element and the Multifunction latch are pulled in!
- ② Slide the day release slider upwards, release the handle!

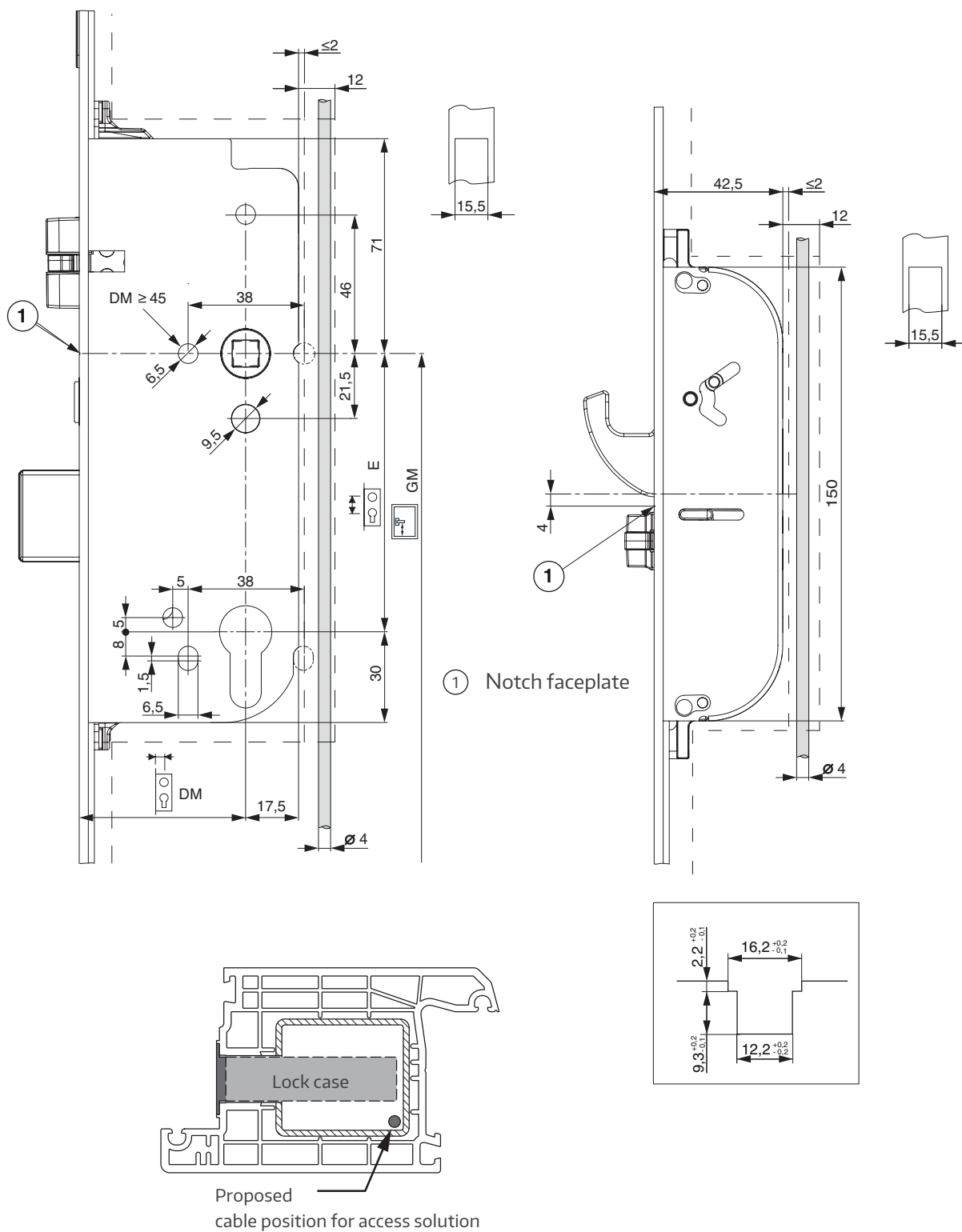
Deactivate day release feature

- ① Press the handle so that the locking element and the multifunction latch are pulled in!
- ② Slide the day release slider downwards!

The A-TS basic function, automatic locking, is restored!

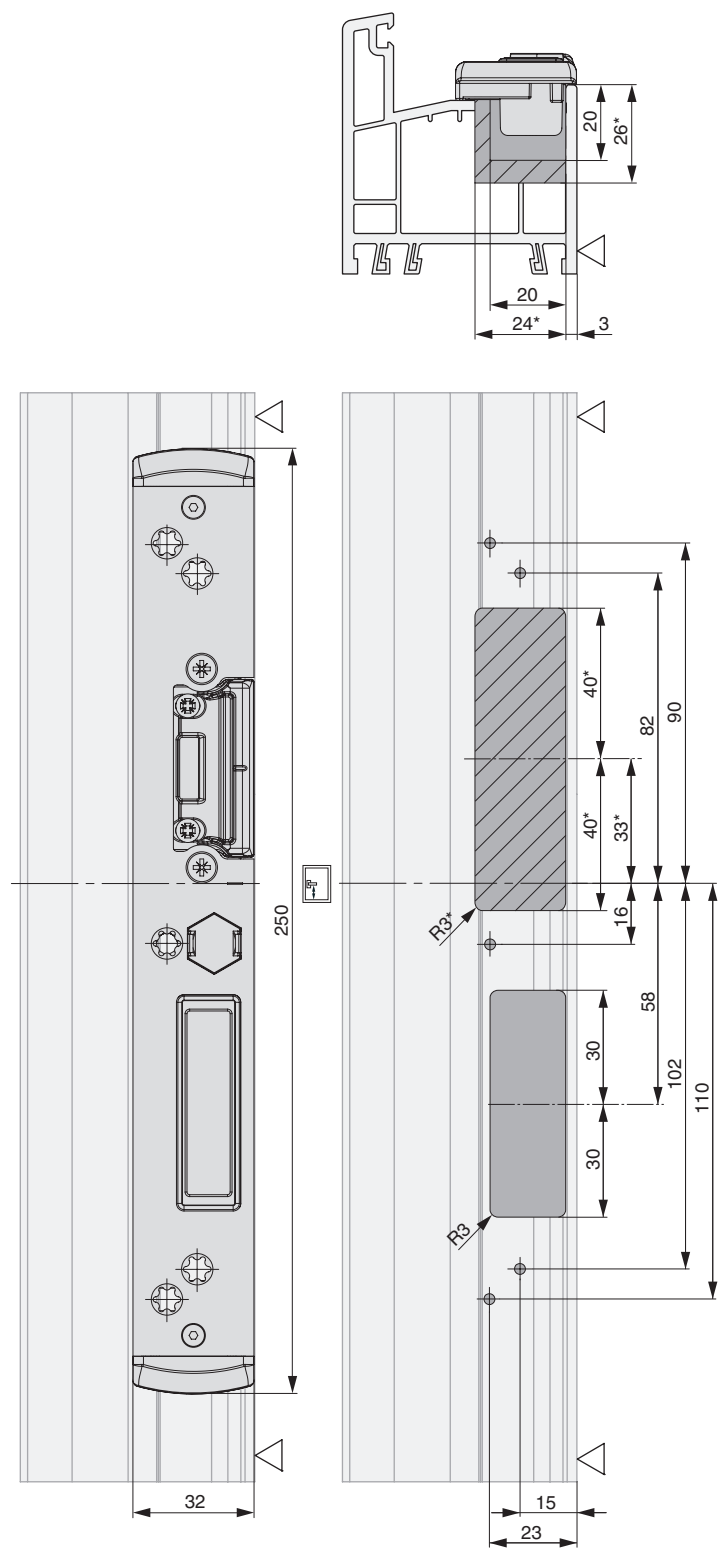
Drilling and routing patterns

Lock case and multifunction latch with hook lock



Drilling and routing patterns

Latch and dead bolt striker plate

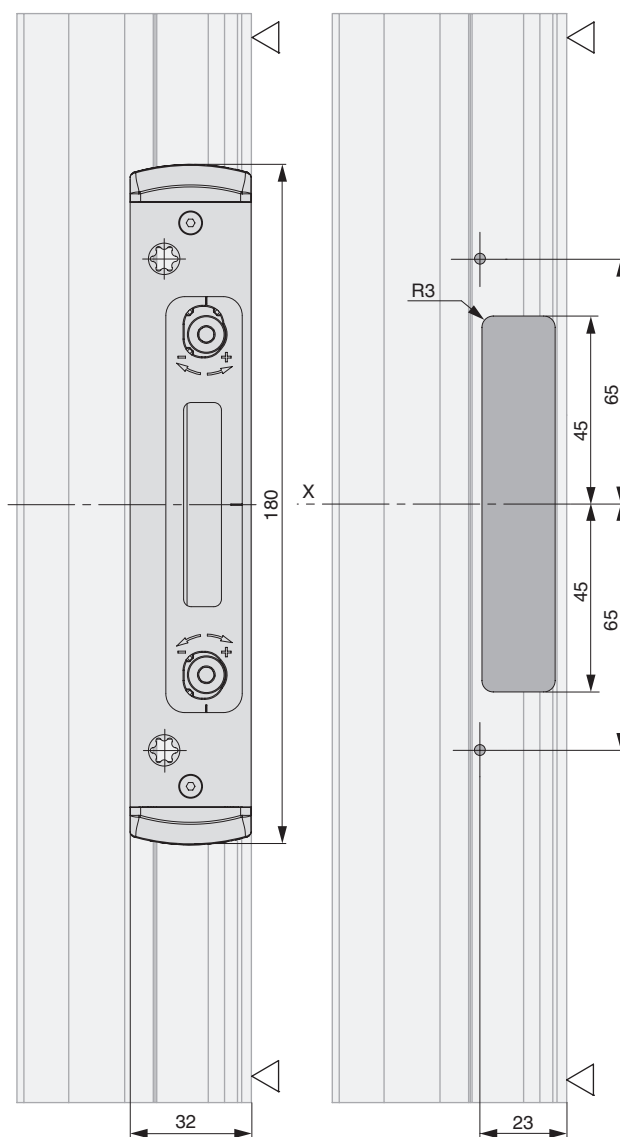
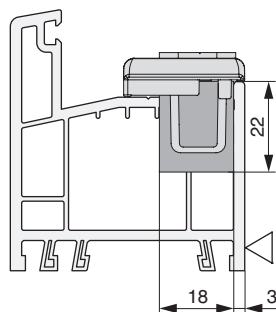


*Routing pattern E-Opener

Drilling and routing patterns

Multifunction hook striker plate

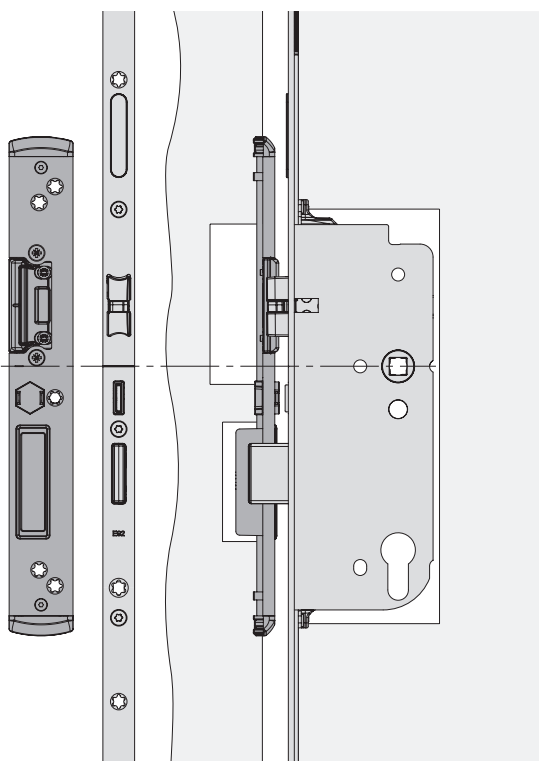
	X
	2 MF-HO
	+726
↑	
↓	0
	-764



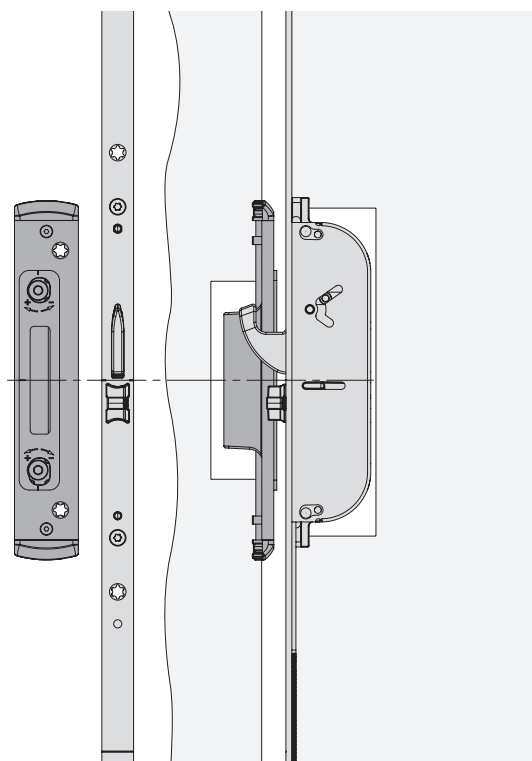
Positioning of the striker plates

Positions

Latch and dead bolt striker plate



Striker plate, multifunction latch with hook



Gasket compression adjustment:

+/- 2 mm with latch and dead bolt striker plate

+/- 1.5 mm with MF-HO striker plate

Positioning of notch faceplate = notch strike plate

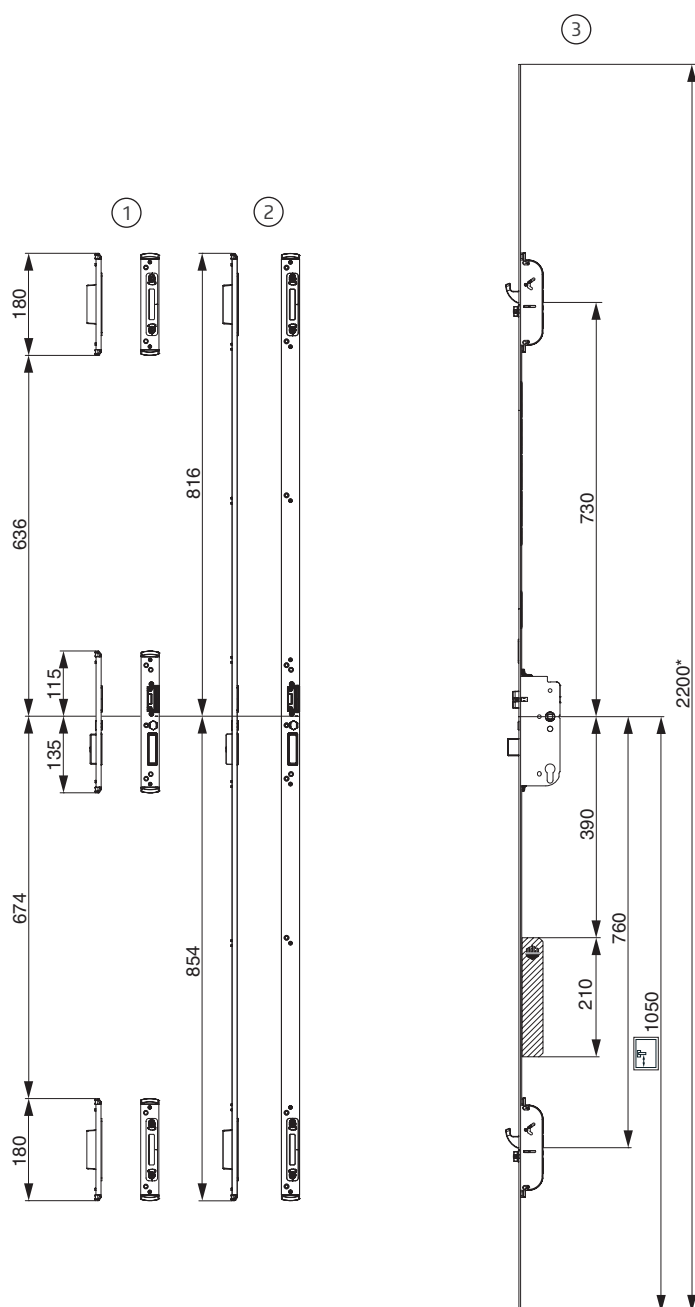


A rebate gap of 10 - 14 mm must be kept in the installed state!

Positioning of the striker plates

2 multifunction latch with hooks, Standard K+730, single sash

- ① Single striker plate
- ② Single piece door striker
- ③ Lock



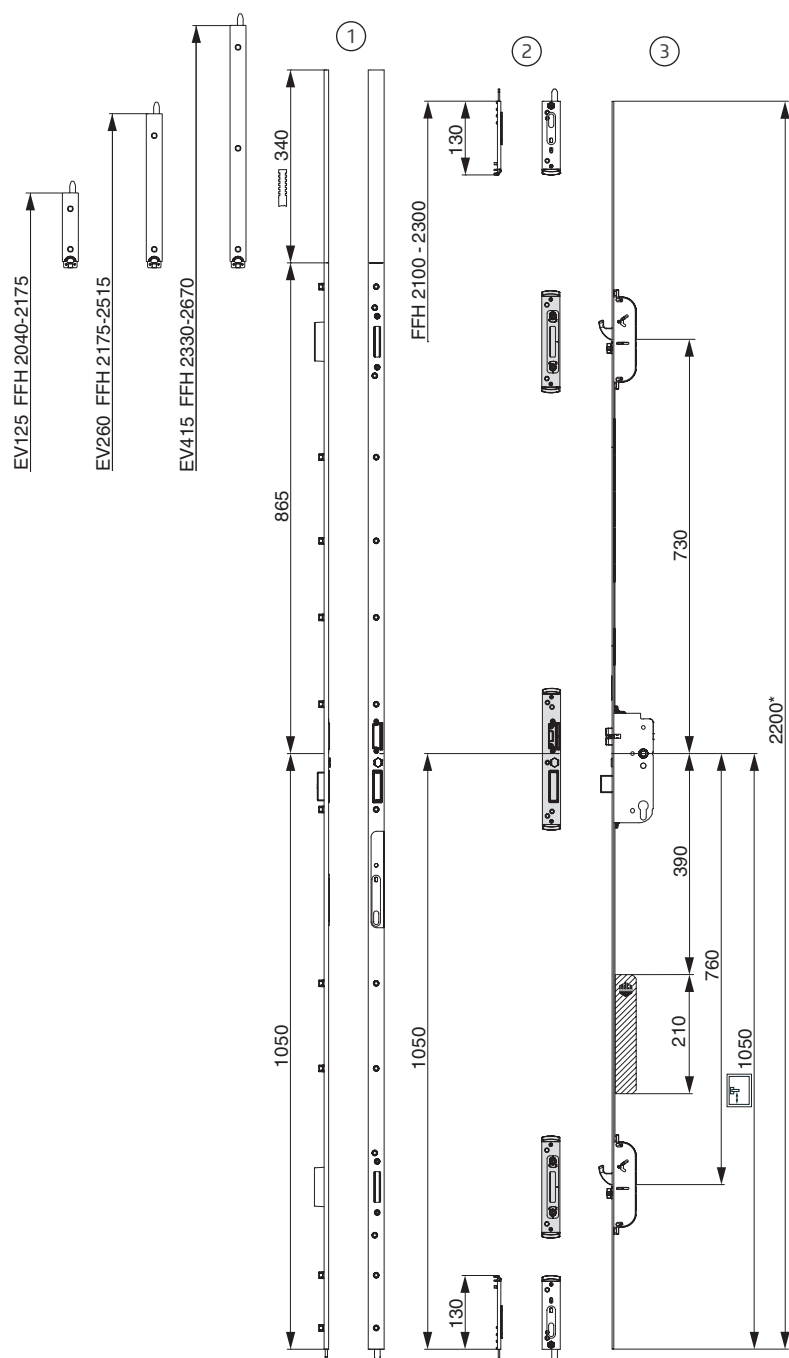
 Drive for motorised opening

* Use faceplate strip cover for higher FFH!

Positioning of the striker plates

2 multifunction latch with hooks, Standard K+730, double sash

- ① French casement drive gear
- ② Finger operated door shootbolt
- ③ Lock



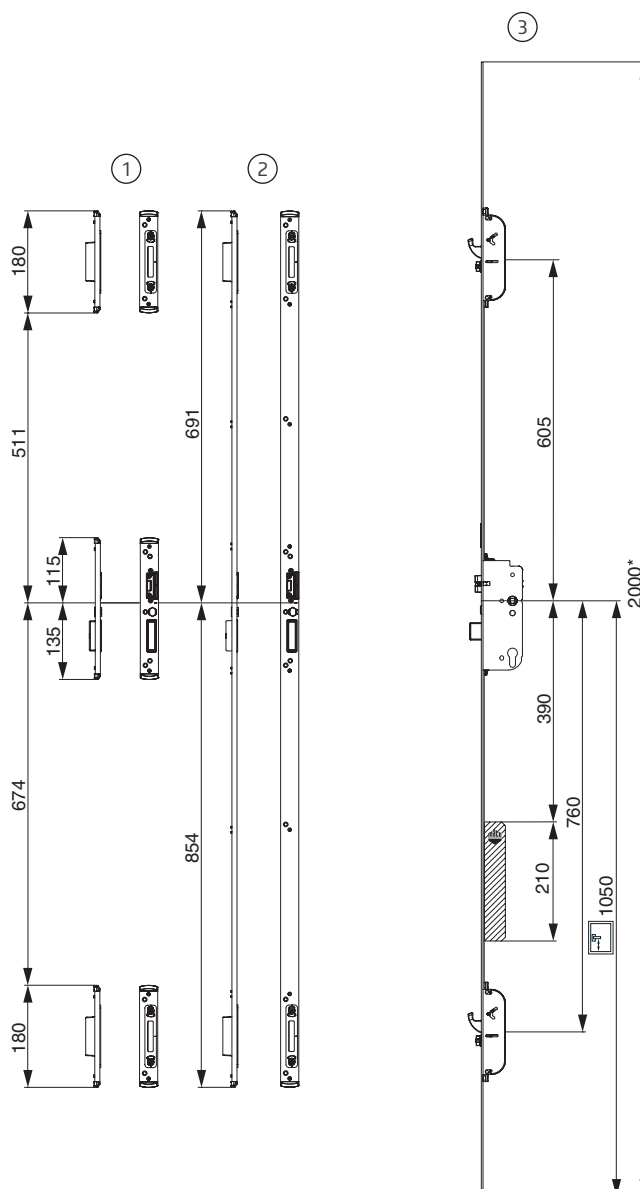
 Drive for motorised opening

* Use faceplate strip cover for higher FFH!

Positioning of the striker plates

2 multifunction latch with hooks, Low K+605, single sash

- ① Single striker plate
- ② Single piece door striker
- ③ Lock



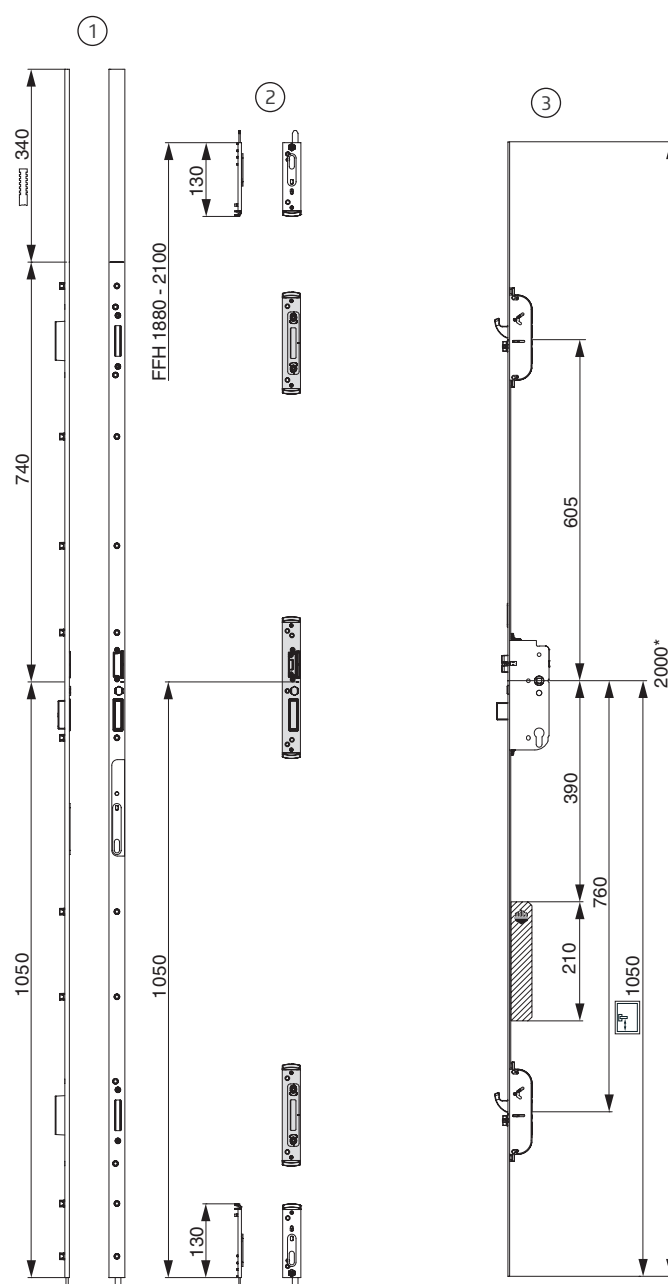
 Drive for motorised opening

* Use faceplate strip cover for higher FFH!

Positioning of the striker plates

2 multifunction latch with hooks, Low K+605, double sash

- ① French casement drive gear
- ② Finger operated door shootbolt
- ③ Lock



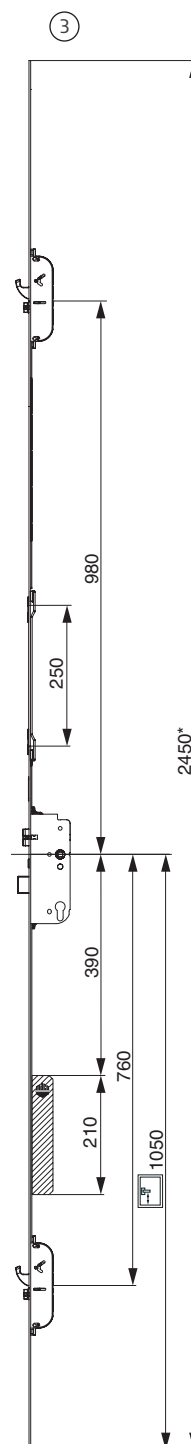
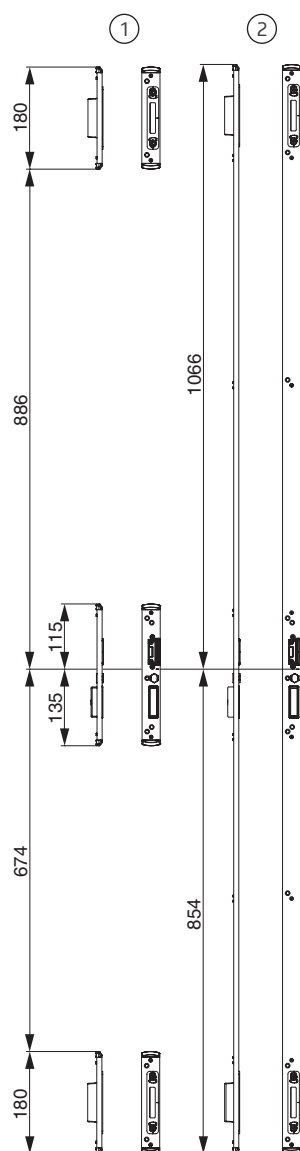
 Drive for motorised opening

* Use faceplate strip cover for higher FFH!

Positioning of the striker plates

2 multifunction latch with hooks, High K+980, single sash

- ① Single striker plate
- ② Single piece door striker
- ③ Lock



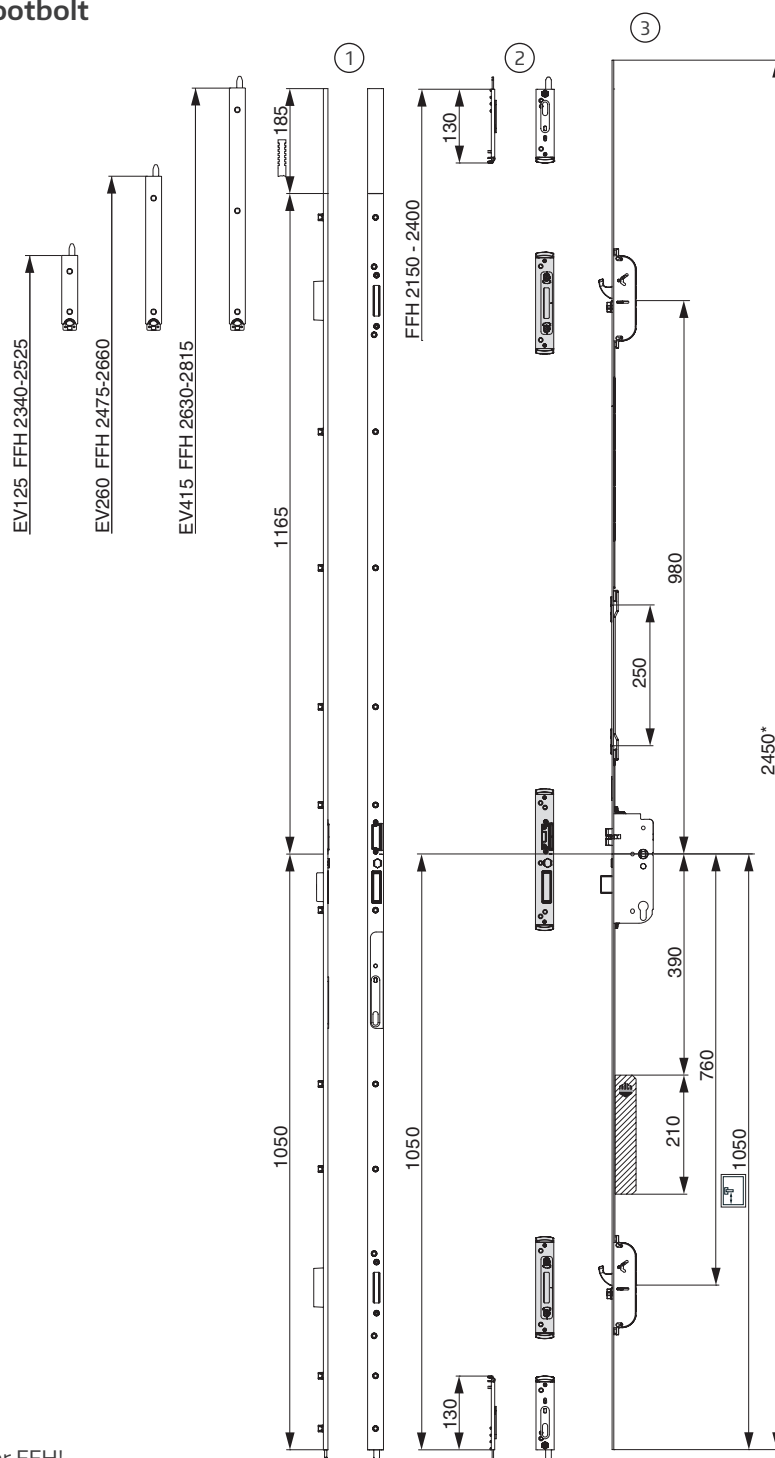
 Drive for motorised opening

* Use faceplate strip cover for higher FFH!

Positioning of the striker plates

2 multifunction latch with hooks, High K+980, double sash

- ① French casement drive gear
- ② Finger operated door shootbolt
- ③ Lock



 Drive for motorised opening

* Use faceplate strip cover for higher FFH!

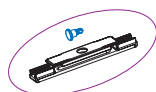
Lengthening/shortening of the A-TS K+730

Module without additional locking point



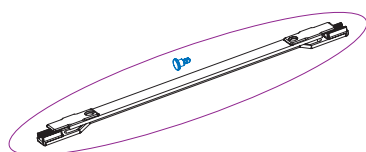
⇒ Only possible with A-TS K+730 module!

⇒ When using the lengthening or shortening faceplate, the standard eurogroove must be used!



Shortening faceplate pack

Contents: 1 pc. fixing bolt with shortening faceplate and deadbolt

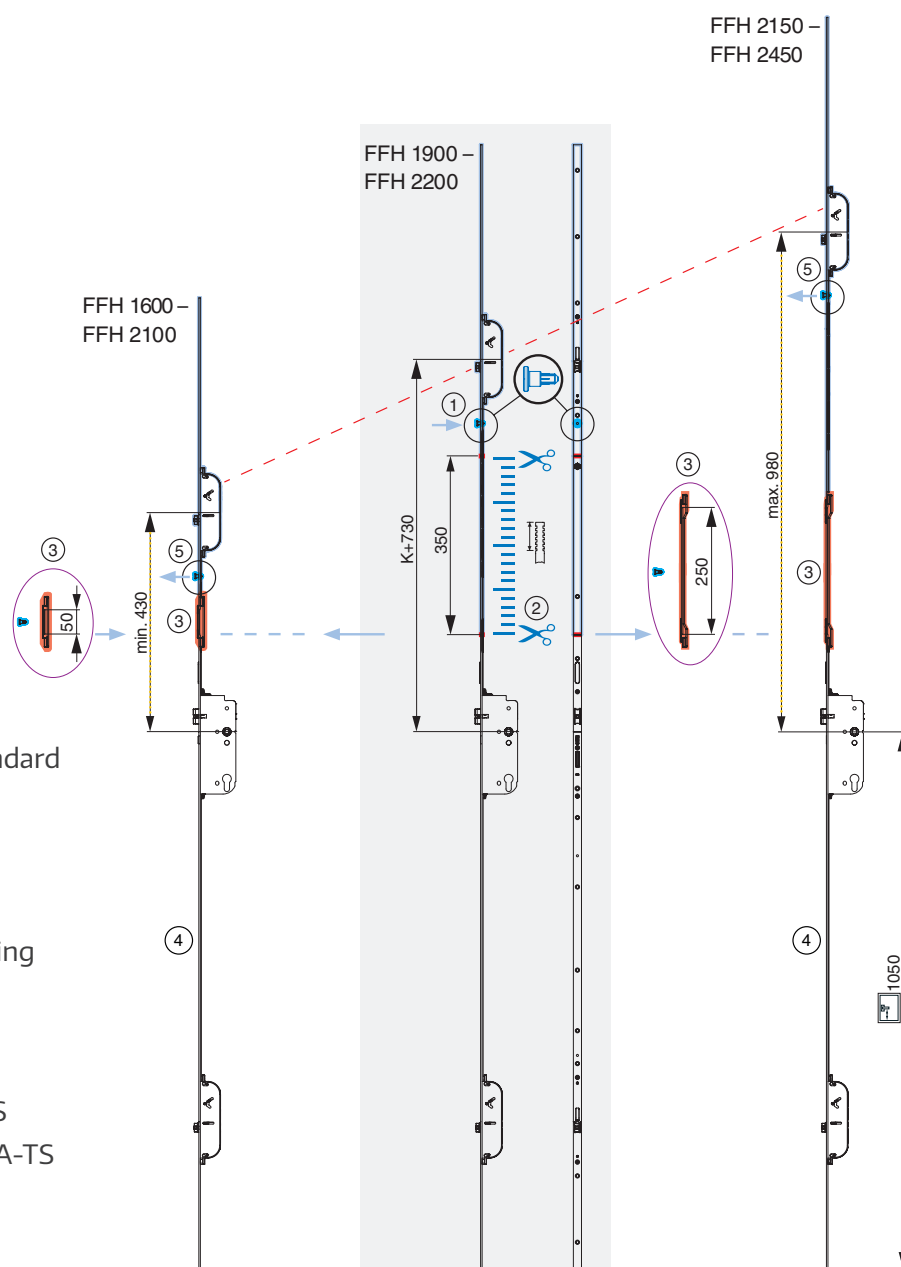


Lengthening faceplate pack

Contents: 1 pc. fixing bolt with lengthening faceplate and deadbolt

- ① Remove the fixing bolts on Standard A-TS pre-place K+730 Module
- ② Separate the faceplate and deadbolt.
- ③ Use the shortening or lengthening faceplate.
- ④ Screwing the entire faceplate.
- ⑤ Remove the fixing bolts on A-TS intermediate faceplate and the A-TS K+730 Module.

⇒ Perform functional testing!



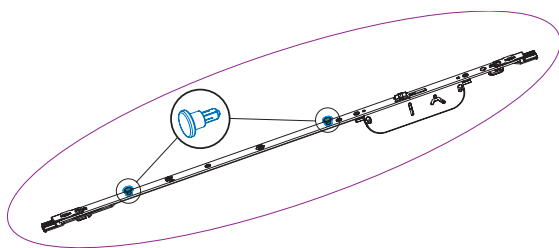
Extension of the A-TS K+730

Module with additional locking point



⇒ Only possible with A-TS K+730 module!

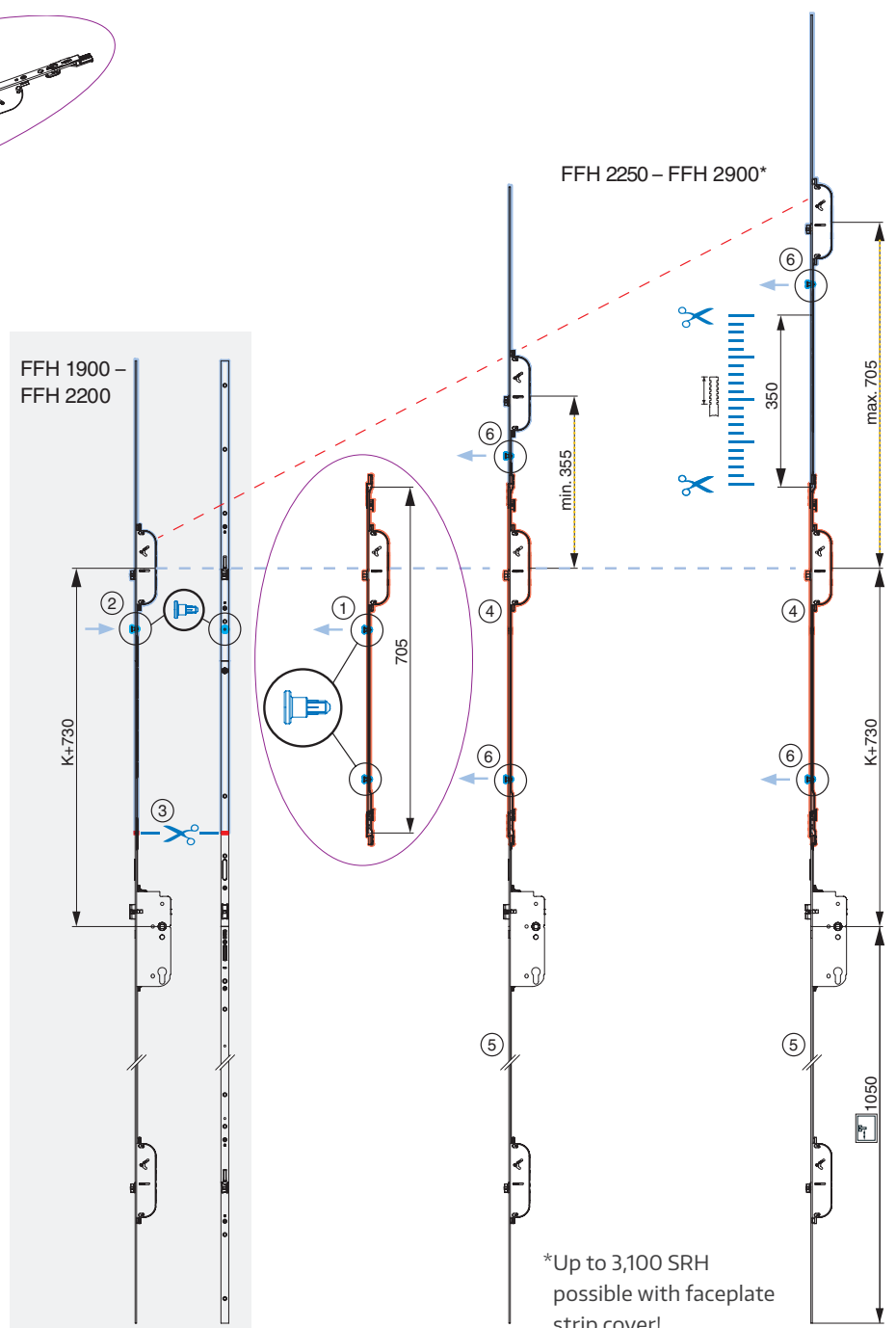
⇒ When using the A-TS intermediate faceplate module, the standard eurogroove must be used!



The A-TS intermediate faceplate module is delivered with two pre-inserted fixing pins!

- ① Remove 1 of the fixing pins from the intermediate faceplate.
- ② Remove the fixing bolts on the Standard A-TS K+730 module.
- ③ Separate the faceplate and deadbolt.
- ④ Insert the A-TS intermediate faceplate with the pre-fitted fixing pins.
- ⑤ Screw in the entire faceplate.
- ⑥ Remove the fixing bolts on the A-TS intermediate faceplate and on the A-TS K+730 module.

⇒ Perform functional testing!





VdS certification pertains only to the mechanical part of the multi-point lock.

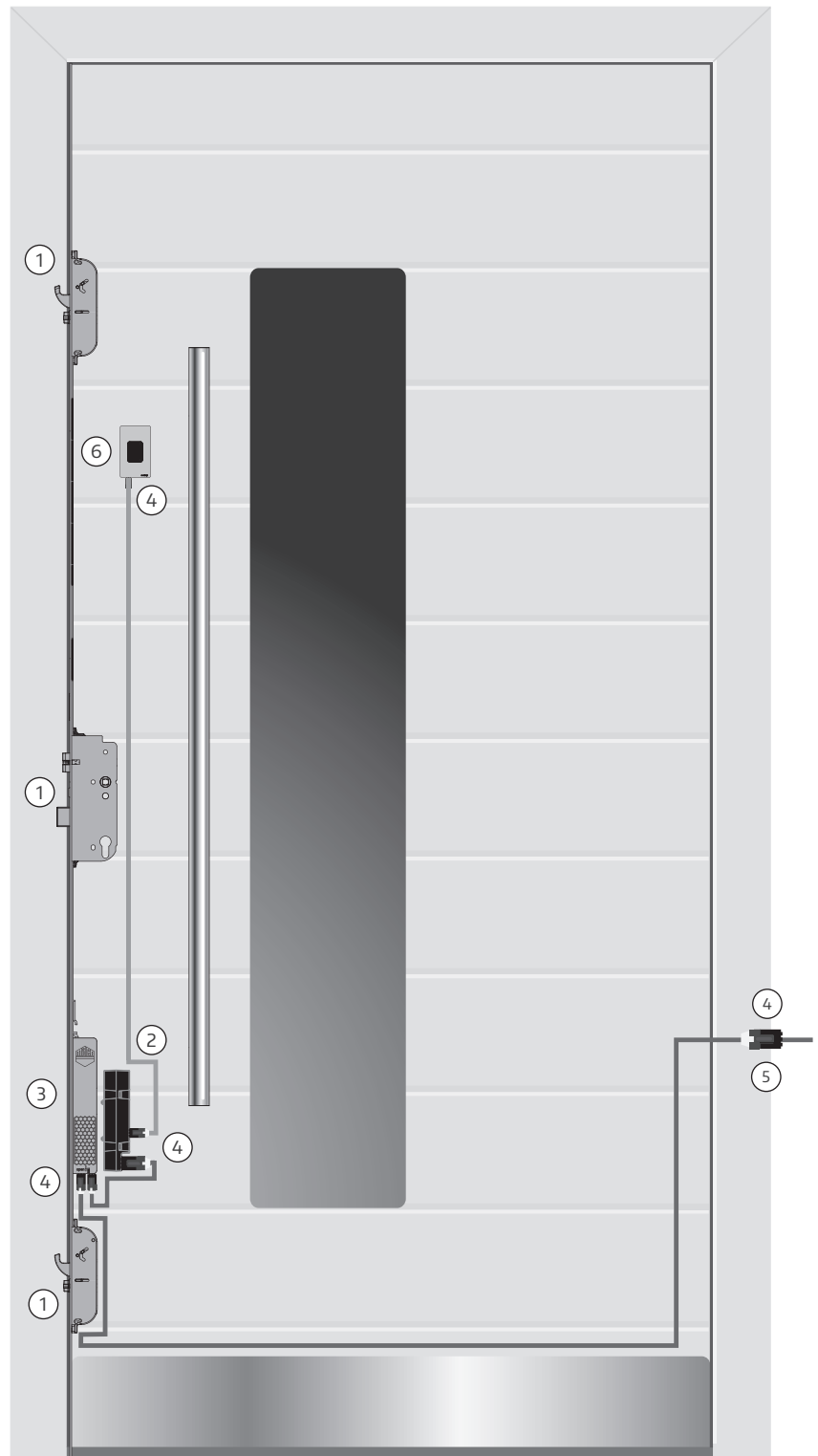
Access solutions and interfaces listed below are not included in the VdS certification!



Access solutions & interfaces

Overview

- ① **3-latch door lock with opening motor**
High security thanks to self-locking of steel hooks and locking latch.
- ② **Tamper-proof**
Control unit protected from unauthorised access.
- ③ Maximum comfort and safety thanks to **motorised locking and unlocking**.
- ④ **Plug & Play**
Simple, non-mistakable plug-in connection.
- ⑤ **EASY mounting and de-mounting** of the door thanks to plug-in cable transition.
- ⑥ **openDoor Touchkey dLine**

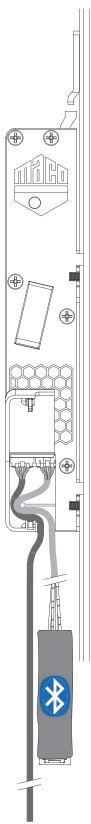


Access solutions & interfaces

Connection options BLE module for control via MACO SMARTPHONE APP

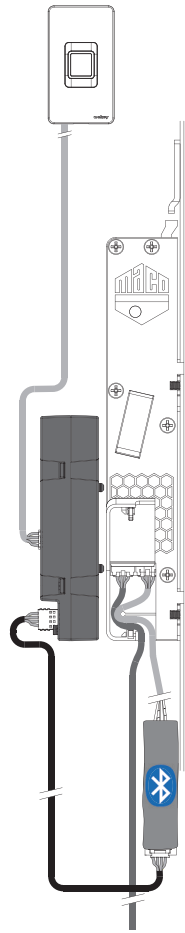
Option 1:

Connection to a free slot on the motor



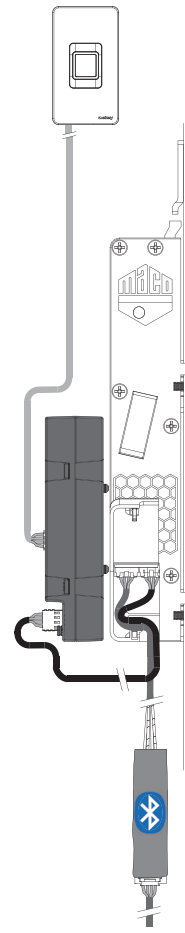
Option 2:

Connection between access control and motor



Option 3:

Connection between cable transition (6 m / 10 m) and motor



The INSTINCT App is available free of charge for iOS and Android.

It is easy to install, activate with the admin card QR code and off you go.

No complicated web-based programming is required.



Access solutions & interfaces

Transponder Plus, Keypad and Touchkey

Cable installation - cable transition 6 m / 10 m external installation length /
1.5 m, 2.5 m, 4.5 m in the door leaf

Plug & Play connection motor to:

- (A) Cable transition
- (B) Access Solution
- (C) ⚡ Power supply**
- (D) Loop for tension release



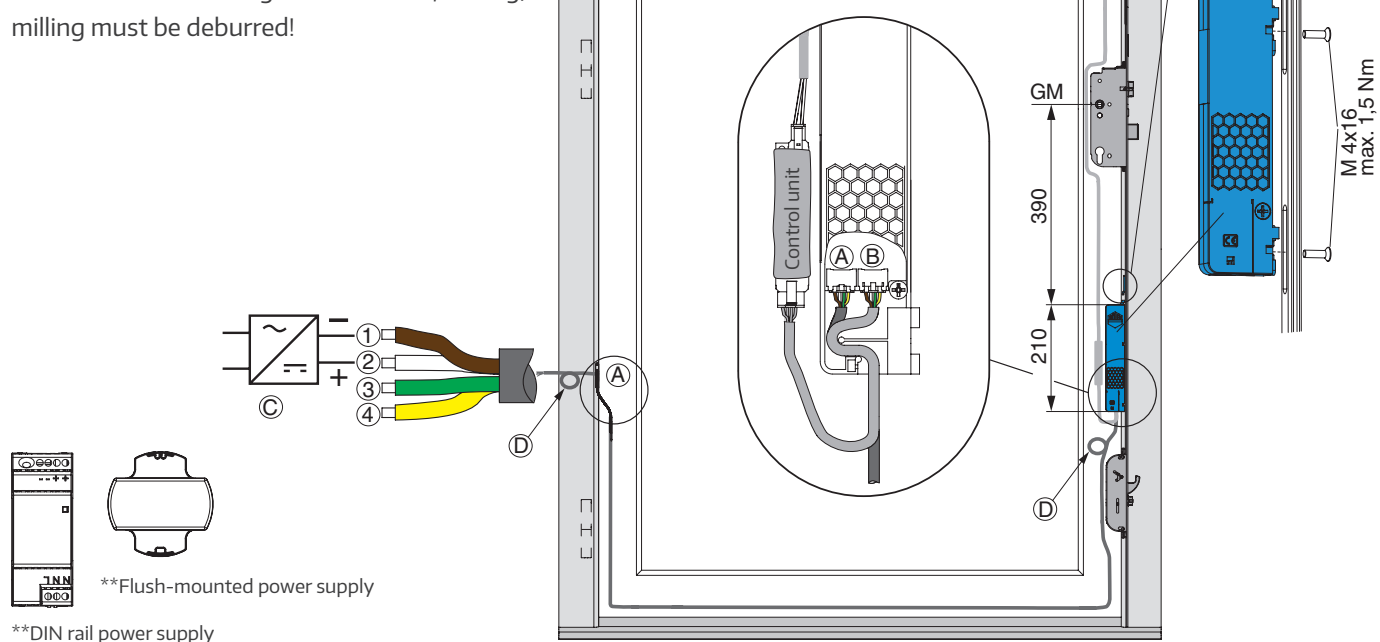
Electrical connections (connection of power supply, connection cable 6 m and 10 m) may only be carried out by authorised personnel!

Plug & Play connector / cable installation

- (1) Brown: motor operating voltage minus -
- (2) White: motor operating voltage plus +
- (3) Green: control voltage* minus -
- (4) Yellow: control voltage* plus +
- ((3) + (4) Potential-free input)

*The control voltage is required for push-button (button impulse) and toggle switch (activation/deactivation of day-release)! See page 35/36.

In order to avoid damage to the cables, drilling/
milling must be deburred!



**It is recommended to use the A-TS for motorised opening only with the power supply units that have been tested and approved for this purpose. These are designed for an input voltage of 220-240 V / 50-60 Hz and provide an output voltage of 24 V DC 1A with dynamic overcurrent 3A for 500 ms/ 7A for 100 ms. Alternatively, third-party products must have an output voltage of 12 - 24 V DC with min. 1.5A.

Access solutions & interfaces

Touchkey dLine

Cable installation - cable transition 6 m / 10 m external installation length /
1.5 m, 2.5 m, 4.5 m in the door leaf

Plug & Play connection motor to:

- (A) Cable transition
- (B) Access Solution
- (C) ⚡ Power supply**
- (D) Loop for tension release

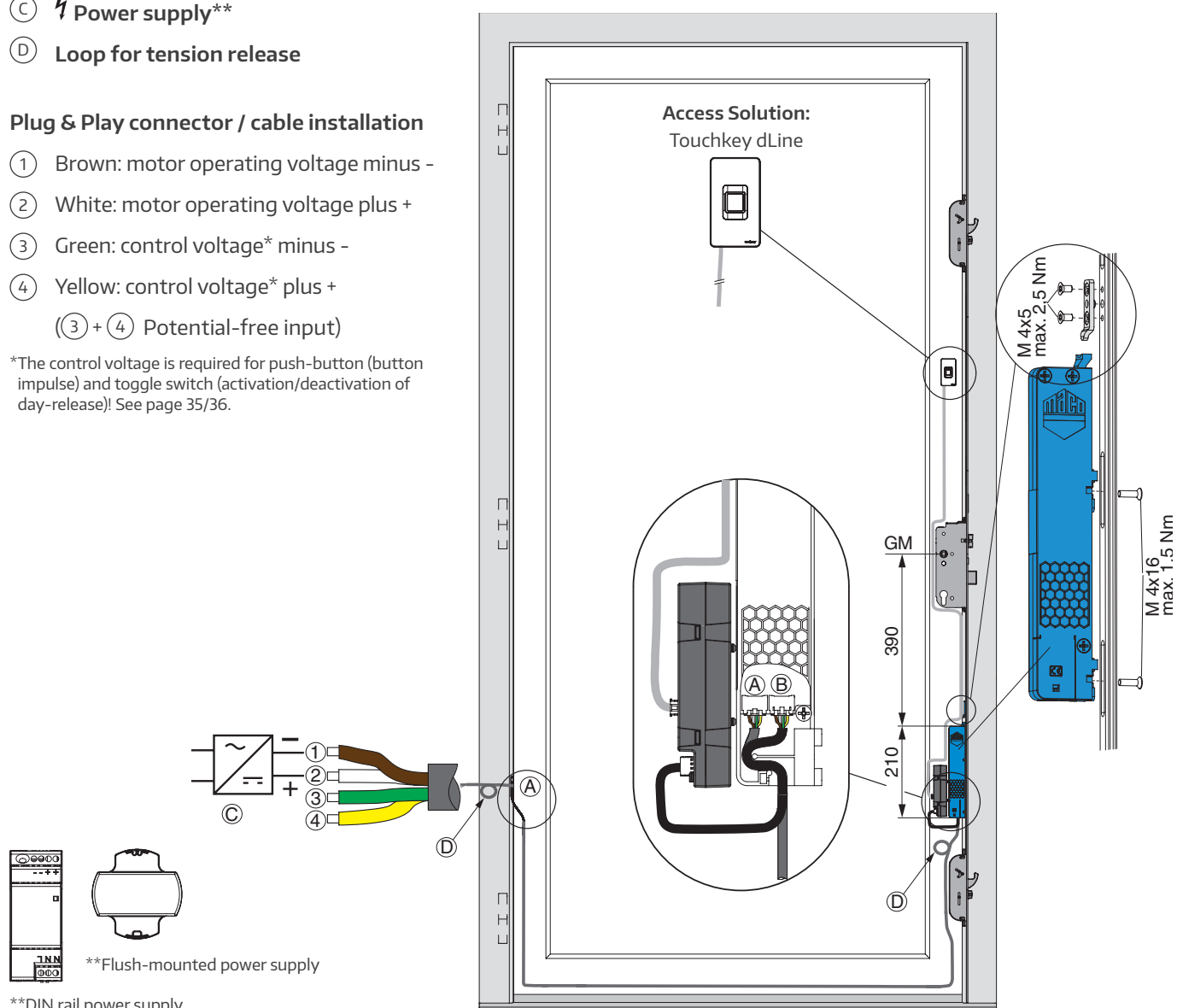
Plug & Play connector / cable installation

- (1) Brown: motor operating voltage minus -
- (2) White: motor operating voltage plus +
- (3) Green: control voltage* minus -
- (4) Yellow: control voltage* plus +
- ((3) + (4) Potential-free input)

*The control voltage is required for push-button (button impulse) and toggle switch (activation/deactivation of day-release)! See page 35/36.



Electrical connections (connection of power supply, connection cable 6 m and 10 m) may only be carried out by authorised personnel!



**It is recommended to use the A-TS for motorised opening only with the power supply units that have been tested and approved for this purpose. These are designed for an input voltage of 220-240 V / 50-60 Hz and provide an output voltage of 24 V DC 1A with dynamic overcurrent 3A for 500 ms/ 7A for 100 ms. Alternatively, third-party products must have an output voltage of 12 - 24 V DC with min. 1.5A.

Access solutions & interfaces

Somfy Smart lock controller

Cable installation - cable transition 10 m external installation length / 2,5 m in the door leaf

Plug & Play connection motor to:

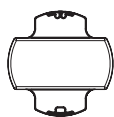
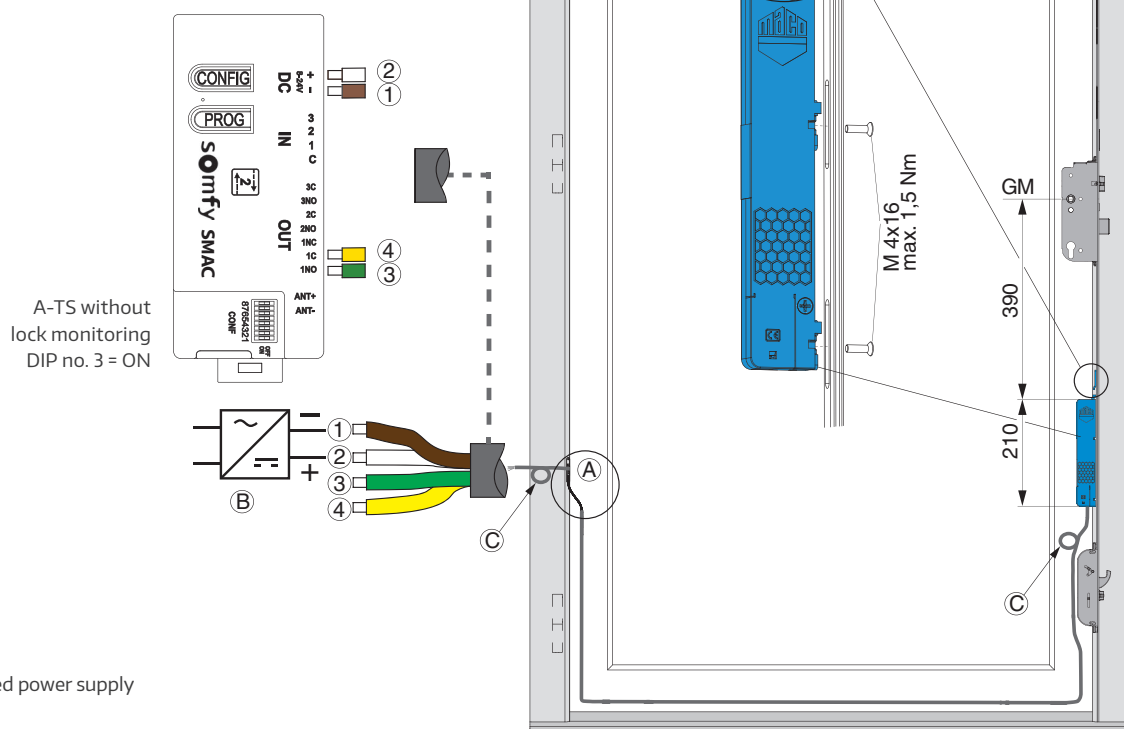
- Ⓐ Cable transition
- Ⓑ ⚡ Power supply**
- Ⓒ Loop for tension release



Electrical connections (connection of power supply, connection cable 6 m and 10 m) may only be carried out by authorised personnel!

Plug & Play connector / cable installation:

- ① Brown: motor operating voltage minus -
- ② White: motor operating voltage plus +
- ③ Green: control voltage* minus -
- ④ Yellow: control voltage* plus +
- (③ + ④) Potential-free input



**Flush-mounted power supply

**DIN rail power supply

**It is recommended to use the A-TS for motorised opening only with the power supply units that have been tested and approved for this purpose. These are designed for an input voltage of 220-240 V / 50-60 Hz and provide an output voltage of 24 V DC 1A with dynamic overcurrent 3A for 500 ms/ 7A for 100 ms. Alternatively, third-party products must have an output voltage of 12 - 24 V DC with min. 1.5A.

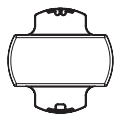
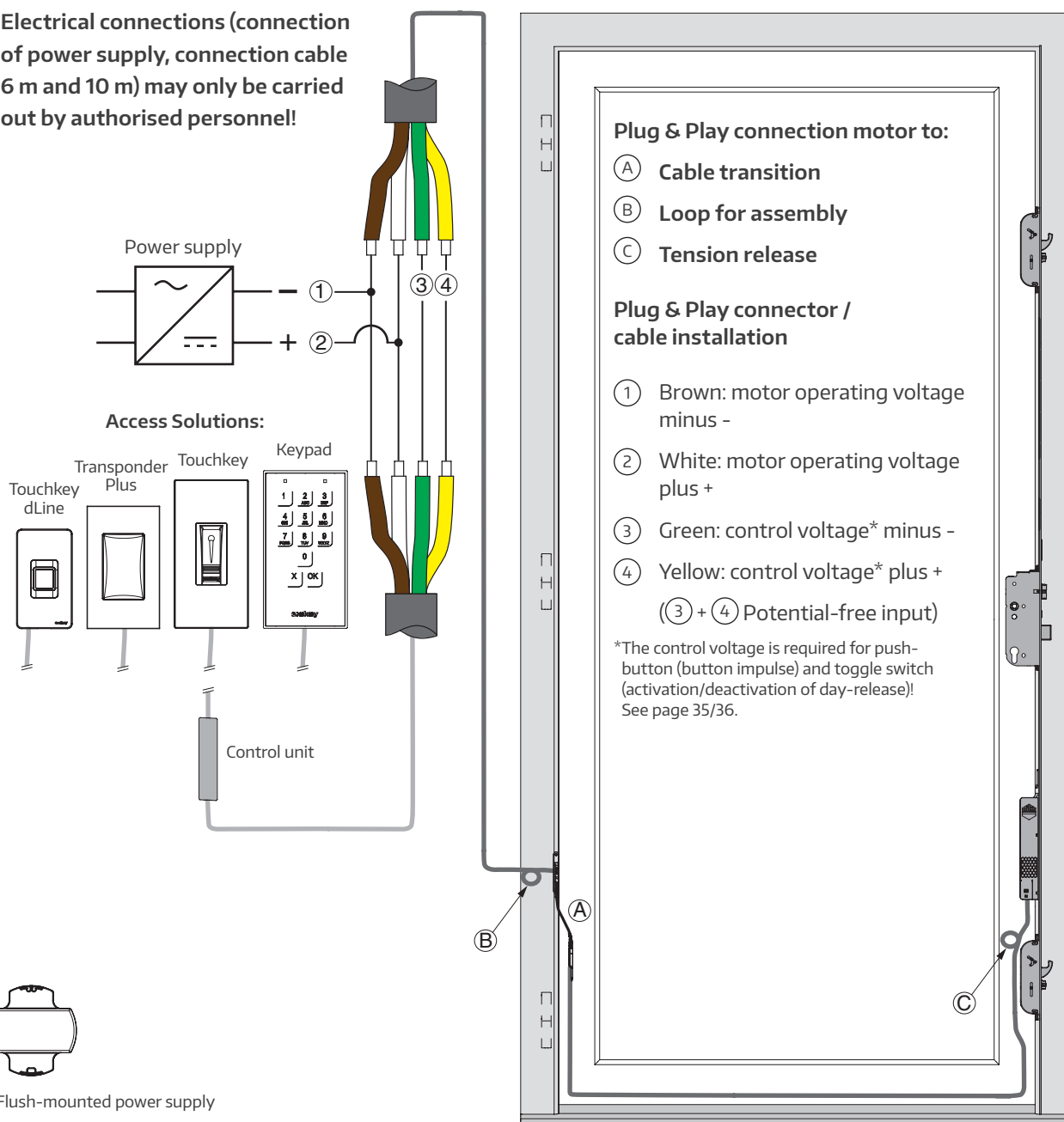
Access solutions & interfaces

Circuit diagram frame-side

Cable installation - cable transition 6 m / 10 m external installation length /
1.5 m, 2.5 m, 4.5 m in the door leaf



Electrical connections (connection of power supply, connection cable 6 m and 10 m) may only be carried out by authorised personnel!



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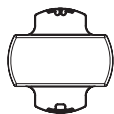
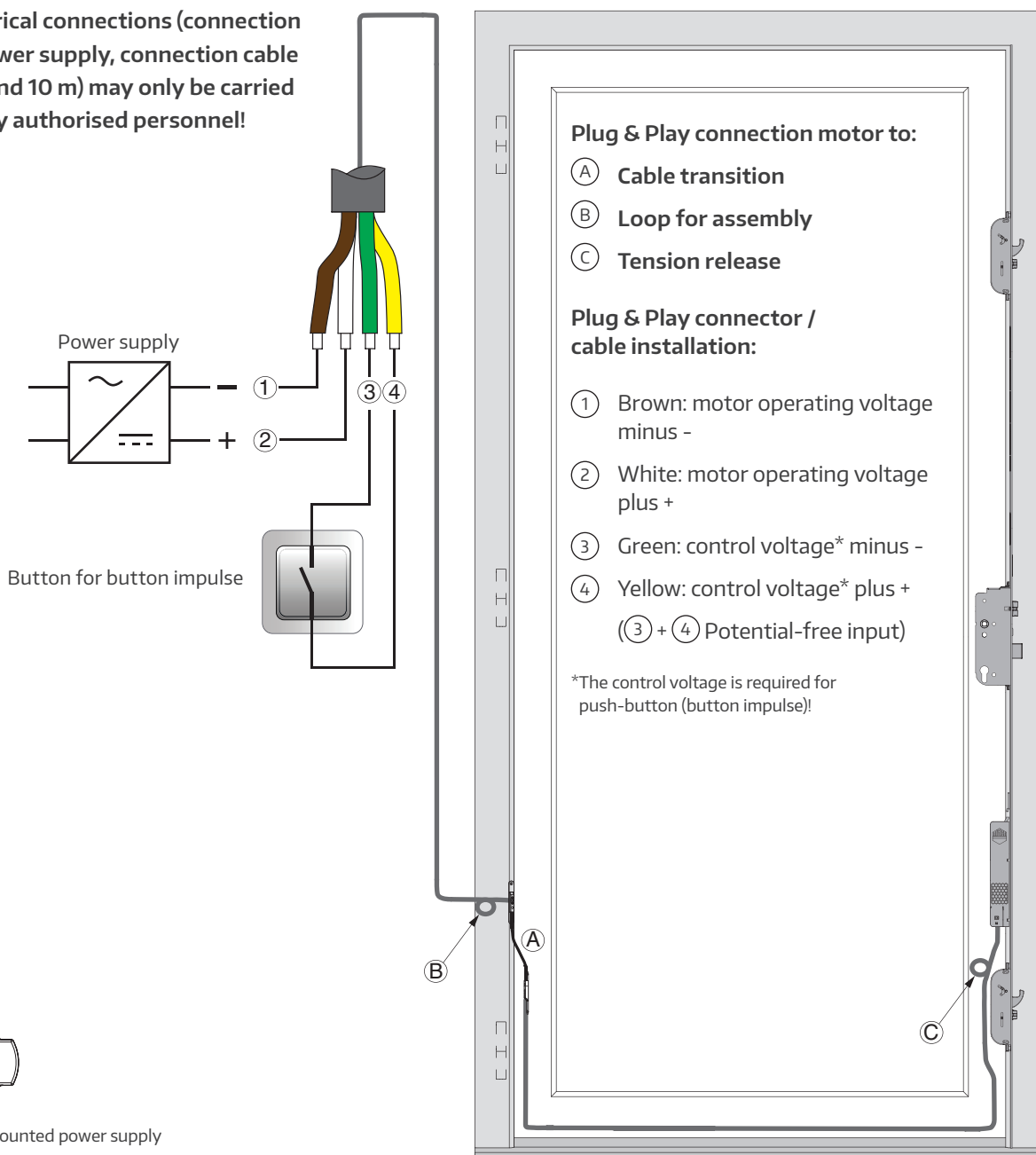
Access solutions & interfaces

Circuit diagram button impulse

Cable installation - cable transition 6 m / 10 m external installation length /
1.5 m, 2.5 m, 4.5 m in the door leaf



Electrical connections (connection of power supply, connection cable 6 m and 10 m) may only be carried out by authorised personnel!



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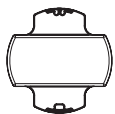
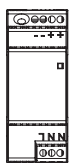
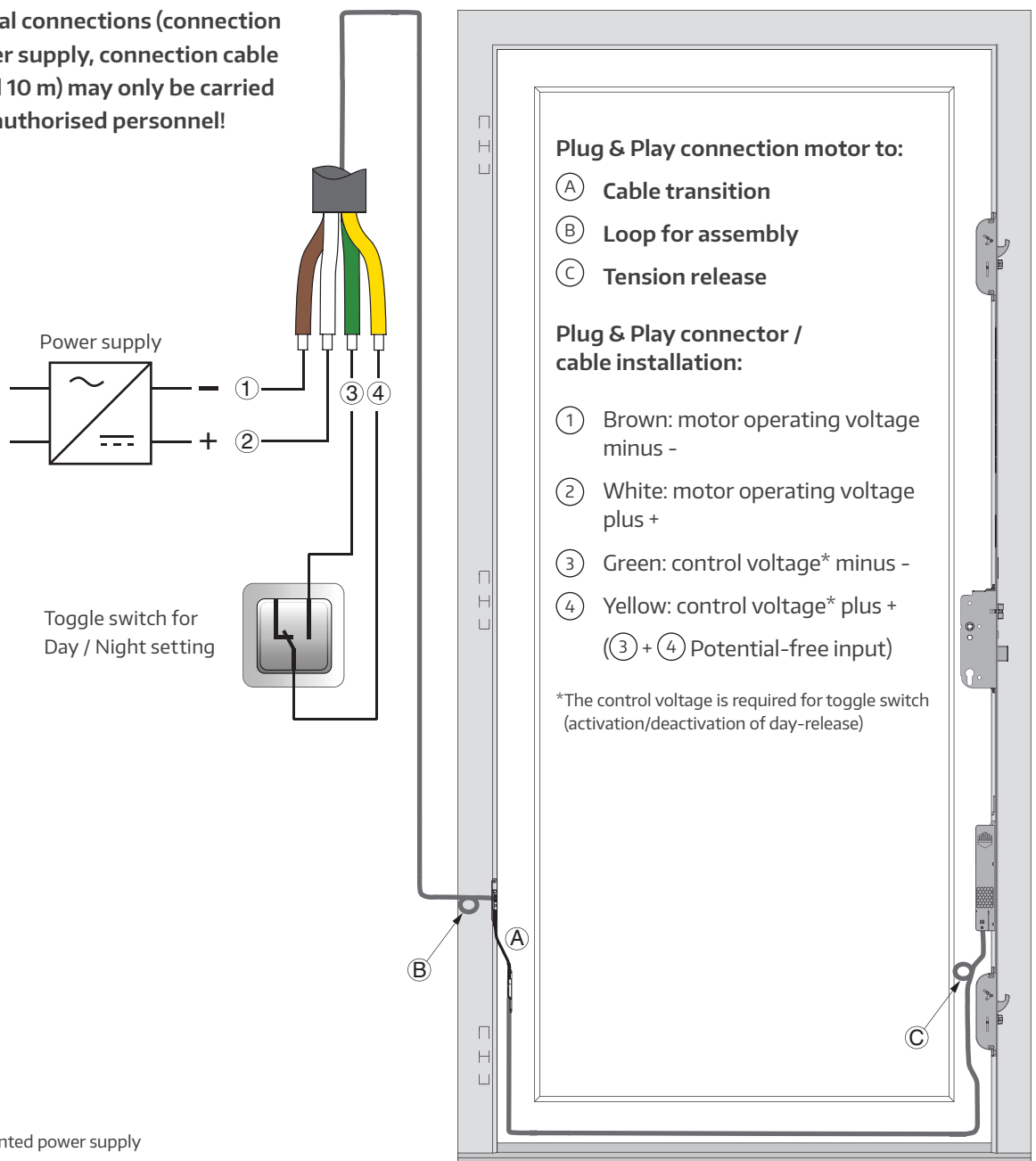
Access solutions & interfaces

Circuit diagram toggle switch (motorised day release)

Cable installation - cable transition 6 m / 10 m external installation length /
1.5 m, 2.5 m, 4.5 m in the door leaf



Electrical connections (connection of power supply, connection cable 6 m and 10 m) may only be carried out by authorised personnel!



**Flush-mounted power supply

**DIN rail power supply

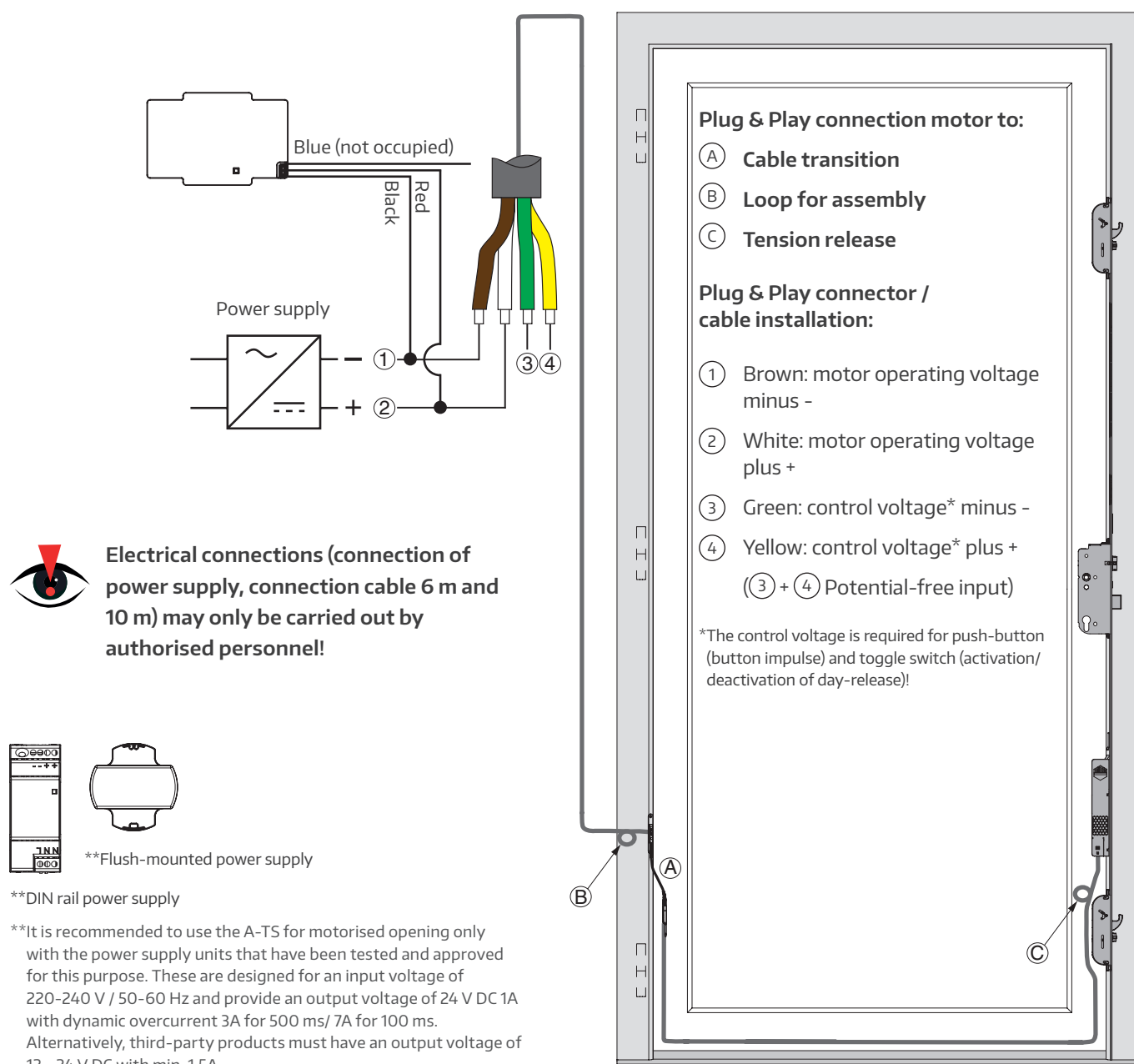
**It is recommended to use the A-TS for motorised opening only with the power supply units that have been tested and approved for this purpose. These are designed for an input voltage of 220-240 V / 50-60 Hz and provide an output voltage of 24 V DC 1A with dynamic overcurrent 3A for 500 ms/ 7A for 100 ms. Alternatively, third-party products must have an output voltage of 12 - 24 V DC with min. 1.5A.

Access solutions & interfaces

Connection plan UPS (uninterruptible power supply)

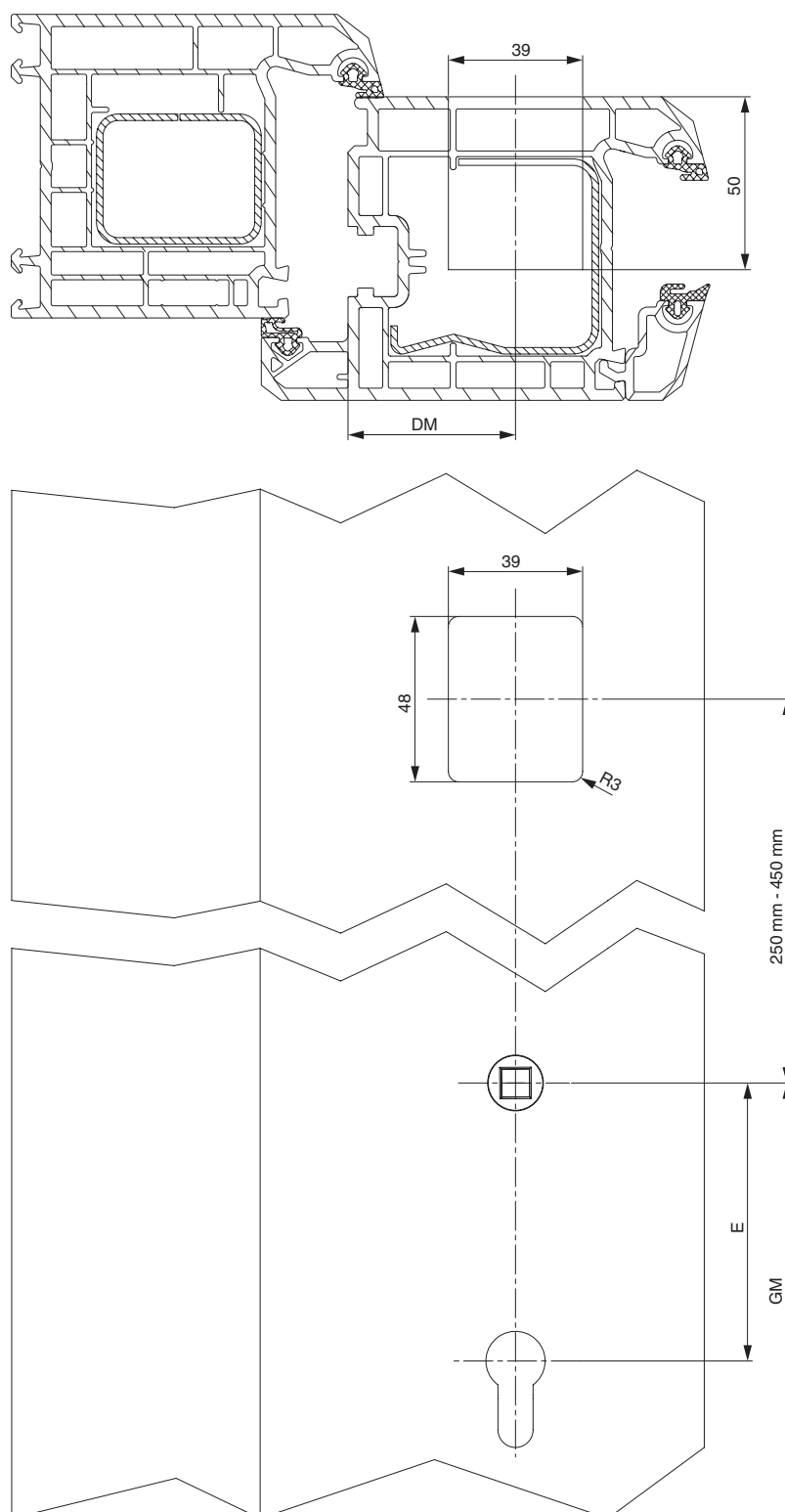
The use of the MACO UPS (Art. No. 480987) is recommended by MACO and bridges common, short-term power outages without functional restrictions. The bridging time depends on the actual system configuration. Should the unlikely event occur that a power failure occurs during a motorised opening or closing process, the mechanics may block. With the UPS, the lock moves to the desired position. Without a UPS, the M-TS can be operated manually by means of a key or handle (from the inside) in the event of a power failure in the closed or open state.

IMPORTANT! For UPS operation, at least one additional user (BLE module, access control,...) must be connected. Otherwise, the UPS will fall into standby mode and will NOT be active in the event of a power failure.



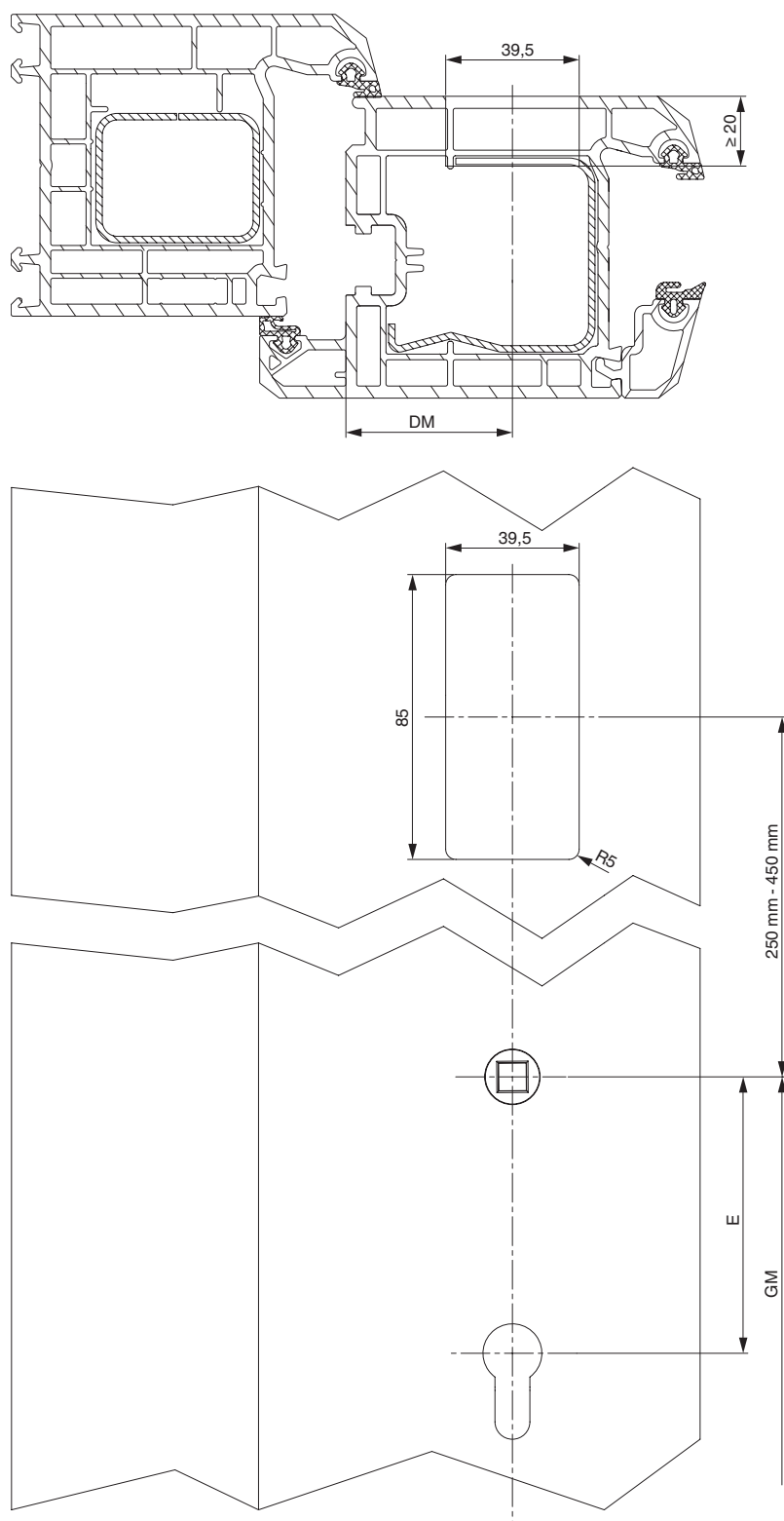
Access solutions & interfaces

Routing patterns Transponder plus



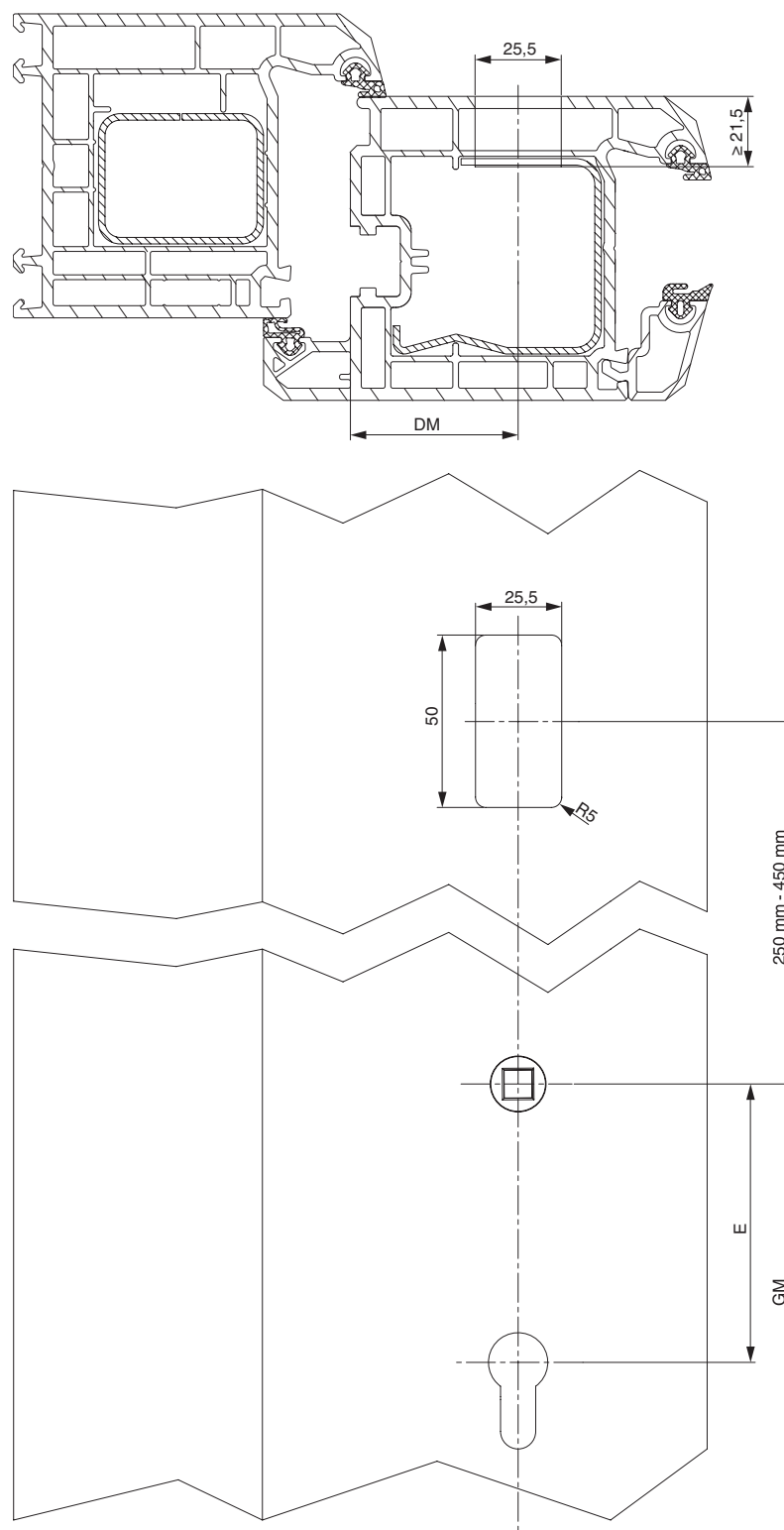
Access solutions & interfaces

Routing patterns Keypad / Touchkey



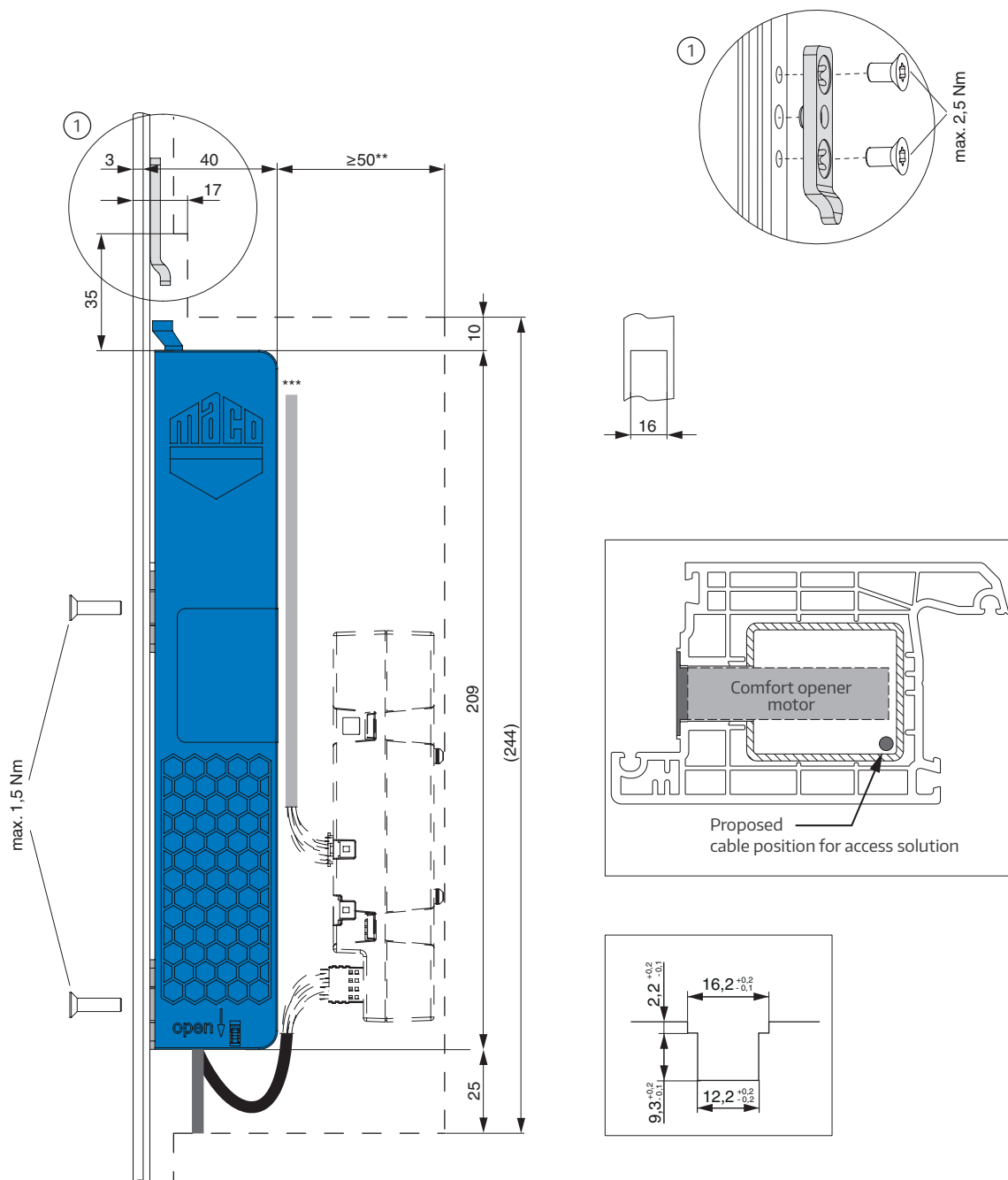
Access solutions & interfaces

Routing patterns Touchkey dLine



Access solutions & interfaces

Routing patterns including mounting plate and motor assembly



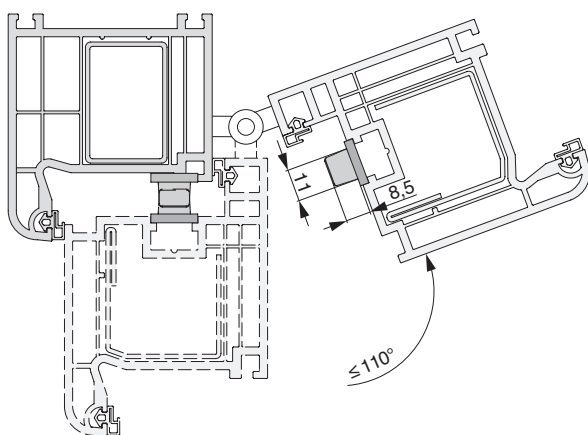
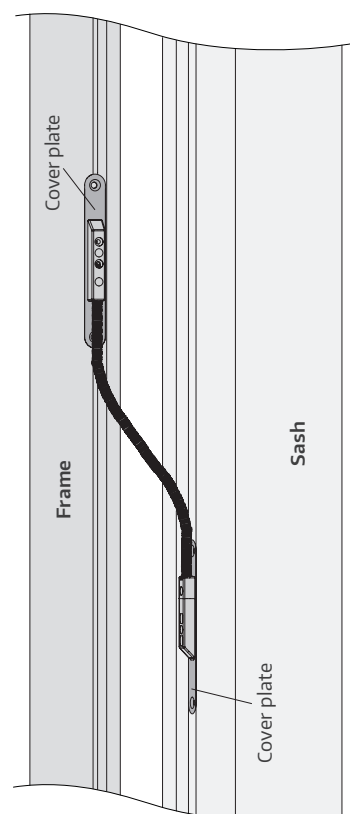
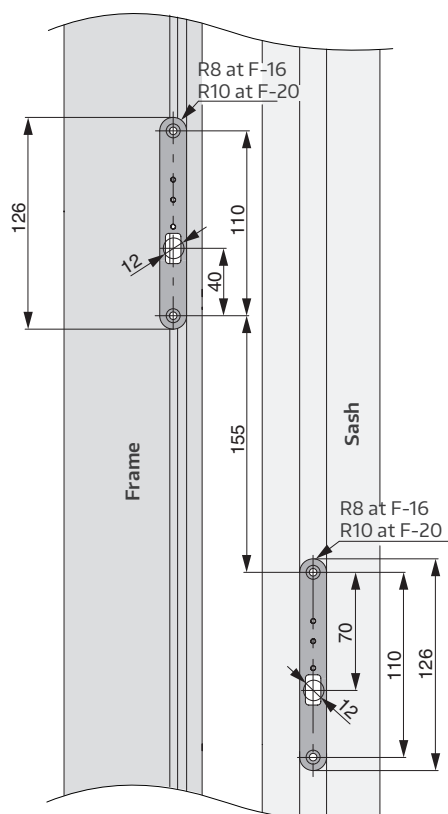
* dLine controller for Access Solutions

** Cable channel for Comfort Solution

*** Cable for openDoor Access Solutions

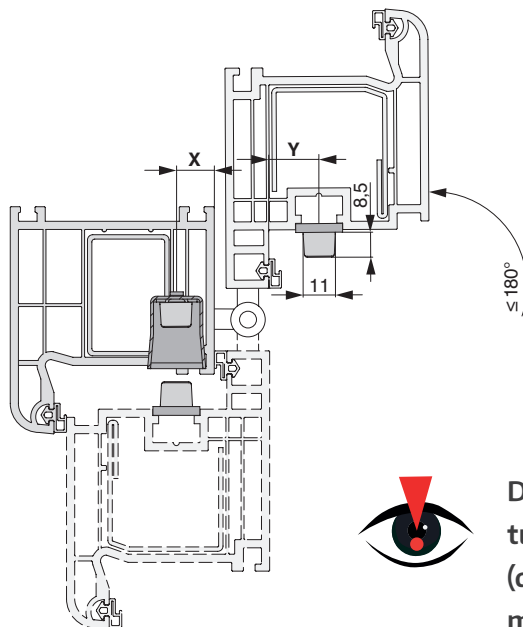
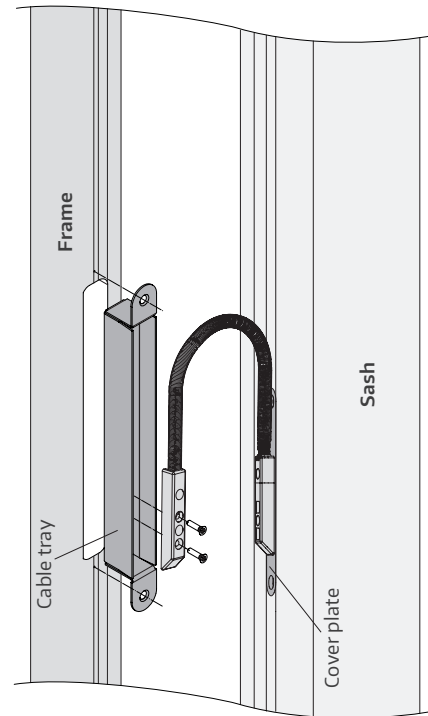
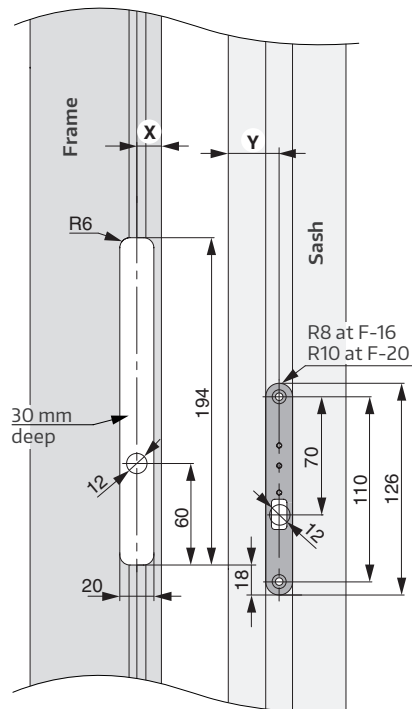
Access solutions & interfaces

Cable transition for opening angle $\leq 110^\circ$, 12 gap



Access solutions & interfaces

Cable transition for opening angle $\leq 180^\circ$, 12 gap



Due to the various hinge options and the resulting turning axes, the position of the cable tray (dimension X) and the cover plate (dimension Y) must be determined independently!



Technical data A-TS Comfortmotor

Casing dimensions (W x H x D)	15,4 x 209 x 40,2 mm
Net weight	157 g
Rated voltage (SELV)	12 ... 24 V DC / 12 V AC
Standby consumption	14,2 mA at 24 V DC = 340,8 mW
Operating temperature	-10 ... +55 °C
Air humidity	20 ... 80%, non-condensing
Storage temperature	-40 ... +85 °C
User groups	private users, e.g. lay people, children
Usage environment	in covered and enclosed spaces
Application area	Industrial sector: no Residential area, business/commercial area, small businesses: yes
Inputs	1 potential-free contact (2 JST connectors)
Outputs	no
Protection type	not specified
Certificate	CE
Duty cycle	DC 50%
Service life	200,000 cycles
Protection class	III (SELV)

Technical data Bluetooth module for A-TS + M-TS

Dimensions (W x H x D)	8,3 x 88,6 x 21,2 mm
Net weight	18 g
Cable length	approx. 300 mm
Frequency range	2,40 GHz ... 2,48 GHz
Rated voltage (SELV)	12 ... 24 V DC
Rated current	0,01 A
Standby consumption	approx. 0,11 W
Operating temperature	-10 ... +55 °C
Air humidity	≤95%, non-condensing
Storage temperature	-25 ... +70 °C
User groups	private users, e.g. lay people, children
Usage environment	in covered and enclosed spaces
Application area	Industrial sector: no Residential area, business/commercial area, small businesses: yes
Inputs	-
Outputs	1 potential-free output
Certificate	CE

Technical data UPS (uninterruptible power supply)

see installation instructions and UPS module data sheet, order no. 759528

Technical data Power supply

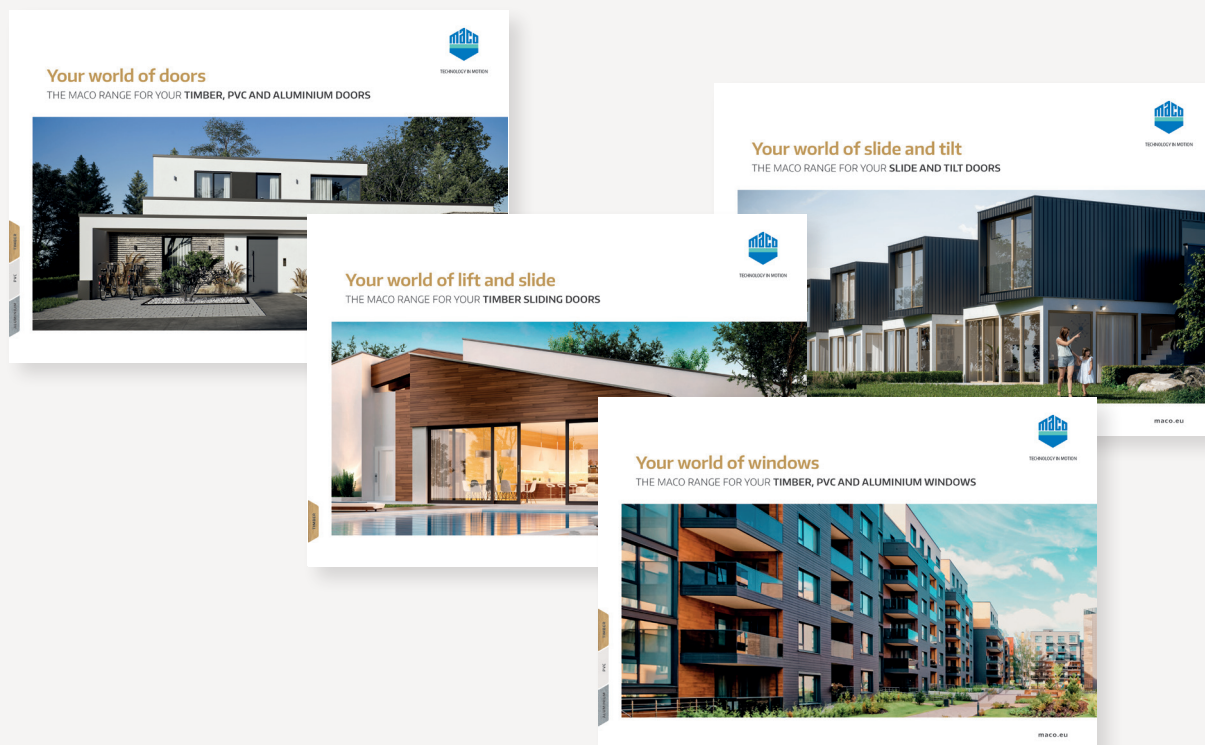
see installation instructions and data sheet power supplies 480276 and 480277, order no. 759529



Notes

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TECHNOLOGY IN MOTION



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