

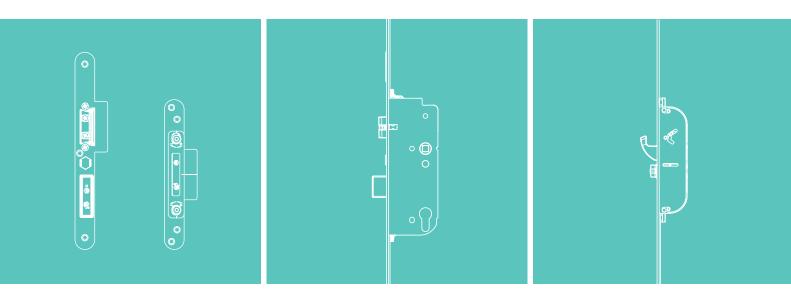




# EXCLUSIVELY FOR CERTIFIED SPECIALISTS!

# MACO PROTECT

DOOR LOCKS



### **ASSEMBLY INSTRUCTIONS**

A-TS

Automatic Door Lock – Composite Doors UK



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#### 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.



### Informative note



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

### Key

* <del>                                    </del>	Backset DM	FFH	Sash rebate height
<b>₹</b> 0	Distance E	K+	Case dimension top
	Handle height GM	К-	Case dimension bottom
	Profile Front Edge		Important note
MF	Multi-function latch		
EV	End piece		

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#### 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.

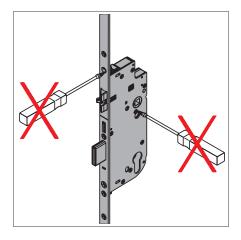
#### Improper use

- > 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.

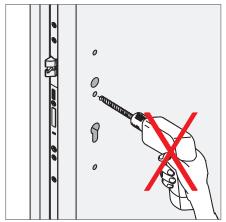
Improper assembly, misuse or unusual use, the use of system accessories not expressly approved by MACO, or modifications or repair work not expressly approved by MACO may lead to malfunctions and must be avoided. Any measures not expressly permitted by MACO shall result in the loss of all liability,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



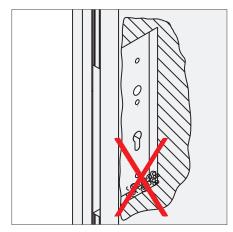
### Improper use



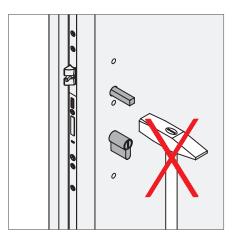
Never open the lock case!



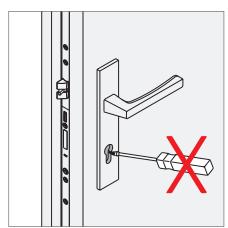
Drill all holes before installation of the lock.



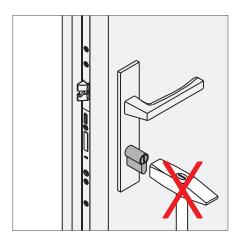
Remove swarf from the routing pockets!



Do not force the handle pin through the lock nut!

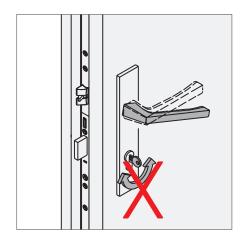


Only close the lock with the corresponding operating key!

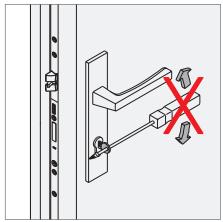


Do not use force during the cylinder assembly!

### Improper use



Do not simultaneously press the handle and turn the key!

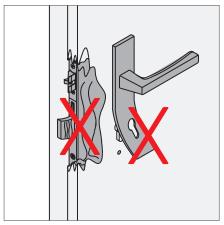


Do not turn the key using force!

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!



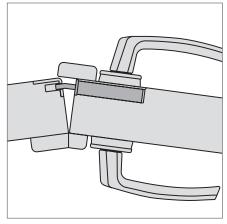
Do not carry the door leaf with the handle!



### Improper use



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



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

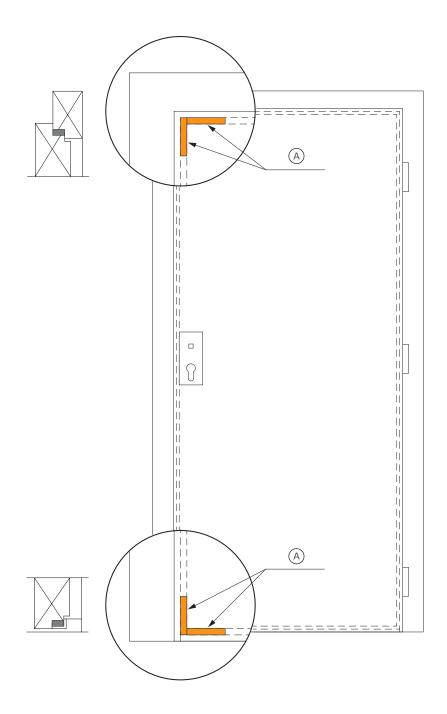


Do not lock the locking bar when the door is open!

### Use of transportation protection devices

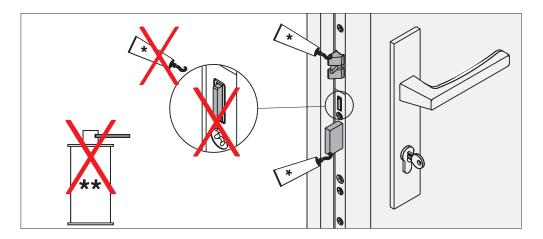
Simple transport protection devices, wedges or blocks ensure a safe transport of the entire door element. Remove only after installation.

### (A) Transport protection device position

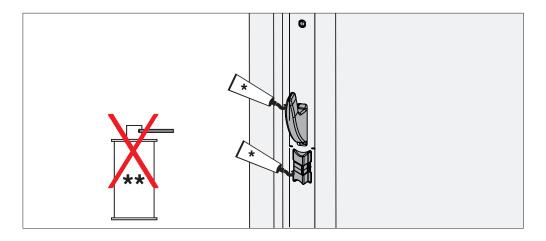




### Maintenance



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!



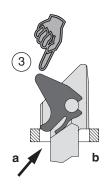
Lubricate the MF-HO locking element 1x annually!

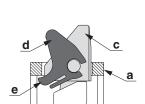


Do not use any lubricating oils, rust remover, silicone sprays etc! Lubricate only with grease or technical petroleum jelly!

<sup>\*</sup> Spray grease (455341), \*\* Rust remover

# Latch adjustment





**a** = Faceplate

**b** = Faceplate recess

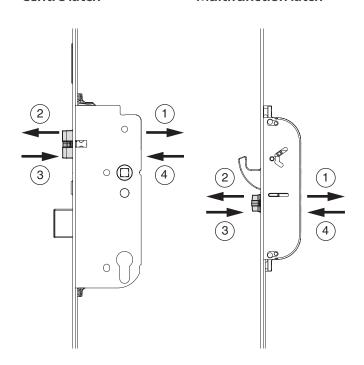
**c** = Latch

**d** = Latch insert

**e** = insert leg of latch insert

#### **Centre latch**

#### **Multifunction latch**



- ① Loosen the screw completely and press forward with a screwdriver!
- 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)!

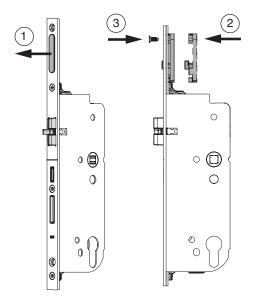


Perform functional check!



### **Installation Instructions**

### Day release element assembly on the lock (assembler)



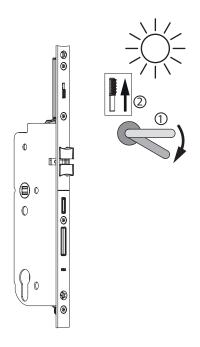
- 1) Remove the faceplate cover.
- 2 Position the day release element on the back of the faceplate (directly on the latch above the lock case).
- 3 Screw on the day release element with the attached TX20 M4x10 screw on the front of the faceplate!

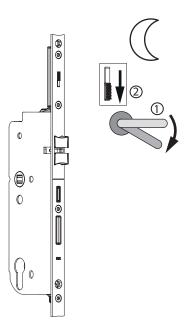


Minimum 5 mm airgap needed for the mechanic day release! Minimum 3 mm airgap needed for the motorized day release!

### **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!

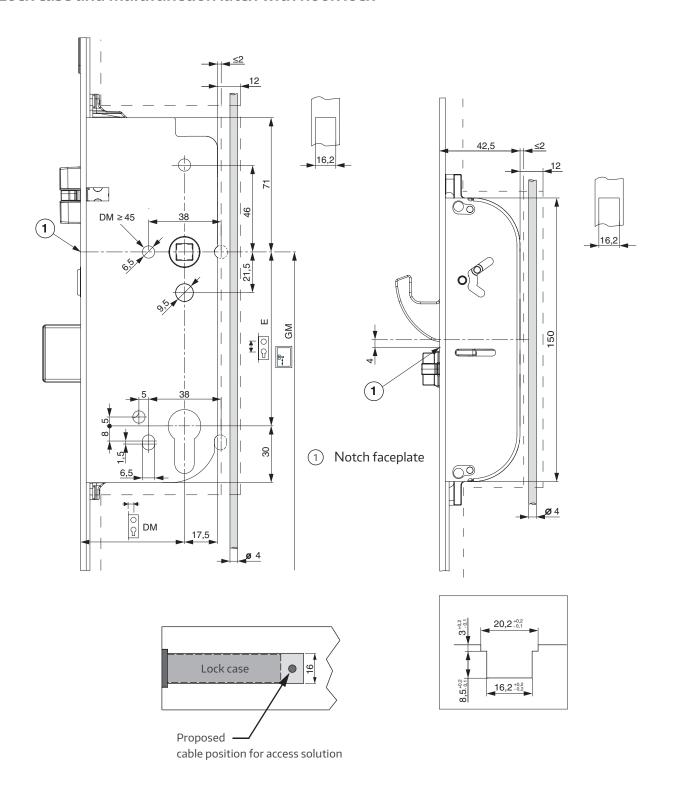
The A-TS basic function, automatic locking, is restored!



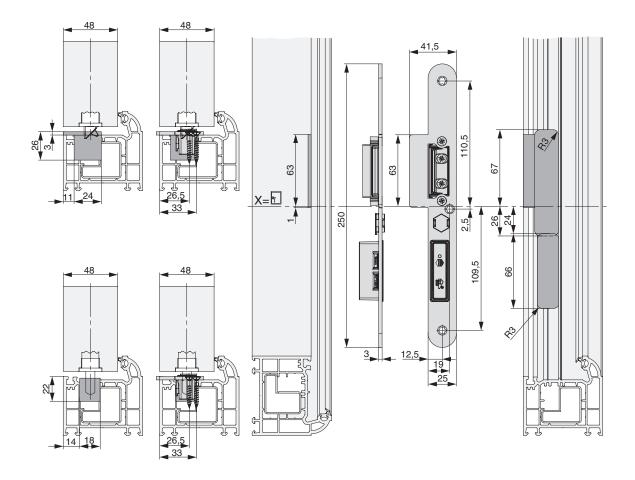
Minimum 5 mm airgap needed for the mechanic day release! Minimum 3 mm airgap needed for the motorized day release!



### Lock case and multifunction latch with hook lock



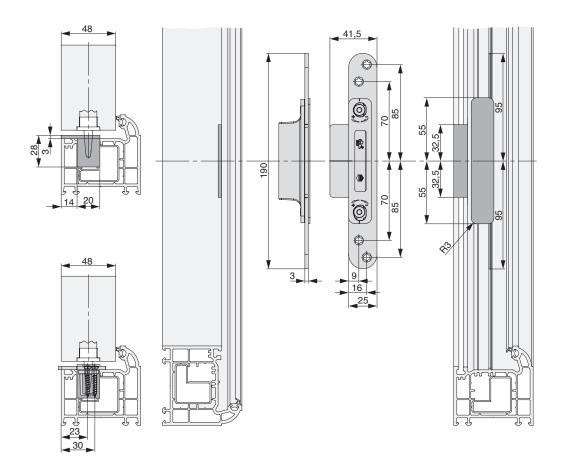
# Latch and dead bolt striker plate



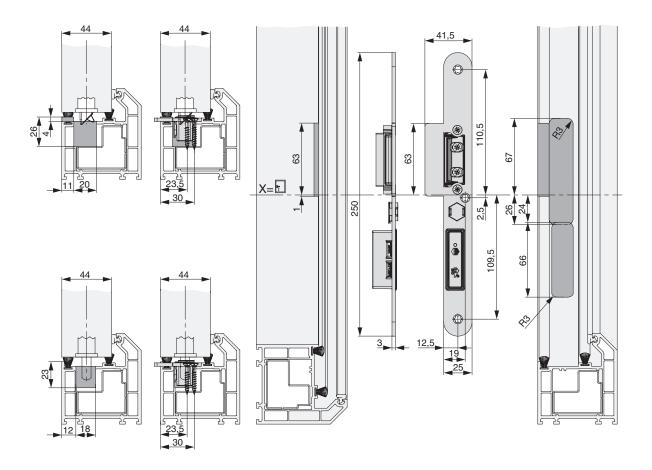
<sup>\*</sup>Routing pattern E-Opener



# Multifunction hook striker plate



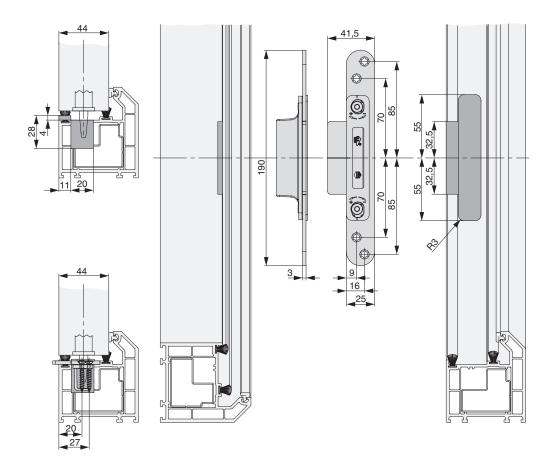
# Latch and dead bolt striker plate



<sup>\*</sup>Routing pattern E-Opener



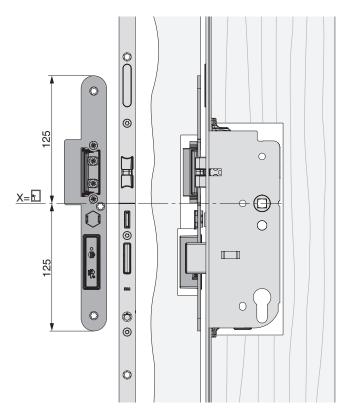
# Multifunction hook striker plate



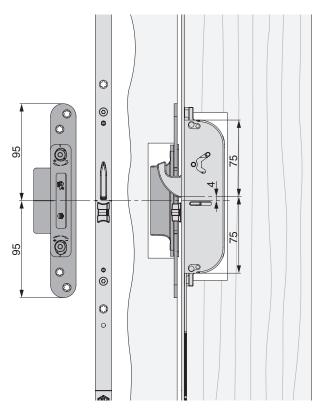
# Positioning of the striker plates

### **Positions**

### Latch and dead bolt striker plate



### Striker plate, multifunction latch with hook



#### **Gasket compression adjustment:**

- +/- 2 mm with latch and dead bolt striker
- +/- 1.5 mm with MF-HO striker plate

Positioning of notch faceplate = notch strike plate



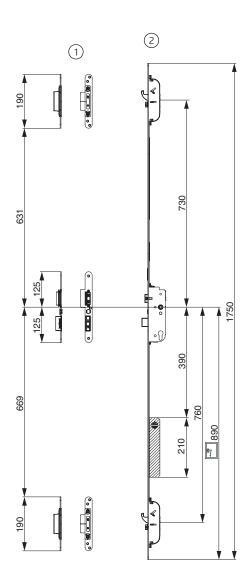
A rebate gap of 3 - 6 mm must be kept in the installed state!



# Positioning of the striker plates

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

- 1 Single striker plate
- <sup>2</sup> Lock

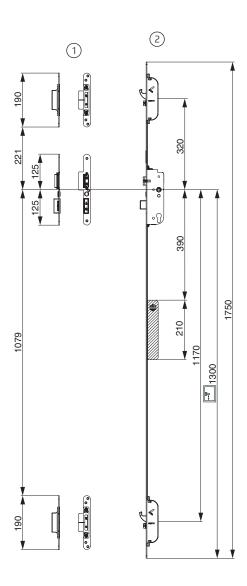


Drive for motorised opening

# Positioning of the striker plates

### 2 multifunction latch with hooks, Varia K+320, single sash

- 1 Single striker plate
- <sup>2</sup> Lock

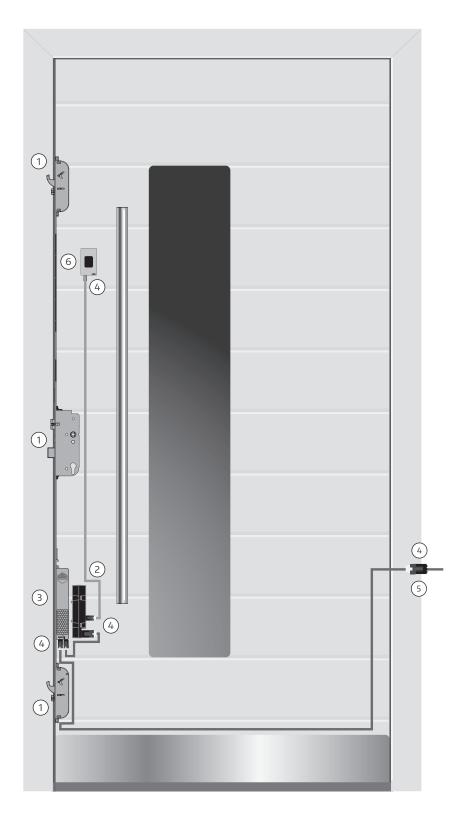


Drive for motorised opening

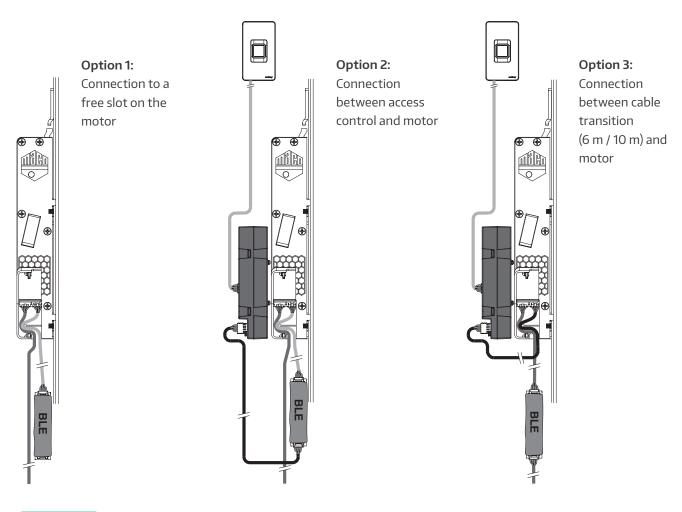


#### Overview

- 3-latch door lock with opening motor
   High security thanks to selflocking of steel hooks and dead bolt.
- 2 Tamper-proof
  Control unit protected from unauthorised access.
- 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



### Connection options BLE module for control via MACO SMARTPHONE APP









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.











### 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:

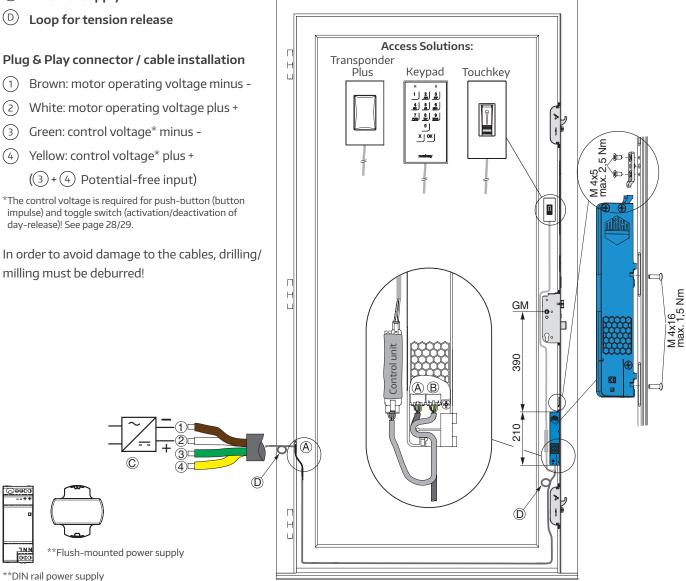
- (A) Cable transition
- **B** Access Solution
- © ¶ Power supply\*\*
- **D** Loop for tension release

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

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



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



<sup>\*\*</sup>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.

impulse) and toggle switch (activation/deactivation of day-release)! See page 28/29.

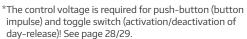
### Touchkey dLine

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:

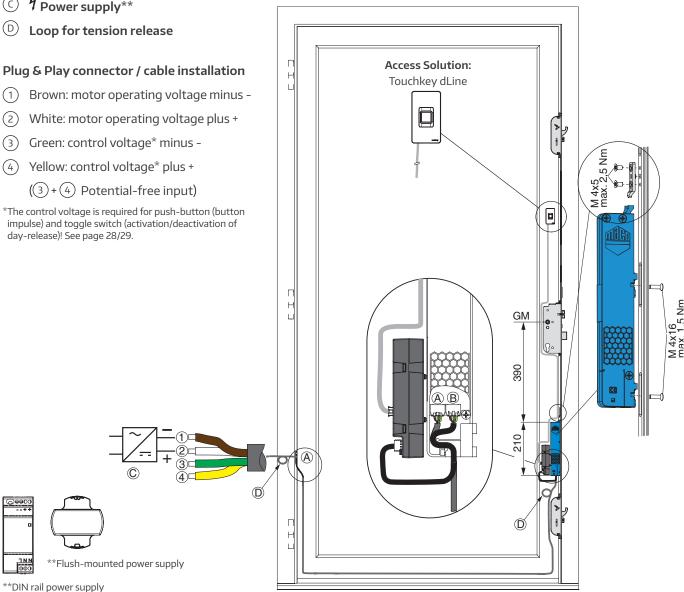
- (A) Cable transition
- **B** Access Solution
- © ¶ Power supply\*\*
- D Loop for tension release

- 1) Brown: motor operating voltage minus -





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

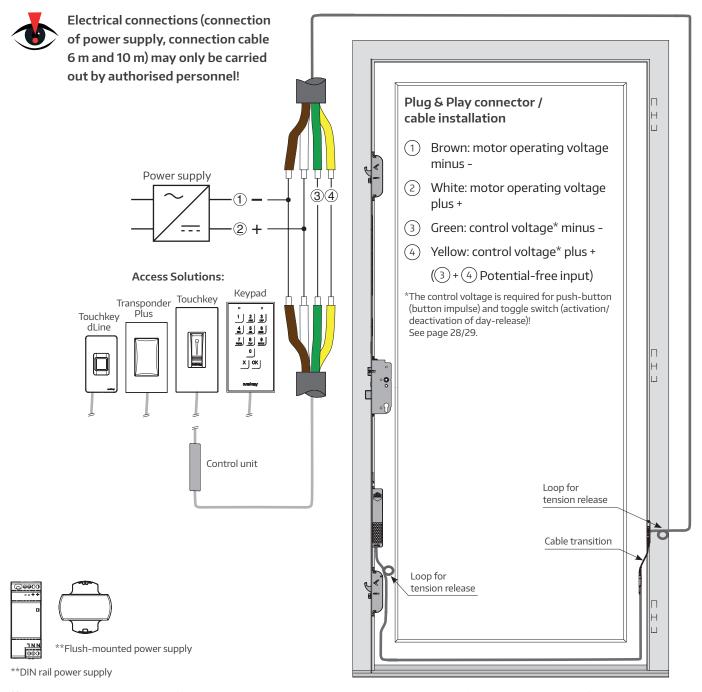


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### Circuit diagram frame-side

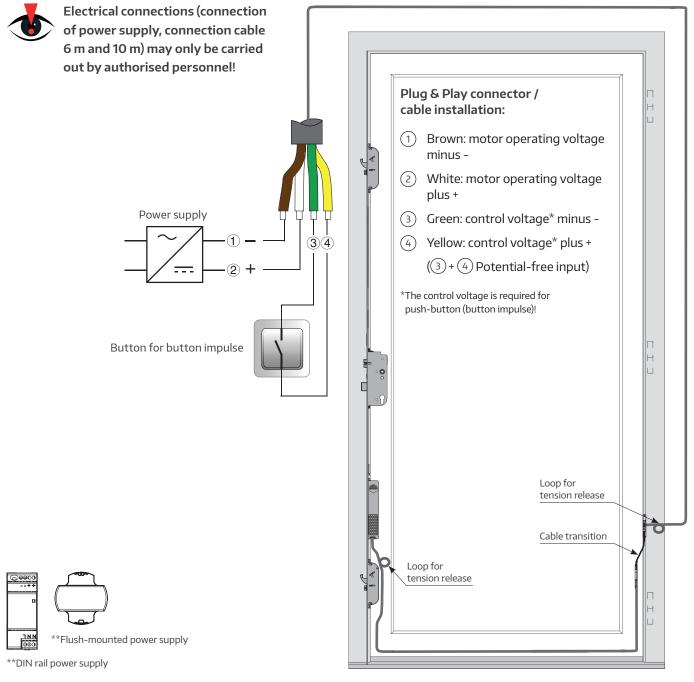
Cable installation - cable transition 6 m / 10 m external installation length / 1.5 m, 2.5 m, 4.5 m in the door leaf



<sup>\*\*</sup>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.

### 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

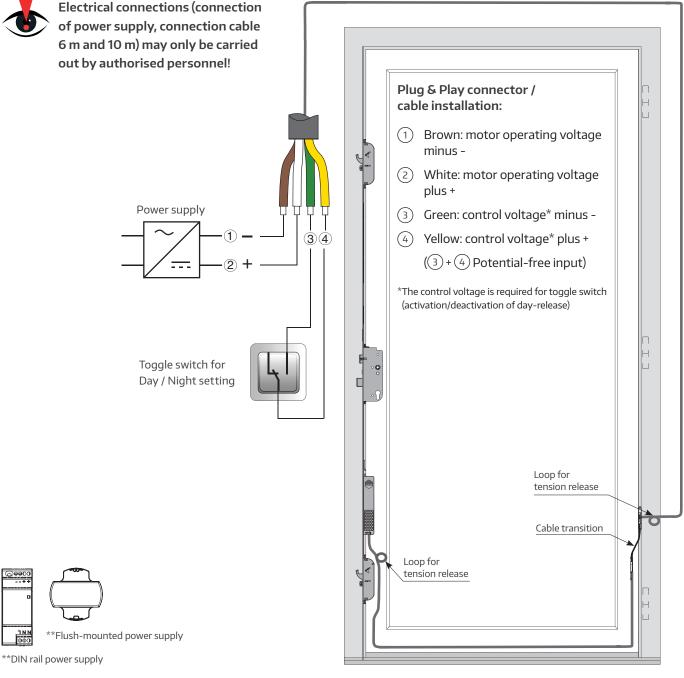


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### Circuit diagram toggle switch (motorised day release)

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

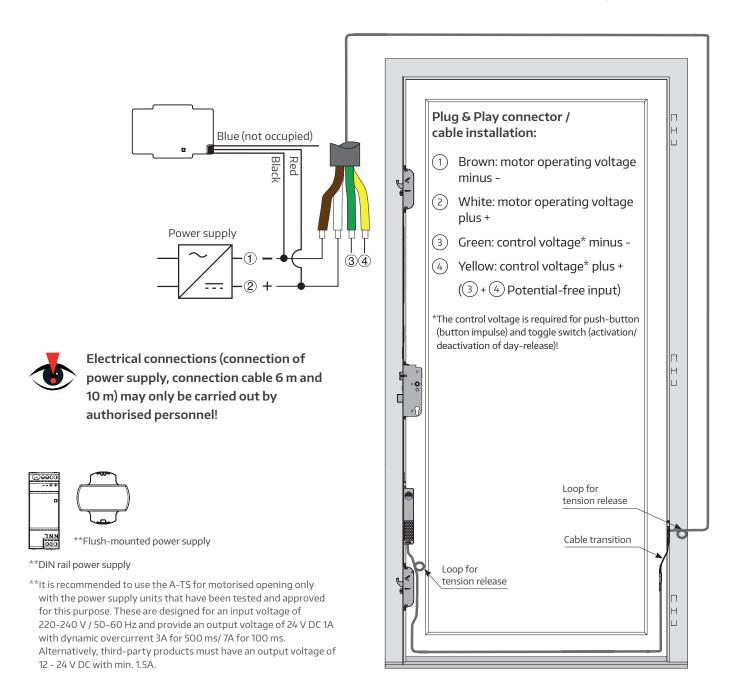


<sup>\*\*</sup>It is recommended to use the A-TS for motorised opening only with the power supply units that have been tested and approved for this purpose. These are designed for an input voltage of 220-240 V / 50-60 Hz and provide an output voltage of 24 V DC 1A with dynamic overcurrent 3A for 500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

#### Access control to the openDoor touchkey

The use of the MACO UPS (Art. No. 509410) 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, openDoor access controls,...) must be connected. Otherwise, the UPS will fall into standby mode and will NOT be active in the event of a power failure.

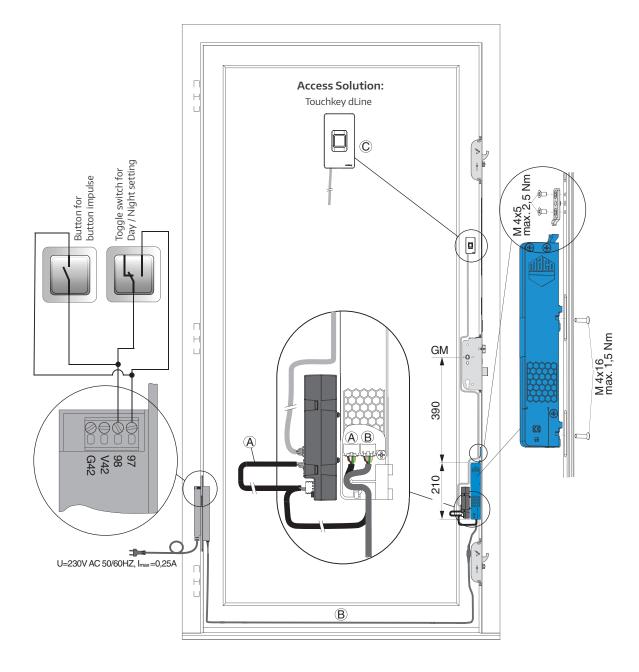




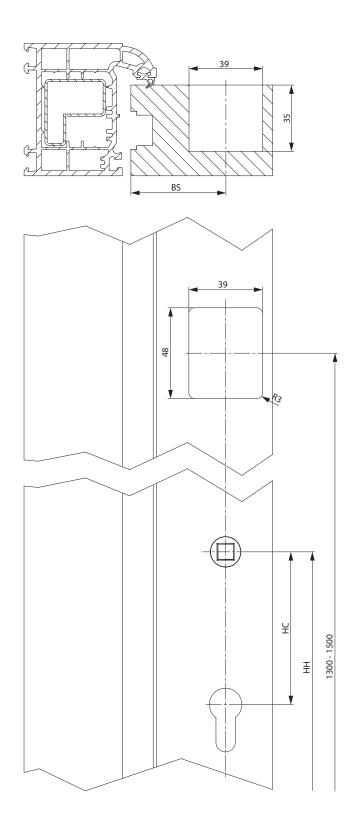
### Tappet contact secureConnect Touchkey dLine

### Plug & Play connection motor to:

- Adapter cable for plunger contact to dLine
- $\begin{tabular}{ll} \hline B & Adapter cable for plunger contact to motor \\ \hline \end{tabular}$
- © dLine access control



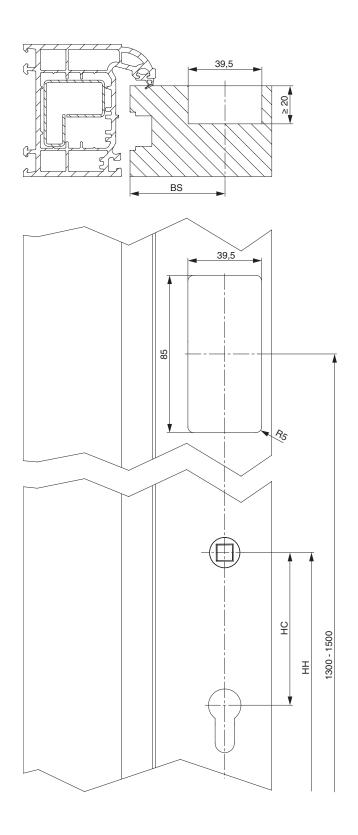
# Routing patterns Transponder plus



<sup>\*</sup>Not suitable for varia K+320

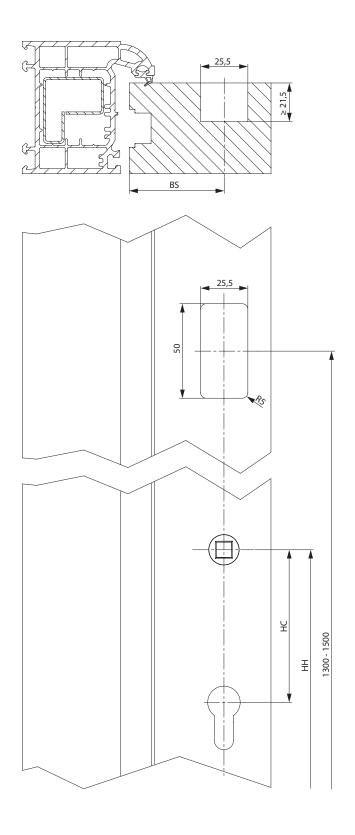


### Routing patterns Keypad / Touchkey



<sup>\*</sup>Not suitable for varia K+320

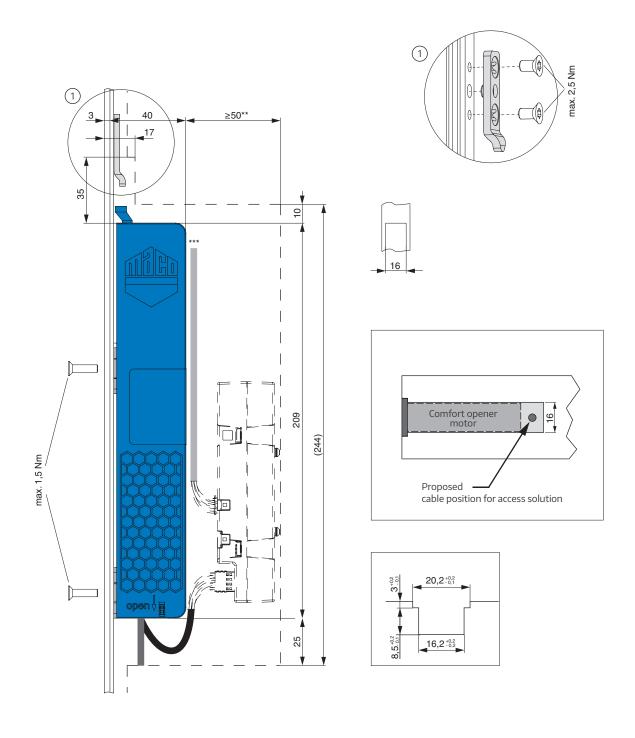
# Routing patterns Touchkey dLine



<sup>\*</sup>Not suitable for varia K+320



### Routing patterns including mounting plate and motor assembly

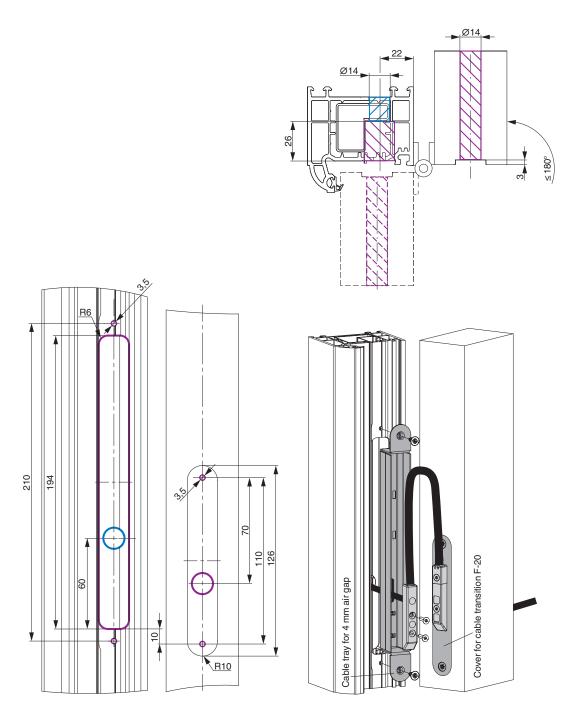


<sup>\*</sup> dLine controller for Access Solutions

<sup>\*\*</sup> Cable channel for Comfort Solution

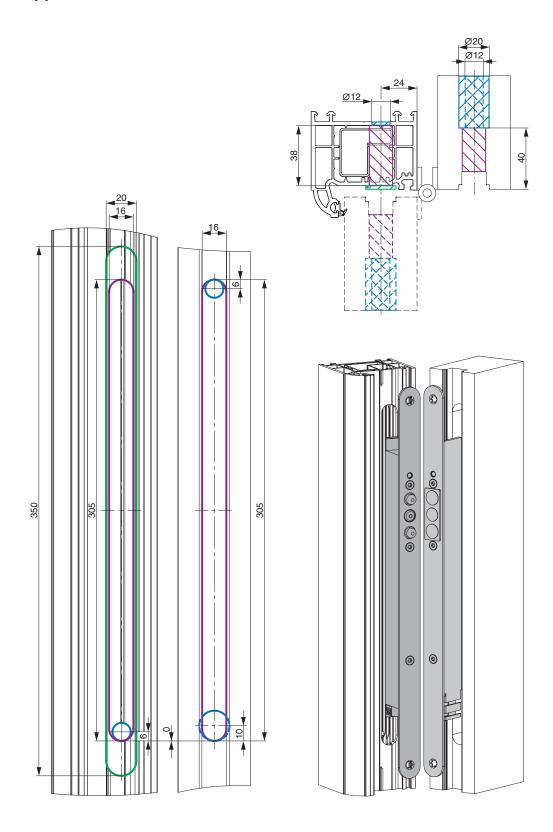
<sup>\*\*\*</sup> Cable for openDoor Access Solutions

# Cable transition for opening angle ≤180°, 12 gap





# **Tappet contact**



# 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 $\times$ H $\times$ 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

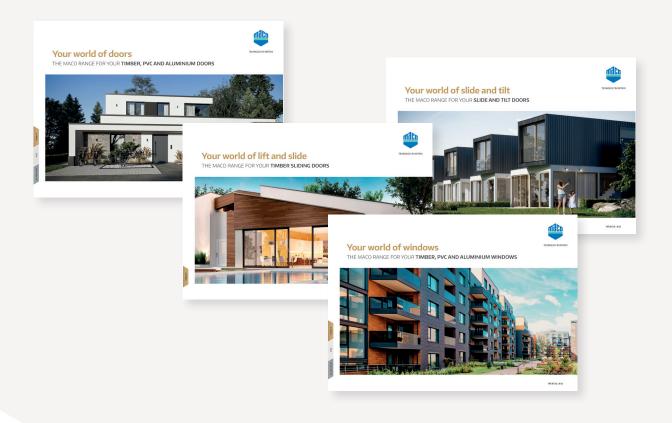
see installation instructions and data sheet power supplies 480276 and 480277, order no. 759529



# Notes

# You want everything from a single source?

We provide you with complete solutions for sliding doors, windows and doors – for timber, PVC and aluminium. Experience our versatile system offer, comprehensive service included. Discover more of this on our website **www.maco.eu** or contact your MACO representative.





www.maco.eu/contact



TECHNOLOGY IN MOTION

