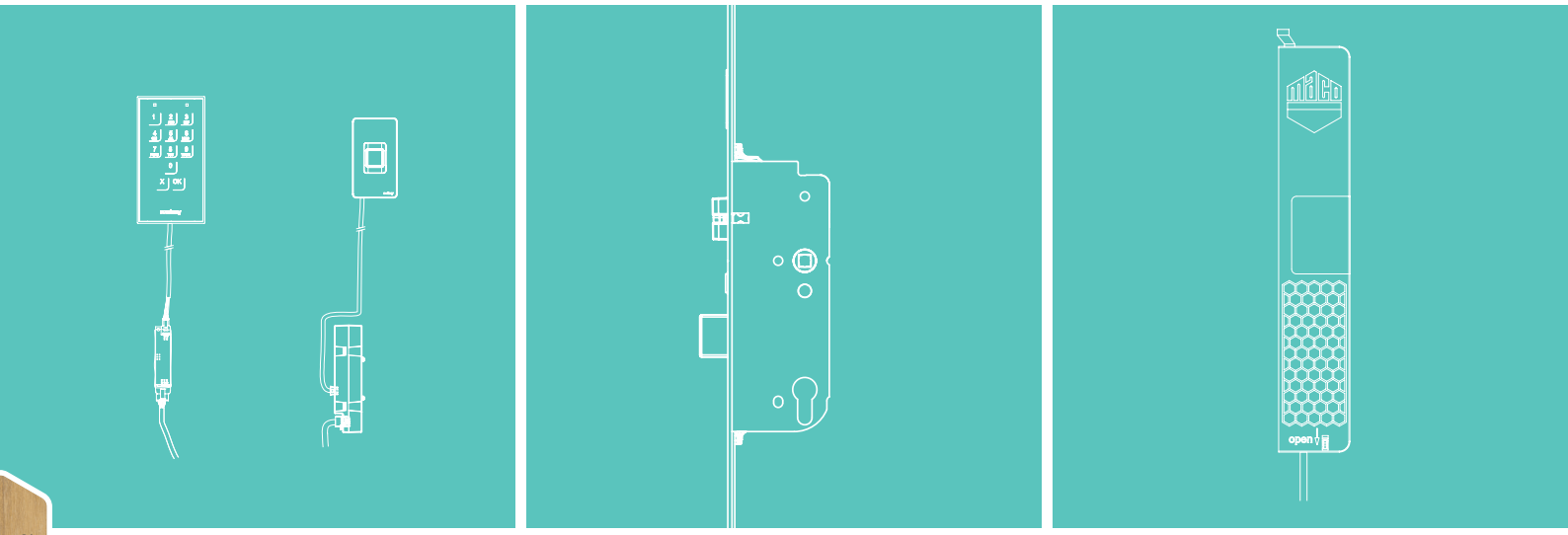
TECHNOLOGY IN MOTION

The work described in these installation instructions may only be carried out by specialist companies.

Read thoroughly before use/installation!
Keep for future reference!

MACO PROTECT
DOOR LOCKS



INSTALLATION INSTRUCTIONS
A-TS Comfort motor, access solutions and interfaces

TIMBER
PVC
ALUMINIUM

TRANSLATION OF THE ORIGINAL INSTRUCTIONS

maco.eu

Legends and abbreviations

	DM	Backset dimension
	E	Distance
	GM	Handle size
		Profile front edge

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1. Notes for using these installation instructions

Target group

› These installation instructions are intended exclusively for specialised companies and trained specialist personnel (e.g. carpenters, metalworkers for construction technology, window and glass façade installers).

› The work described in these installation instructions may only be carried out by specialist personnel! This also applies in particular to electrical work, which may only be carried out by qualified electricians.

Before starting installation ...

› Read these installation instructions carefully before starting installation. Install all components professionally and only as described in these installation instructions and observe all safety and hazard information.

› The use of system accessories not expressly approved by MACO, modifications or repair work not expressly authorised by MACO and improper servicing can lead to malfunctions and must be avoided.

› Failure to comply with the installation, safety and hazard information described in these installation instructions does not guarantee the proper functioning of the fitting; this leads to the immediate loss of warranty, guarantee, compensation, product liability claims and other liability claims against MACO. MACO accepts no liability for any damage to persons or material resulting from improper installation or installation contrary to the instructions given in these installation instructions.

› Failure to comply with the installation instructions will also result in the immediate loss of any outstanding claims arising from any existing warranty agreement.

› Coordinate the required fastening material with the structure and the corresponding load and supplement it if necessary. Any fastening material supplied only fulfils part of the requirements.

› To fasten the parts, use sufficiently long screws, which should extend into the steel reinforcement if possible in the case of plastic profiles.

› Test doors and safety elements. The intactness and ease of movement of the doors must be ensured.

› All work (installation, adjustment, etc.) must be carried out in a de-energised state.

› Before installing the drive, check that the applicable temperature range is suitable for the environment.

Usage instructions

› These installation instructions are revised on an ongoing basis and the latest version is available for download at https://www.maco.eu/assets/760322. The QR code, which takes you directly to the latest version, and the creation date can be found at the end of these installation instructions.

› All illustrations are only symbolic and serve only for better visualisation.

› Unless otherwise stated, dimensions are given in **millimetres**.

› Further information on our currently available products can be found on our website www.maco.eu.

› If in doubt, please consult your MACO contact person!

› Please send any suggestions or ideas for improving our installation instructions by email to feedback@maco.eu

Protective note to restrict the use of documents in accordance with ISO 16016:
© Mayer & Co Beschläge GmbH.

Applicable documents

The following documents must be observed in addition to these instructions and/or provide additional information:

› Online catalogue eCat at https://ecat.maco.eu/

› Operating and maintenance instructions for end users - order number 757585

› Operating and maintenance instructions for emergency exit and panic doors for end users - order number 760364

› PVC installation instructions - order number 757658

› Timber installation instructions - order number 757784

› Aluminium installation instructions - order number 757776

› Composite doors installation instructions - order number 759565

› Emergency exit and panic doors installation instructions - order number 760368

› Maintenance log for emergency exit and panic doors - order number 760372

You can find the current version of all documents on our website at www.maco.eu.

The specialist company's obligation to provide information and instruction

Please ensure that you fulfil your obligation to inform and instruct the end user! As the distributor, you are obliged to deliver the window or door elements exclusively including the applicable operating and maintenance instructions and, if applicable, a sticker for deviating operating methods. We make these available to our customers in the download area of our website (www.maco.eu/Downloads).
End users must be trained accordingly.

Retention of documents



Keep these installation instructions for future reference.

2. Safety and warning notices

These installation instructions contain safety instructions before a sequence of actions that could result in personal injury or material damage. The hazard prevention measures described must be strictly adhered to.
For the safety of personnel, there are safety instructions in the following 3 stages:



Imminent danger!
Failure to comply with such instructions will result in death or serious injury!



Imminent danger from electrical voltage!
Failure to comply with such instructions will result in death or serious injury!



Possible imminent danger!
Failure to comply with such instructions can result in death or serious injury!



Warning against dangerous electrical voltage!
Failure to comply with such instructions can result in death or serious injury!



Possible imminent danger!
Failure to comply with such instructions may result in minor or slight injuries!

In addition, installation steps that require special attention are labelled with the following note:



Note to avoid material damage or errors when installing the fitting parts on the element.

3. Technical data

3.1 Motor for 3-latch automatic lock (104130)

It is recommended that the A-TS with motorised opening is only operated with tested and approved power supplies intended 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 1 A with a dynamic overcurrent of 3 A for 500 ms / 7 A for 100 ms. Alternatively, third-party products must have an output voltage of 12 ... 24 V DC with at least 1.5 A.

Housing 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	0.3 W
Operating temperature/ambient temperature	-10 ... +55 °C
Relative 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%
Protection class	III (SELV)

3.2 Comfort Motor 2.0 A-TS (482967)

It is recommended that the A-TS with motorised opening is only operated with tested and approved power supplies intended 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 1 A with a dynamic overcurrent of 3 A for 500 ms / 7 A for 100 ms. Alternatively, third-party products must have an output voltage of 24 V DC with at least 1 A.

Housing dimensions (W x H x D)	15.4 x 209 x 40.2 mm
Net weight	157 g
Rated voltage (SELV)	24 V DC
Standby consumption	0.3 W
Operating temperature/ambient temperature	-10 ... +55 °C
Relative 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	100,000 cycles
Protection class	III (SELV)

3.3 Bluetooth module for A-TS + M-TS "BLE Module"

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/ambient temperature	-10 ... +55 °C
Relative 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

3.4 UPS (uninterruptible power supply)

see installation instructions and UPS module data sheet - order no 759528

3.5 Power supply

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

You can find all technical data in our online catalogue at https://ecat.maco.eu/ (registration required).

4. Certificates and proof of performance

Certificates and proof of performance can be found at www.maco.eu.

Declarations of conformity

EU declarations of conformity or EC declarations of incorporation can be found at:

EU declaration of conformity
Bluetooth module
Instinct, A-TS, M-TS
www.maco.eu/assets/759742

EU declaration of conformity
Instinct, A-TS, M-TS power supply
www.maco.eu/assets/759745

EU declaration of conformity
UPS for A-TS and M-Ts
www.maco.eu/assets/759820

EC declaration of incorporation
A-TS motor
www.maco.eu/assets/759836

5. Intended use

› The A-TS motor is only permitted in combination with the A-TS automatic 3-latch lock.

› Ensure that the components are in perfect condition before installation; damaged or defective components must not be used under any circumstances.

6. Reasonably foreseeable misuse



Improper installation, non-conforming or unusual use, the use of system accessories not expressly approved by MACO, modifications or repair work not expressly authorised by MACO and improper servicing can lead to malfunctions and must be avoided. Any measures not expressly authorised by MACO, shall result in the loss of all liability, warranty and any separately agreed guarantee claims.

Misuse exists, among others:

› for use in rooms with high levels of dust, corrosive atmospheres, high electrostatic charge or damp rooms

7. Instructions for the processing of electrical and electronic components



NEVER WORK with live voltage - DANGER TO LIFE!

The connection of electrical and electronic components may only be carried out by trained or instructed persons!

- **The power supply must be disconnected during all electrical work! Disconnect all poles of electrical components from the supply voltage using an overvoltage category III switch before opening, installing or changing the set-up. Observe VDE 0100 for 230 V mains connection.**
- **Before installation: A disconnecting device must be provided in the fixed installation to ensure that all poles are disconnected from the mains.**
- **If a UPS module is used, the connection between the motor and the UPS module must also be disconnected.**
- To prevent errors due to damaged cables, all milling/drilling holes in the area of the cable ducts must be carefully deburred! If possible, edge protection should be used.
- When screwing them together, make sure that the cables are not damaged by the fastening screws!
- Assembly and electrical installations must be carried out according to these instructions. Incorrect wiring can lead to the destruction of the electronics.
- Before installing an electrical, electronic or electromechanical component, it must be checked whether the technical data is suitable for the environment (e.g. voltage, temperature range, etc.).

8. Installation of the motor on 3-latch automatic lock

Packaging contents

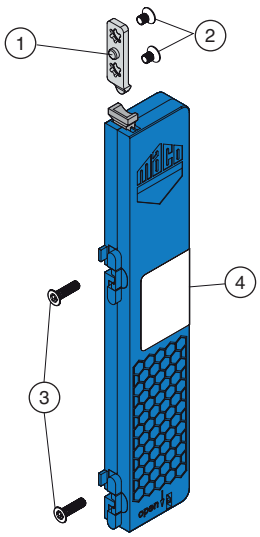
① **1x driver**

② **2x ⌬ 20 M4 x 5 mm**

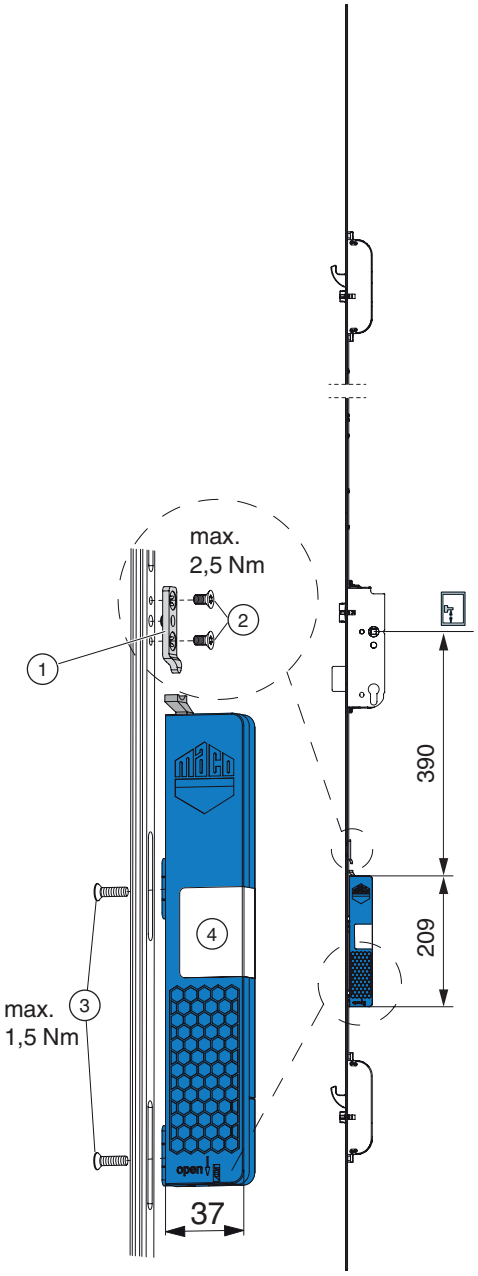
③ **2x ⌬ 20 M4 x 14 mm**

④ **1x Motor for 3-latch automatic lock (104130) OR**

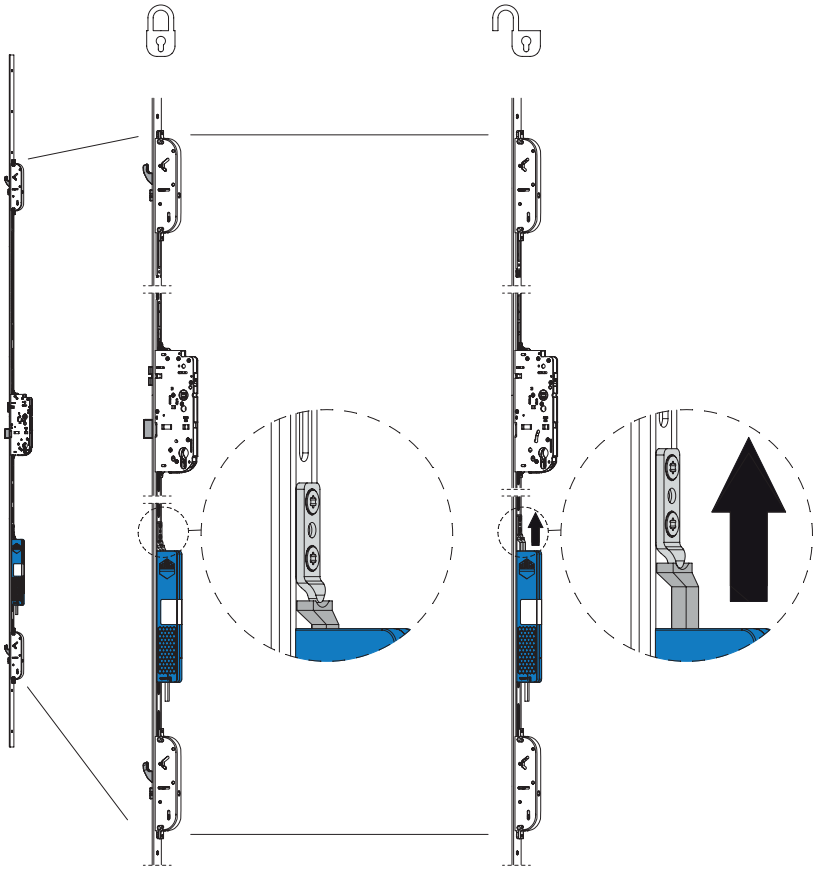
1x Comfort Motor 2.0 A-TS (482967) (identifiable by the label)



Positioning



Functionality



Carry out a function check with a test device!

9. Access solutions & interfaces

9.1 Overview

① **3-latch automatic lock with motorised opening**

High level of security thanks to automatic locking of the steel hooks and the locking bolt.

② **Tamper-proof**

Control unit protected against access by unauthorised persons.

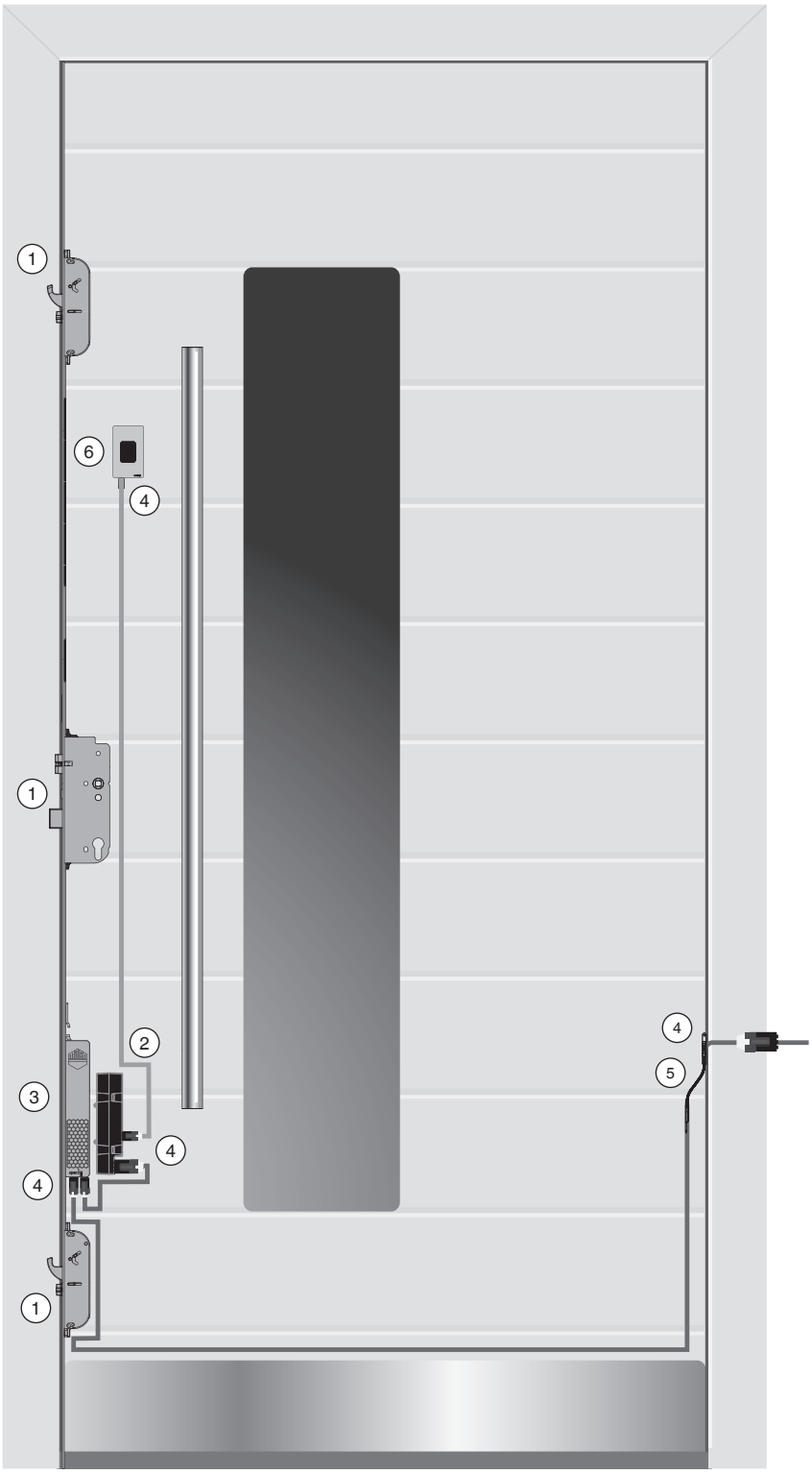
③ Maximum convenience thanks to **motorised unlocking.**

④ **Plug & Play**

Simple, non-interchangeable plug connection.

⑤ **Easy installation and removal** of the door thanks to plug-in cable transition.

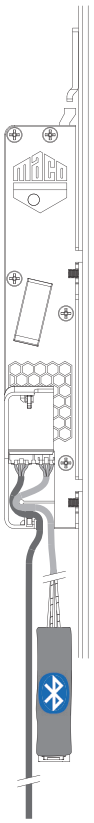
⑥ **openDoor Touchkey dLine**



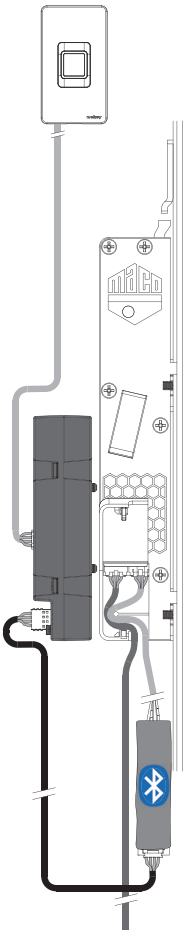
Access solutions & interfaces

9.2 BLE module connection options for control via MACO SMARTPHONE APP

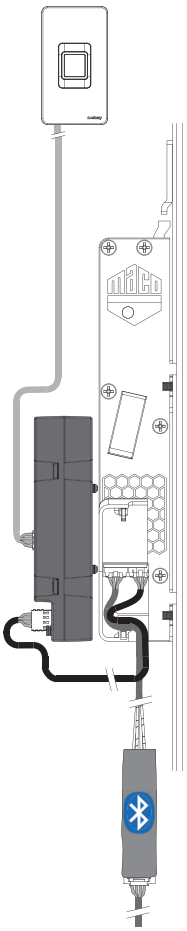
Option 1:
Connection to free motor slot



Option 2:
Connection between openDoor access control and motor



Option 3:
Connection between cable transition and motor







The INSTINCT app is available for free on iOS and Android.
It is easy to install, activate with the QR code on the Admin Card and off you go.
No complicated web-based programming is required.

Download on the App Store

GET IT ON Google Play

9.3 Keypad

Cable assignment - cable transition

Plug & Play plug connection motor to:

Ⓐ **Cable transition**

Ⓑ **Access solution**

Ⓒ **Voltage supply**

Ⓓ **Loop for strain relief**

Plug & play plug / cable assignment:

① Brown operating voltage motor negative -

② White operating voltage motor positive +

③ Green control voltage* negative -

④ Yellow control voltage* positive +

(③ + ④ Potential-free input)

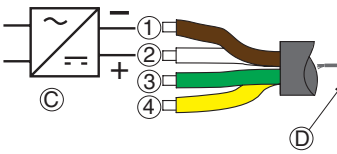
*The control voltage is required for buttons (touch pulse) and changeover switches (activation/deactivation of day release)! See page 22/23.

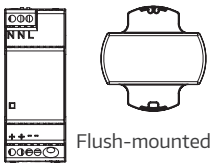
To avoid damaging the cables, drill holes/ millings must be deburred!

WARNING

Danger to life from electrical voltage!

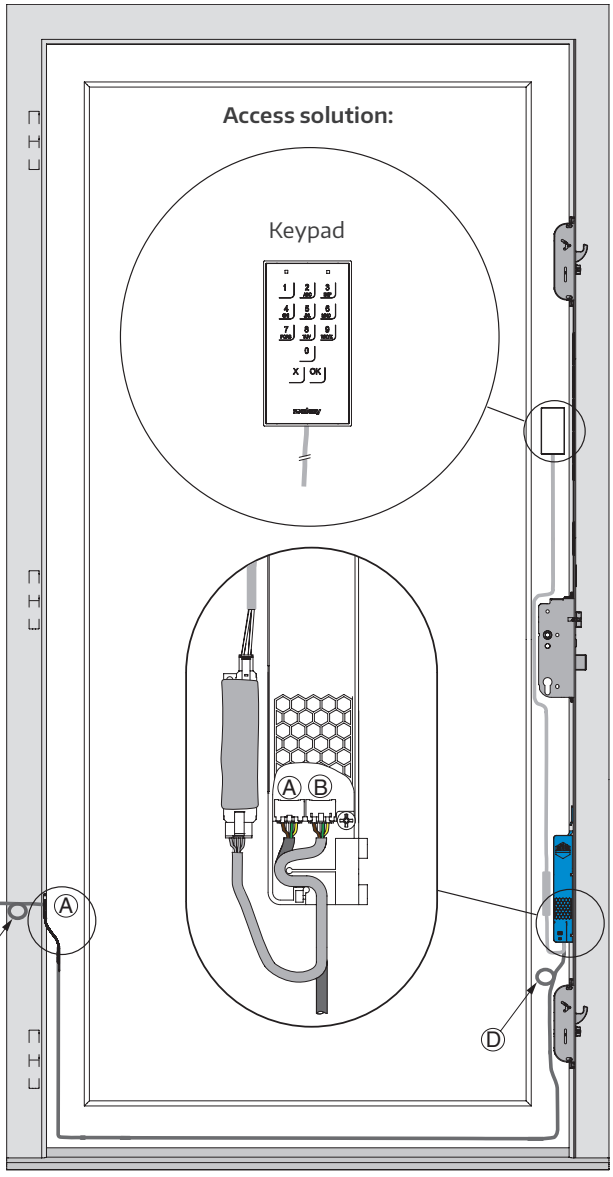
Electrical connections (power supply, cables) may only be made by authorised personnel!





Flush-mounted power supply

Top hat rail power supply



CAUTION

It is recommended that the A-TS with motorised opening is only operated with tested and approved power supplies intended for this purpose (see pages 8, 9 and 10).

Access solutions & interfaces

9.4 dLine touchkey

Cable assignment - cable transition

Plug & Play plug connection motor to:

Ⓐ **Cable transition**

Ⓑ **Access solution**

Ⓒ **Voltage supply**

Ⓓ **Loop for strain relief**

Plug & play plug / cable assignment:

① Brown operating voltage motor negative -

② White operating voltage motor positive +

③ Green control voltage* negative -

④ Yellow control voltage* positive +

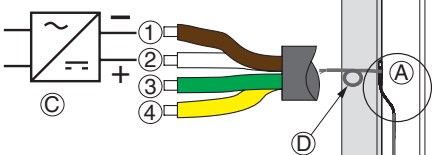
(③ + ④ Potential-free input)

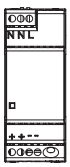
*The control voltage is required for buttons (touch pulse) and changeover switches (activation/deactivation of day release)! See page 22/23.

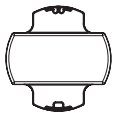
WARNING

Danger to life from electrical voltage!

Electrical connections (power supply, cables) may only be made by authorised personnel!

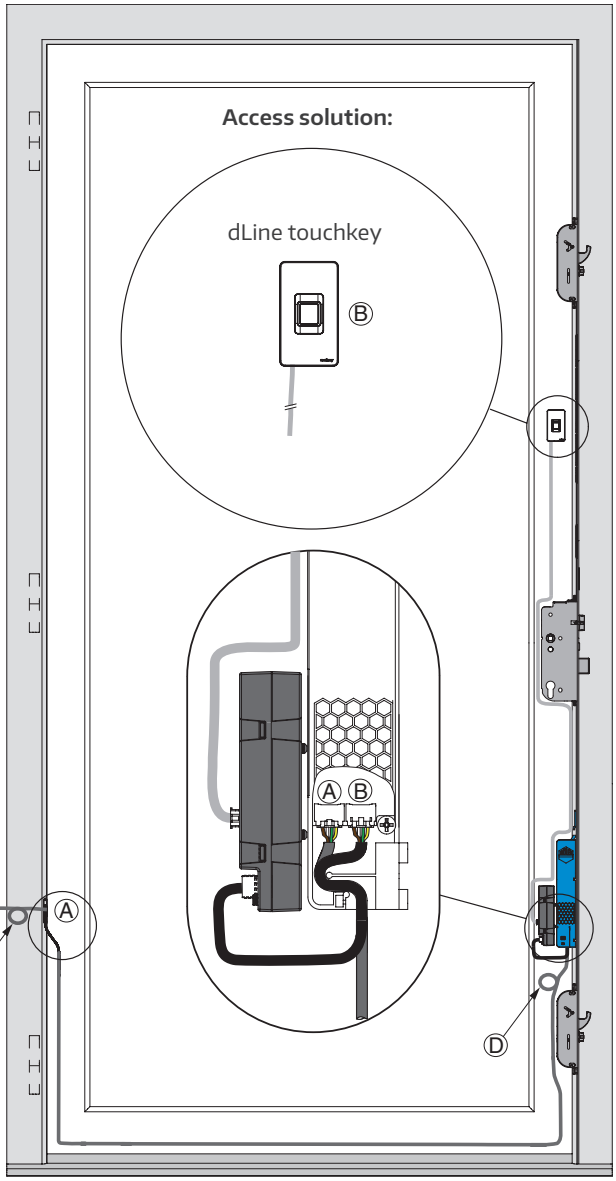






Flush-mounted power supply

Top hat rail power supply



CAUTION

It is recommended that the A-TS with motorised opening is only operated with tested and approved power supplies intended for this purpose (see pages 8, 9 and 10).

9.5 dLine touchkey (hinge side)

Cable assignment - cable transition

Plug & Play plug connection motor to:

- Ⓐ **Cable transition**
- Ⓑ **Access solution**
- Ⓒ **Voltage supply**
- Ⓓ **Loop for strain relief**

Plug & play plug / cable assignment:

- ① Brown operating voltage motor negative -
- ② White operating voltage motor positive +
- ③ Green control voltage* negative -
- ④ Yellow control voltage* positive +

  (③ + ④ Potential-free input)

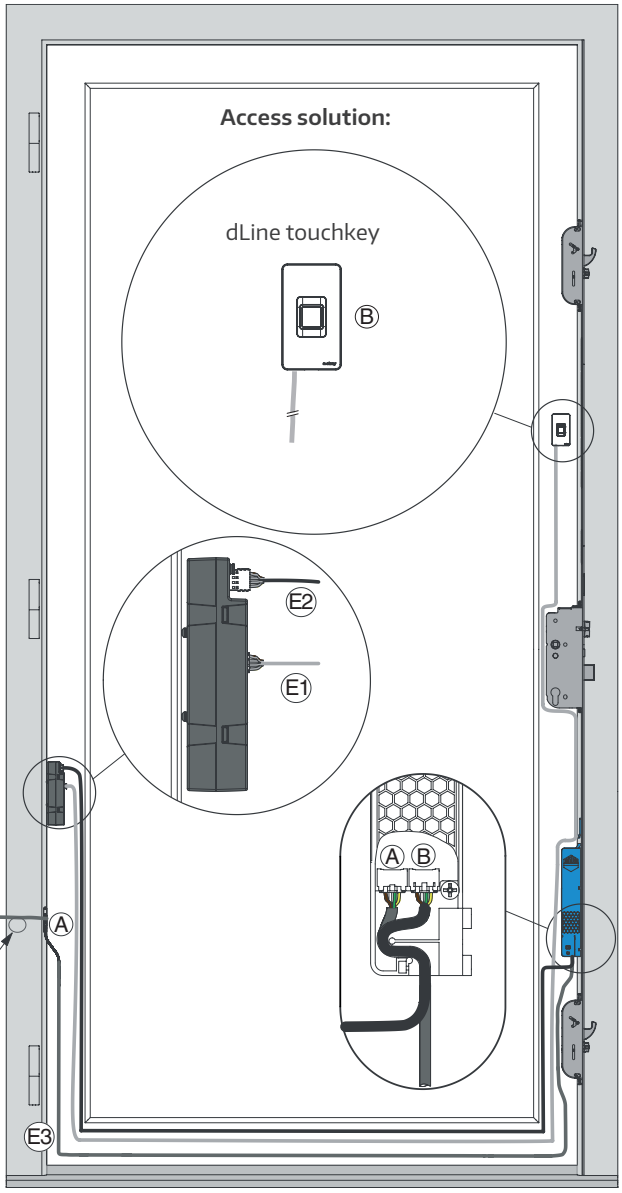
*The control voltage is required for buttons (touch pulse) and changeover switches (activation/deactivation of day release)! See page 22/23.

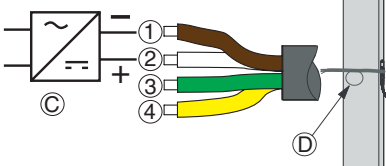
WARNING

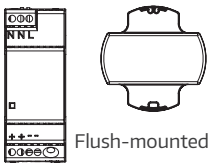
Danger to life from electrical voltage!

Electrical connections (power supply, cables) may only be made by authorised personnel!

- Ⓔ1 **Cable controller - finger scan**
- Ⓔ2 **Cable controller - motor**
- Ⓔ3 **Cable transition - motor cable**







Flush-mounted power supply

Top hat rail power supply

CAUTION

It is recommended that the A-TS with motorised opening is only operated with tested and approved power supplies intended for this purpose (see pages 8, 9 and 10).

Access solutions & interfaces

9.6 Somfy Smart lock controller

Cable assignment - cable transition

Plug & Play plug connection motor to:

Ⓐ **Cable transition**

Ⓑ **Voltage supply**

Ⓒ **Loop for strain relief**

Plug & play plug / cable assignment:

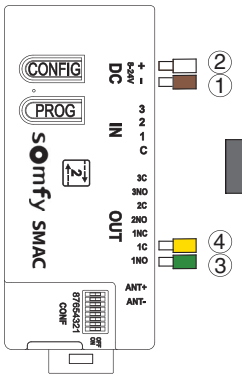
① Brown operating voltage motor negative -

② White operating voltage motor positive +

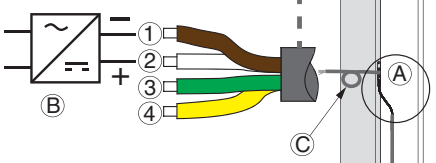
③ Green control voltage* negative -

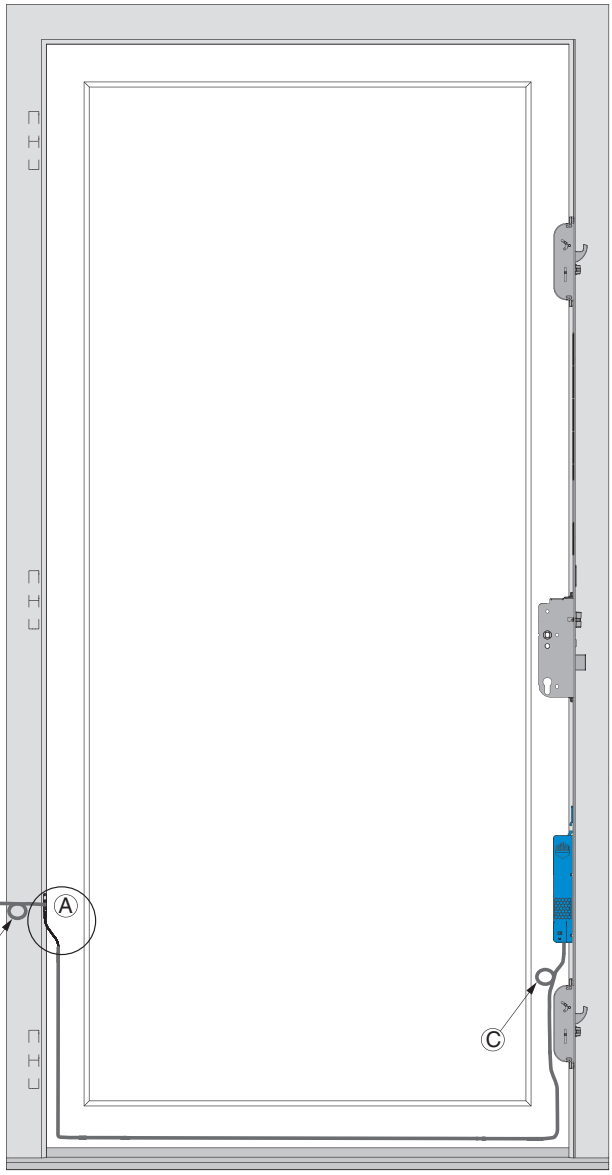
④ Yellow control voltage* positive +

(③ + ④ Potential-free input)



A_TS without lock monitoring
DIP No. 3 = ON

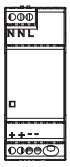


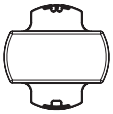


WARNING

Danger to life from electrical voltage!

Electrical connections (power supply, cables) may only be made by authorised personnel!





Flush-mounted power supply

Top hat rail power supply

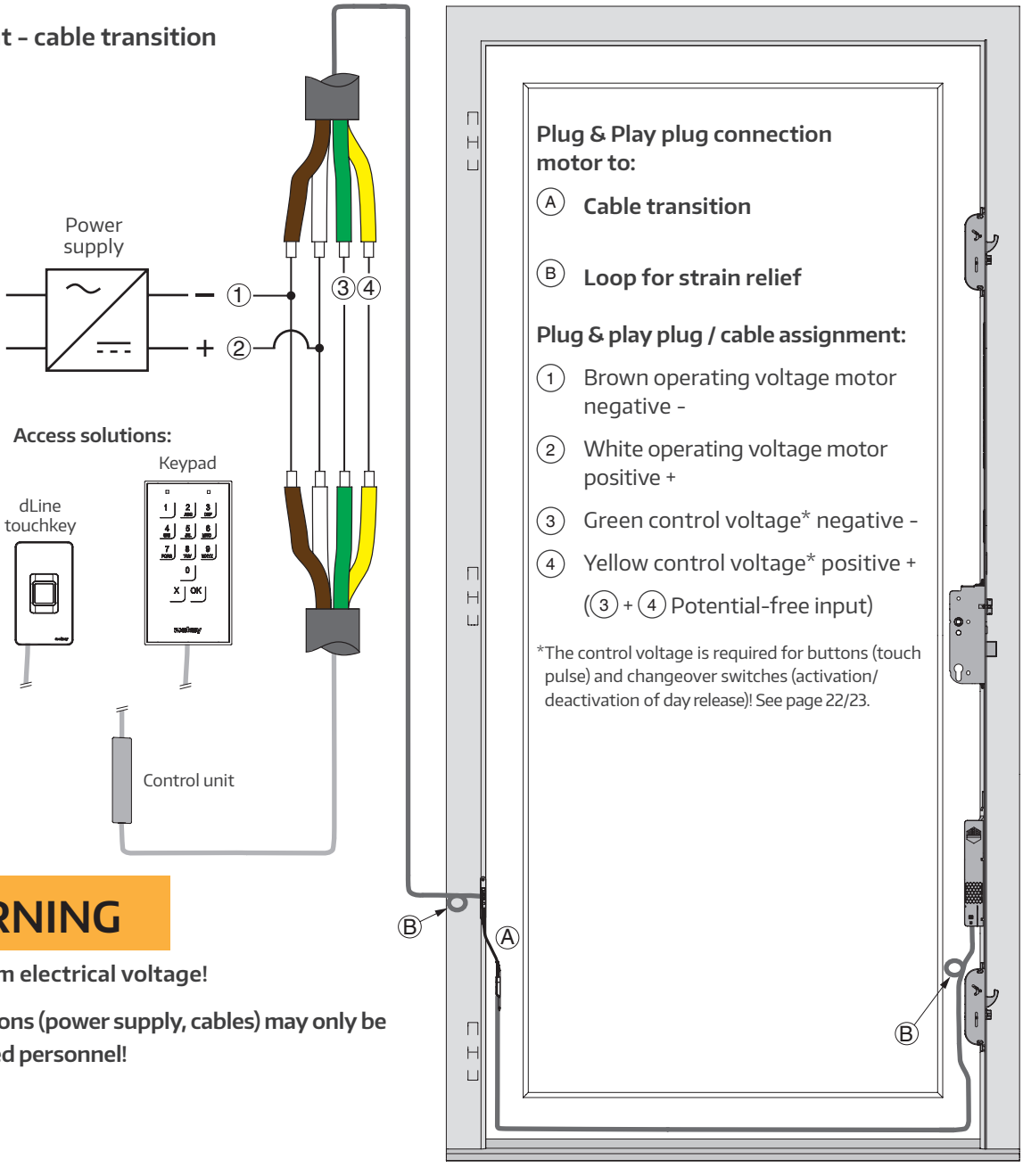
CAUTION

It is recommended that the A-TS with motorised opening is only operated with tested and approved power supplies intended for this purpose (see pages 8, 9 and 10).

Access solutions & interfaces

9.7 Frame-side circuit diagram

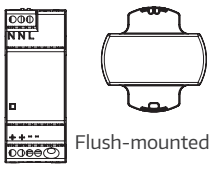
Cable assignment - cable transition



WARNING

Danger to life from electrical voltage!

Electrical connections (power supply, cables) may only be made by authorised personnel!



Flush-mounted power supply

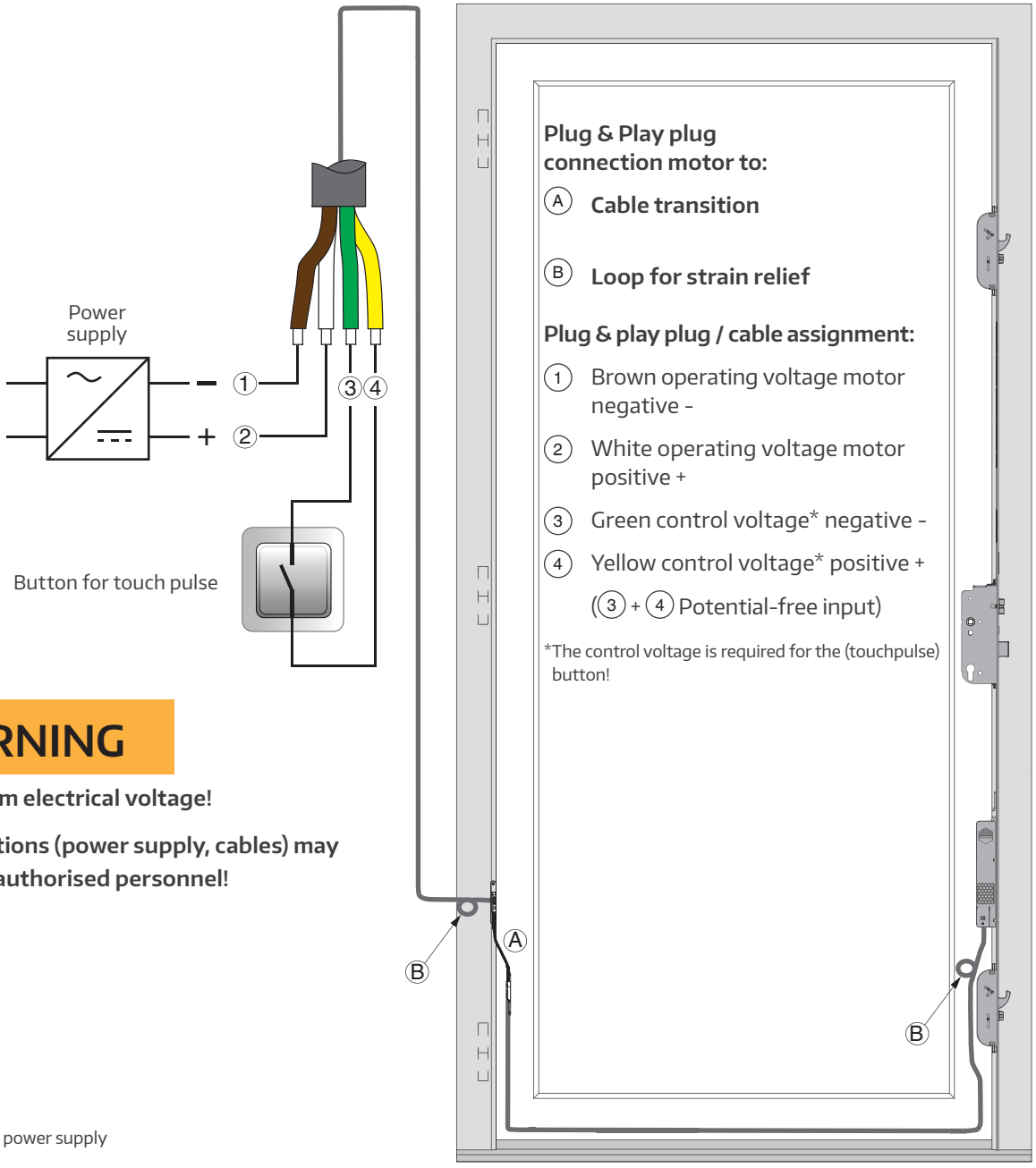
Top hat rail power supply

CAUTION

It is recommended that the A-TS with motorised opening is only operated with tested and approved power supplies intended for this purpose (see pages 8, 9 and 10).

9.8 Touch pulse circuit diagram

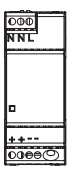
Cable assignment - cable transition



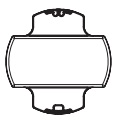
WARNING

Danger to life from electrical voltage!

Electrical connections (power supply, cables) may only be made by authorised personnel!



Top hat rail power supply



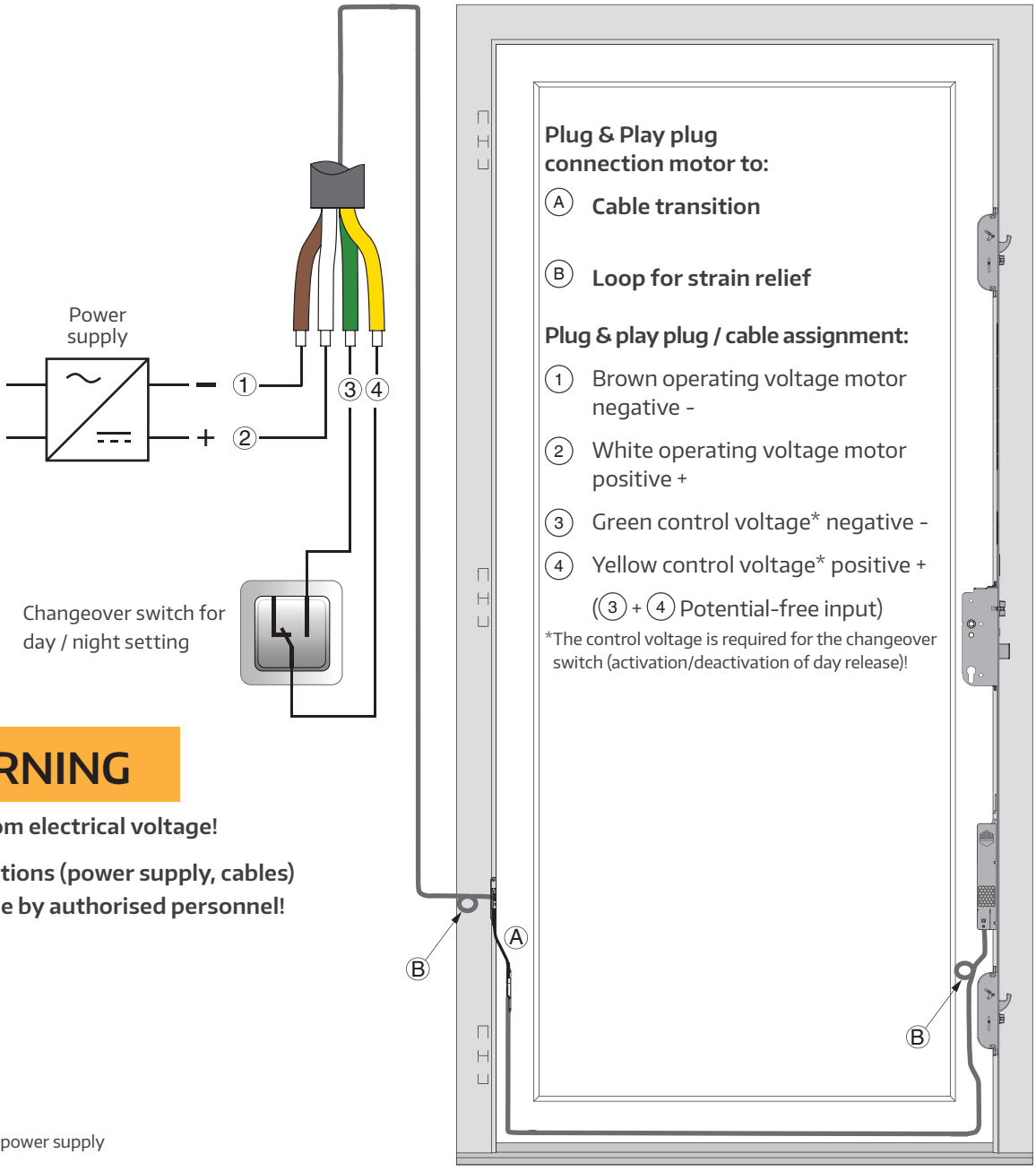
Flush-mounted power supply

CAUTION

It is recommended that the A-TS with motorised opening is only operated with tested and approved power supplies intended for this purpose (see pages 8, 9 and 10).

9.9 Changeover switch circuit diagram (motorised day position)

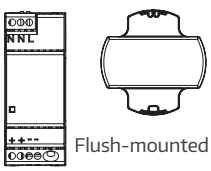
Cable assignment - cable transition



WARNING

Danger to life from electrical voltage!

Electrical connections (power supply, cables) may only be made by authorised personnel!



Top hat rail power supply

Flush-mounted power supply

CAUTION

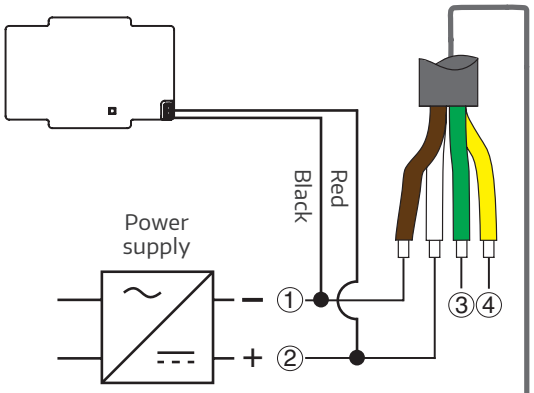
It is recommended that the A-TS with motorised opening is only operated with tested and approved power supplies intended for this purpose (see pages 8, 9 and 10).

9.10 UPS (uninterruptible power supply) connection diagram

The use of the MACO UPS (item no. 480987) is recommended by MACO and bridges common, short-term power failures without functional restrictions. The bridging time depends on the actual system configuration. In the unlikely event of a power failure during a motorised opening or closing operation, the mechanism may jam. The lock moves to the desired position with the UPS. Without a UPS, the A-TS can be operated manually using a key or handle (from the inside) in the event of a power failure when closed or open.

CAUTION

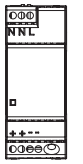
For UPS operation, at least one additional consumer (BLE module, access control,...) must be connected. Otherwise, the UPS will go into standby mode and will NOT be active in the event of a power failure.



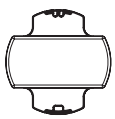
WARNING

Danger to life from electrical voltage!

Electrical connections (power supply, cables) may only be made by authorised personnel!



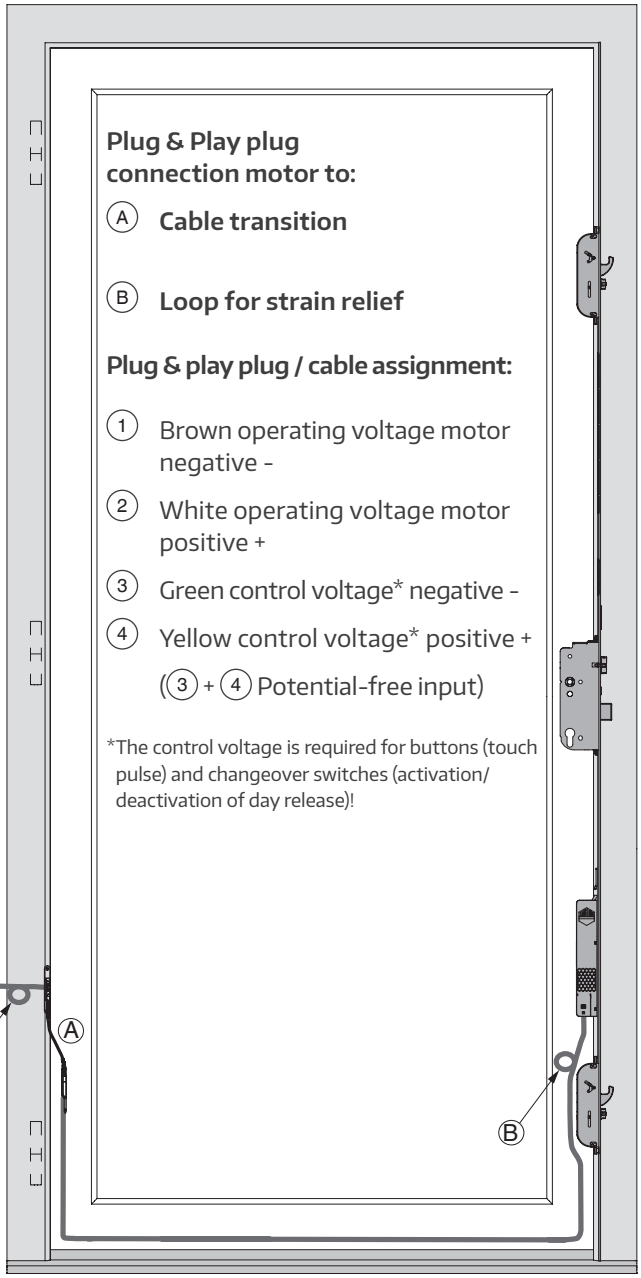
Top hat rail power supply



Flush-mounted power supply

CAUTION

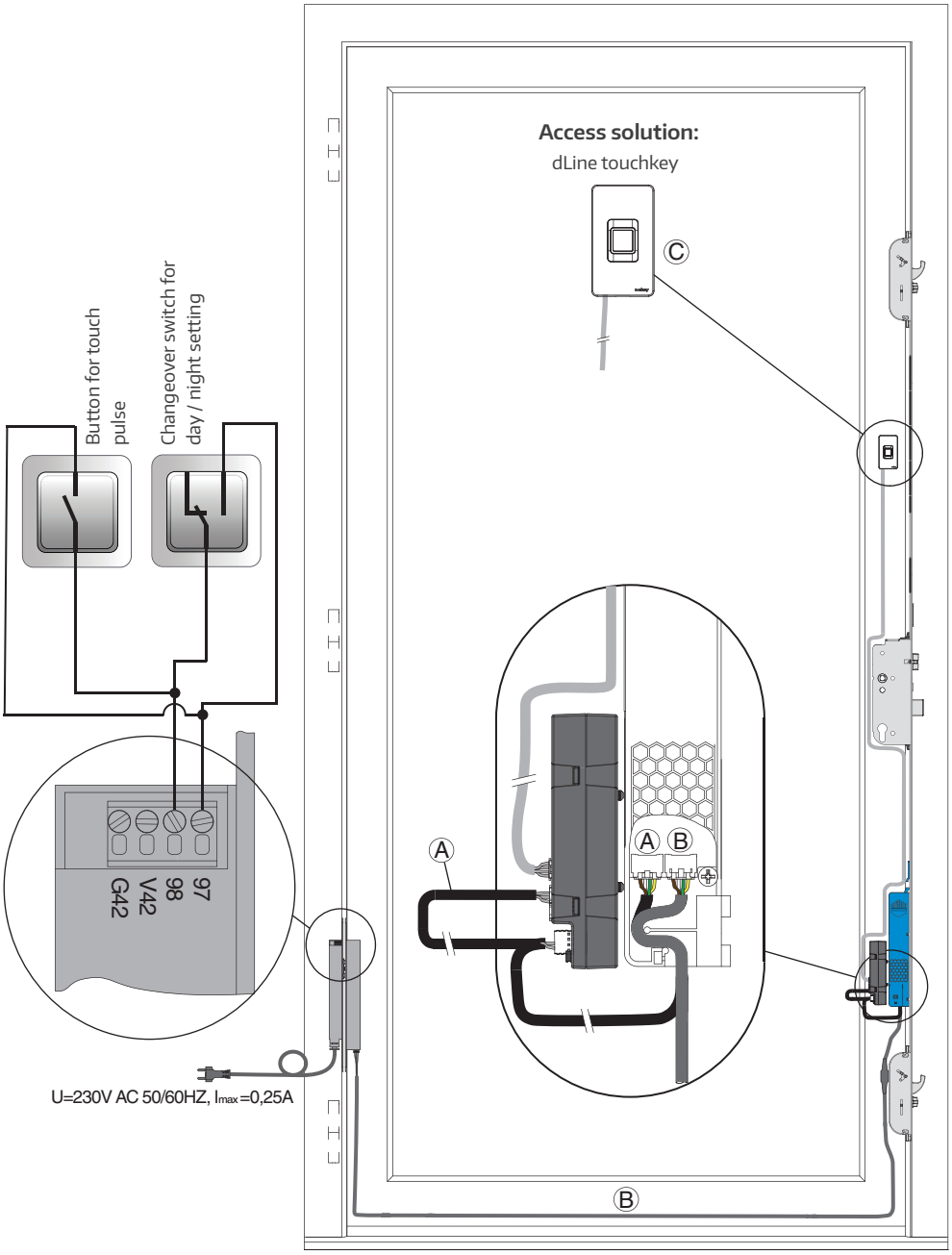
It is recommended that the A-TS with motorised opening is only operated with tested and approved power supplies intended for this purpose (see pages 8, 9 and 10).



9.11 Plunger contact secureConnect dLine touchkey

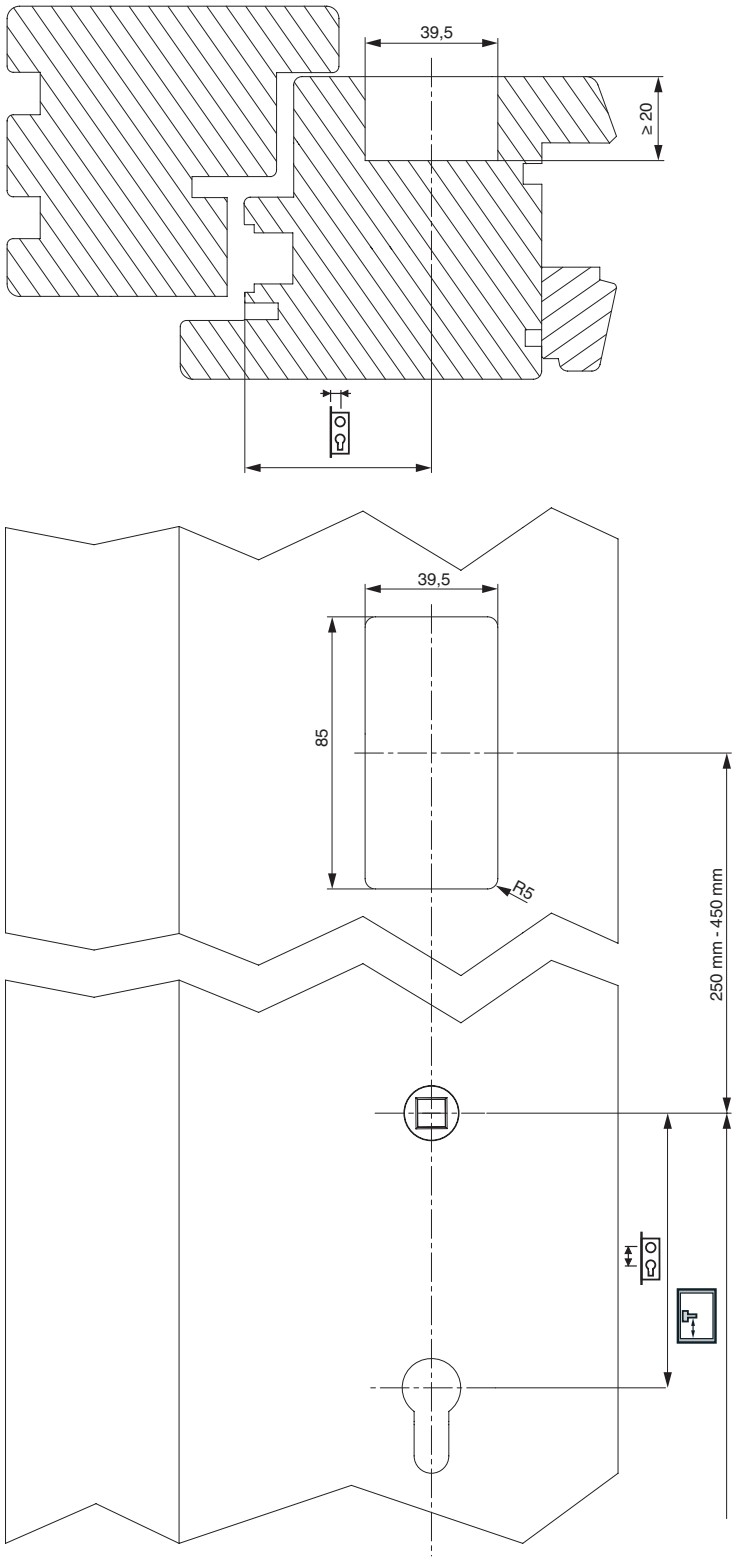
Plug & Play plug connection motor to:

- Ⓐ **Adapter cable for motor to dLine control unit (item no. 482148)**
- Ⓑ **Adapter cable for plunger contact to motor (item no. 478821)**
- Ⓒ **dLine access control**



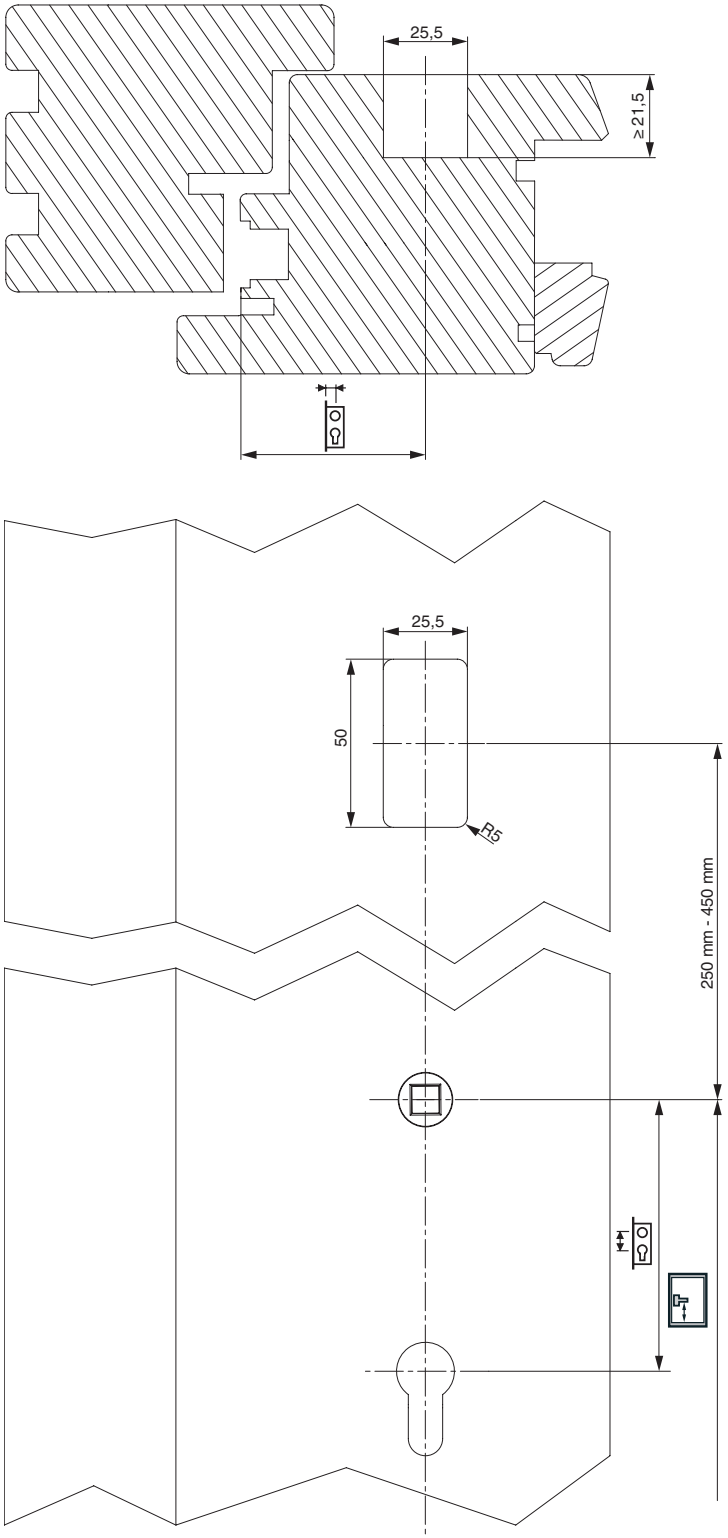
10. Timber profile milling images

10.1 Keypad milling image



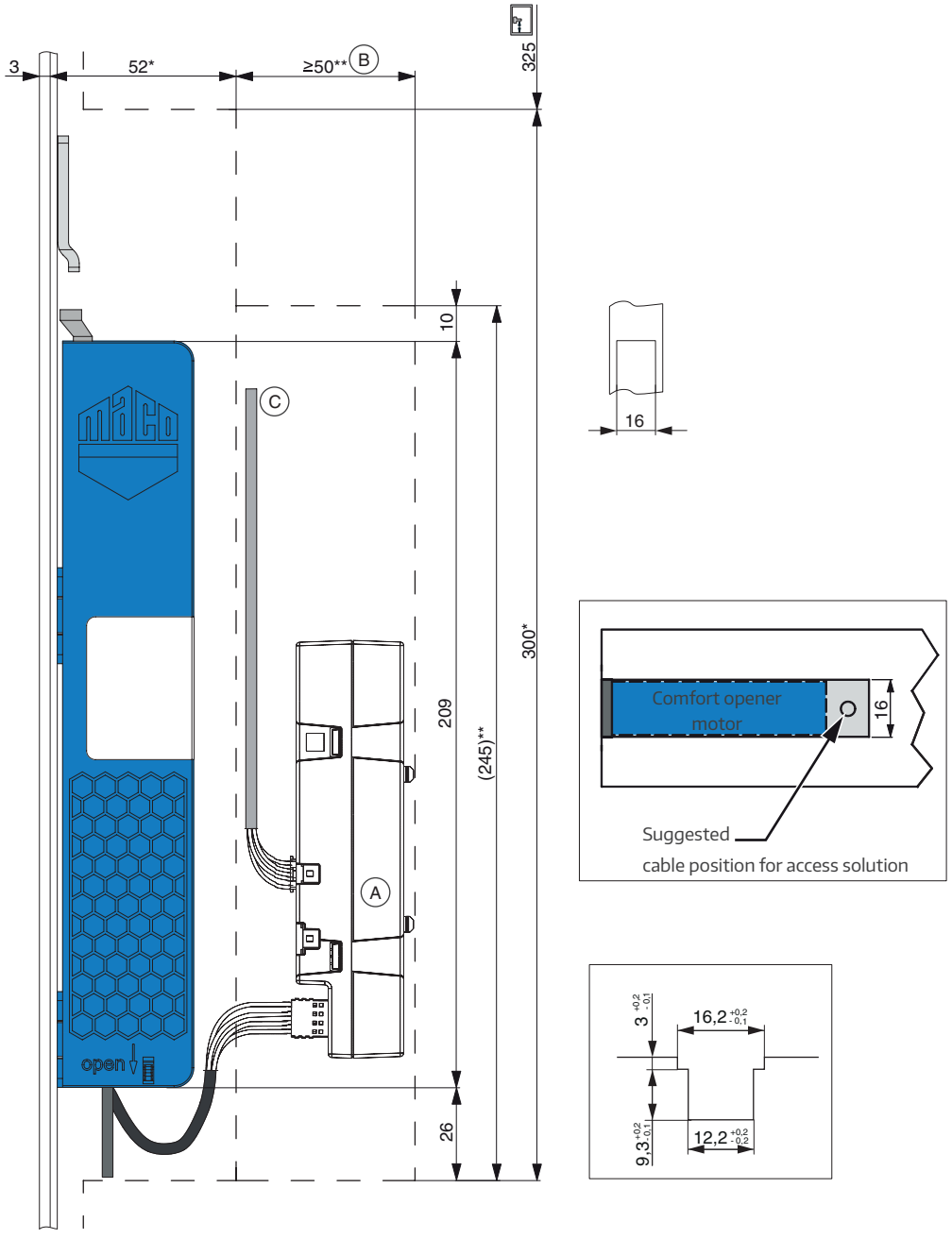
Timber profile milling images

10.2 dLine touchkey milling image



Timber profile milling images

10.3 Motor milling image

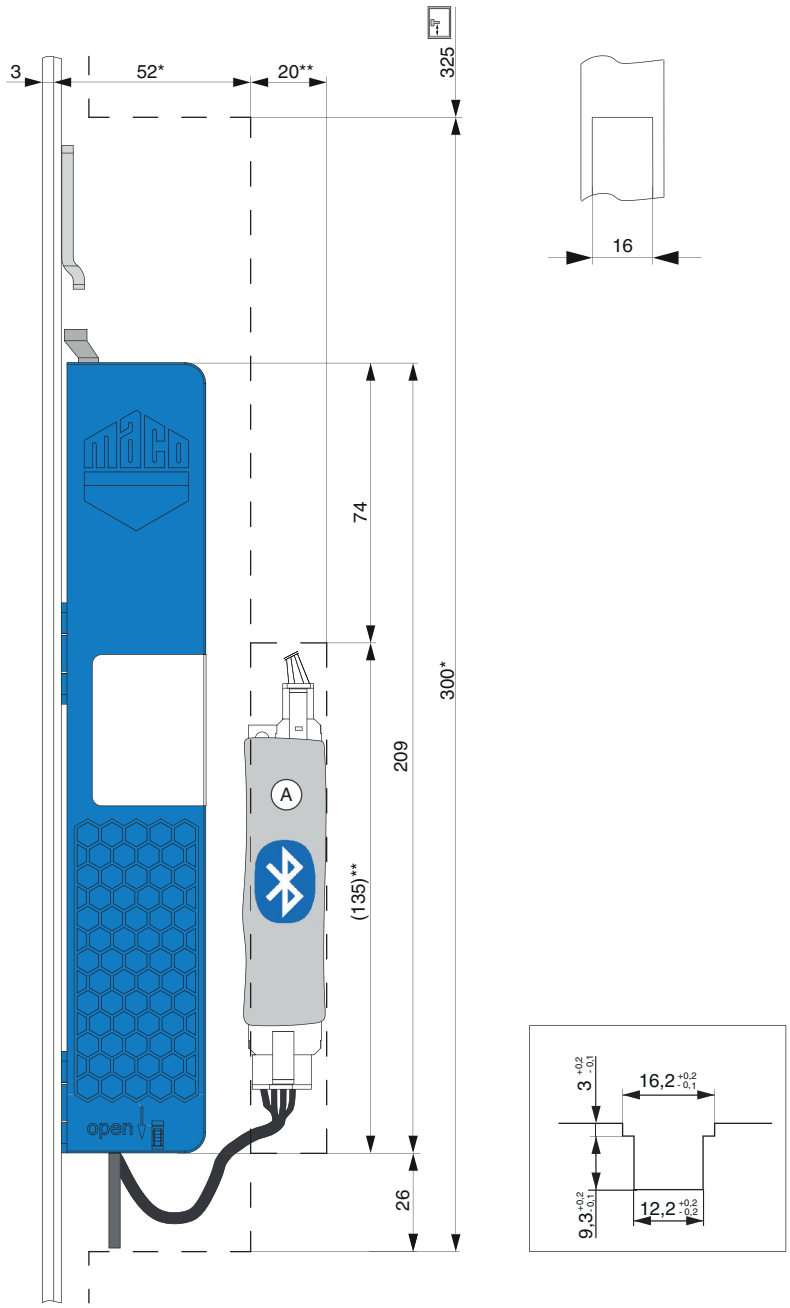


(A) dLine control unit for access solutions
(B) Cable duct for Comfort solution
(C) Cable for openDoor access solutions

* Milling for motor
** Milling for dLine control unit

Timber profile milling images

10.4 Motor milling image with BLE module

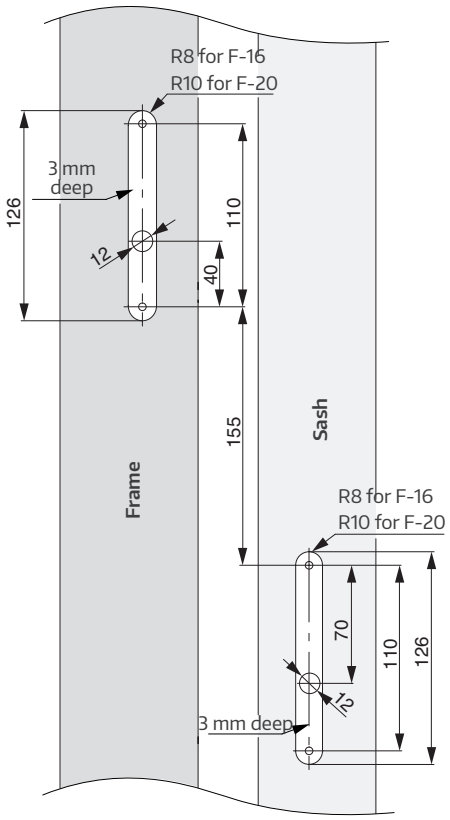


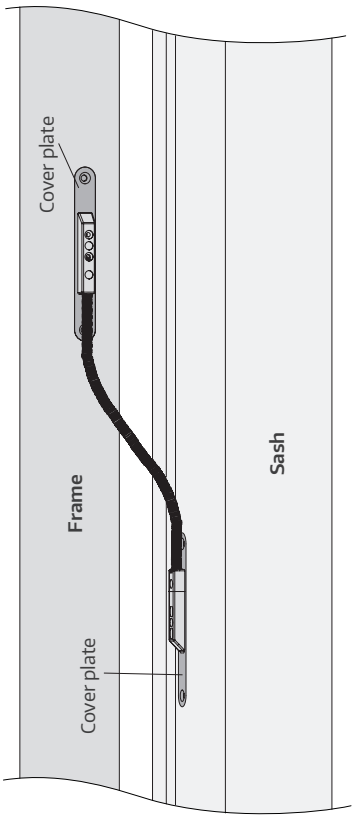
(A) BLE module

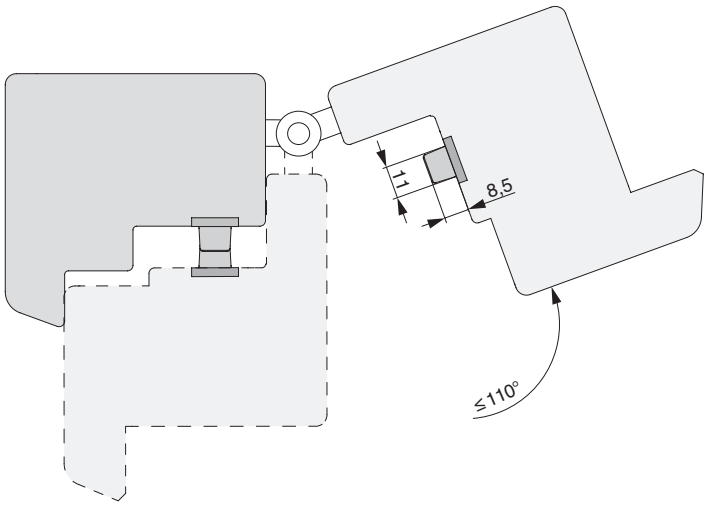
* Milling for motor
** Milling for BLE module

Timber profile milling images

10.5 Cable transition for opening angle ≤110°, 12 clearance

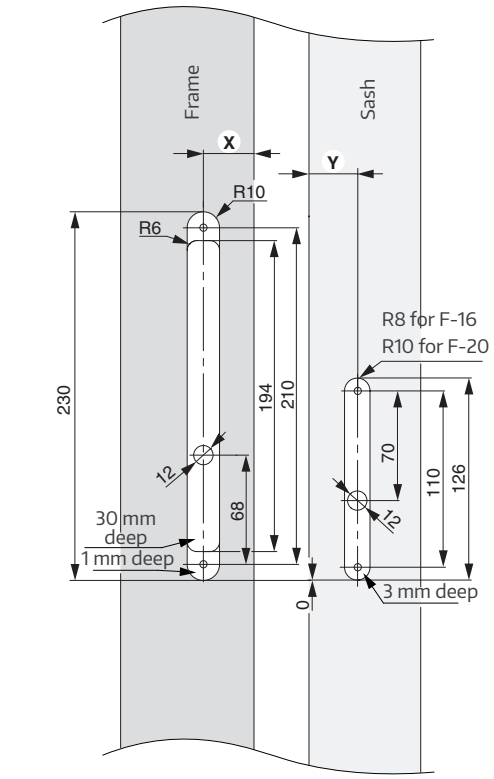


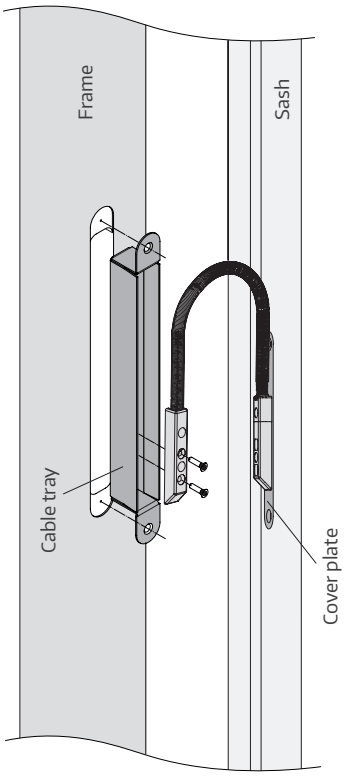


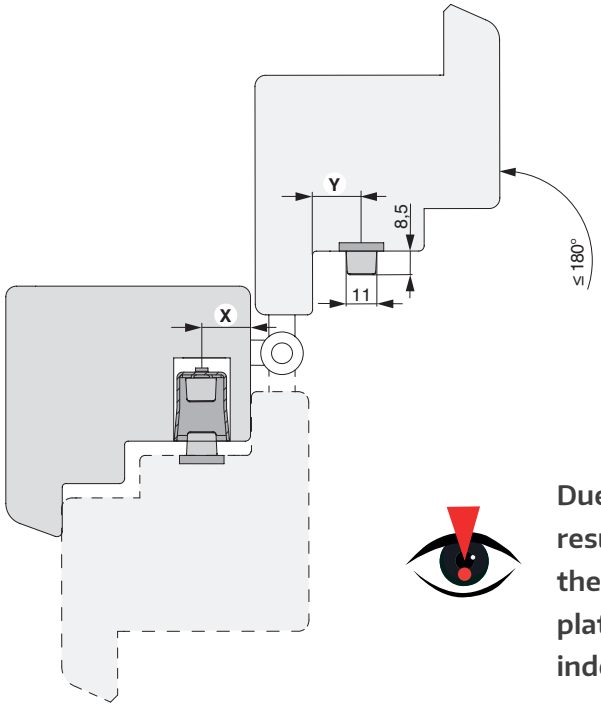


Timber profile milling images

10.6 Cable transition for opening angle ≤180°, 4 clearance, 12 clearance



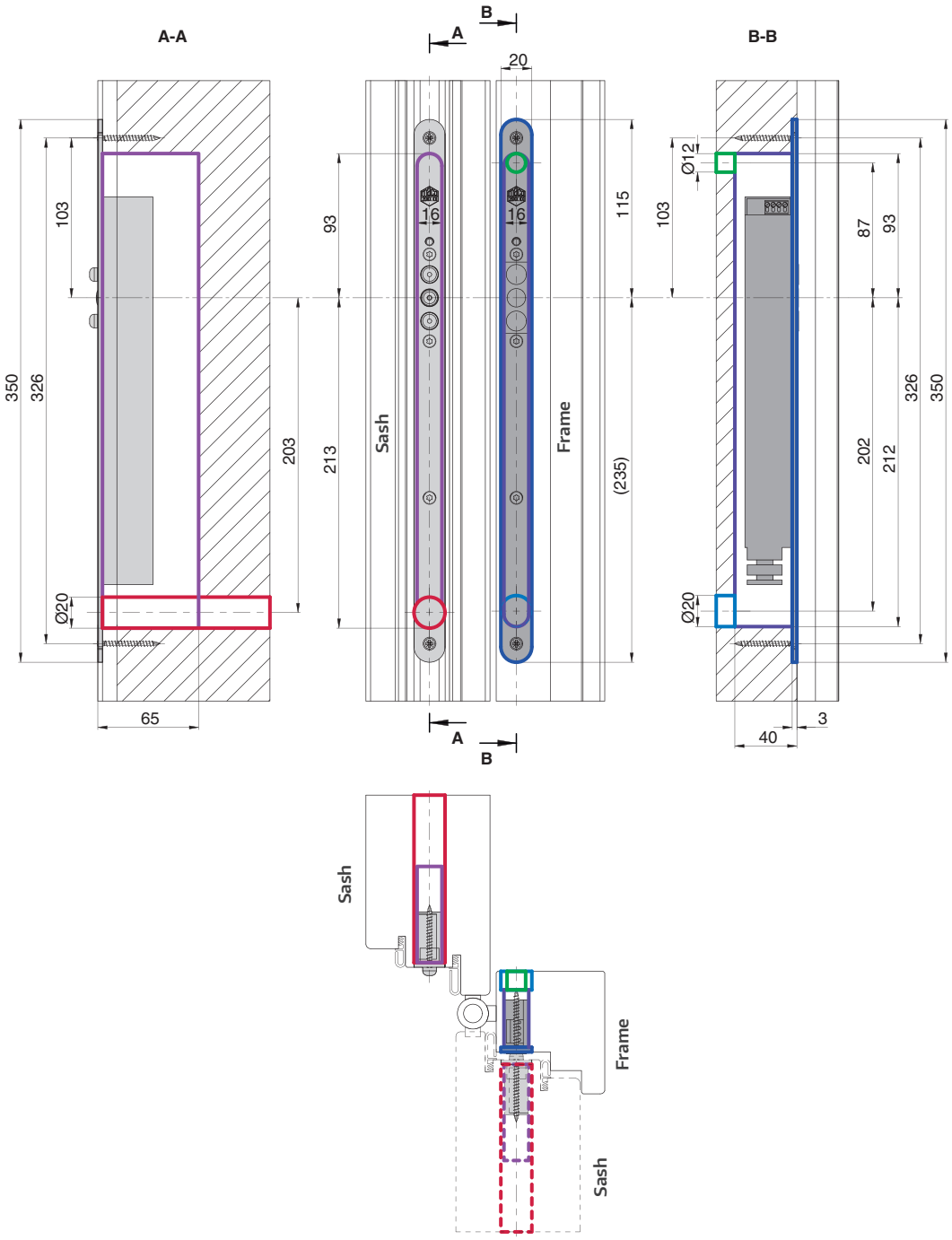




Due to the different hinge designs and the resulting insertion axes, the position of the cable tray (dimension X) and the cover plate (dimension Y) must be determined independently!

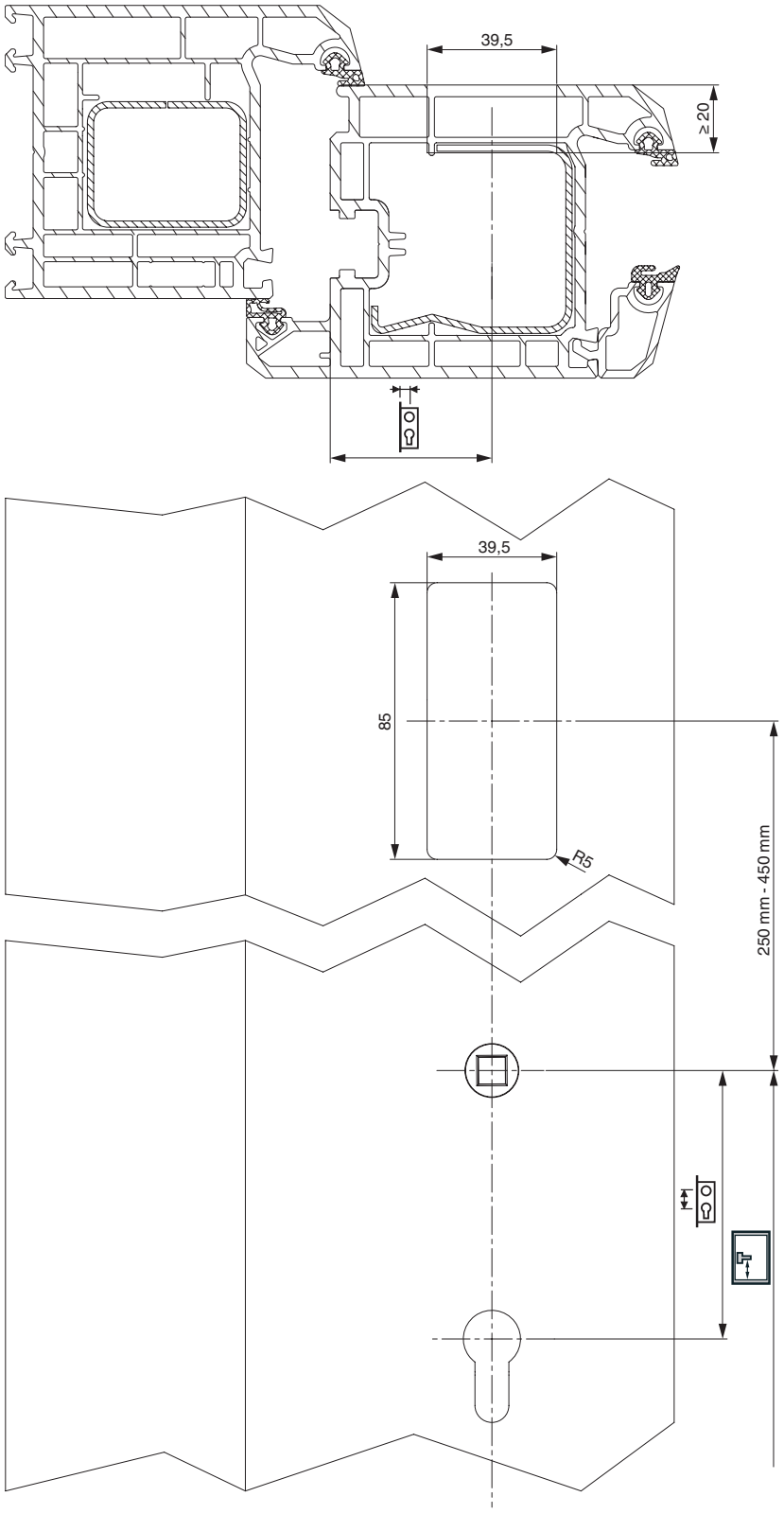
Timber profile milling images

10.7 Plunger contact



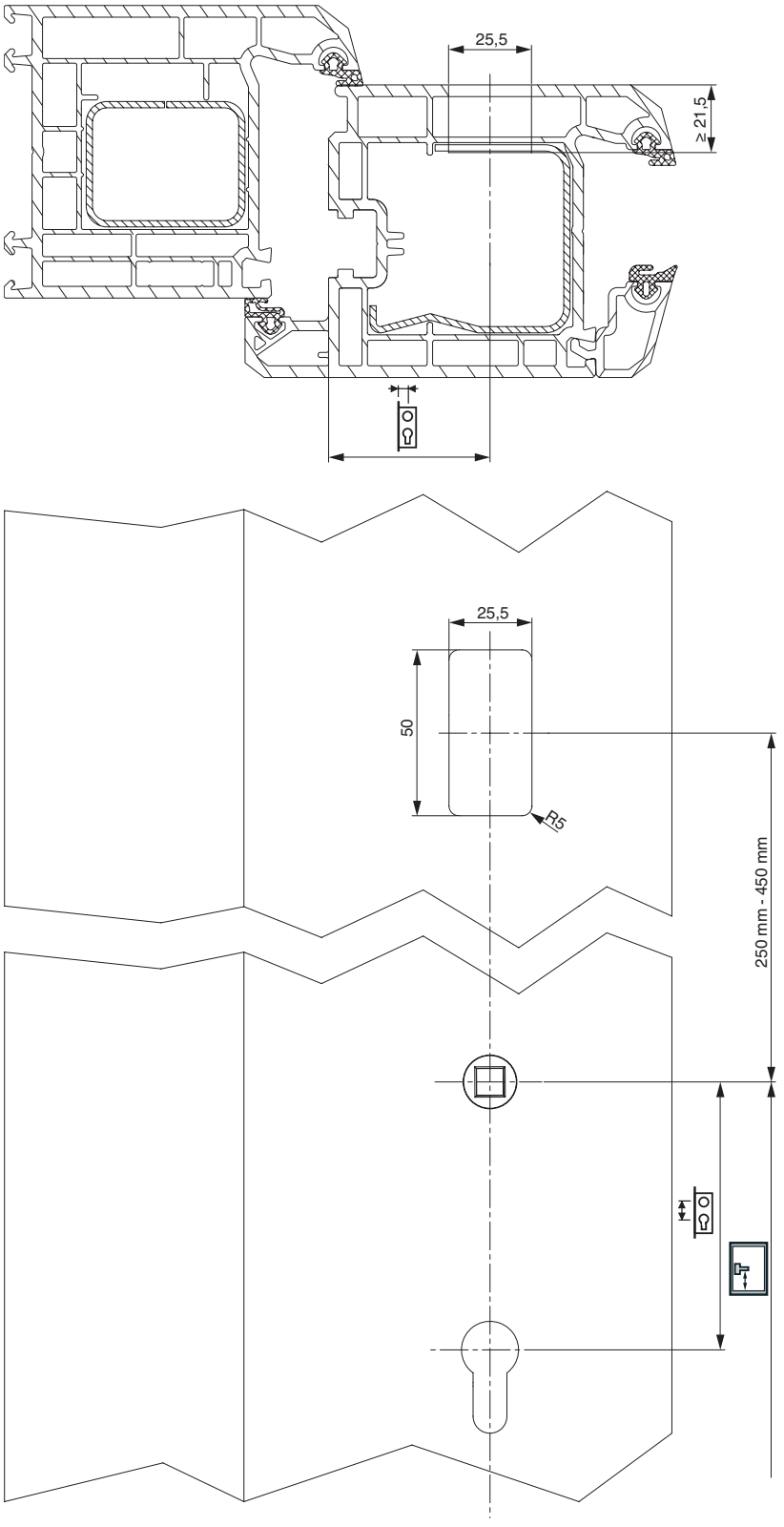
11. PVC profile milling images

11.1 Keypad milling image



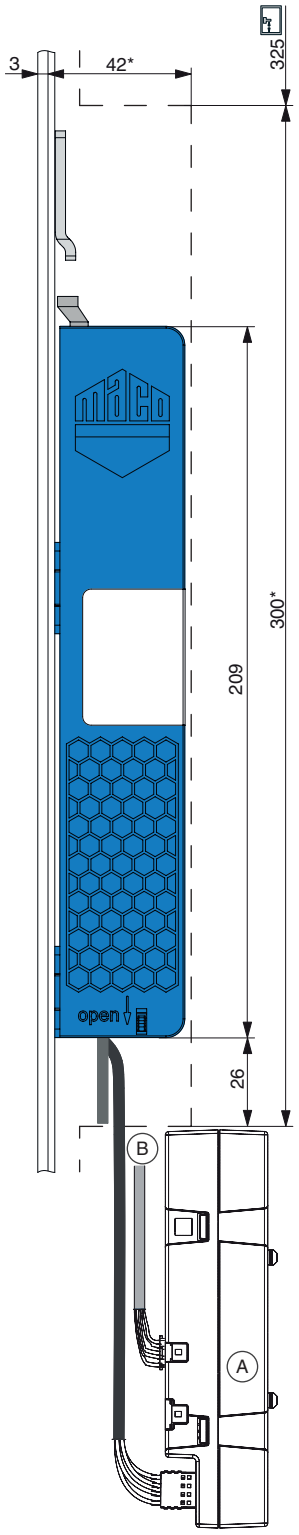
PVC profile milling images

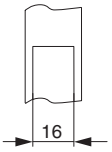
11.2 dLine touchkey milling image

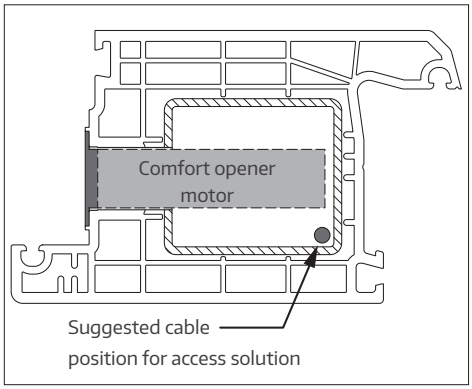


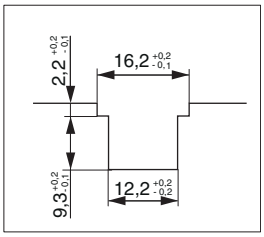
PVC profile milling images

11.3 Motor milling image







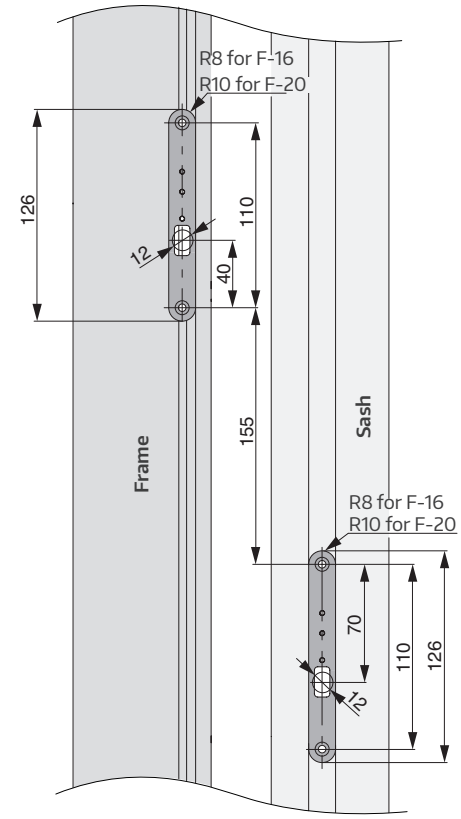


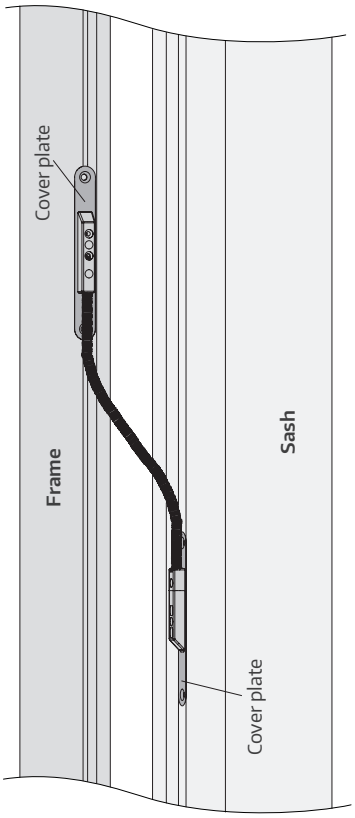
(A) dLine control unit for access solutions
(B) Cable for openDoor access solutions

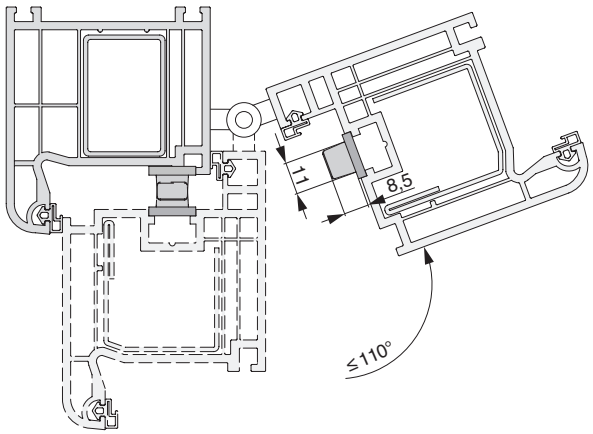
* Milling for motor

PVC profile milling images

11.4 Cable transition for opening angle ≤110°, 12 clearance

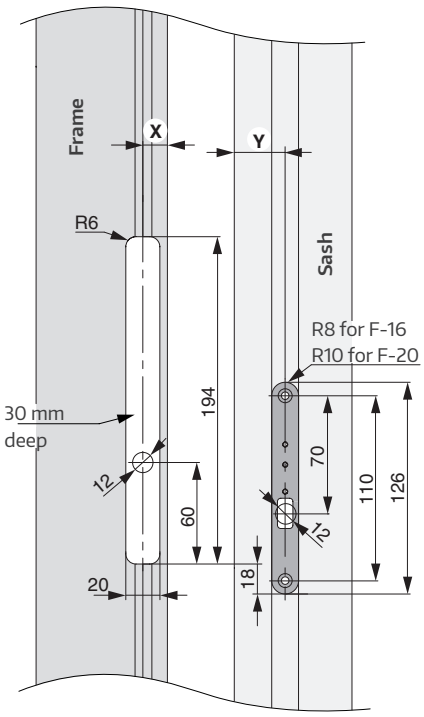


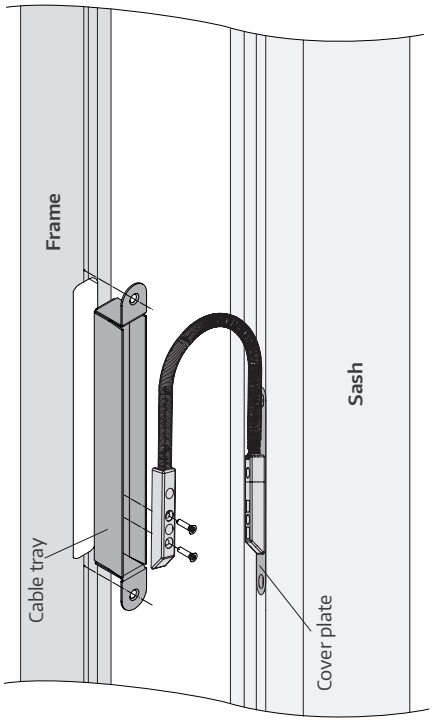


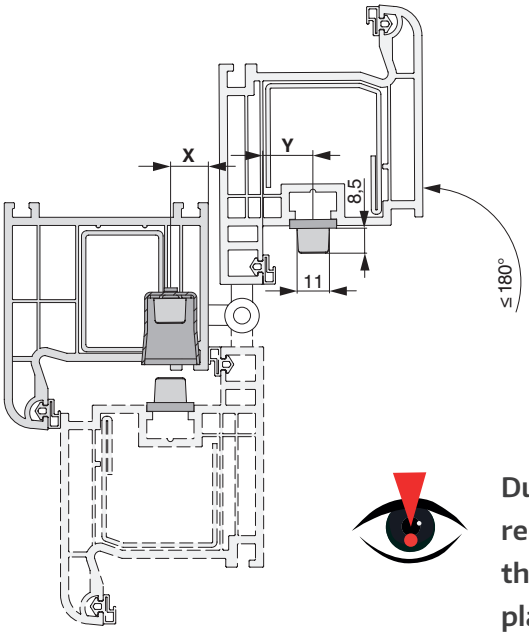


PVC profile milling images

11.5 Cable transition for opening angle ≤180°, 12 clearance



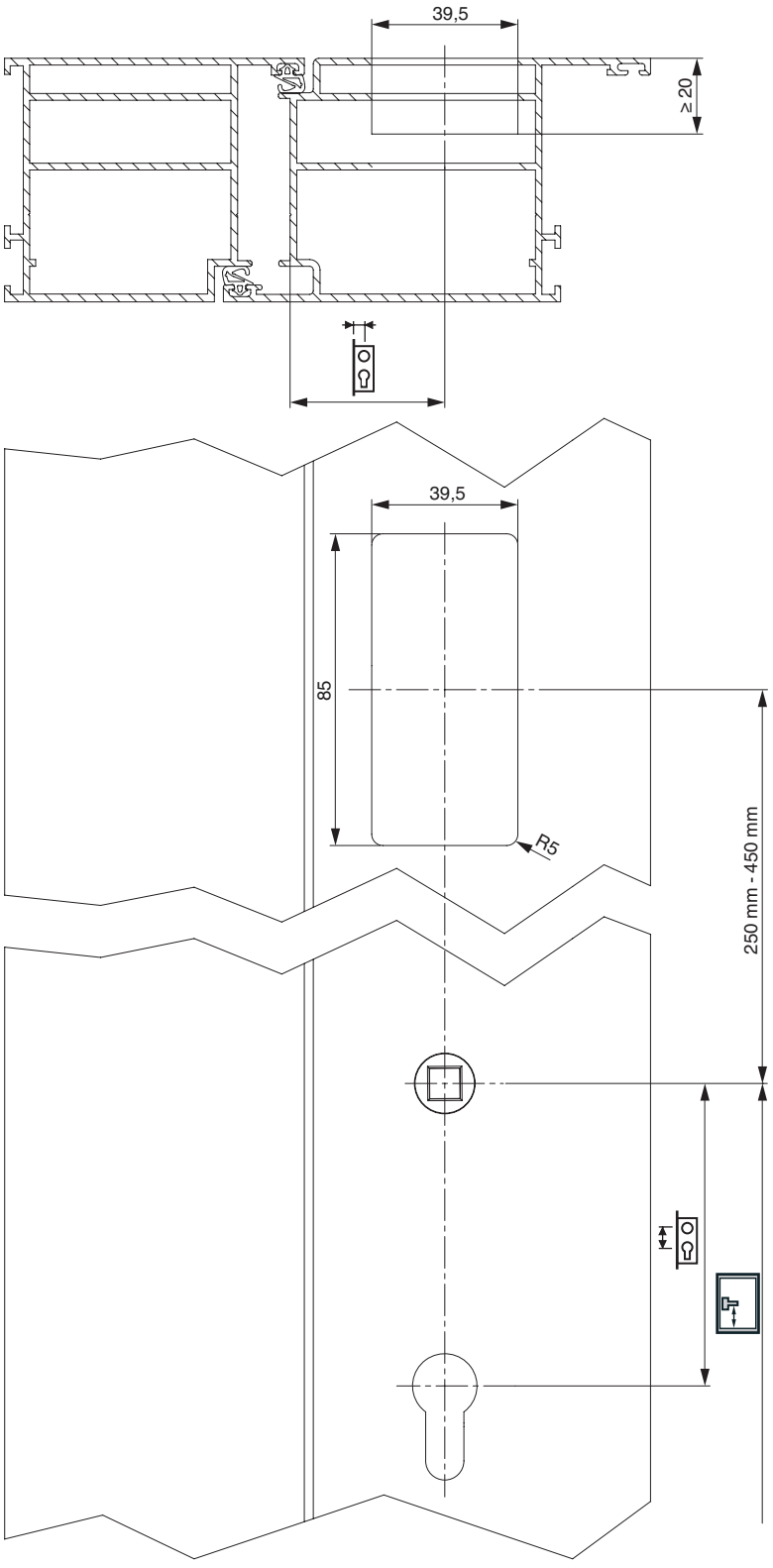




Due to the different hinge designs and the resulting insertion axes, the position of the cable tray (dimension X) and the cover plate (dimension Y) must be determined independently!

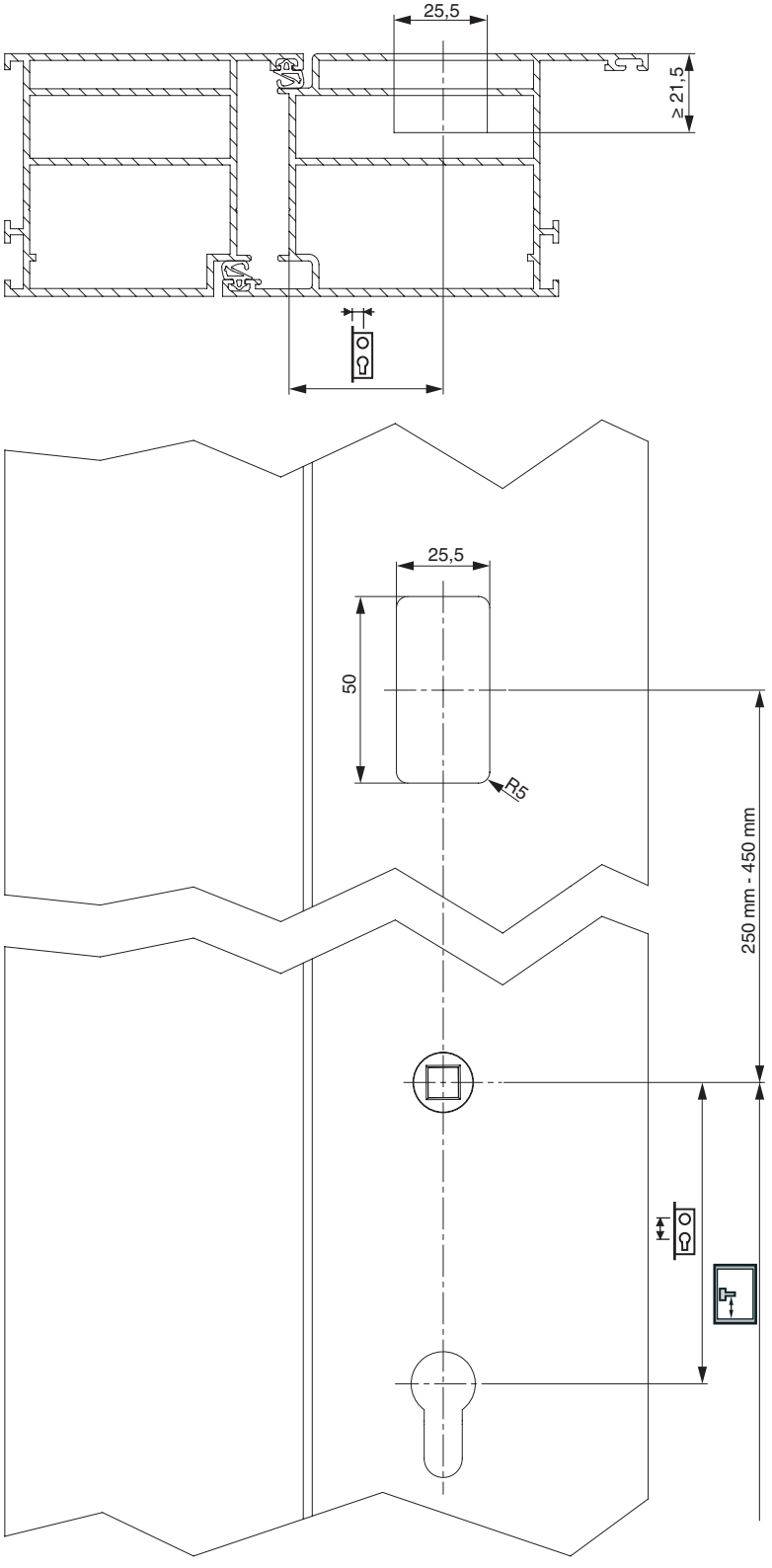
12. Aluminium profile milling images

12.1 Keypad milling image



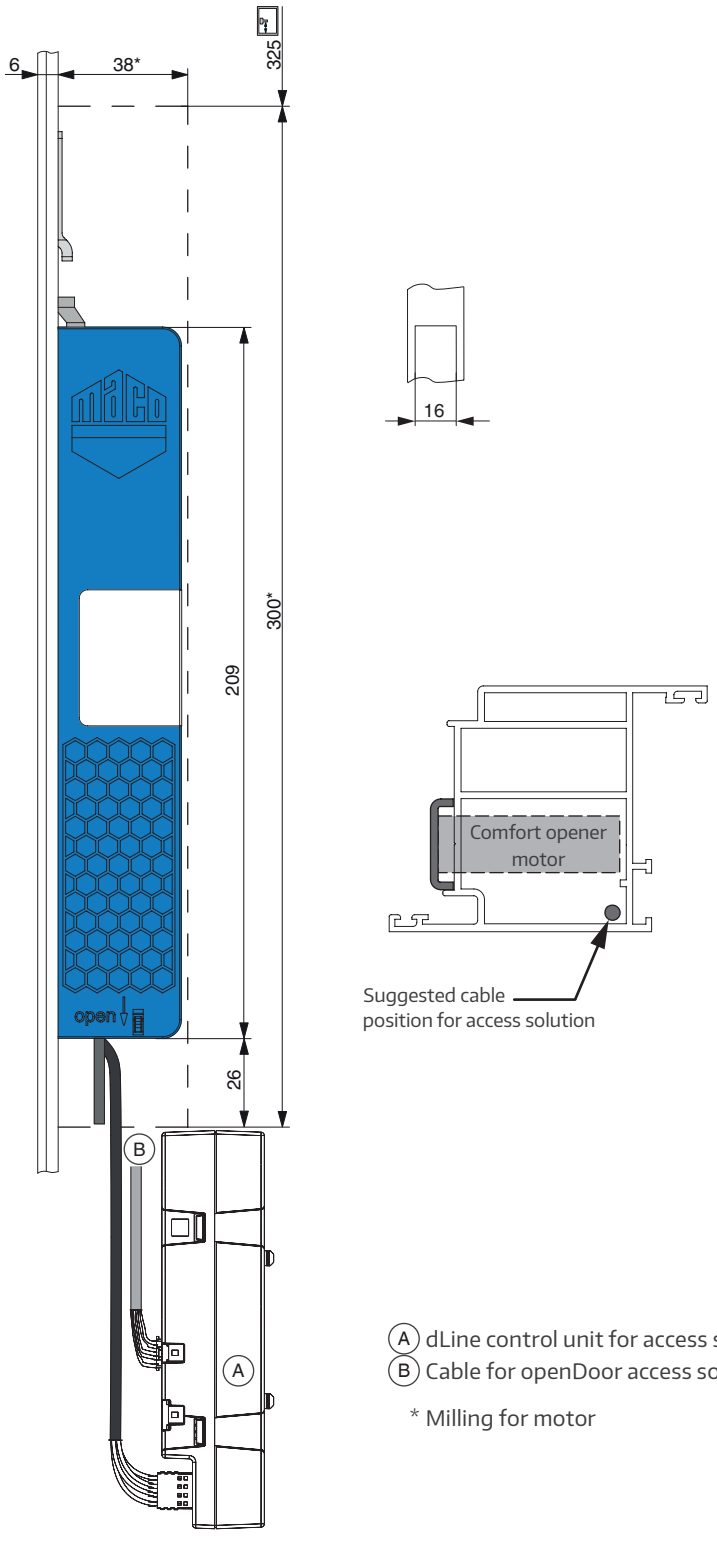
Aluminium profile milling images

12.2 dLine touchkey milling image



Aluminium profile milling images

12.3 Motor milling image

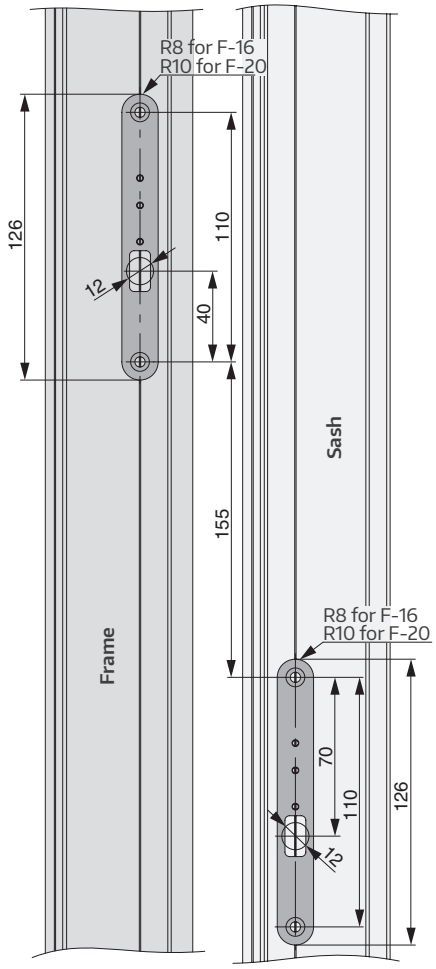


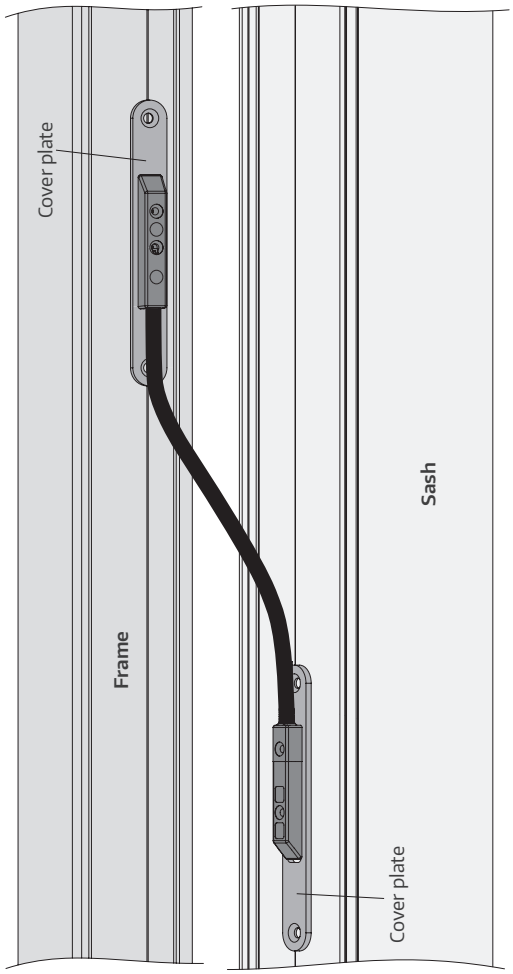
(A) dLine control unit for access solutions
(B) Cable for openDoor access solutions

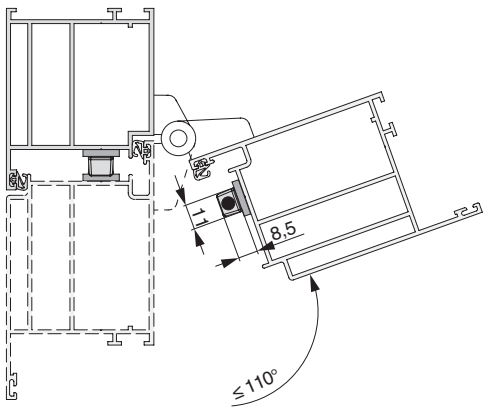
* Milling for motor

Aluminium profile milling images

12.4 Cable transition for opening angle ≤110°, aluminium 12 clearance

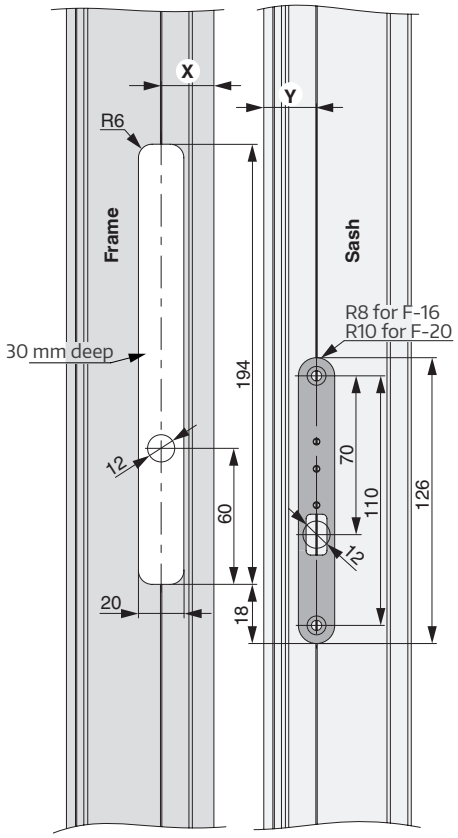


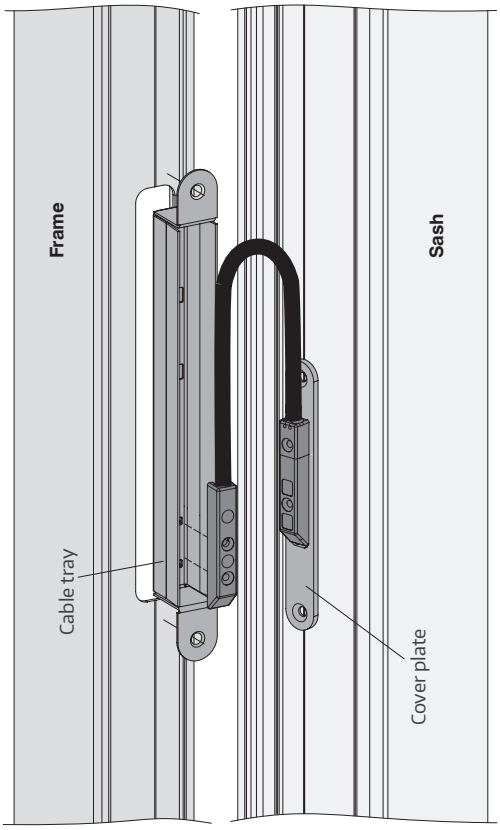


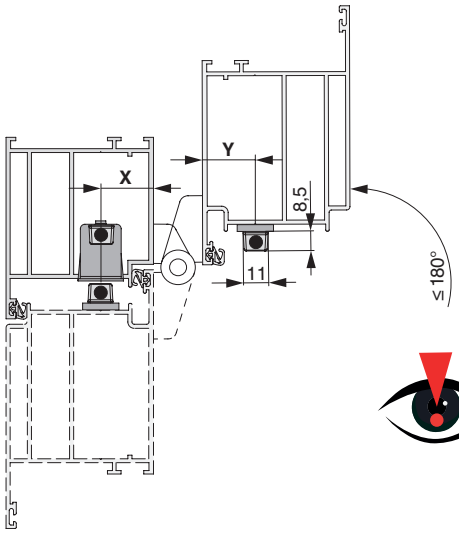


Aluminium profile milling images

12.5 Cable transition for opening angle ≤180°, aluminium 4 clearance, 12 clearance



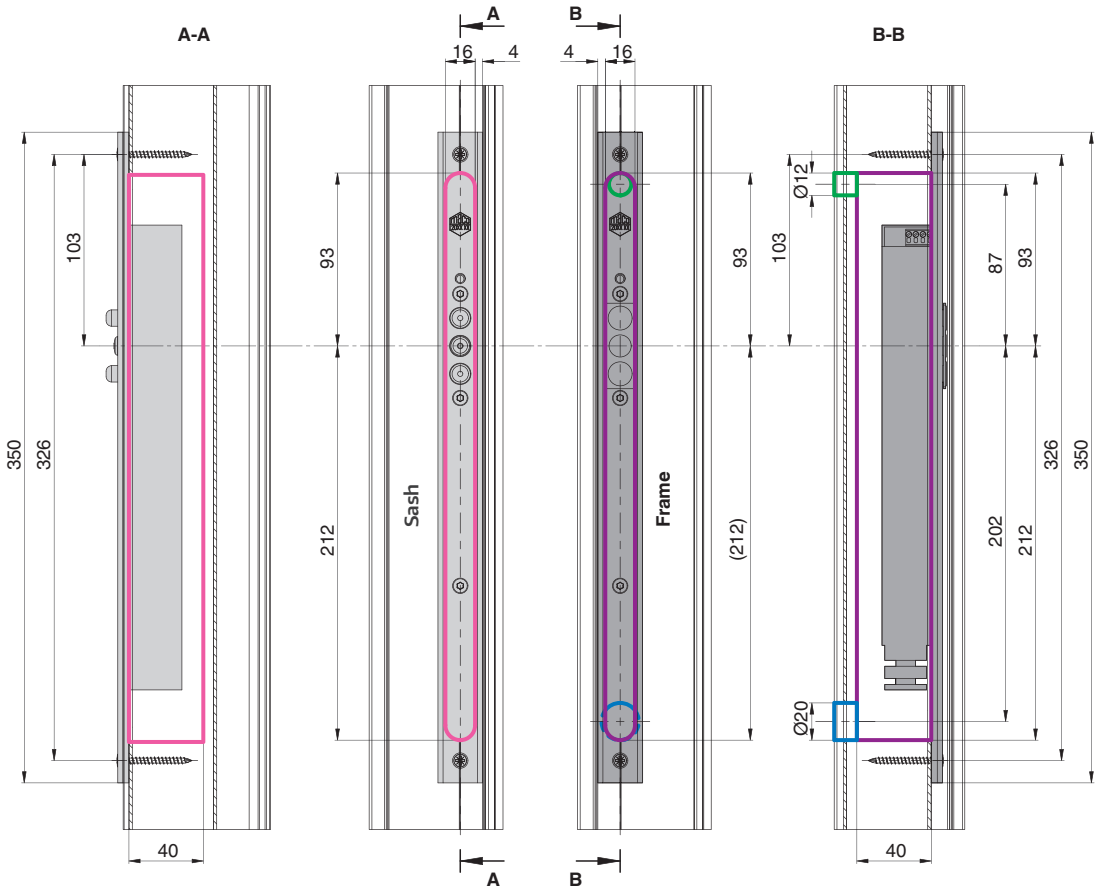


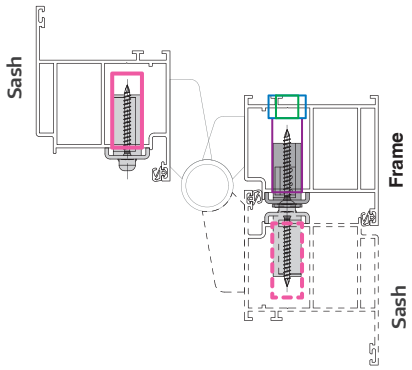


Due to the different hinge designs and the resulting insertion axes, the position of the cable tray (dimension X) and the cover plate (dimension Y) must be determined independently!

Aluminium profile milling images

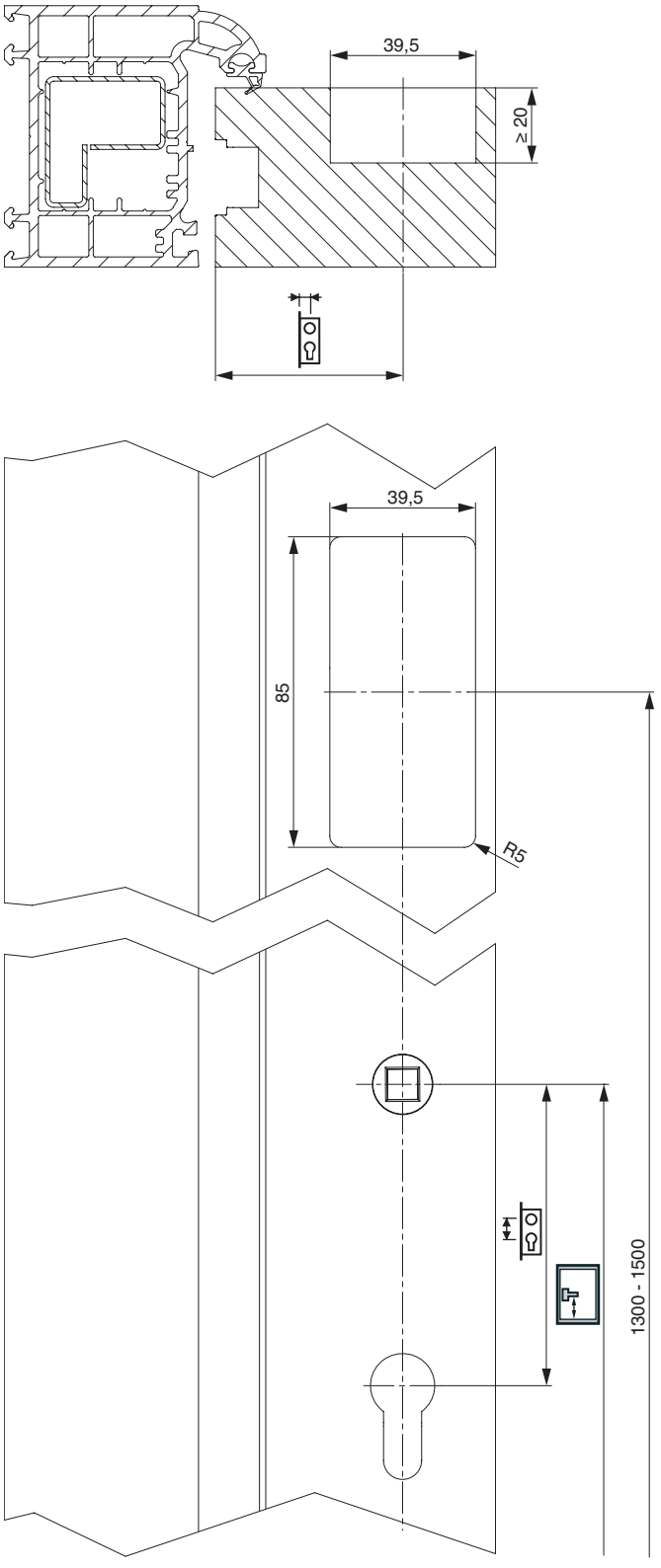
12.6 Plunger contact





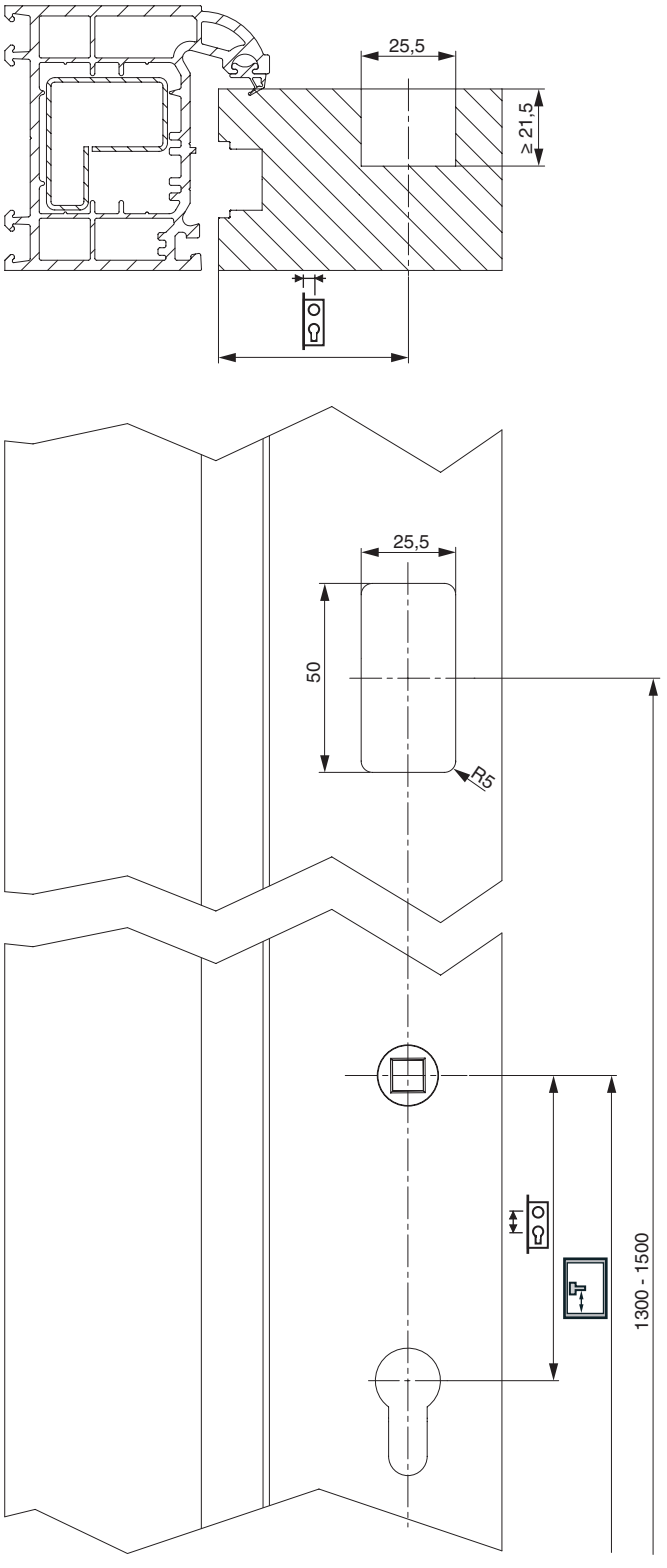
13. Composite milling images

13.1 Keypad milling image



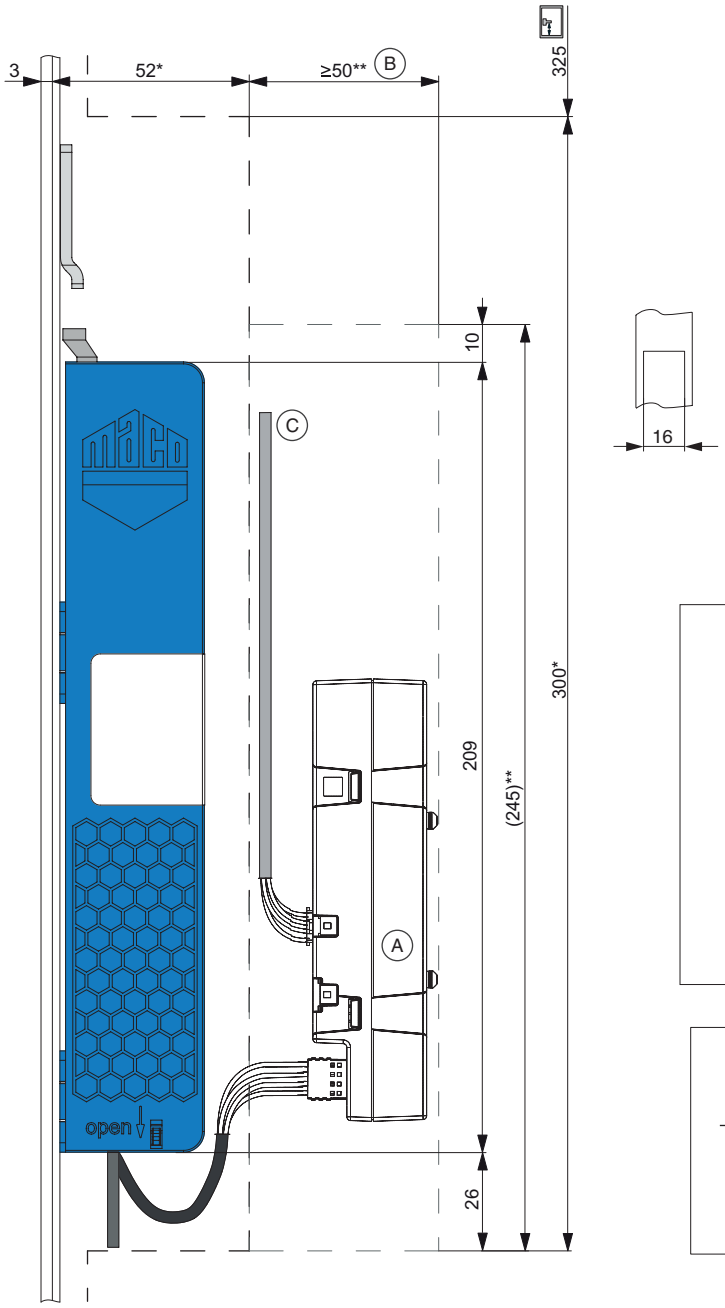
Composite milling images

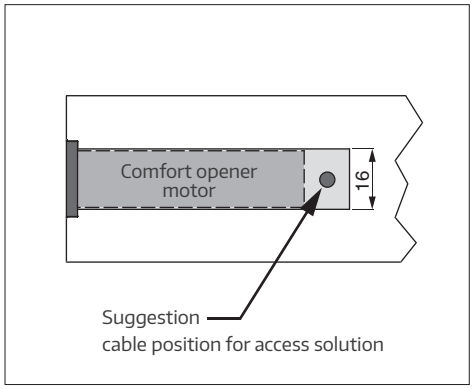
13.2 dLine touchkey milling image

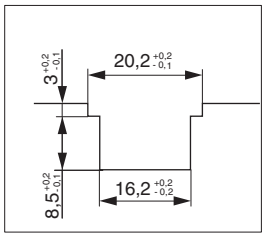


Composite milling images

13.3 Motor milling image





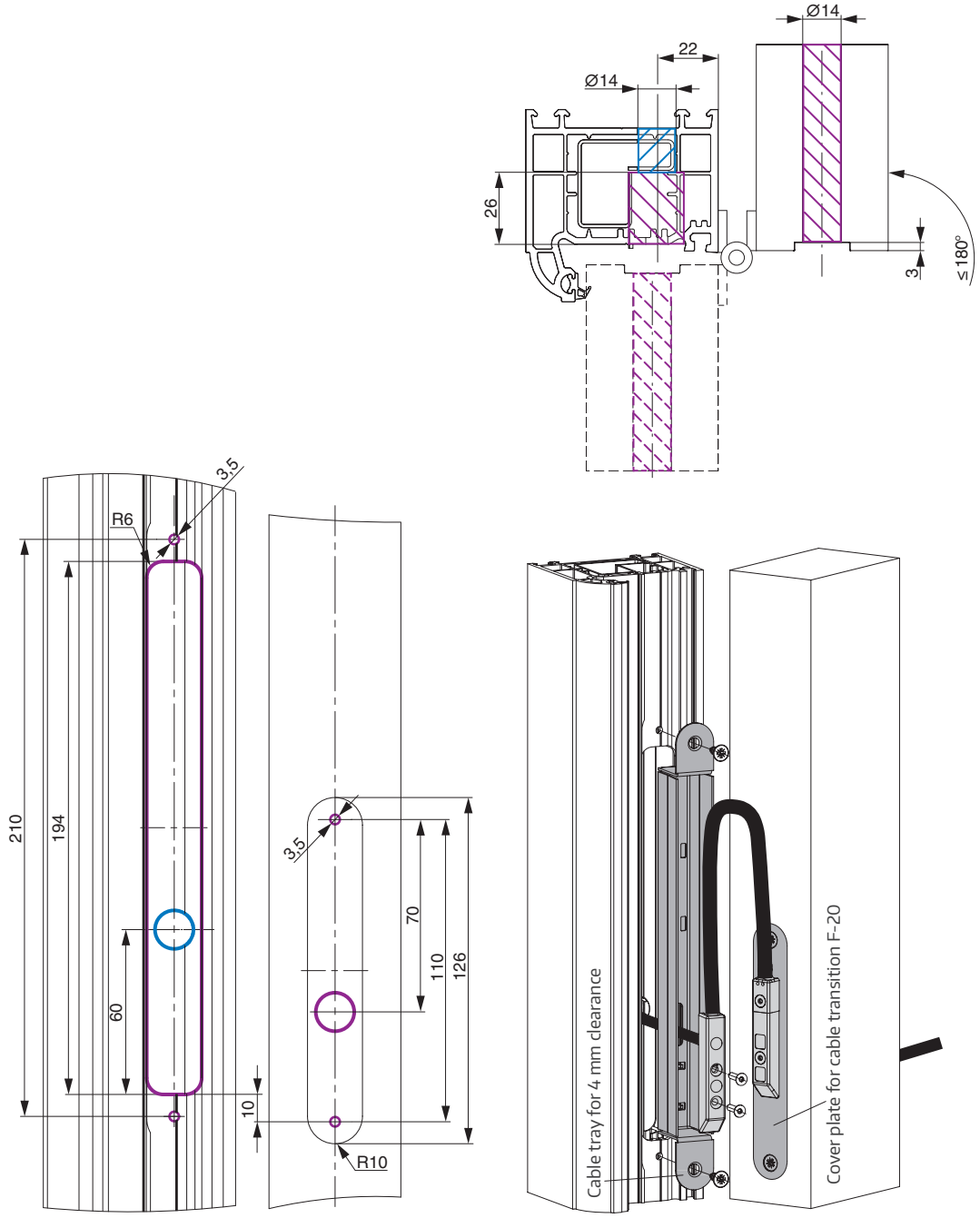


(A) dLine control unit for access solutions
(B) Cable duct for Comfort solution
(C) Cable for openDoor access solutions

* Milling for motor
** Milling for dLine control unit

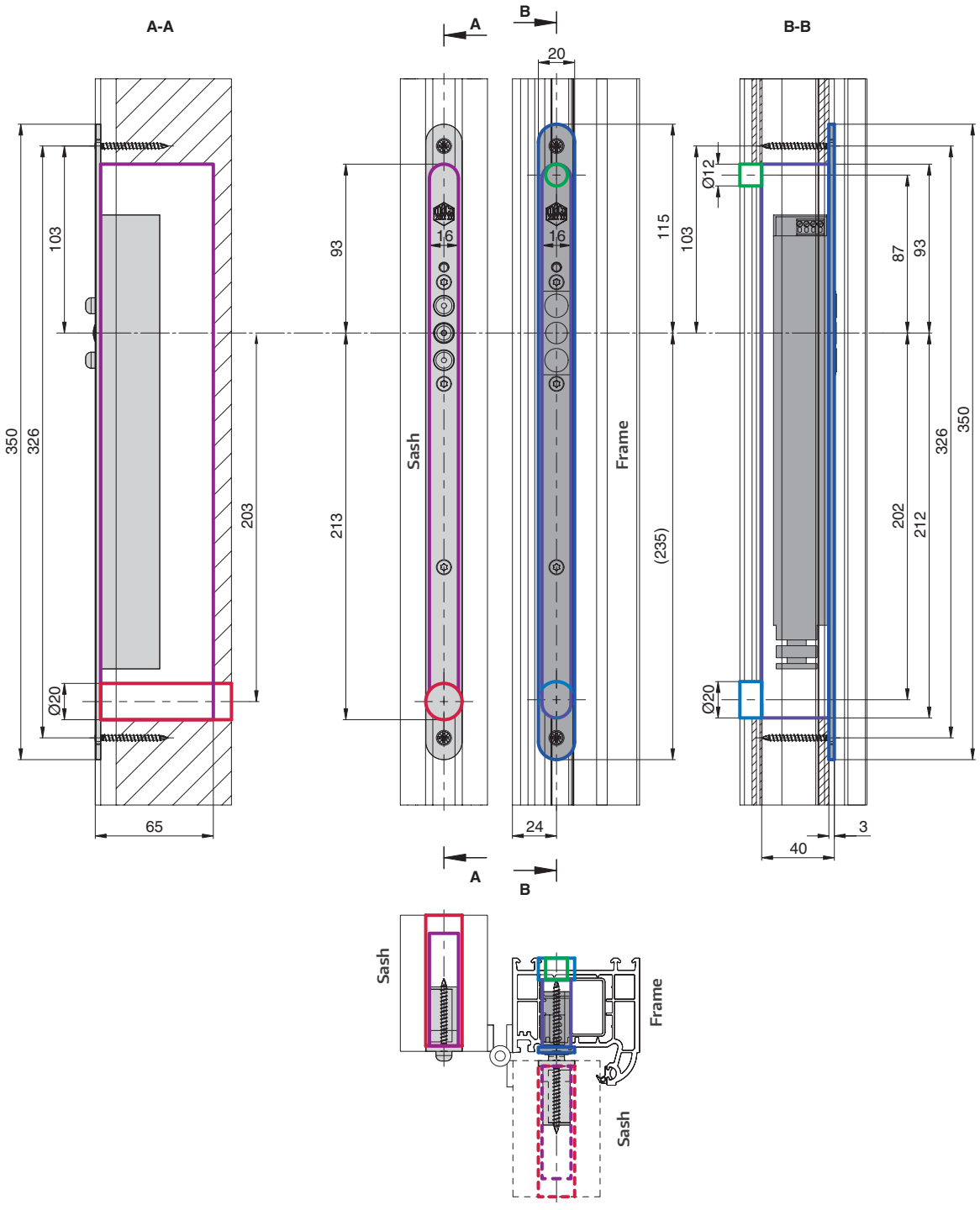
Composite milling images

13.4 Cable transition for opening angle ≤180°, 12 clearance



Composite milling images

13.5 Plunger contact

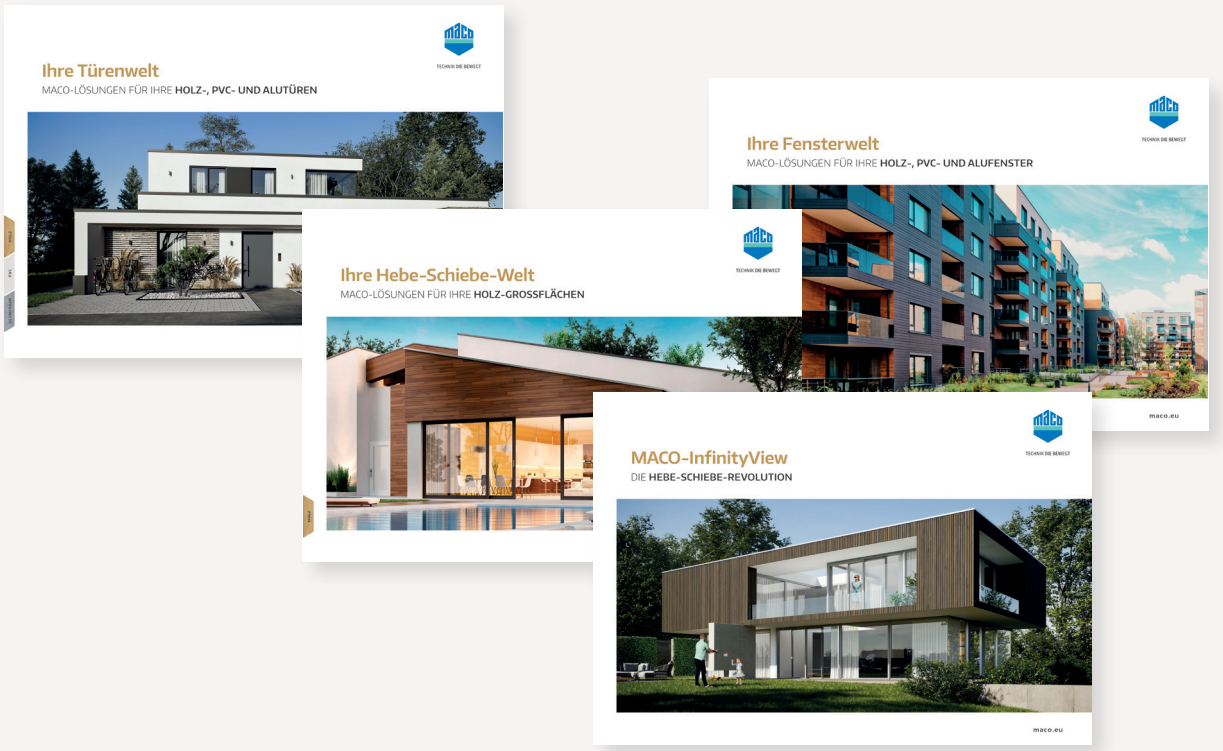


14. Disposal

The disposal must be carried out in accordance with local regulations and laws.

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TECHNOLOGY IN MOTION

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