

IQ lock – self-locking
panic locks for 1- and
2-leaf doors

IQ lock AUT

IQ lock EL / IQ lock EL DL

IQ lock EM / IQ lock EM DL

IQ lock C / IQ lock C DL

EN Commissioning and connection
instructions






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Key to symbols

Important information and technical notes are highlighted to explain correct operation.

Symbol	Meaning
	means "important note"
	means "additional Information"
	Symbol for an action: This means you have to do something.
	only applies for IQ lock for 1-leaf doors
	only applies for IQ lock DL for 2-leaf doors

Product designation

Lock type	1-leaf	2-leaf
Electric full-panic motor lock	–	IQ lock AUT
Electrical motor lock	IQ lock EL	IQ lock EL DL
Electro-mechanical lever lock	IQ lock EM	IQ lock EM DL
Mechanical contact lock	IQ lock C	IQ lock C DL
Mechanical lock	IQ lock M	IQ lock M DL

Product liability

In compliance with the liability of the manufacturer for his products as defined in the German "Product Liability Act", compliance with the information contained in this brochure (product information and intended use, misuse, product performance, product maintenance, obligations to provide information and instructions) must be ensured. Failure to comply releases the manufacturer from his statutory liability.

Abbreviations

VB	Solid leaf
RR	Tubular frame

1 Safety notes

1.1 Intended use

Self-locking panic locks are components used to lock emergency exit doors/panic exit doors on rescue routes. When self-locking anti-panic locks are used, the technical data and environment conditions of these installation and operating instructions must be taken into account.

The safety features of these products are important for conformity with EN 179 and EN 1125. No modifications of any kind are permitted other than those described in these instructions.



- ▶ Operate the locks only in installation positions typical for locks i.e. vertical with horizontally locking bolt.
- ▶ Always operate the locks in such a way that the panic function works in the direction of escape.

- ▶ Use these locks on emergency exit doors in accordance with EN 179 and panic exit doors in accordance with EN 1125 only in connection with the officially approved sliding door fittings (see certificates for consistency of performance, chapter 7).

The self-locking panic locks are suitable for use on single- and double-leaf panic doors.



- They are not designated for use on double-action doors.
- Use in transport technology (pedestrian traffic and transport of goods by road, rail, air and water) must be agreed with the manufacturer.



The product should be installed or incorporated in such a way that effortless access to the product is guaranteed during any repairs and/or maintenance, and that any removal costs do not stand out of proportion to the value of the product.



Trouble-free functioning of the locks is only ensured if a carry bar and a door closer system in accordance with EN 1158 with closing sequence control are mounted.



- Before mounting the emergency exit locks ensure that the door is fitted properly and not distorted in any way.
- ▶ Install the emergency exit locks only in hollow doors that are designed for this purpose by the manufacturer.

The horizontal bar must be mounted in such a way that the greatest possible effective bar length is achieved.

- ▶ Avoid safety risks during the installation of emergency exit devices with handle operation (in particular in case of doors with graded surfaces: jamming of fingers or clothes).
- ▶ If necessary, adapt installation to the majority of the users:
 - Installation height for children smaller than 900–1000 mm
 - Door closer installation in such a way that children, elderly or impaired persons are not impeded

Only devices conforming to standard may be used for keeping emergency exit and panic exit doors closed.



In conformity with the specifications of German building regulation laws, a lock of the VS-type A in accordance with DIN EN 179 or DIN 1125 (lock only for 1-leaf doors) can also be used in the active leaf of a 2-leaf door if:

- a) the passive leaf lock is secured against incorrect operation and
- b) the passage width of the active leaf is sufficient for an escape route.

1.2 Technical safety

- Improper installation and maintenance work or repairs can lead to significant hazards for the user. Installation and maintenance work or repairs may only be carried out by GEZE and their authorised specialists.
- Damage to GEZE IQ locks can endanger your safety. Check them for visible signs of damage. Never put a damaged lock into operation.
- Warranty claims will be rendered invalid if the lock is not repaired by GEZE or an authorised GEZE service partner.
- GEZE only guarantees that safety requirements are met if genuine GEZE spare parts are used. Faulty components may only be replaced by genuine parts.
- GEZE self-locking panic locks must not be opened.

1.3 Safety-conscious working

Work on the electrical equipment (IQ AUT, IQ lock EL, IQ lock EL DL, IQ lock EM, IQ lock EM DL, IQ lock C, IQ lock C DL) may only be performed by a qualified electrician.

Locks may only be installed by a specialist from the respective trade (locksmith, carpenter etc.).

Only genuine GEZE spare parts or accessories approved by GEZE may be used.

Please contact GEZE for information about the later connection of further accessory parts.



- Remove the lock before drilling the fixing points for the sliding door fittings.
- Do not put any greases, lubricants or oils in the lock. Avoid water penetrating the lock case or the formation of condensation.
- Only use lubricants approved by GEZE for lubricating the outer parts (bolt, latch), see chapter 1.4.
- Never paint or varnish over the lock face plate or any other parts of the locks.
- Remove the lock before doing any painting work.
- The handle pin must not be forced through the lock follower.
- The door leaf must not be carried by the handle.

1.4 Cleaning and care

GEZE self-locking panic locks may only be oiled or greased using lubricants approved by GEZE.

Lubricant	Manufacturer	Comment
Klübersynth LI 44-22	Klüber Lubrication	Slightly wet the latch and bolt
Fin Lube TF	Interflon	Spray onto the latch and bolt from the outside

1.5 Accessories

GEZE self-locking panic locks may only be used with the accessories prescribed by GEZE.

- ▶ Only use genuine GEZE accessories.
- If other parts are attached or installed, any warranty, guarantee and/or product liability claims will be rendered invalid.

1.6 Assembly and installation

Some safety rules must always be observed during fitting and installation of the self-locking GEZE panic locks. These must be noted and followed, since the device can otherwise be damaged and result in hazards for the user:



- ▶ When installing the locks, make sure you following building regulations and any specifications issued by the door manufacturer.
- The lock must not be modified in any way.
- Lock and original strike plate (1-leaf) as well as lock and original strike box (2-leaf) form one unit. Perfect function is only possible in combination.
- If installation is faulty or improper, all manufacturer guarantee and liability claims will be rendered invalid.

1.7 Use of motor locks IQ lock EL/IQ lock EL DL on fire and smoke protection doors

GEZE motor locks, IQ lock EL for 1-leaf and IQ lock EL DL for 2-leaf fire and smoke protection doors may be used in all modes of operation (permanently unlocked, secured by day, night mode).

It must be guaranteed that in the event of a fire in the case of the modes of operation "permanently unlocked" and "secured by day" the electrical activation of the lock is no longer possible, the lock can no longer be unlocked and the cross latch and bolt engage securely in the strike plate at all times.

In order to interrupt this electrical activation in case of a fire, permissible fire detectors with trigger mechanisms, in accordance with the DIBt guideline, must be employed for hold-open systems.

When motor locks are used on fire and smoke protection doors, three different installation situations can occur. The following chapters must be heeded in this case.

1.7.1 Release via on-site fire alarm system

Connection of an on-site fire alarm system (BMA) to the motor lock control (MST 210).

This connection is implemented via the "smoke detector" input especially provided. A potential-free or non-isolated contact is required by the fire alarm system for this.

The planning of the installation of the smoke detectors is implemented on-site. It should be pointed out that when motor locks are used, smoke detectors in accordance with the above-mentioned guideline must be fitted.



Smoke development on both sides of the door must be detected by the fire alarm system.

1.7.2 Release via trigger mechanism of hold-open systems

In accordance with the DIBt guideline for hold-open systems, the following is necessary, taking account of the difference for the use of the "permanently unlocked" and "secured by day" modes of operation described:

Ceiling height above lintel lower edge ≤ 1 m

2 ceiling-mounted detectors are required



Deviation from DIBt guideline:

The installation of only one lintel-mounted detector is not authorised in this case, since the fire can only be detected on one side if the door is closed.

Ceiling height above lintel lower edge > 1 m

2 ceiling-mounted detectors and 1 lintel-mounted detector are required. This corresponds to 2 ceiling-mounted detectors and 1 smoke control unit.

The smoke control unit (RSZ 5 and RSZ 6, includes power supply + 1 lintel-mounted detector) is connected directly to the MST in accordance with wiring diagram.

1.7.3 Motor lock in "night mode" mode of operation

The motor lock is used in "night mode" mode of operation only. In the "night mode" mode of operation, the automatic bolt projection of 20 mm is implemented every time the door is closed. The GEZE SecuLogic access control, for example, regulates controlled admission. In this case, the bolt is retracted and the door can be passed through against the direction of escape.

With the motor lock control MST 210, different release times can be set using a DIP switch.

Setting of the release time

Opening time "x" = 1 s

Setting options for release time:

Switch	Switch position	Release time
1	ON	x + 1 s
2	ON	(x) + 2 s
3	ON	(x) + 5 s
4	ON	(x) + 10 s

Example:

Set release time = 9 s



In order to ensure that the lock locks itself mechanically (particular for fire protection), the hold-open time must not exceed 4 seconds. For this reason only switches 1 and 2 may be active in case of the DIP switch. In the case of fire protection doors it must be ensured that the door does not burst open due to the seal pressure.

2 Your contribution to environmental protection

- When disposing of the self-locking panic locks, separate the different materials and have them recycled.
- Legal regulations must be observed during the disposal of self-locking panic locks.
- GEZE self-locking panic locks are certified with the Environmental Product Declaration according to ISO 14025 from the Institut Bauen und Umwelt e.V. (*Institute for Construction and the Environment*). This statement of approval describes the specific environmental performance of the IQ locks and confirms that the GEZE lock family promotes environmentally friendly and healthy construction work.

3 Functions and properties

3.1 Overview of functions

Function / property	IQ lock AUT *	IQ lock EL/ EL DL	IQ lock EM/ EM DL	IQ lock C/ C DL	IQ lock M/ M DL
Panic function	☑	☑	☑	☑	☑
Mechanical self-locking	☑	☑	☑	☑	☑
Electrical timeout function	☑	☑	-	-	-
Statement of approval for emergency exits	☑	☑	☑	☑	☑
Statement of approval for fire protection doors	☑	☑	☑	☑	☑
Resistance Class (RC) 3	-	IQ lock EL	IQ lock EM	IQ lock C	IQ lock M
Secured by day with electric strike function	☑ **	☑ **	-	-	-
Motor-driven unlocking	☑	☑	-	-	-
Permanently unlocked	☑	☑	-	-	-
Outside handle, can be electrically engaged	-	-	☑	-	-
Automatic locking mechanism in the event of a power failure	☑ ***	☑	-	-	-
Automatic resetting of the release if door is not opened	☑	☑	-	-	-
Input for fire alarm system (locking)	☑	☑	-	-	-
Unlocking by key	☑ ****	☑	☑	☑	☑
Operating voltage	24 V	12–24 V	12 V, 24 V, 48 V	-	-
Feedback contacts for lock states	☑	☑	☑	☑	-
Optional sabotage monitoring or cylinder contact	☑	☑	☑	☑	-
Can be used on the left and right	☑	☑	-	☑	☑
Same installation dimensions for all IQ locks	☑ *****	☑	☑	☑	☑
Backset 35, 40, 45, 55, 60, 65, 70, 80, 100	☑	☑	☑	☑	☑
Distance 72, 74, 78, 92, 94	☑	☑	☑	☑	☑
9 mm handle follower					
▫ continuous	☑	☑	-	☑	☑
▫ divided	-	-	☑	-	-
Statement of approval in accordance with EN 1125	☑	☑	☑	☑	☑
Statement of approval in accordance with EN 179	☑	☑	☑	☑	☑
Statement of approval in accordance with EN 14846	-	-	☑	-	-
Statement of approval in accordance with EN 12209	-	IQ lock EL	IQ lock EM	IQ lock C	IQ lock M
Statement of approval in accordance with EN 1634	☑	☑	☑	☑	☑
VdS statement of approval	-	IQ lock EL	IQ lock EM	IQ lock C	IQ lock M
☑ available					
- not possible					
Rod drive IQ AUT and IQ lock EL DL = IQ lock AUT					
** Active leaf for IQ lock DL					
*** In connection with a power storage device / power pack					
**** Unlocking via active leaf					
***** IQ AUT 42 x 400 x 15.5 mm					

3.2 Explanation of terms, functions and properties

Panic function

The lock can be unlocked at any time by pressing the door handle/panic bar in the direction of escape.

Door fittings

According to DIN EN 179 or 1125 the door fittings must be tested together with the lock. Tested door fittings can be found in the certificates for consistency of performance at www.geze.com/geze/downloads.

Mechanical re-locking

Locking of the two cross latches is activated by actuating the auxiliary latch.

Locking of the two cross latches only takes place after this has engaged and positioned itself in the strike plate.

Bolt projection only takes place after the cross latch has been positioned in the strike plate.

Electrical timeout function

During release time, manipulation attempts on the auxiliary latch by the control unit are ignored and the bolt remains retracted.

After the set release time has expired, the bolt is extended when the auxiliary latch is activated. The control unit detects the manipulation attempt by the check on the door position and the motor retracts the bolt again.

Secured by day with electric strike function

In adjustable daytime operation, the bolt remains retracted even if the door has closed and the two cross latches are in place.

The door cannot be passed from the outside, from the inside escape is possible at all times through the panic function.

In connection with access control, for example, shortest possible opening times well under one second are now achieved, which has only been possible with electric strikes before.

Exception: In the event of a fire the door is completely locked. The motor lock control unit is activated directly by the fire alarm system in this case (see chapter 1.7).

Permanently unlocked

Alongside automatic re-locking ("night mode" mode of operation) and secured daytime operation ("secured by day" mode of operation), the third mode of operation "permanently unlocked" is possible (see Setting permanently unlocked, chapter 5.1).

Here, the bolt is retracted and the cross latches are unstable. The door can be pulled or pushed open at any time by hand.

Exception: In the event of a fire the door is locked completely after the door leaf has closed.

The motor lock control unit is activated directly by the fire alarm system in this case.

Outside handle, electrically engaged

When the supply voltage is applied to the lock, the outside handle is engaged and remains engaged as long as current is flowing (fail-secure principle).

As soon as the voltage supply stops, the outside handle is disabled and the door can no longer be opened using the handle. The panic function is retained.



Thanks to the exchange function integrated in all our locks, the lock can be opened using the matching key (e.g. by the fire brigade).

Automatic locking mechanism in the event of a power failure

In the event of a power failure, the motor is activated via the capacitor integrated in the control unit in such a way that the slide bolt in the lock can move to the "night mode" position. This automatically pre-closes the bolt when the door is closed.

If the door is still open at this point, the bolt projection is controlled via the auxiliary latch when the door is closed.

Input for fire alarm system

The automatic locking mechanism of the motor lock in the event of a fire is activated via the input for the fire alarm system on the motor lock control unit.

This takes place automatically no matter which mode of operation is selected (night mode, secured by day or permanently unlocked).

Feedback contacts for lock states

The number and type of signals as well as the maximum load of the switch contacts can be found in chapters 5.1 and 5.3.

Sabotage monitoring

The power supply cable is monitored to check for interruptions in the cable. In addition, the cover of the motor lock control can be integrated in the monitoring process by means of a cover lift-off contact.

4 Technical data

4.1 IQ lock

ID no.	See price list
IQ lock function	<ul style="list-style-type: none"> ▫ Panic function ▫ Mechanical self-locking ▫ Divided cross latch
Additional function IQ lock EL	<ul style="list-style-type: none"> ▫ Motor-driven unlocking < 1 second ▫ Three modes of operation (night mode / secured by day / permanently unlocked) ▫ Electrical timeout function ▫ Feedback contacts for lock states ▫ Optional sabotage monitoring or cylinder contact
Additional function IQ lock EM	<ul style="list-style-type: none"> ▫ Outside handle, can be electrically engaged ▫ Feedback contacts for lock states ▫ Optional sabotage monitoring or cylinder contact
Additional function IQ lock C	<ul style="list-style-type: none"> ▫ Feedback contacts for lock states ▫ Optional sabotage monitoring or cylinder contact
Dimensions (without face plate)	<ul style="list-style-type: none"> ▫ Solid leaf: 15.2 mm × 165 mm × (backset+15.5 mm) (W × H × D) ▫ Tubular frame: 15.2 mm × 177 mm × (backset+15.5 mm) (W × H × D)
Operating voltage	IQ lock EL: 12–24 V DC IQ lock EM: 12 V DC, 24 V DC, 48 V DC
Current consumption IQ lock EL	160 mA at 12 V DC max. 1 A briefly at 12 V DC 80 mA at 24 V DC max. 500 mA briefly at 24 V DC (incl. MST 210)
Current consumption IQ lock EM	350 mA at 12 V DC 210 mA at 24 V DC 105 mA at 48 V DC
Max. contact rating of the relays	30 V DC / 500 mA
Resistance to forcing	10,000 N
Technical specification	<ul style="list-style-type: none"> ▫ Perfectly closing doors with door closer ▫ Always use genuine GEZE strike plate ▫ Clearance between face plate and strike plate 3–7 mm ▫ No door seals which cause pressure ▫ Bolt projection must be horizontal
Climate / surroundings	<ul style="list-style-type: none"> ▫ Service temperature: –10 ... +50 °C, max. 75 % rel. hum., no condensation ▫ Storage temperature: –20 ... +50 °C, max. 75 % rel. hum., no condensation ▫ Sprinkling not permissible ▫ Not suitable for use in very dusty atmosphere (e.g. corn mills) ▫ Not suitable for use in aggressive or highly corrosive atmosphere (e.g. chlorinated swimming baths) ▫ Not suitable for vibration (e.g. vehicles) ▫ Cannot be used in potentially explosive atmospheres
Statements of approval	<ul style="list-style-type: none"> ▫ EN 179 Emergency exit devices ▫ EN 1125 Panic exit devices ▫ EN 12209 Mechanical locks ▫ EN 14846 Electro-mechanical locks ▫ EN 1634 Fire resistance and smoke protection test ▫ VdS ▫ CE

4.2 Rod drive IQ AUT

ID no.	153755
Function	Motor-driven unlocking of the passive leaf (< 1.8 seconds)
Dimensions (without face plate)	42 × 400 × 15.5 mm (W × H × D)
Operating voltage	24 V DC (±15 %)
Current consumption	max. 1.5 A at 24 V DC
Resistance to forcing	10,000 N
Climate / surroundings	<ul style="list-style-type: none"> ▫ Service temperature: -20 ... +60 °C, max. 75 % rel.hum., no condensation ▫ Sprinkling not permissible ▫ Not suitable for use in very dusty atmosphere (e.g. corn mills) ▫ Not suitable for use in aggressive or highly corrosive atmosphere (e.g. chlorinated swimming baths) ▫ Not suitable for vibration (e.g. vehicles) ▫ Cannot be used in potentially explosive atmospheres
Statements of approval	<ul style="list-style-type: none"> ▫ EN 179 Emergency exit devices ▫ EN 1125 Panic exit devices ▫ EN 1634 Fire resistance and smoke protection test ▫ CE

4.3 Power supply NT 19.2-24

ID no.	089862
Function	Power supply for IQ lock EL / IQ lock EL DL
Input voltage	230 V AC (+10 / -15 %)
Input current	250 mA
Output voltage	24 V DC (±5 %)
Output current	800 mA
Output power	19.2 W
Dimensions	92 × 32 × 32 mm (W × H × D)
Type of installation	Flush-mounted installation
Connection	Wire sleeves type 10CC
IP rating	IP54 - according to data sheet IP20
Protection class	II
Environmental conditions	<ul style="list-style-type: none"> ▫ Ambient temperature -10 °C ... +50 °C ; ▫ Storage temperature -40 °C ... +70 °C
Guidelines/standards	EN 60950-1; EN 55022 , EN 55024

4.4 Power supply NT 6.3-24

ID no.	109637
Function	Power supply for IQ lock EM/ IQ lock EM DL
Input voltage	230 V AC (±15 %)
Input current	150 mA (short-term 300 mA)
Output voltage	24 V DC (-8 %, +5 %)
Output current	260 mA
Output power	6.3 W
Dimensions	88 × 88 × 53 mm (W × H × D) (dimensions of the surface-mounted casing)
Type of installation	Flush-mounted installation (scope of delivery, pre-mounted in surface-mounted casing ID 103662)
Connection	Screw terminals 1.0 ... 2.5 mm ²
IP rating	IP20
Protection class	II
Environmental conditions	<ul style="list-style-type: none"> ▫ Service temperature: 0 ... +60 °C ▫ Storage temperature: -20 ... +60 °C ▫ Relative humidity max. 93 % (at 40 °C)
Guidelines/standards	DIN EN 50 081-1, DIN EN 55011, EN 50082-2 DIN EN 61 000-4-2, -3, -4, -5, -6, -11

4.5 Power supply NT HDR-30-24

ID no.	151425
Function	Power supply for IQ AUT
Input voltage	230 V AC ($\pm 15\%$)
Input current	480 mA
Output voltage	24 V DC ($\pm 10\%$)
Output current	1.5 A
Output power	36 W
Dimensions	78 × 93 × 56 mm (W × H × D)
Type of installation	Top hat rail (DIN-TS35/7.5 or 15 possible)
Connection	Screw terminals
IP rating	IP54
Protection class	II
Environmental conditions	Service temperature: -20 ... +60 °C Relative humidity 20 ... 90 %
Guidelines/standards	UL60950-1 : EN 55011, EN 55032

4.6 Power supply NT HDR-60-24

ID no.	151424
Function	Power supply for several components
Input voltage	230 V AC ($\pm 15\%$)
Input current	0.8 A
Output voltage	24 V DC ($\pm 10\%$)
Output current	2.5 A
Output power	60 W
Dimensions	78 × 93 × 56 mm (W × H × D)
Type of installation	top hat rail
Connection	Screw terminals 2.5 mm ²
IP rating	IP54
Protection class	II
Environmental conditions	Service temperature: -10 ... +50 °C
Guidelines/standards	UL60950-1; UL508

4.7 Motor lock control MST 210



► Follow the mechanical installation instructions for motor lock IQ lock.

ID no.	103671
Function	Control unit for motor lock IQ lock EL / IQ lock EL DL
Dimensions	140 × 140 × 79 mm (W × H × D)
Weight	0.3 kg
Operating voltage	12–24 V DC (–10 %, +15 %)
Current consumption	<ul style="list-style-type: none"> ▫ 160 mA at 12 V DC ▫ max. 1 A briefly at 12 V DC ▫ 80 mA at 24 V DC ▫ max. 500 mA briefly at 24 V DC (incl. IQ lock)
Terminals	Plug/screw terminals, max. cable cross-section 1 mm ²
Max. contact rating of the relays (X2)	30 V DC / 1 A
Max. lock switch contact load (X3)	30 V DC / 500 mA
Max. length of connection cable to the lock	10 m
IP rating in accordance with DIN 40050	IP54
Environmental conditions in accordance with DIN 40040	<ul style="list-style-type: none"> ▫ Service temperature: JWF (–10...+50 °C, max. 75 % rel. hum., no condensation) ▫ Storage temperature: HPE (–25...+85 °C, max. 95 % rel. hum., no condensation)

5 Electrical connection

- ! ▶ Use wire-end ferrules for wire cores.

- i**
- Work on the electrical equipment (IQ AUT, IQ lock EL, IQ lock EL DL, IQ lock EM, IQ lock EM DL) may only be performed by a qualified electrician.
 - The electrical connection work must be carried out in accordance with the relevant regulations of the VDE and local utility companies.

The electrical connection for the motor locks (IQ AUT, IQ lock EL, IQ lock EL DL) and lever locks (IQ lock EM, IQ lock EM DL) must be carried out according to the enclosed wiring diagrams.

The technical data listed (see chapter 4) must be taken into account:

- The nominal voltage of the motor / magnet in the lock with the output voltage of the power supply or device to be activated.
- The power consumption of the motor / magnet with the output power of the power supply or device to be activated.
- The maximum switching power of the switch contacts with the respective power to be switched.

5.1 Motor lock control MST 210 in connection with IQ lock EL / IQ lock EL DL

5.1.1 Connections

X10 Cover monitoring (OUT)

- 23 NC
- 22 COM

X8 Cylinder contact / Sabotage (OUT)

- 25 NO / NC
- 24 COM

X5 Door contact (IN)

- 6 NO / NC
- 2 24V ext.

X4 Smoke detector (IN)

- 9 NC
- 8 COM

- ▶ A jumper must be inserted if no smoke detector is used.

See the following pages for further application options (24V)

X3 Bolt switch contact (OUT)

- 21 COM
- 20 NO

X6 Mode of operation (IN)

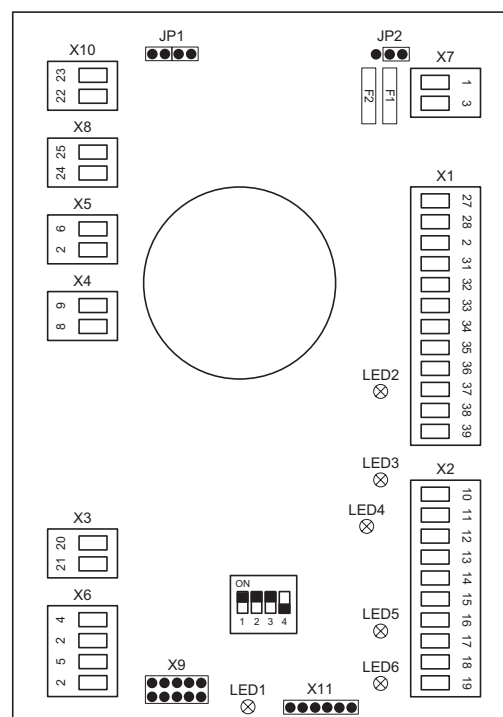
- 4 Day / night mode
- 2 24V ext.
- 5 Release
- 2 24V ext.

Jumper

- JP1 Smoke detector function
- JP2 12 V / 24 V

X7 Supply

- 1 GND in
- 3 12V / 24V DC in



X1 Lock

- 27 Cable black
- 28 Cable red
- 2 Cable blue
- 31 Cable pink
- 32 Cable grey
- 33 Cable yellow
- 34 Cable green
- 35 Cable brown
- 36 Cable white
- 37 Cable violet
- 38 Cable red/blue
- 39 Cable grey/pink

X2 Outputs

- 10 Relay day/night mode COM
- 11 Relay day/night mode NO
- 12 Relay release COM
- 13 Relay release NO
- 14 Relay fault/alarm COM
- 15 Relay fault/alarm NC
- 16 Relay door handle COM
- 17 Relay door handle NO
- 18 Relay door status COM
- 19 Relay door status NO

Light emitting diodes

- LED1 Supply voltage
- LED2 Day/night mode (day=on)
- LED3 Release
- LED4 Fault/alarm
- LED5 Door handle
- LED6 Door status

- X9 RS485 interface
- X11 Programming interface

Light emitting diode displays

Function	Cause	Consequence	Remedy
LED1 off	Power supply interrupted	No control unit function	Check voltage source
LED1 on		Control unit and lock are working normally	
LED1 flashing evenly		Fault	Check electrical connections
LED2 on	Day circuit active	Bolt not extended and latches in place	
LED2 off	Night mode circuit active	Bolt extended, door locked	
LED3 on	Activation active	Door can be opened	
LED3 off	Night mode circuit active	Door bolt extended (locked)	
LED4 on		Fault-free lock function	
LED4 off		Fault/alarm	
LED5 on		Handle is actuated	
LED6 on		Door closed (auxiliary latch and door contact closed)	

Setting of the release time

Opening time "x" = 1 s

Setting options for release time:

Switch	Switch position	Release time
1	ON	x + 1 s
2	ON	(x) + 2 s
3	ON	(x) + 5 s
4	ON	(x) + 10 s

Example:

Set release time = 9 s



Release times of 1–19 s can thus be set with a pulse control of the release input terminals X6.2 and X6.5. If a longer release time or continuous release is required, this is to be realised by a correspondingly long activation time or a continuous contact. Setting of the release time is also used to set the duration of the contacting of the release relay (X2.12 and X2.13).

Inputs

Terminal	Signal	Function
X7.1	GND in	GND supply
X7.3	12 V / 24 V in	12 V / 24 V DC supply
X5.2	24 V external	Contact connected: Door closed
X5.6	External door contact	
X4.8	Smoke detector	Connection of smoke detector with potential-free contact or as 24 V supply voltage (see page 3)
X4.9	Smoke detector	
X6.2	24 V external	Contact connected: Mode of operation release
X6.5	Release	Contact open: Mode of operation as selected below
X6.2	24 V external	Contact connected: Mode of operation "secured by day"
X6.4	Night mode / day	Contact open: Mode of operation "night mode"

Outputs

Terminal	Signal	Contact	Function
X2.10	Relay night mode / day	NO	Contact closed: Mode of operation day
X2.11	Relay night mode / day	COM	Contact open: Mode of operation night mode
X2.12	Relay release / activation Drive unit	NO	Contact closed: Mode of operation release / door can be passed unlocked
X2.13	Relay release / activation Drive unit	COM	Contact open: No release
X2.14	Relay fault / power failure	NC	Contact open: no fault/no alarm, normal operating state
X2.15	Relay fault / power failure	COM	Contact closed with: power failure, system failure, alarm
X2.16	Door handle	NO	Contact closed: Door handle actuated
X2.17	Door handle	COM	Contact open: Door handle not actuated
X2.18	Door contact	NO	Contact closed: Door contact and auxiliary latch actuated
X2.19	Door contact	COM	Contact open: Door contact or auxiliary latch not actuated
X3.20	Bolt contact	NO	Contact closed when bolt extended 95 %. Contact is not evaluated by control unit.
X3.21	Bolt contact	COM	
X8.25	Cable monitoring NC/ cylinder contact NO	NO	Cylinder contact closes a contact when the installed cyl- inder is turned or optional cable monitoring takes place
X8.24	Cable monitoring / Cylinder contact	COM	
X10.23	Cover monitoring / MST 210	NC	Casing cover monitoring, closes a contact when the casing cover of the MST 210 is opened.
X10.22	Cover monitoring / MST 210	COM	

Setting daytime operation

If the contact between terminals X6.2 and X6.4 is closed (permanent contact) the lock runs in daytime operation. If the contact is opened, the lock runs in permanently night mode. This means that the lock automatically locks every time the door is closed.

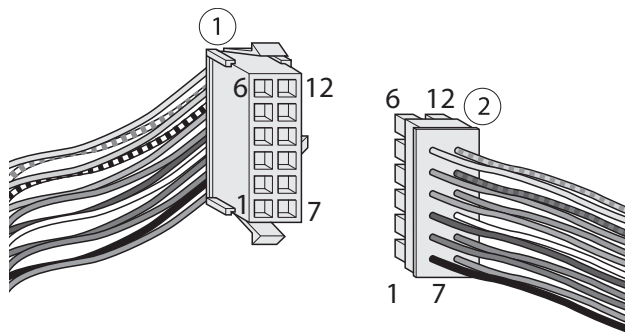
Setting permanently unlocked

If the contact between terminals X6.5 and X6.2 is closed (permanent contact) the motor lock runs in permanent-ly unlocked mode of operation. If the contact is opened, the lock runs in daytime or permanently night mode depending on the pre-set (contact between the terminals X6.2 and X6.4 closed or open).

5.1.2 Terminal assignment for connection cable lock IQ lock EL to MST 210, terminal strip X1

Terminals MST 210	Cable colour	Connector IQ lock EL	Description/function
X1.27	Cable black	PIN 1	Motor –
X1.28	Cable red	PIN 2	Motor +
X1.2	Cable blue	PIN 3	24 V
X1.31	Cable pink	PIN 4	Basic setting (permanently night)
X1.32	Cable grey	PIN 5	daytime operation
X1.33	Cable yellow	PIN 6	Release
X1.34	Cable green	PIN 7	Door handle
X1.35	Cable brown	PIN 8	Auxiliary latch NO
X1.36	Cable white	PIN 9	Locked
X1.37	Cable violet	PIN 10	Locked
X1.38	Cable red/blue	PIN 11	Cable monitoring or cylinder contact can be selected via switch
X1.39	Cable grey/pink	PIN 12	Sabotage or cylinder contact can be selected via switch

Connector IQ lock EL



PIN	Connector IQ lock EL / IQ lock EL DL (1)	Connector power supply cable (2)
1	black	black
2	red	red
3	blue	blue
4	orange	pink
5	grey	grey
6	Yellow	Yellow
7	green	green
8	brown	brown
9	white	white
10	violet	violet
11	white/black	red/blue
12	white/brown	grey/pink

5.1.3 Low-pass filter (TPF)

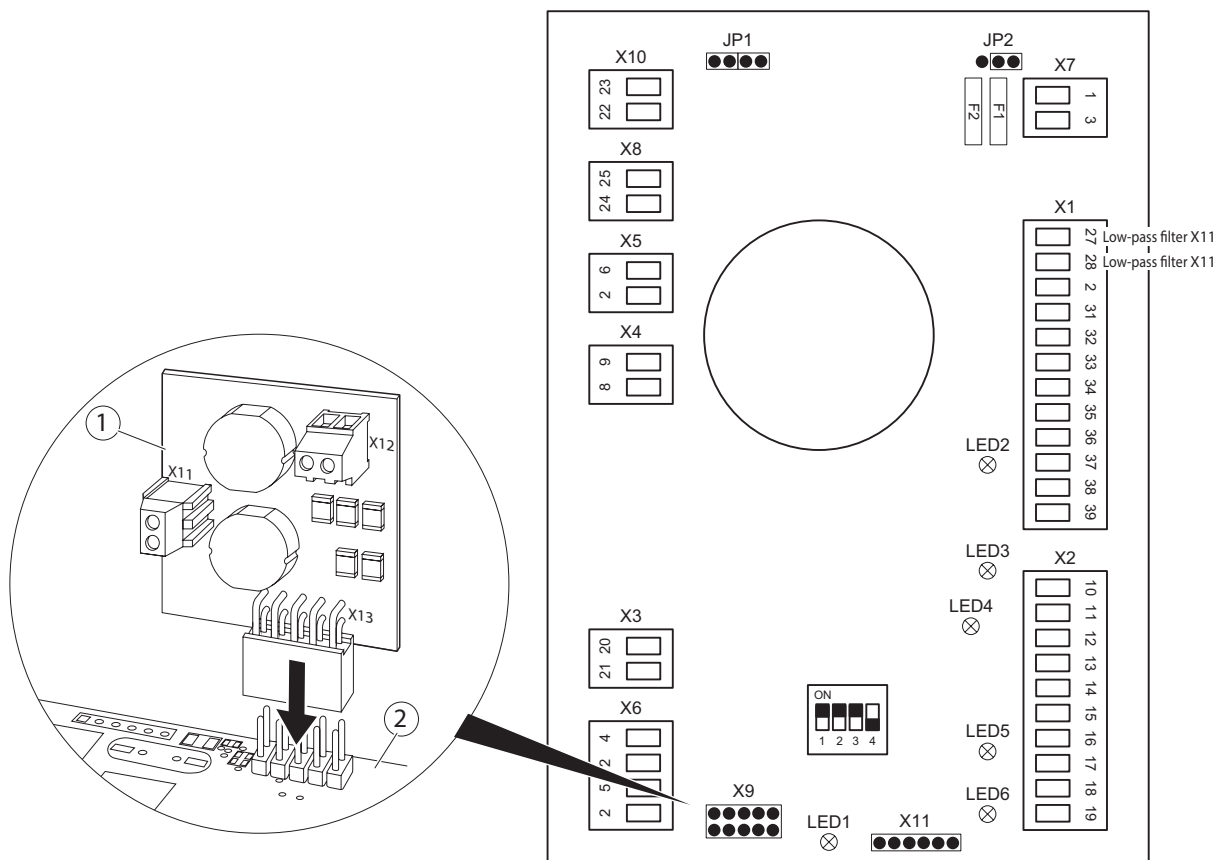


New from mid-2014.

The low-pass filter (TPF) ensures improved activation of the motor lock IQ lock EL / IQ lock EL DL. Here, the motor control cable (red and black cables) are not connected directly to the motor lock control MST 210, they are connected with terminal X12 of the additional PCB TPF.

The TPF has been optimised for the new motor drive unit in the lock and for the new software (see chapter 5.1.4 and chapter 5.1.6). Taking the conditions listed in chapter 5.1.7 into account, the TPF can also be used for locks with an older building design.

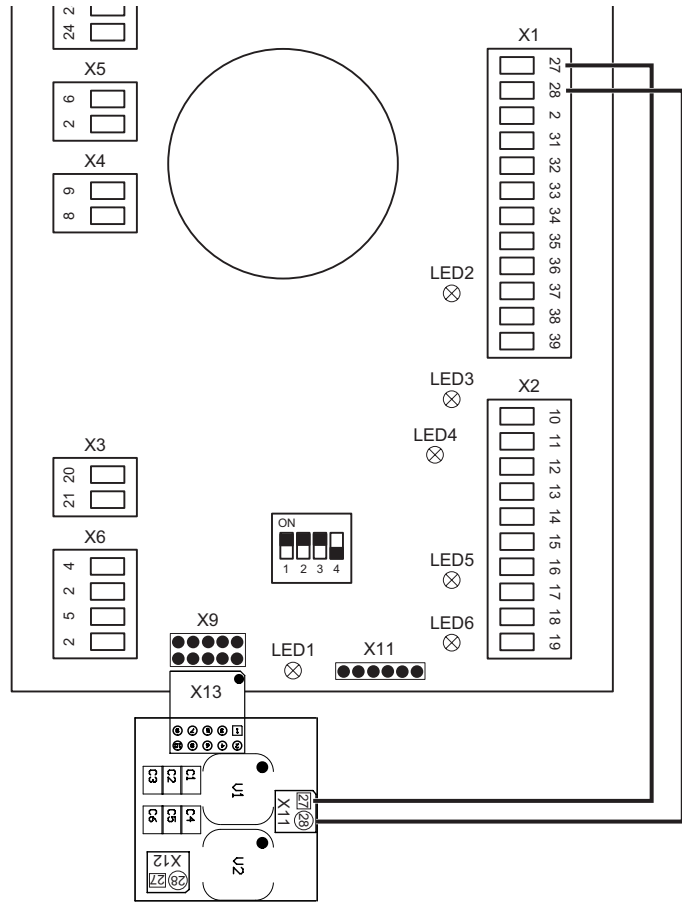
Insert TPF board on MST 210



► Insert the TPF board (1) onto slot X9 of the motor lock control MST 210 (2).

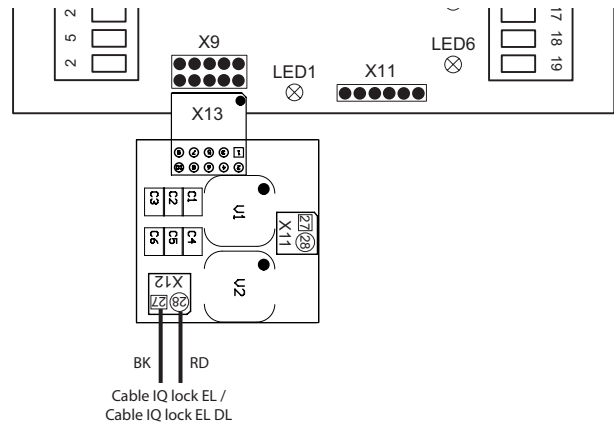
Wire TPF to MST 210

- ▶ Wire terminal X11 (TPF) to terminal X1 (MST 210).



Wire TPF with motor lock IQ lock EL / IQ lock EL DL

- ▶ Connect the red and black cables from motor lock IQ lock EL / IQ lock EL DL with X12.
- ▶ Connect all the other cables from motor lock IQ lock EL / IQ lock EL DL to terminal X1 of the motor lock control MST 210.

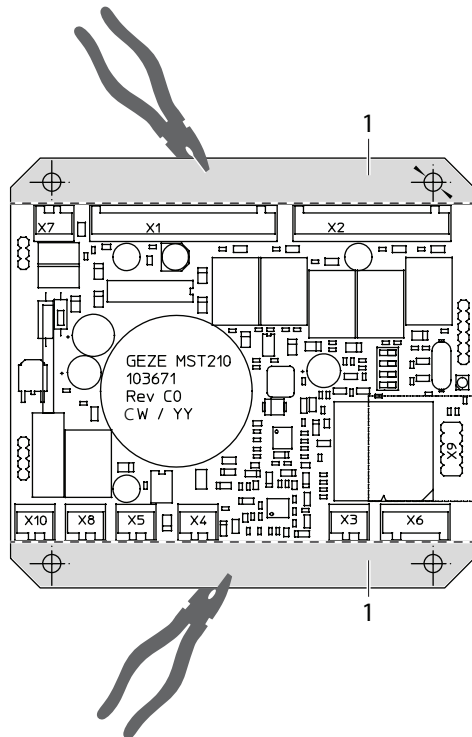


5.1.4 Motor lock control MST 210 with new software from version 3.0

In order to improve the performance of the GEZE motor locks IQ lock EL / IQ lock EL DL even further, GEZE will be delivering the motor lock control MST 210 with new software from mid-2014.

- ▶ For optimum use of this new version, take the respective combination possibilities between old and new products as listed in chapter 5.1.7 into account.

5.1.5 Install the MST210 printed circuit board under the cover extension kit



For installation of the printed circuit board under a cover extension kit, the hatched printed circuit board elements must be broken off.

- ▶ Use a pair of pliers to break off the hatched printed circuit board elements (1) at the breaking point.
- ▶ Install the printed circuit board on the mounting bracket under the cover extension kit.

5.1.6 IQ lock EL / IQ lock EL DL with new motor HW 11504x, C0

In order to improve the performance of the GEZE motor locks IQ lock EL / IQ lock EL DL even further, GEZE will be integrating a new motor from mid-2014.

- ▶ For optimum use of this new version, take the respective combination possibilities between old and new products as listed in chapter 5.1.7 into account.

5.1.7 Combination possibilities between old and new components

Due to the changes described in chapters 5.1.3 to 5.1.6 different combination possibilities can occur.

For you to be able to identify the optimum solution for your application, the following table lists the combination possibilities with respective effect on the function.

Motor in the lock	Software	Low-pass filter (TFP)	Comment
new	new	with	optimal
new	old	with	permissible only without function "secured by day"
old	old	without	current status


The following combinations are not permissible:


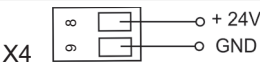

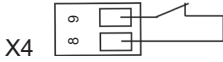
Motor in the lock	Software	Low-pass filter (TFP)	Comment
new	old	without	not permissible
old	old	with	not permissible
old	new	with	not permissible
new	new	without	not permissible

5.1.8 Smoke detector



A smoke detector can be connected via terminal X4, signal numbers 8 and 9. The smoke detector disconnects the control unit from its supply voltage and thus makes the lock – no matter which mode of operation is currently set – return to its safe initial position (night mode) via the built-in power storage device.

Connection possibilities

 If the system is operated without smoke detectors, a jumper must be installed between terminals 8 and 9.

Jumper position JP1	Connection for smoke detector	Description
	X4 	Connection via external 24 V supply voltage (protected against reverse polarity)
	X4 	Connection via potential-free opener contact

Operating voltage

Jumper position JP2	Description
	12 V operating voltage
	24 V operating voltage

Safety fuses

Designation	Value	Description
F1	1 A, SMF 125 V, fast-acting	Input fuse, 24 V internal
F2	1 A, SMF 125 V, fast-acting	Fuse for smoke detector external supply

5.1.9 Sabotage monitoring or cylinder contact

X8



A switch (see chapters 6.4.1 and 6.4.2) on the motor lock is used to select between the modes of operation sabotage and cylinder contact. (On delivery the switch is set to cylinder contact).

There is a rectangular recess in the lock case approx. 5 mm above the handle follower at the right of the lock case edge. Here you can use a screwdriver (size 1) to switch the mode of operation (S = Sabotage, Z = Cylinder contact).

Cylinder contact

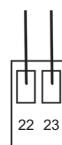
In the mode of operation cylinder contact, actuation of the lock cylinder is reproduced at terminals X8.25 and X8.24. The cover is also monitored at terminals X10.23 and X10.22.

Cylinder contact



X8

Cover monitoring



X10

Cable and cover monitoring MST 210

Terminal X10.22 is connected with terminal X8.25 to use sabotage monitoring (comprising cable and cover monitoring). The sabotage monitoring signal is then tapped via terminals X10.23 and X8.24. The circuit is opened in the event of a fault (cover open or cable fault).

Cover monitoring/cable monitoring

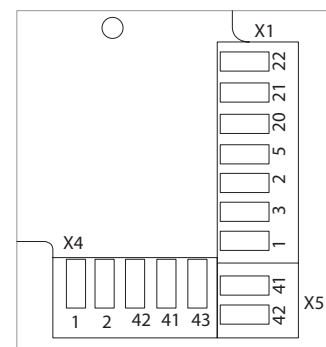


5.2 Rod drive IQ AUT

5.2.1 Connections

X1 - connection for power supply device, inputs and outputs

Connection	Wire colour	Signal	Function
X1.1	blue – BU	Power supply	GND in
X1.3	red – RD		24 V (DC in)
X1.2	–	–	24 V DC
X1.5	brown – BN	Input	Release
X1.20	white – WH	Output 1	Output 1 (locked)
X1.21	grey – GY		COM
X1.22	pink – PK	Output 2	Unlocked
X1.21	grey – GY		COM



Input

A potential-free contact (normally open contact) must be connected to pins X1.2 and X1.5. If the contact is activated, IQ AUT moves to the unlocked position where it remains for the hold-open time. The time starts once the contact has been disconnected.

Output

IQ AUT has two outputs with the potential which is connected to pin X1.21. The output "unlocked" is closed when the drive rod is in the unlocked position. Output 1 can be set (see Service menu).

X4 - connection for ST220

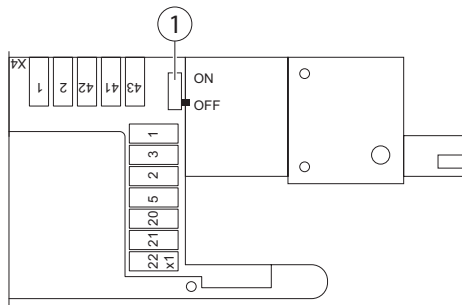
Conne- ction	Signal	Function
X4.1		GND
X4.2		24V DC
X4.42	Connection for ST220	RS485-A
X4.41		RS485-B
X4.43		–

X5 - connection for GEZE-BUS (e.g.: IO 320)

Connection	Wire colour	Signal	Function
X5.42	yellow – YE	GEZE-BUS	RS485-A
X5.41	green – GN		RS485-B

DIP switch (back of PCB)

- The DIP switch (1) can be used to switch the terminating resistor for RS485 on and off.
- If there are more than two bus devices, the resistance must be switched on in the first and last device.



5.2.2 Service menu

Level 0	Level 1	Level 2	Value range	Factory setting	Comment
Configuration	Speed		45% to 85%	60%	
	Hold-open time		2 to 60 sec	10 sec	
	Language		<ul style="list-style-type: none"> ▫ German ▫ French ▫ English 	German	
	Output 1		<ul style="list-style-type: none"> ▫ Locked ▫ SW + 6 sec ▫ Alarm 	Locked	See below
	Fire protection		Yes/no	no	See below
System information	Maintenance		Yes/no		Yes: When maintenance is due
	System init.		Yes/no		Yes: When system is initialised
	Motor replaced		Yes/no		Yes: When the motor was replaced
	Cycle		[Number of cycles]		The current number of cycles
Product information	HW ver.		Vx.x		
	SW ver.		Vx.x		
	Ser. no.		xxxxxx		
Diagnosis	Motor state	Current (A)			The value is updated as long as the enter key on ST220 is kept pressed.
		Temperature			
		Duration (sec)			
		Current state			
	Sensor state	[see below]			
Alarm memory	[Cycle] [Alarm description]				See fault description
Command	Start motor				
	Acknowledge alarm				
	Factory setting				

Configuration/output 1

Output 2 is set permanently to the feedback "unlocked". Output 1 can be configured.

- "Locked": The output is closed when the drive rod of IQ AUT is in the locked position.
- "SW + 6 sec": The output is closed when the input button is pressed. The output is reset after 6 seconds.
- "Alarm": The output is closed when an alarm is pending.

Configuration/fire protection

When this option is active, IQ AUT can only be controlled via the BUS interface so that it can establish faults in transmission (e.g. cable break, short-circuit etc.). For this, you need an IO 420 which is able to send suitable commands to IQ AUT and to control it.

Diagnosis/sensor state

The rod drive IQ AUT has 5 sensors inside. This menu shows which sensor is currently active.

To update the table:

- ▶ Keep the "Enter" key pressed.

This menu is relevant for service technicians.

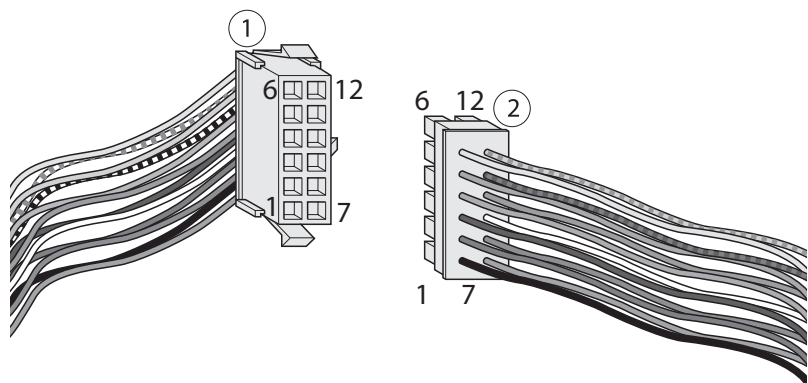
	Rod	Wheel
Lckd.:	*	
Unlckd. 1:		
Unlckd. 2:	-	*

5.3 Lever lock IQ lock EM

Power supply cable

! If polarity is reversed the outside handle cannot be engaged (reverse polarity protection).

- 1 Connector IQ lock EM / IQ lock EM DL
- 2 Connector power supply cable



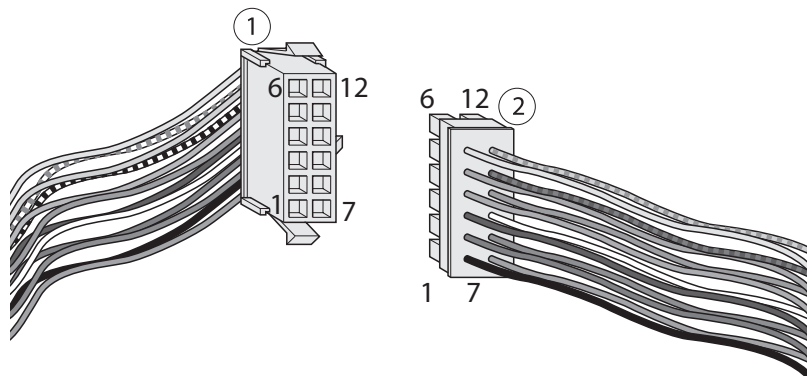
PIN	Connector IQ lock EM (1)	Connector power supply cable (2)	Function	Contact
1	black	black	Magnet – GND supply	
2	red	red	Magnet + 24 V DC	
3	blue	blue	Door handle contact (NO)	
7	green	green	Contact closed: Door handle actuated	
4	orange	pink	Release contact (NO)	
6	Yellow	Yellow	Contact closed: Door handle engaged - door can be unlocked by actuating the handle	
5	grey	grey	Auxiliary latch (NO)	
8	brown	brown	Contact closed: Auxiliary latch actuated (door closed)	

9	white	white	Bolt contact (NC)	
10	violet	violet	Contact closed: Bolt extended Contact open: Bolt retracted	
11	white/black	red/blue	Cylinder contact (NO)	
12	white/brown	grey/pink	Contact closed: Cylinder contact actuated	

5.4 Contact lock IQ lock C

Power supply cable

- 1 Connector IQ lock C / IQ lock C DL
- 2 Connector power supply cable

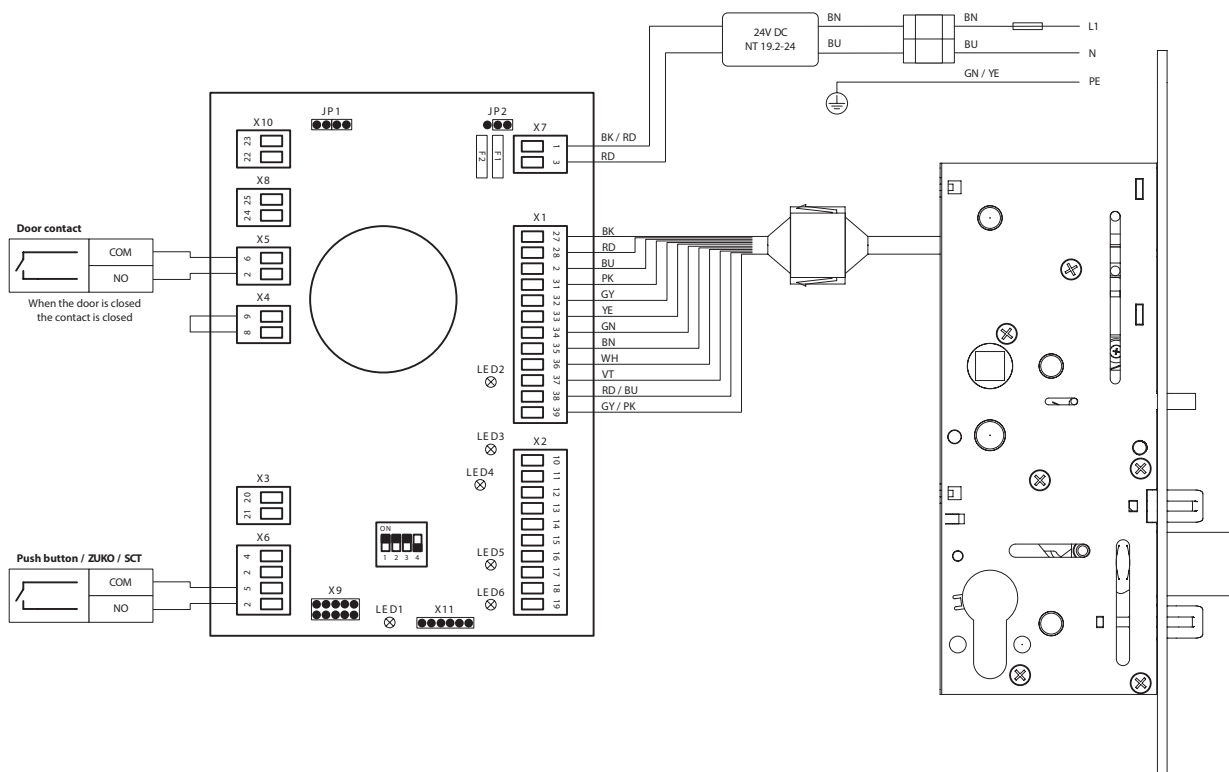


PIN	Connector IQ lock C (1)	Connector power supply cable (2)	Function	Contact
3	blue	blue	Door handle contact (NO)	
7	green	green	Contact closed: Door handle actuated	
5	grey	grey	Auxiliary latch (NO)	
8	brown	brown	Contact closed: Auxiliary latch actuated (door closed)	
9	white	white	Bolt contact (NC)	
10	violet	violet	Contact closed: Bolt extended Contact open: Bolt retracted	
11	white/black	red/blue	Cylinder contact (NO)	
12	white/brown	grey/pink	Contact closed: Cylinder contact actuated	

6 Wiring diagrams

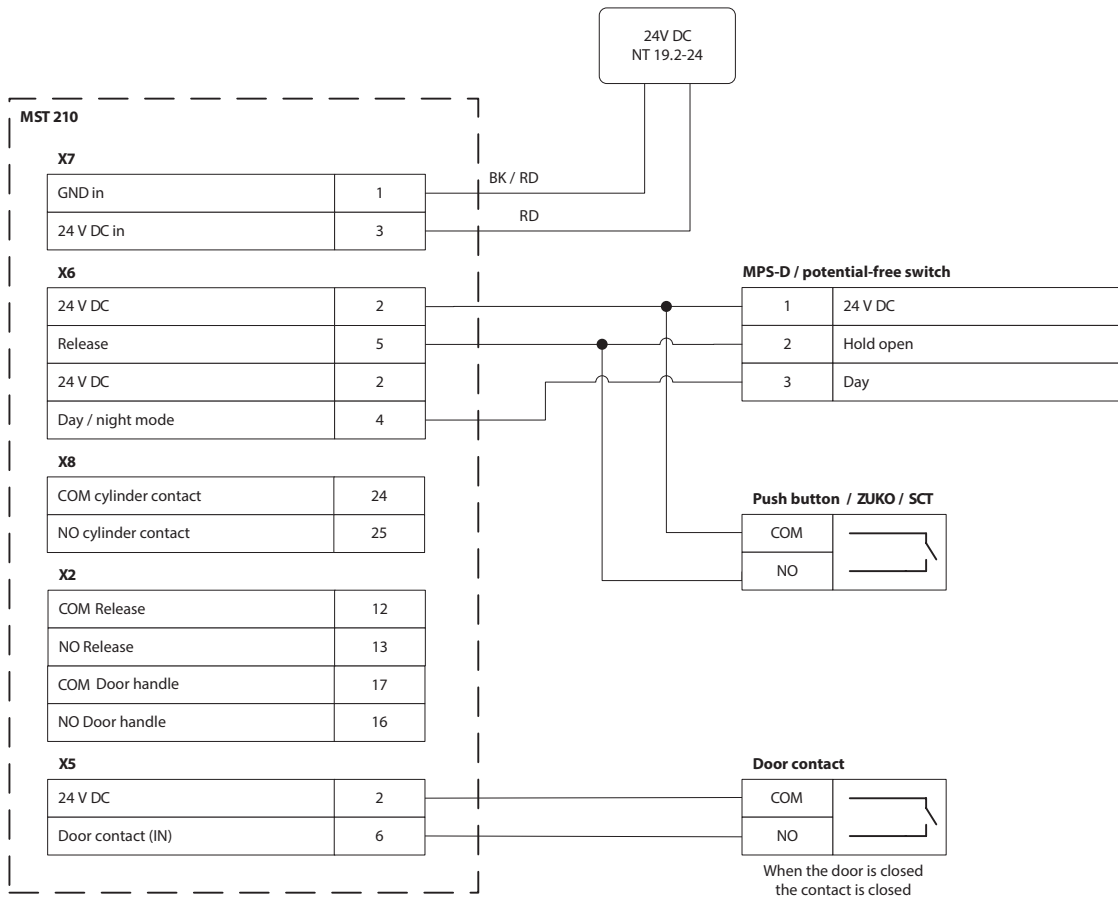
Designation	Chapter	Page
IQ lock EL with motor lock control MST 210	6.1	Page 23
Standard connection IQ LOCK EL / MST 210 with low-pass filter from HW 159073	6.2	Page 24
IQ lock EL with programme switch and activation	6.3	Page 25
IQ lock EL with EMD (-F, -I) and activation	6.4	Page 26
IQ lock EL with EMD (-F, -I), TZ 320 SN and activation	6.5	Page 28
IQ lock EL with TSA160 NT (-F, -I) and activation	6.6	Page 30
IQ lock EL with TSA160 NT (-F, -I), TZ 320 SN and activation	6.7	Page 32
IQ lock EL with EMD (-F, -I) and smoke control unit	6.8	Page 34
IQ lock EL with TSA160 NT (-F, -I) & smoke control unit	6.9	Page 35
IQ lock EL with smoke control unit (RSZ 6)	6.10	Page 36
IQ lock EL with smoke control unit (RSZ 5)	6.11	Page 37
IQ lock EL with smoke control unit FA GC 150/160	6.12	Page 38
IQ lock EL with TZ 320 SN and activation	6.13	Page 40
IQ lock EL with K600 and activation	6.14	Page 42
IQ lock EL with K600, TZ 320 SN and activation	6.15	Page 44
IQ lock AUT with K600 and activation	6.16	Page 46
IQ lock AUT with K600, TZ 320 SN and activation	6.17	Page 48
IQ lock AUT with EMD (-F, -I) and activation	6.18	Page 50
IQ lock AUT with TSA160 NT (-F, -I) and activation	6.19	Page 52
IQ lock AUT with Powerturn IS	6.20	Page 54

6.1 IQ lock EL with motor lock control MST 210



6.3 IQ lock EL with programme switch and activation

! ▶ Follow the installation instructions for IQ lock.



6.4 IQ lock EL with EMD (-F, -I) and activation

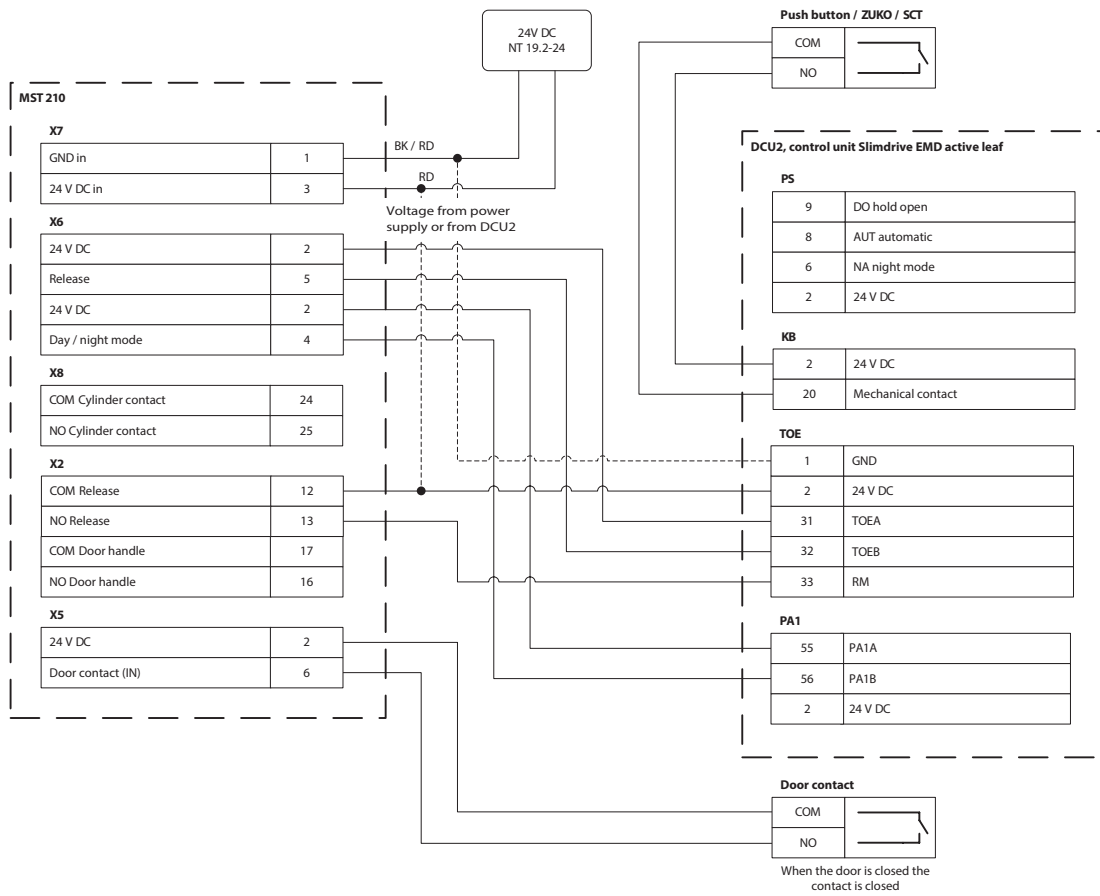


- ▶ Follow the installation instructions for IQ lock.
- ▶ Heed the wiring diagram for EMD, EMD-F, EMD Invers.

- ▶ With 2-leaf door drives connect the control unit to the active leaf.
- ▶ Set the parameters on the DCU2, DCU2-F, DCU-I control unit:
 - With DPS: Set $\overline{N1}$ to $\overline{1B}$ (day-night mode switchover), parameter \overline{rr} (bolt message) to $\overline{02}$ (normally closed contact) and \overline{eo} (electric strike) to $\overline{03}$ (motor lock)
 - With ST220: Set Signals → Output signals → PA1 to day/night mode switchover
Set Signals → Input signals → Bolt contact type to electric strike
Set Door parameters → Electric strike type to motor lock.
- Voltage supply of the MST 210 from separate power supply NT 19.2-24 or from the DCU2 control unit

EMD Invers

- If the parameter setting for the door opening output of the EMD-Invers is motor lock, the door is only held in the closing position by the IQ lock EL, no longer by the door drive.
- The door opens through spring force in the event of manual opening using the door handle in the event of a panic.
- After the hold-open time has expired, the door closes electromechanically and the IQ lock EL locks.
- The EMD also recognises without an activation signal when the door is opened.



6.5 IQ lock EL with EMD (-F, -I), TZ 320 SN and activation

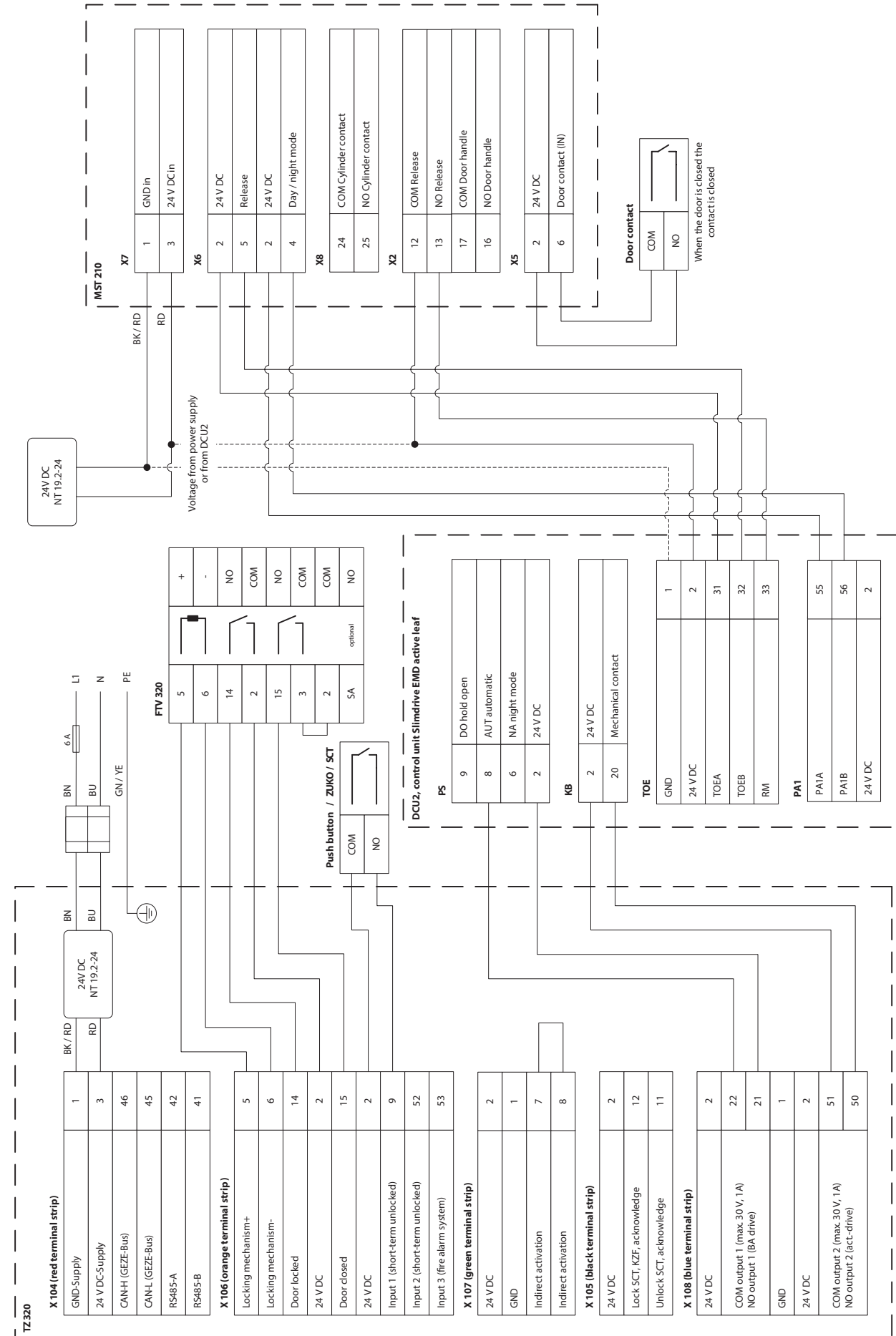


- ▶ Follow the installation instructions for IQ lock.
- ▶ Heed the wiring diagram for EMD, EMD-F, EMD Invers.
- ▶ Heed the wiring diagram for GEZE SecuLogic RWS (TZ 320).

- ▶ Disconnect the internal programme switch of the door drive.
- ▶ With 2-leaf door drives connect the control unit to the active leaf.
- ▶ Set the parameters on the DCU2, DCU2-F, DCU-I control unit:
 - With DPS: Set $\overline{A1}$ to $\overline{I8}$ (day-night mode switchover), parameter r_r (bolt message) to $\overline{U2}$ (normally closed contact) and $\overline{L0}$ (electric strike) to $\overline{U3}$ (motor lock).
 - With ST220: Set Signals → Output signals → PA1 to day/night mode switchover.
Set Signals → Input signals → Bolt contact type to electric strike.
Set Door parameters → Electric strike type to motor lock.

The following settings must be made on the TZ 320:

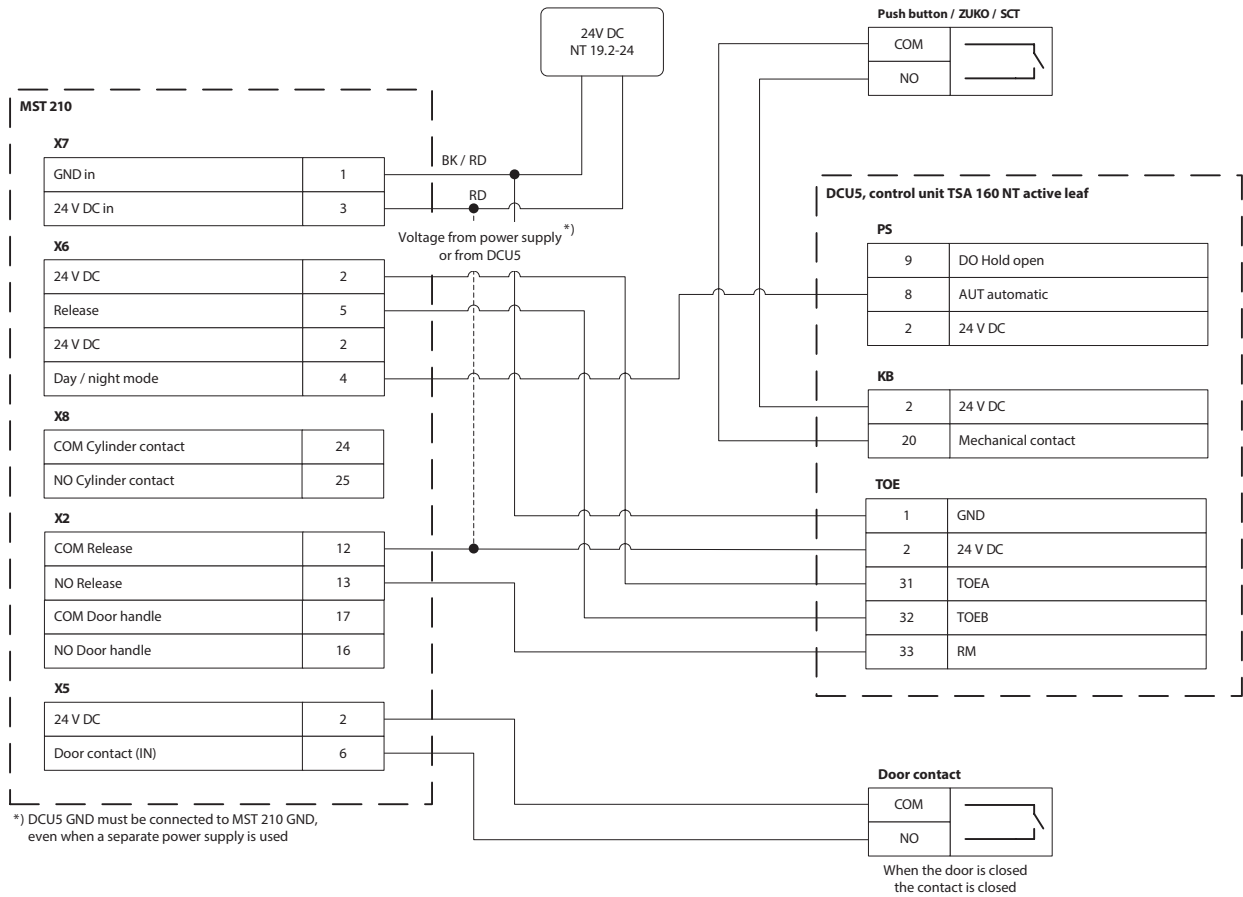
- ▶ Set Output 1 to "BA drive".
- ▶ Set Output 2 to "Activation drive".
- Voltage supply of the MST 210 from separate power supply NT 19.2-24 or from the DCU2 control unit



6.6 IQ lock EL with TSA160 NT (-F, -I) and activation



- ▶ Follow the installation instructions for IQ lock.
 - ▶ Heed the wiring diagram for TSA160 NT, TSA160 NT-F, TSA160 NT Invers.
-
- ▶ Disconnect the internal programme switch of the door drive.
 - ▶ With 2-leaf door drives connect the control unit to the active leaf.
 - ▶ Set the parameters on the DCU5 control unit:
 - With DPS: Set parameter r_r ($\mathcal{Z} \text{ I}$) (bolt message) to $\mathcal{U} \mathcal{Z}$ (normally closed contact) and $\mathcal{E} \mathcal{O}$ ($\mathcal{Z} \mathcal{U}$) (electric strike type) to $\mathcal{U} \mathcal{Z}$ (motor lock).
 - With ST220: Set Input signals → Bolt message to electric strike.
Set Door parameters → Electric strike type to motor lock
 - Voltage supply of the MST 210 from separate power supply NT 19.2-24 or from the DCU5 control unit.
 - The GND of DCU5 (terminal TOE no. 1) must be connected with the GND in the MST 210 (terminal X7 no. 1), even when a separate power supply is used.
 - The day function on the lock cannot be used with analogue programme switches (DPS / TPS / MPS).



6.7 IQ lock EL with TSA160 NT (-F, -I), TZ 320 SN and activation



- ▶ Follow the installation instructions for IQ lock.
- ▶ Heed the wiring diagram for TSA160 NT, TSA160 NT-F, TSA160 NT Invers.
- ▶ Heed the wiring diagram for GEZE SecuLogic RWS (TZ 320).

- ▶ Disconnect the internal programme switch of the door drive.
- ▶ With 2-leaf door drives connect the control unit to the active leaf.
- ▶ Set the parameters on the DCU2, DCU2-F, DCU-I control unit:
 - With DPS: Set parameter r_1 (z_1) (bolt message) to z_2 (normally closed contact) and z_3 (z_3) (electric strike type) to z_3 (motor lock).
 - With ST220: Set Input signals → Bolt message to electric strike.
Set Door parameters → Electric strike type to motor lock
- Voltage supply of the MST 210 from separate power supply NT 19.2-24 or from the DCU5 control unit.
- The GND of the DCU5 (terminal TOE no. 1)

The following settings must be made on the TZ 320:

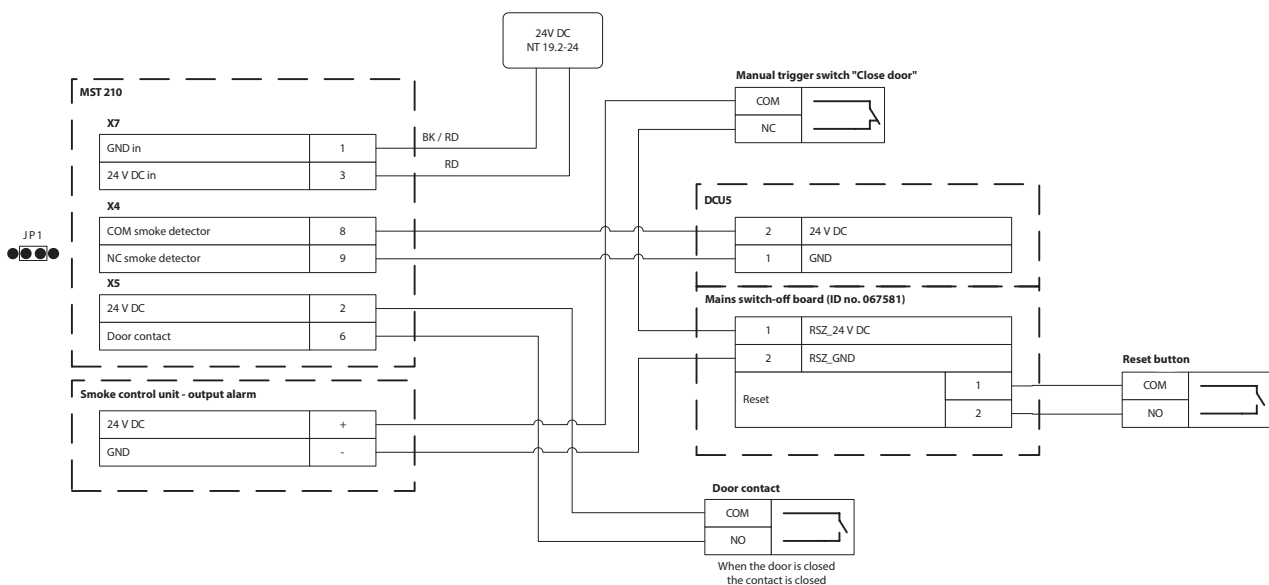
- Set Output 1 to "BA drive"
- Set Output 2 to "Activation drive"
- Voltage supply of the MST 210 from separate power supply NT 19.2-24 or from the DCU5 control unit.
- The GND of DCU5 (terminal TOE no. 1) must be connected with the GND in the MST 210 (terminal X7 no. 1), even when a separate power supply is used.
- The day function on the lock cannot be used with analogue programme switches (DPS / TPS / MPS).

6.9 IQ lock EL with TSA160 NT (-F, -I) & smoke control unit



- ▶ Follow the installation instructions for IQ lock.
- ▶ Heed the wiring diagram for TSA160 NT, TSA160 NT-F, TSA160 NT Invers.

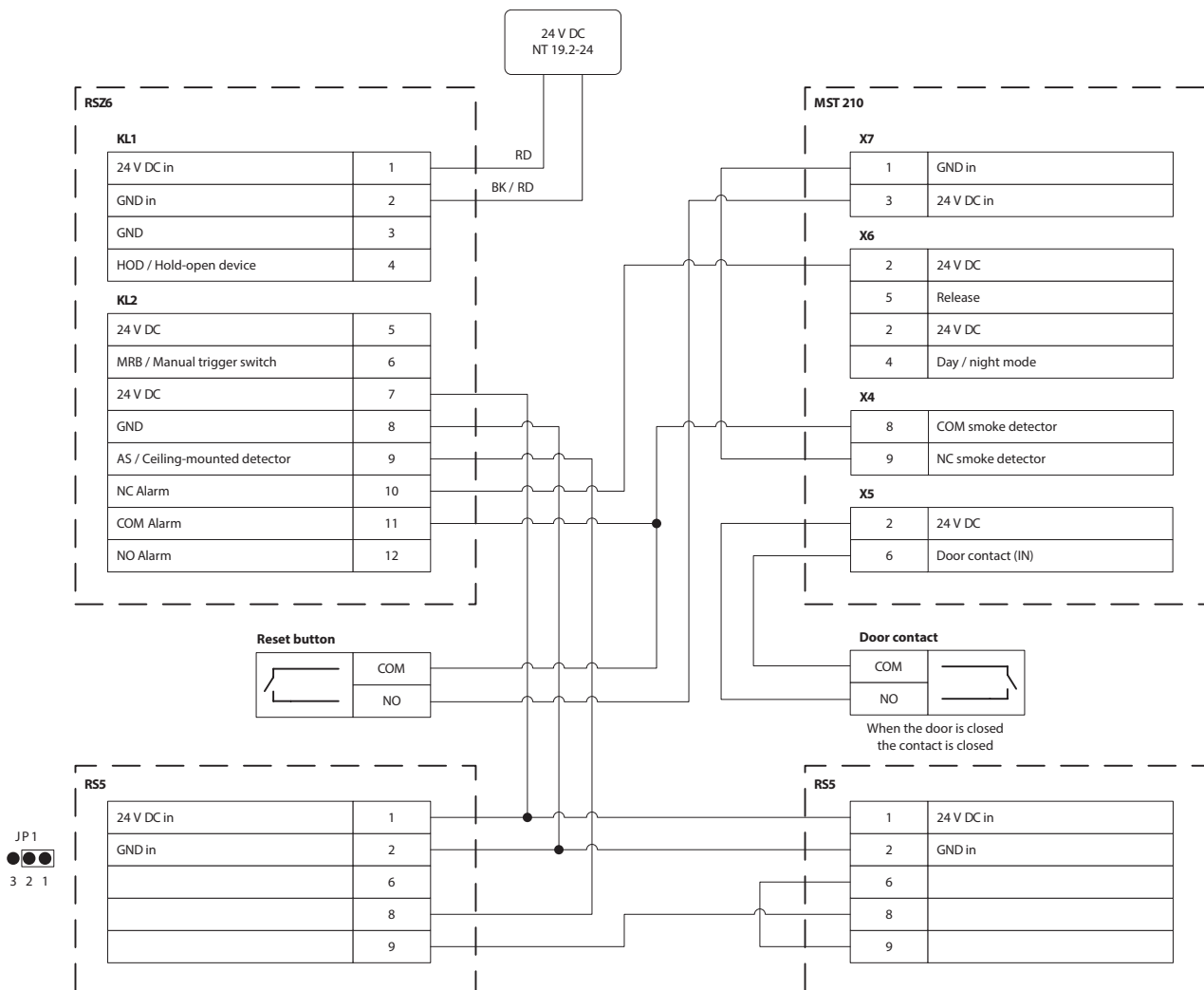
- ▶ Disconnect the internal programme switch of the door drive.
- ▶ With 2-leaf door drives connect the control unit to the active leaf.
- ▶ Set the parameters on the DCU5 control unit:
 - With DPS: Set parameter *r* (bolt message) to *02* (normally closed contact) and *t* (electric strike) to *03* (motor lock)
 - With ST220: Set Input signals → Bolt message to electric strike.
Set Door parameters → Electric strike type to motor lock.
- ▶ Voltage supply of the MST 210 from separate power supply NT 19.2-24 or from the DCU5 control unit.
- ▶ The GND of DCU5 (terminal TOE no. 1) must be connected with the GND in the MST 210 (terminal X7 no. 1), even when a separate power supply is used.
- ▶ The day function on the lock cannot be used with analogue programme switches (DPS / TPS / MPS).
- ▶ When the mode of operation "permanently open" or "day" is used, the jumper (J1) of the MST 210 must be set to 2/3 ("Connection via external 24 V DC supply voltage").
- ▶ When the mode of operation "night mode" is used, the smoke detector on the MST 210 must be bridged. As an option, the lock can be switched off via an on-site fire alarm system




6.10 IQ lock EL with smoke control unit (RSZ 6)

- ! ▶ Follow the installation instructions for IQ lock.
- ▶ Heed the wiring diagram for the smoke control unit RSZ 6.

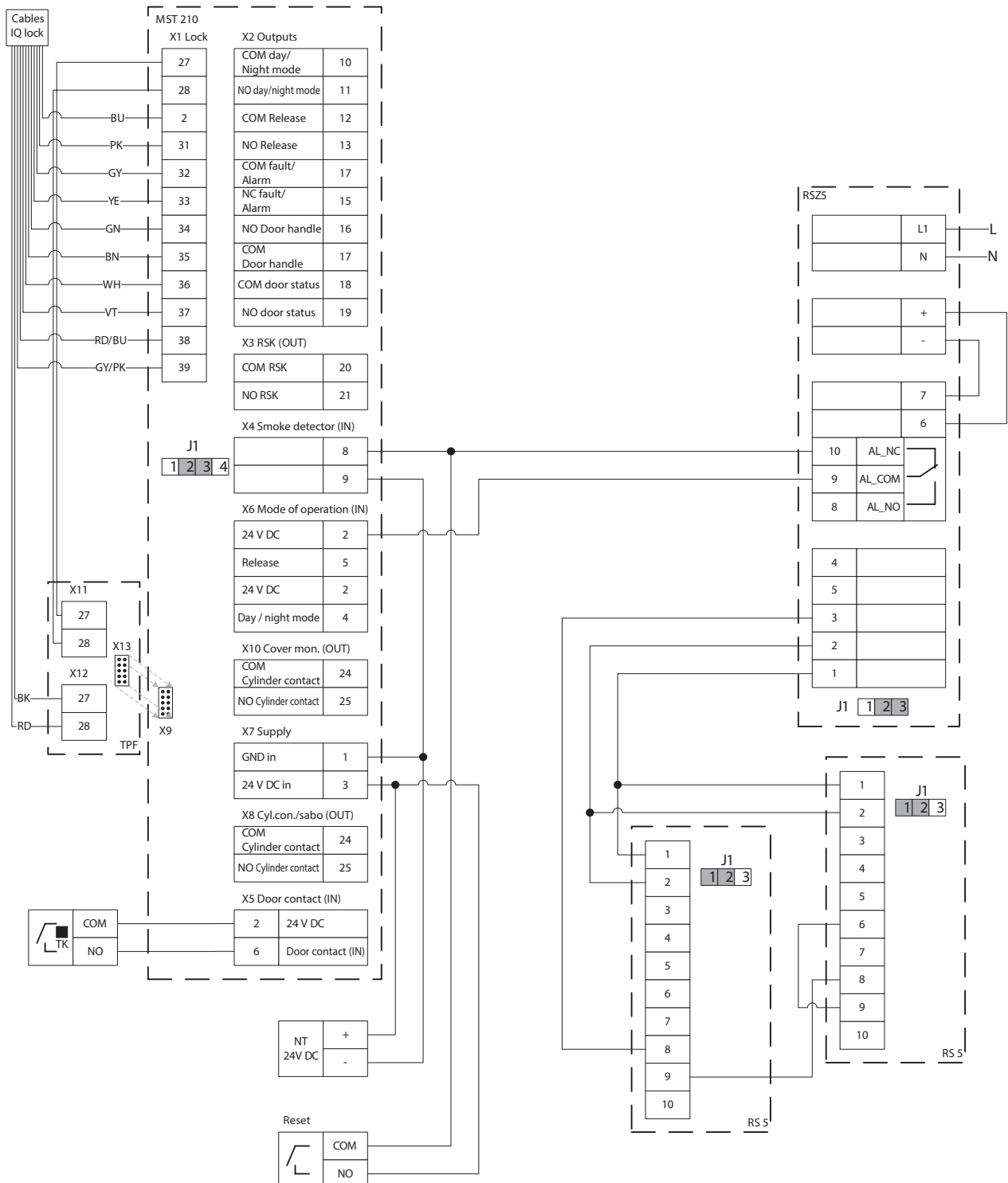
- ▶ Remove the red jumper from the smoke control unit (RSZ 6).
- ▶ Set the jumper J1 on the MST 210 to 2/3.
- ▶ Set the jumper on the smoke switch (RS 5) to 1/2.
- ▶ Press the reset button for commissioning.
- ▶ After release by the smoke control unit (RSZ 6) or the smoke switch (RS 5), press the reset button.



6.11 IQ lock EL with smoke control unit (RSZ 5)

- ▶  Follow the mechanical installation instructions for IQ lock.
- ▶ Heed the wiring diagram for the smoke control unit RSZ 5.

- ▶ Set the jumper on the smoke control unit (RSZ 5) to 2/3.
- ▶ Set the jumper J1 on the MST 210 to 2/3.
- ▶ Set the jumper on the smoke switch (RS 5) to 1/2.
- ▶ Press the reset button for commissioning.
- ▶ After release of the smoke control unit or the smoke switches, press the reset button.

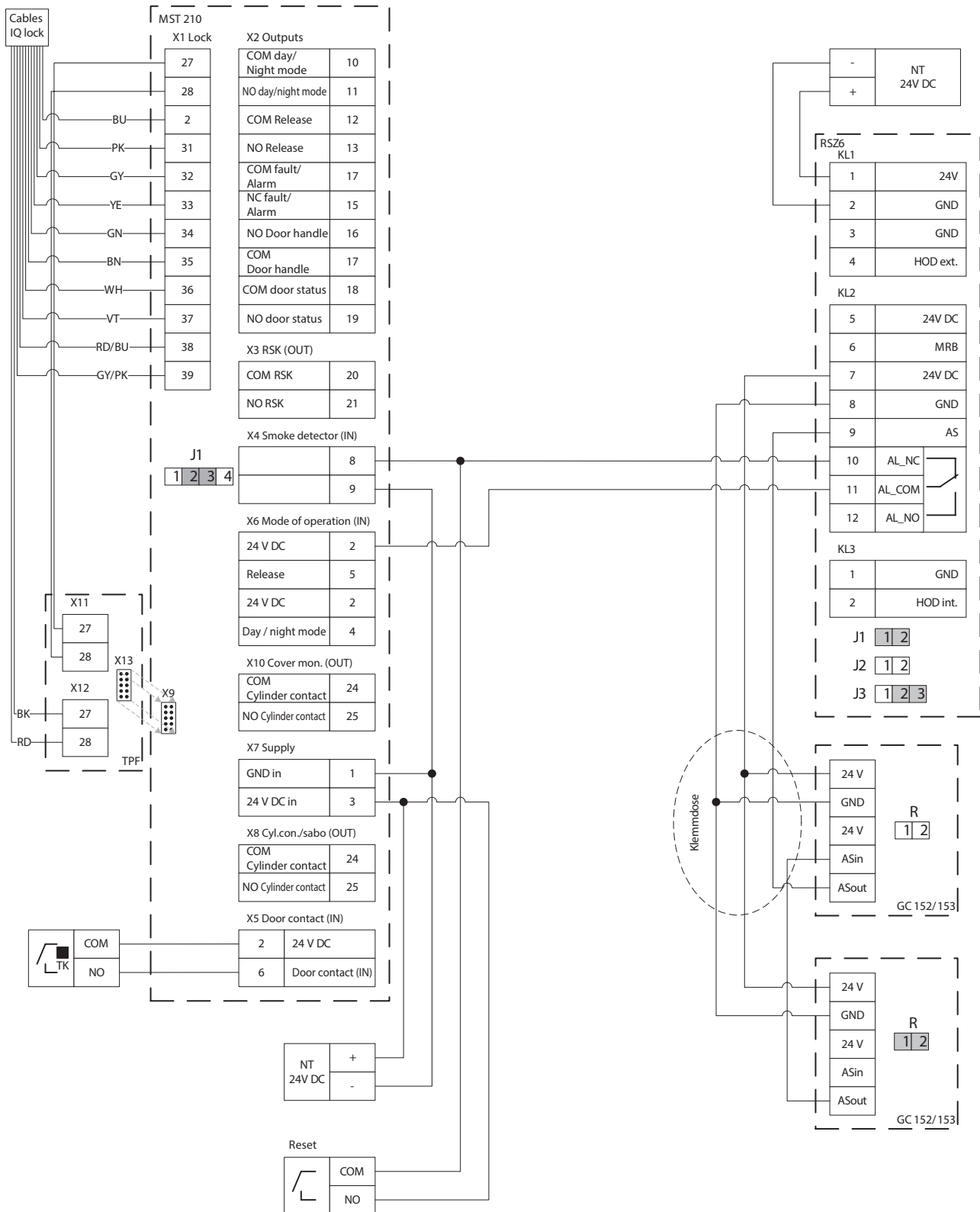


6.12 IQ lock EL with smoke control unit FA GC 150/160



- ▶ Follow the mechanical installation instructions for IQ lock.
 - ▶ Heed the wiring diagram for the hold-open system FA GC 150.
-

- ▶ Set jumper J3 on the smoke control unit (RSZ6) to 2/3.
- ▶ Separate the breaking point in the first relay base.
- ▶ Do **not** separate the breaking point in the last relay base.
- ▶ Set jumper J1 on the MST 210 to 2/3.
- ▶ Press the reset button for commissioning.
- ▶ After release of the smoke control unit or the smoke switches, press the reset button.



6.13 IQ lock EL with TZ 320 SN and activation



- ▶ Follow the installation instructions for IQ lock.
- ▶ Heed the wiring diagram for GEZE SecuLogic RWS (TZ 320).

The following settings must be made on the TZ 320:

- ▶ Set Output 1 to "BA drive".
- ▶ Set Output 2 to "TOE working current"

Voltage supply of the MST 210 is from separate power supply NT 19.2-24 or from the TZ 320 control unit

Option 1

If the motor lock is to be in mode of operation "day" when the door control unit is "permanently unlocked", output "1" of the TZ 320 must be connected to the "day/night mode" input of the MST 210. Parameter setting for output 1 must be "BA drive" for this function.

Option 2

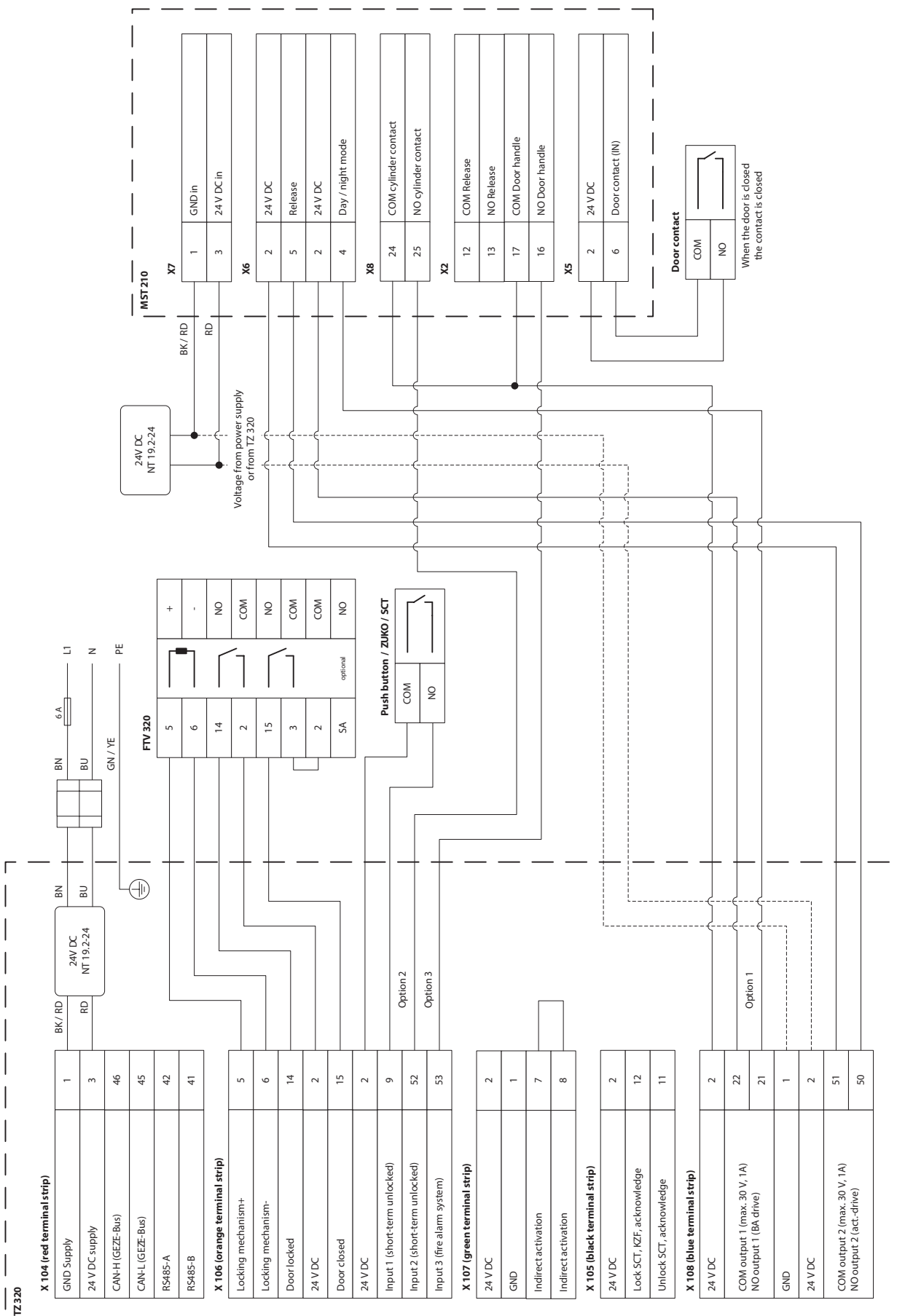
As an option, the output "cylinder contact" (terminals 24 + 25) of the MST 210 can be connected to a configurable input of the TZ 320 (terminals 2 and 52 or 53).

Function: When the cylinder is actuated by the key, a short-term release is triggered at the door control unit. If only short-term release is desired, the parameter setting for the input of the TZ 320 must be "short-term unlocked".

Option 3

As an option, the output "door handle" (terminals 16 and 17) of the MST 210 can be connected to a configurable input of the TST320 (terminals 2 and 52 or 53).

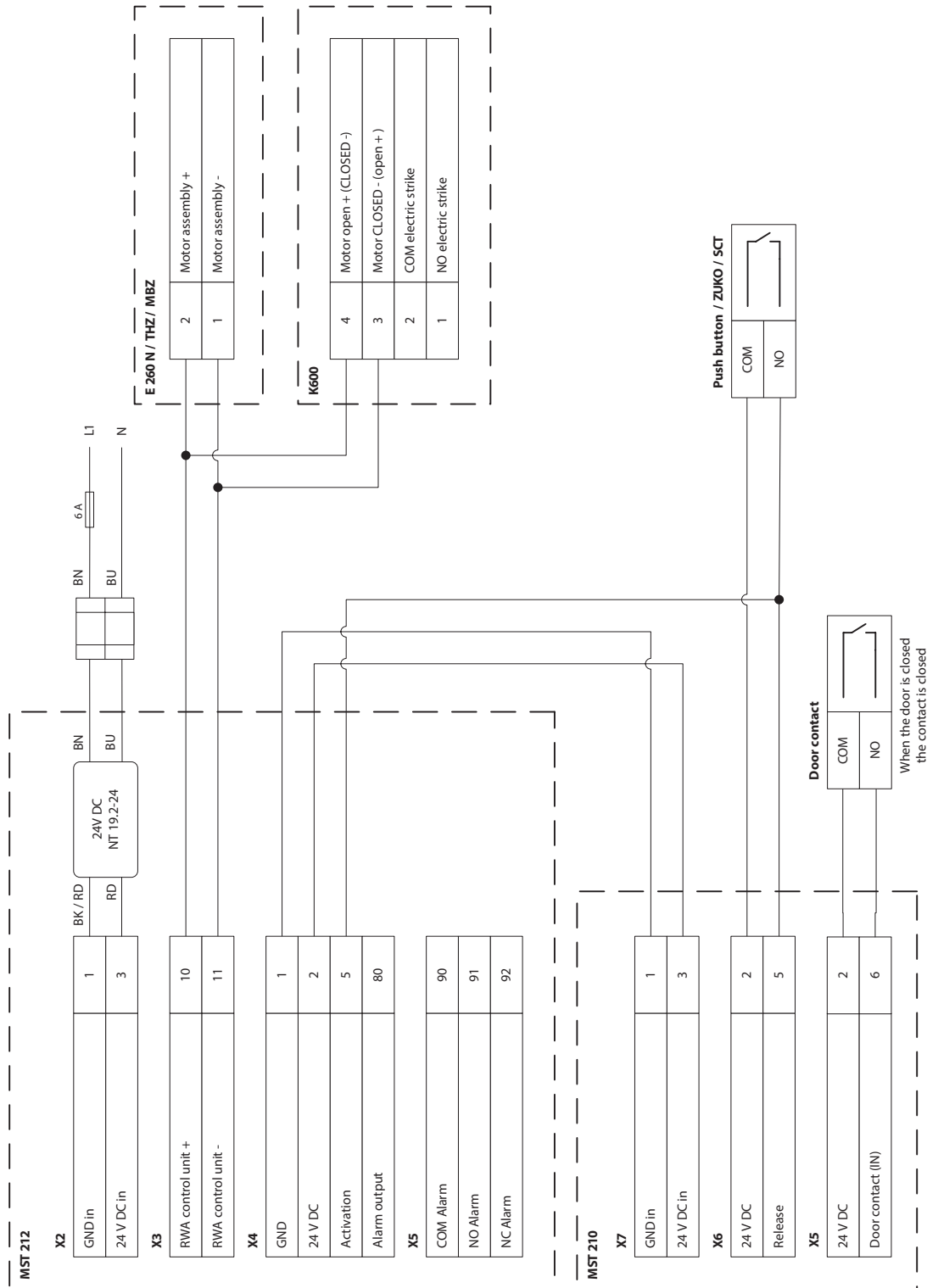
Function: If the door handle is pressed when the control unit is locked, a "pre-alarm" is triggered. For this, the input of the TZ 320 must be configured to "door handle".



6.14 IQ lock EL with K600 and activation



- ▶ Follow the installation instructions for IQ lock.
 - ▶ Heed the wiring diagram of the retractable arm drive RWA K600.
 - ▶ Heed the wiring diagrams of the control panels (E260 N / THZ / MBZ 300).
-

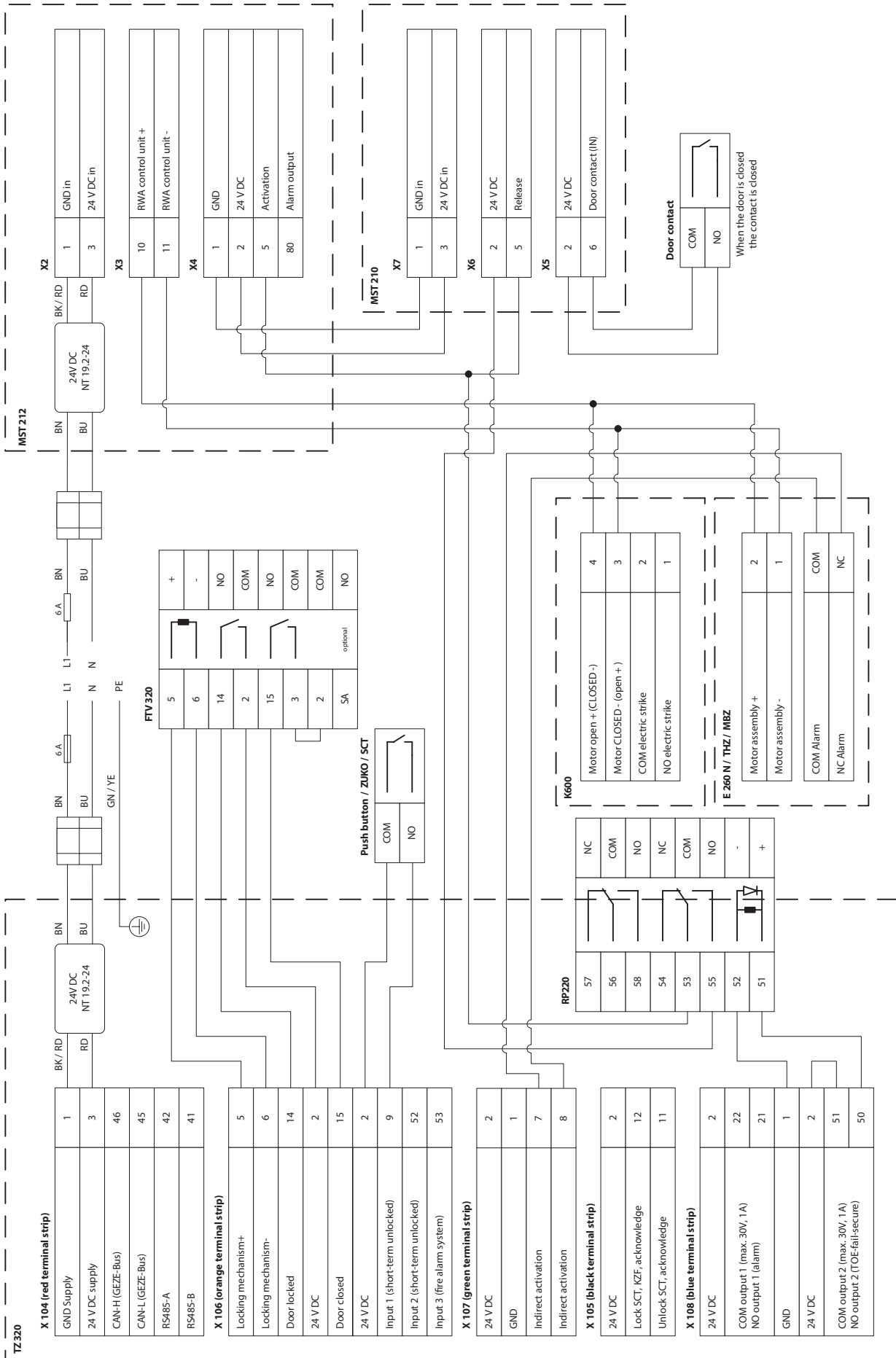


6.15 IQ lock EL with K600, TZ 320 SN and activation



- ▶ Follow the installation instructions for IQ lock.
 - ▶ Heed the wiring diagram of the retractable arm drive RWA K600.
 - ▶ Heed the wiring diagrams of the control panels (E260 N / THZ / MBZ 300).
 - ▶ Heed the wiring diagram for GEZE SecuLogic RWS (TZ 320).
-

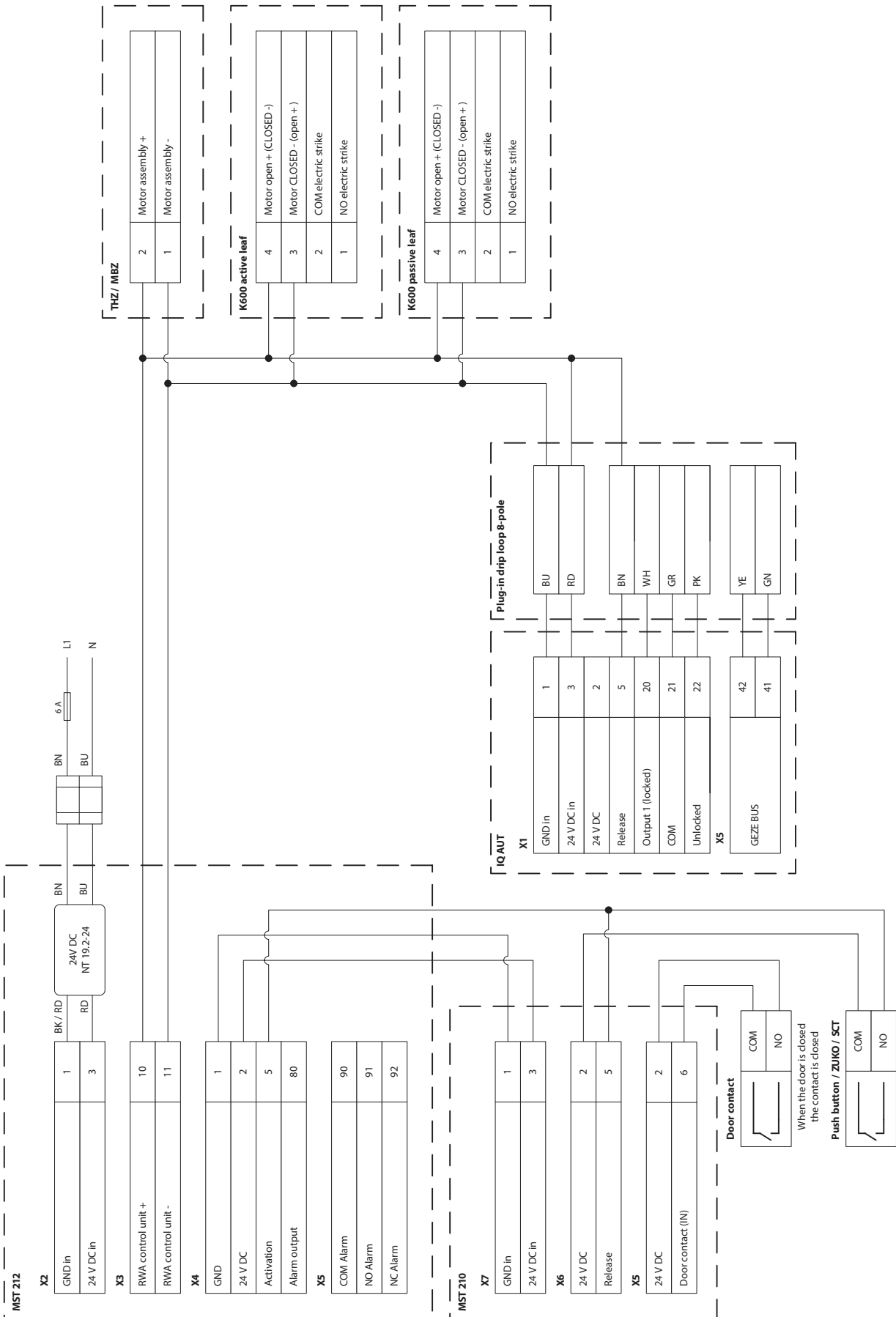
- ▶ On the TZ 320, set output 1 to "TOE working current".



6.16 IQ lock AUT with K600 and activation



- ▶ Follow the installation instructions for IQ lock.
 - ▶ Heed the wiring diagram of the retractable arm drive RWA K600.
 - ▶ Heed the wiring diagrams of the control panels (E260 N / THZ / MBZ 300).
-



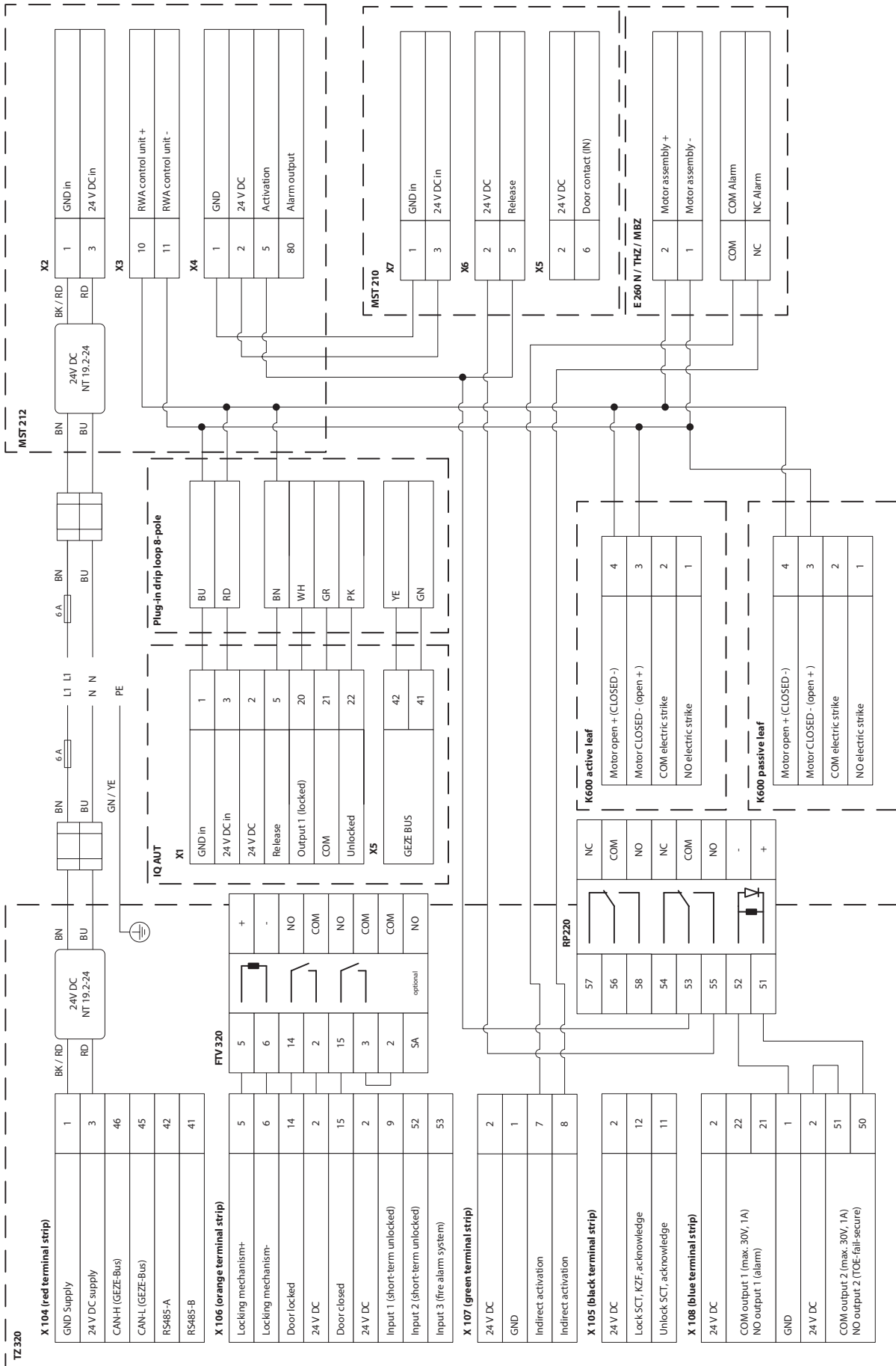
6.17 IQ lock AUT with K600, TZ 320 SN and activation



- ▶ Follow the mechanical installation instructions for IQ lock.
 - ▶ Heed the wiring diagram of the retractable arm drive RWA K600.
 - ▶ Heed the wiring diagrams of the control panels (E260 N / THZ / MBZ 300).
 - ▶ Heed the wiring diagram for GEZE SecuLogic RWS (TZ 320).
-

The following settings must be made on the TZ 320:

- ▶ Set Output 1 to "TOE-fail-secure".



6.18 IQ lock AUT with EMD (-F, -I) and activation



- ▶ Follow the mechanical installation instructions for IQ lock.
- ▶ Heed the wiring diagram for EMD, EMD-F, EMD Invers.

- ▶ With 2-leaf door drives connect the control unit to the active leaf.
- ▶ Set the parameters on the CU2, DCU2-F, DCU-I control units as follows:

With DPS:

- Set **A1** to **18** (day and night mode switchover), parameter **rr** (bolt message) to **02** (normally closed contact) and **to** (electric strike) to **03** (motor lock).

With ST220:

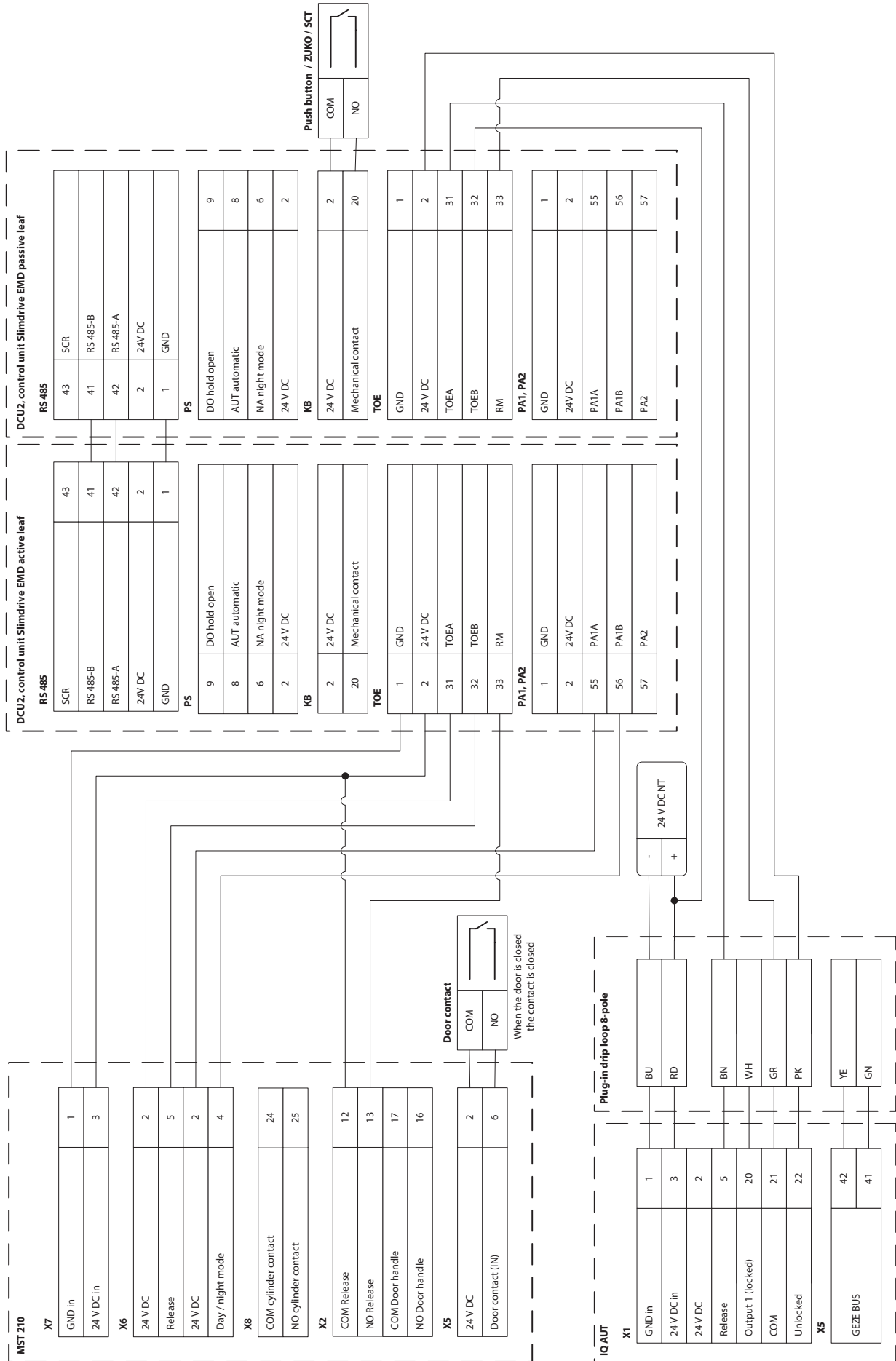
- Set Signals → Output signals → PA1 to day/night mode switchover.
- Set Signals → Input signals → Bolt contact type to electric strike.
- Set Door parameters → Electric strike type to motor lock.

Voltage supply of the MST 210 from separate power supply NT 19.2-24 or from the DCU2 control unit.

Voltage supply of the rod drive IQ AUT from separate 24 V DC 1.5 A power supply.

EMD Invers:

- If the parameter setting for the door opening output of the EMD-Invers is motor lock, the door is only held in the closing position by the IQ lock EL, no longer by the door drive.
- The door opens through spring force in the event of manual opening using the door handle in the event of a panic.
- After the hold-open time has expired, the door closes electromechanically and the IQ lock EL locks.
- The EMD also recognises without an activation signal when the door is opened.



6.19 IQ lock AUT with TSA160 NT (-F, -I) and activation



- ▶ Follow the mechanical installation instructions for IQ lock.
- ▶ Heed the wiring diagram for TSA160 NT, TSA160 NT-F, TSA160 NT Invers.

Disconnect the internal programme switch of the door drive.

With 2-leaf door drives connect the control unit to the active leaf.

Set the parameters on the DCU5 control unit as follows:

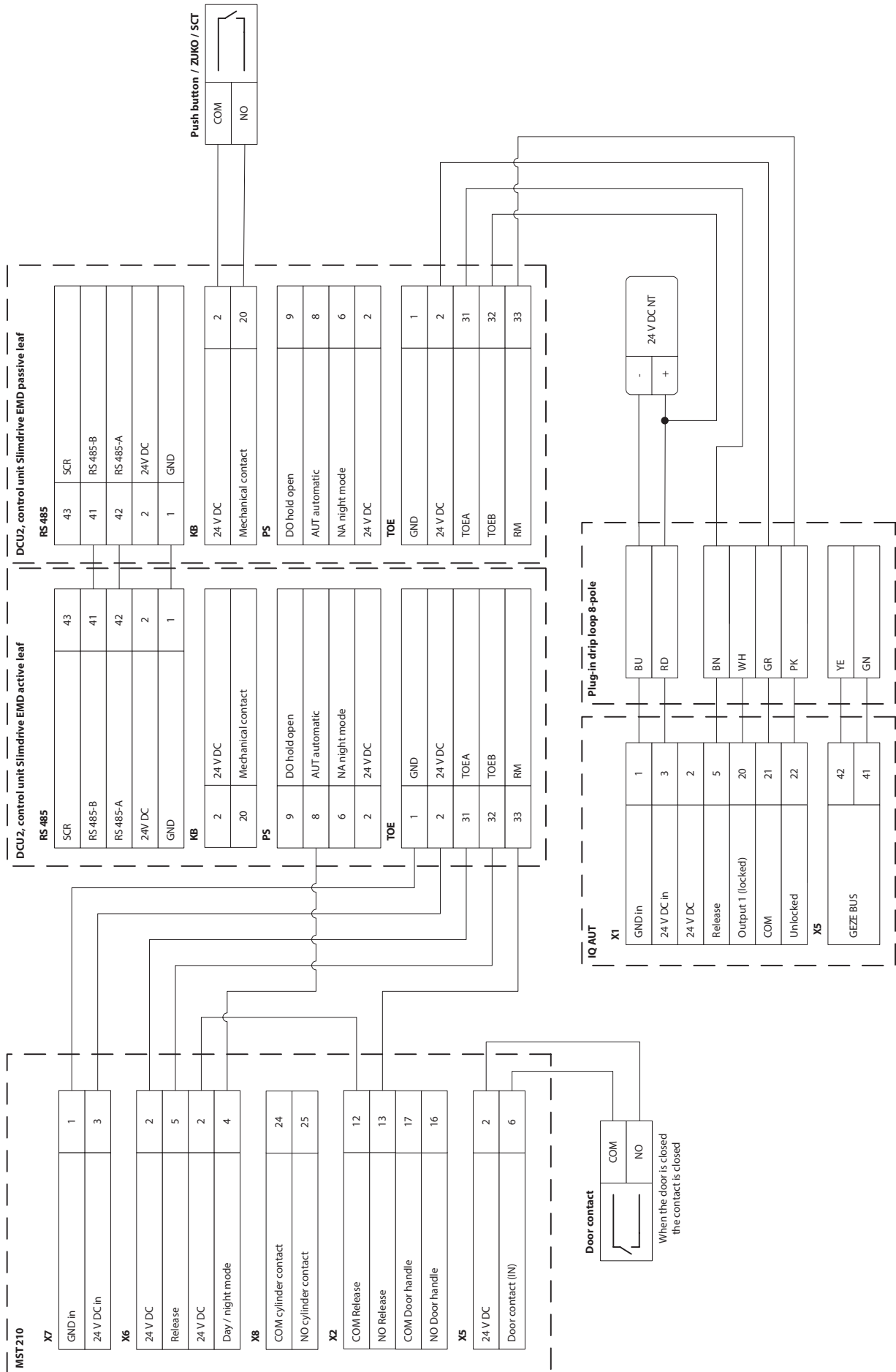
- ▶ With DPS:
 - Set parameter **rr (21)**(bolt message) to **02** (normally closed contact) and **to (20)** (electric strike type) to **03** (motor lock).
- ▶ With ST220:
 - Set Input signals → Bolt message to electric strike.
 - Set Door parameters → Electric strike type to motor lock.

Voltage supply of the MST 210 from separate power supply NT 19.2-24 or from the DCU5 control unit.

The GND of DCU5 (terminal TOE no. 1) must be connected with the GND of the MST 210 (terminal X7 no. 1), even when a separate power supply is used.

Voltage supply of the rod drive IQ AUT from separate 24 V DC 1.5 A power supply.

The day function on the lock cannot be used with analogue programme switches (DPS / TPS / MPS).



6.20 IQ lock AUT with Powerturn IS



- ▶ Follow the mechanical installation instructions for IQ lock AUT.
- ▶ Heed the Powerturn wiring diagram.

Parameters DCU8xx

- Set configurable output 1 to day/night mode switchover:
 - DPS: Set *PA1* to *1B* (mode of operation message "Day/night mode").
 - ST220: Set "PA1 function" to "Day/night mode switchover".
- Set bolt message contact type to normally closed contact:
 - DPS: Set *rc* to *02* (normally closed contact).
 - ST220: Set the "Signals", "Input signals", "Bolt contact type", "Bolt contact type" to "NC".
- Set the electric strike type to motor lock:
 - DPS: Set *to* to *03*.
 - ST220: Set "Door parameters" "Electric strike type" to "Motor lock".

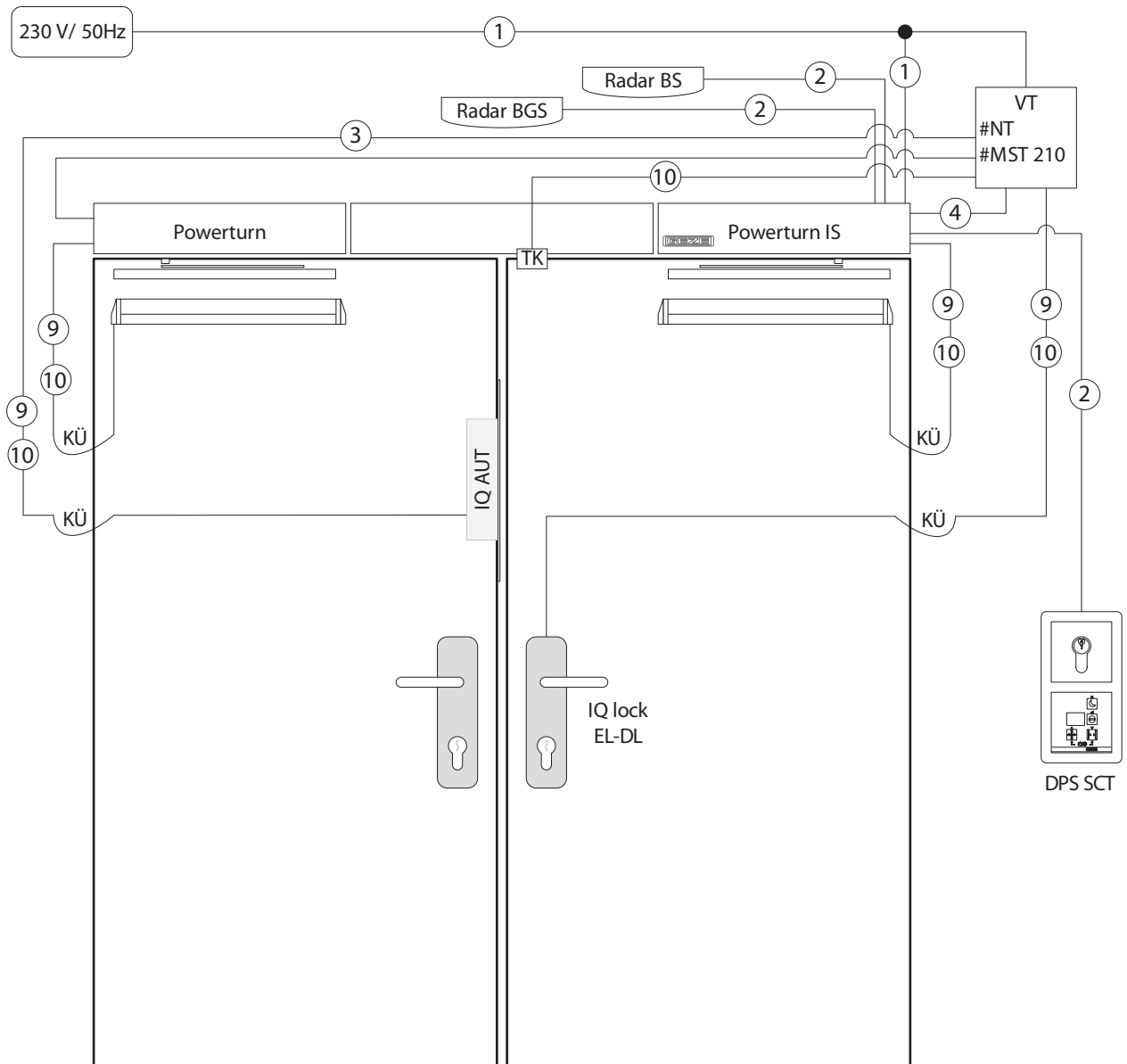
Power supply

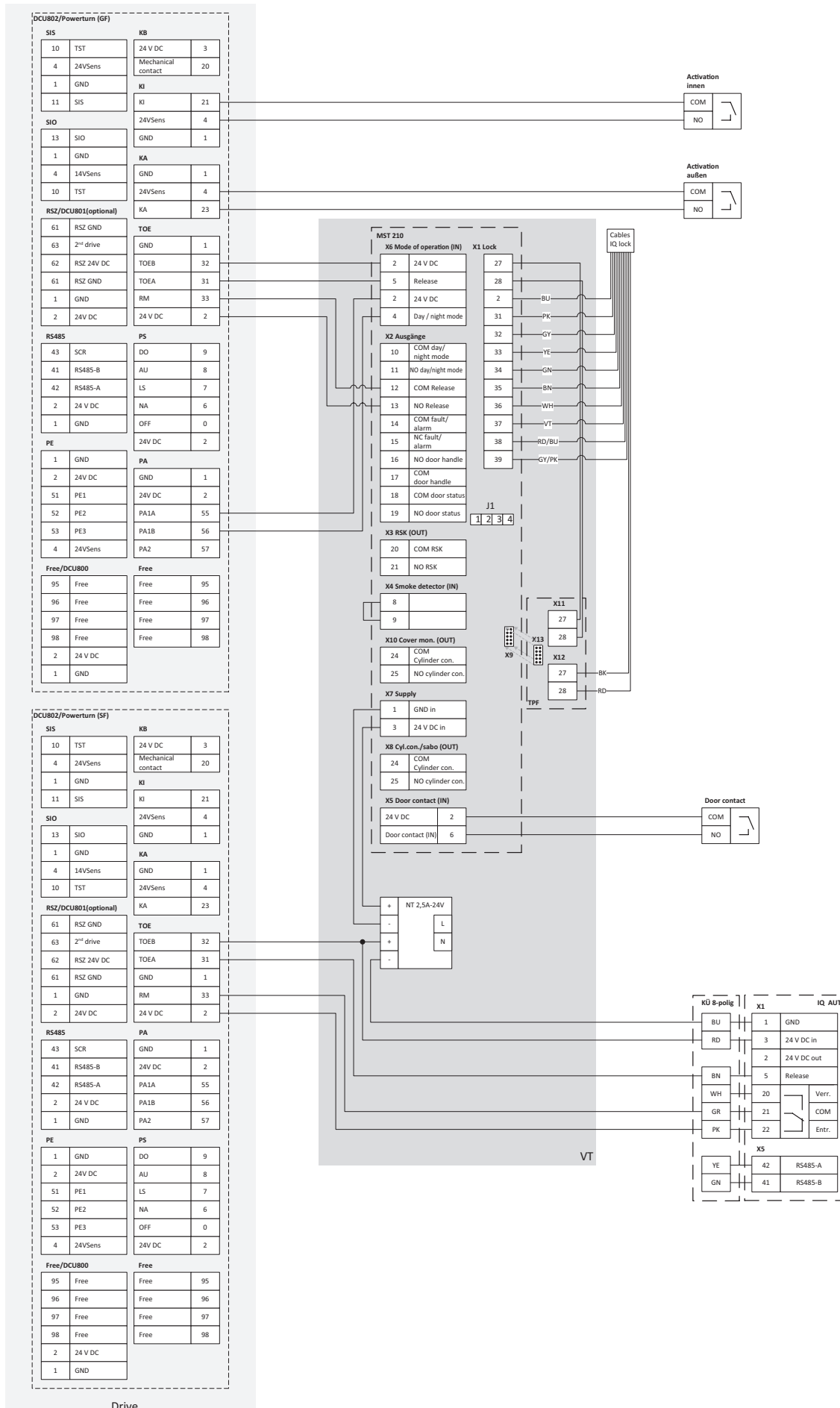
- Take the voltage supply MST 210 from a separate power supply or from the DCU8xx control unit.
- Take the voltage supply rod drive (IQ AUT) from a separate power supply.

Abbreviation on illustration on page 55	Component
BGS	Opposite hinge side
BS	Hinge side
DPS	Display programme switch
IQ AUT	Rod drive
IQ lock EL (DL)	Self-locking motor lock with panic function (2-leaf)
KÜ	Drip loop
MST 210	Motor lock control
NT	Power supply
Key switch xxx	Key switch
TK	Door contact

Cable recommendation

No.	Management
1	NYM-J 3x 1.5
2	J-Y (ST)Y 2x2x0.6
3	J-Y (ST)Y 3x2x0.6
4	J-Y (ST)Y 4x2x0.6
9	Empty pipe inner diameter 10mm
10	Supplied by GEZE:
	▫ IQ lock XX 10 m LiYY 12x0.14 mm ²
	▫ IQ AUT 10 m LiYY 8x0.34 mm ²
	▫ TK (ID:106133) 6 m LiYY 4x0.14 mm ²
	▫ K600 5 m FRNC-LSIHSI FE90
⊙	on site





7 What if?



▶ You can remedy most of the problems and faults which occur in day-to-day operation yourself. The following overview should help you with this. If you cannot find the reason for a fault or remedy it, please contact GEZE.



▶ Never open the lock casing yourself.

- Installation and maintenance work or repairs may only be carried out by the manufacturer and their authorised specialists.
- Improper installation and maintenance work or repairs can lead to considerable risk for the user or the product for which the manufacturer neither accepts liability nor provides a warranty.

Rod drive IQ AUT

Alarm/fault	Cause	Consequence	Remedial action
OVR_TEMP	Temperature at the motor too high.	Poss. short-circuit at the motor.	▶ Return to GEZE Service.
Wh_L_ON	The Hall sensor at the locking position of the toothed wheel cannot be activated. The fault is only triggered during retraction.	<ul style="list-style-type: none"> ▫ WH lock Hall sensor is defective. ▫ Toothed wheel is blocked. 	▶ Acknowledge fault and test again. If the fault occurs again: ▶ Return to GEZE Service.
Wh_UL1_ON Wh_UL2_ON	The first Hall sensor at the unlocking position of the toothed wheel cannot be activated. The fault is only triggered during electric unlocking.	<ul style="list-style-type: none"> ▫ The drive rod at the edge of the door is blocked. ▫ Toothed wheel is blocked. ▫ The face plate of the strike box is blocked. 	▶ Unlock the passive leaf manually. Check whether excessive force must be used for unlocking. ▶ Make sure that the drive rod is not blocked.
Bar_L_ON	The Hall sensor at the locked position of the drive rod is active in the unlocked state. This fault is only triggered in the unlocked state.	<ul style="list-style-type: none"> ▫ Attempted manipulation. Some has tried to generate a locked signal. ▫ The bar lock Hall sensor is defective. 	▶ Check whether the door has been manipulated. ▶ Leave the voltage switched off for 10 sec and then switch it back on again.
Bar_UL_ON	The Hall sensor at the unlocked position of the drive rod cannot be activated during unlocking. This fault is only triggered during electric unlocking.	<ul style="list-style-type: none"> ▫ Drive pin is defective. ▫ Drive rod is blocked. ▫ Magnet of the drive rod has failed. 	▶ Make sure that the drive rod is not blocked. ▶ Check the load on the drive rod manually. ▶ Acknowledge fault and test again.
Wh_L_OFF	The Hall sensor at the locked position of the toothed wheel remains active during unlocking. This fault is only triggered during electric unlocking.	Toothed wheel blocked.	▶ Acknowledge fault and test again. If the fault occurs again: ▶ Return to GEZE Service.
Wh_UL1_OFF	The Hall sensor at the locked position of the toothed wheel remains active during retraction. This fault is only triggered during retraction.	Toothed wheel blocked.	▶ Acknowledge fault and test again. If the fault occurs again: ▶ Return to GEZE Service.
Wh_UL2_OFF	The Hall sensor at the locked position of the toothed wheel remains active during retraction. This fault is only triggered during retraction.	Toothed wheel blocked.	▶ Acknowledge fault and test again. If the fault occurs again: ▶ Return to GEZE Service.

Alarm/fault	Cause	Consequence	Remedial action
Bar_L_OFF	The Hall sensor at the locked position of the drive rod remains active during unlocking. This fault is only triggered in the unlocked state.	<ul style="list-style-type: none"> ▫ Drive rod is blocked. ▫ Bar lock sensor is defective. 	<ul style="list-style-type: none"> ▶ Make sure that the drive rod is not blocked. ▶ Check the load on the drive rod manually. ▶ Acknowledge fault and test again.
OC_2UL	"OverCurrent to unlock" The max. current limit has been exceeded during unlocking, although the drive rod has already reached the unlocked position.	Toothed wheel blocked.	<ul style="list-style-type: none"> ▶ Acknowledge fault and test again. If the fault occurs again: <ul style="list-style-type: none"> ▶ Return to GEZE Service.
OC_2UL_BAR	"OverCurrent to unlock" The max. current limit has been exceeded during unlocking.	<ul style="list-style-type: none"> ▫ Drive rod or toothed wheel is blocked. ▫ The load is too high 	<ul style="list-style-type: none"> ▶ Make sure that the drive rod is not blocked. ▶ Check the load on the drive rod manually. ▶ Acknowledge fault and test again.
OC_2L	"OverCurrent to lock" The current limit has been exceeded during locking.	Toothed wheel blocked.	<ul style="list-style-type: none"> ▶ Acknowledge fault and test again. If the fault occurs again: <ul style="list-style-type: none"> ▶ Return to GEZE Service.

Motor lock IQ lock EL / IQ lock EL DL

Alarm/fault	Cause	Consequence	Remedial action
Manual unlocking of the lock using panic device possible, but not using motor activation	Mechanical fault on the lock or bolt jammed in extended state	Bolt can no longer be retracted by motor, and/or error message is pending at the control unit	▶ Reset the activation and start activation of the lock again, error message will go out if successful.
	Power supply cable defective	Lock is not being supplied with 24 V DC	▶ Check continuity and replace the power supply cable of the lock if necessary.
	Control unit is not being supplied with 24 V DC	In the event of attempted manipulation, the bolt of the auxiliary latch is closed and can no longer be retracted by motor	▶ Check the polarity of the 24 V DC input on the control unit and change if necessary.
The door can be pushed or pulled open by hand	The cross latch cannot be positioned or the lock cylinder is jammed	Bolt blocked in retracted state	<ul style="list-style-type: none"> ▶ Position the strike plate correctly. ▶ Check activation of the exchange function using the key.
	Door handle is jammed in activated position or handle return spring is broken	The door handle does not return to its initial position after activation The signal is sent via fault relay after 4 min	<ul style="list-style-type: none"> ▶ Loosen the screws, lubricate the handle guide, correct fastening. The error message is reset once the handle is mobilised again. <p>– or –</p> <ul style="list-style-type: none"> ▶ Replace the lock.
	Auxiliary latch is not activated	Bolt is not extended with door closed	▶ Check the clearance of the door leaf and shim the strike plate if necessary.
	Lock in permanently unlocked mode	Lock does not lock when the door is closed	▶ Check permanently unlocked activation.
	Power supply cable has been interrupted during the release time	Lock does not lock when the door is closed	▶ Check power supply cable for continuity.
The auxiliary latch closes with door closed with "Off"	Strike plate has been reworked and hollowed out too much	–	▶ Open the door and replace the strike plate.

Alarm/fault	Cause	Consequence	Remedial action
No signal from the Reed contact	Sensing distance of the Reed contact exceeded or power supply cable for the Reed contact defective – or – Input external door contact on the control unit defective	Electrical timeout function still working. Door locks during door closing process or remains locked when door is closed. Door mode "door closed" is not signalled.	<ul style="list-style-type: none"> ▶ Check Reed contact, sensing distance observed? ▶ Check continuity, check input of external door contact on the control unit.
Lock no longer locks	Power supply cable defective	Bolt no longer extends	▶ Replace power supply cable.
Door leaf cannot close	Cross latches hit the strike plate hard	Door leaf cannot close, latches grind at the strike plate	▶ Lubricate the cross latches lightly with a lubricant approved by GEZE.
	Auxiliary latch can no longer be activated		▶ Mobilise the auxiliary catch carefully.

Lever lock IQ lock EM / IQ lock EM DL

Alarm/fault	Cause	Consequence	Remedial action
Manual unlocking via the outer door handle not possible	Magnet is not energised	Outside handle is not engaged and is disabled	<ul style="list-style-type: none"> ▶ Check the polarity of the 24 V DC input and replace if necessary. – and/or – ▶ Check the continuity of the power supply cable. <p>If the power supply cable and polarity are both OK:</p> <ul style="list-style-type: none"> ▶ Replace the lock.
The door can be pushed or pulled open by hand	Cross latch cannot be positioned – or – Lock cylinder is jammed	Bolt blocked in retracted state	<ul style="list-style-type: none"> ▶ Position the strike plate correctly. – or – ▶ Check activation of the exchange function using the key.
	Door handle is jammed in activated position – or – Handle return spring is broken	The door handle does not return to its initial position after activation and there is no locking signal given	<ul style="list-style-type: none"> ▶ Loosen the screws, lubricate the handle guide, correct fastening. – or – ▶ Replace the lock.
	Auxiliary latch is not activated	Lock does not lock when the door is closed	▶ Check the clearance of the door leaf.
Bolt shoots out again immediately after the door has been opened	Door handle has not been pressed down completely. – or – Auxiliary latch is jammed	Face plate is not held in permanently unlocked position, door cannot close and be locked properly	<ul style="list-style-type: none"> ▶ Press the door handle as far as it will go. ▶ Check the tension-free fit of the lock. <p>Rework the lock recess if necessary. If there is no change in lock behaviour:</p> <ul style="list-style-type: none"> ▶ Replace the lock.
The auxiliary latch closes with door closed with "Off"	Strike plate has been reworked and hollowed out too much	–	▶ Open the door and replace the strike plate.
Door leaf cannot close	Cross latches hit the strike plate hard	Door leaf cannot close, latches grind at the strike plate	▶ Lubricate the cross latches lightly with a lubricant approved by GEZE.
	Auxiliary latch can no longer be activated	–	▶ Mobilise the auxiliary catch carefully.
Contacts are not signalling	Fittings set installed twisted – or – Lock case fitted in the recess under mechanical tension	Contacts in the lock are not activated by the integrated face plate	<ul style="list-style-type: none"> ▶ Remove the fittings set. ▶ Check the tension-free fit of the lock. ▶ Rework the lock recess if necessary, mobilise the lock or replace the lock.
	Power supply cable is defective	Relaying of contacts not possible	▶ Check power supply cable through or replace lock.

Mechanical contact lock IQ lock C / IQ lock C DL and mechanical lock IQ lock M / IQ lock M DL

Alarm/fault	Cause	Consequence	Remedial action
The door can be pushed or pulled open by hand	Cross latch cannot be positioned	Bolt blocked in retracted state	▶ Position the strike plate correctly.
	Lock cylinder is jammed	Bolt blocked in retracted state	▶ Check activation of the exchange function using the key.
	Door handle is jammed in activated position – or – Handle return spring is broken	The door handle does not return to its original position after activation	▶ Loosen the screws. ▶ Lubricate the handle guide. ▶ Correct fastening – or – ▶ Replace the lock.
	Auxiliary latch is not activated	Lock does not lock when the door is closed	▶ Check the clearance of the door leaf.
Bolt shoots out again immediately after the door has been opened	Door handle has not been pressed down completely – or – Auxiliary latch is jammed in activated position	Face plate is not held in permanently unlocked position, door cannot close and be locked properly	▶ Press the handle down as far as it will go ▶ Check the tension-free fit of the lock. ▶ Rework the lock recess if necessary. If there is no change in lock behaviour: ▶ Replace the lock.
	Strike plate has been reworked and hollowed out too much	–	▶ Open the door and replace the strike plate.
Door leaf cannot close	Cross latches hit the strike plate hard – or – Auxiliary latch can no longer be activated	Door leaf cannot close, latches grind at the strike plate	▶ Lubricate the cross latches lightly with a lubricant approved by GEZE. ▶ Mobilise the auxiliary catch carefully.

8 Maintenance



Lock maintenance work must be carried out once a year by GEZE or an authorised GEZE partner.

Maintenance instructions

These maintenance instructions are part of the installation and operating instructions and have to be made available to the owner/operator of the building.

In addition, we recommend monthly checks on the locks by the owner/operator as follows:

- Make sure by inspecting and activating the emergency exit device that all parts of the lock are in a satisfactory operating conditions.
- Use a dynamometer to measure and record the operating forces required to release the panic exit device/emergency exit lock.
- Ensure that the operating forces have not changed substantially in comparison to the operating forces recorded during initial commissioning.
- Ensure that bolt heads or keepers are not blocked or clogged up.
- Ensure that the panic exit device has been lubricated according to the manufacturer's instructions and that the operating element has been tightened properly.
- Ensure that no additional locking devices are added to the door after initial installation.
- Check whether all the components of the panic exit device still comply with the list of approved components originally supplied with the system.
- Ensure that these documents are made available to the owner/operator of the panic exit device/escape door lock.

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