



GEZE SYSTEM MANUAL
COMFORT AND SAFETY SOLUTIONS
FOR DOORS, WINDOWS AND BUILDINGS



FOR DOOR, WINDOW AND BUILDING APPLICATIONS

TABLE OF CONTENTS

Perfectly networked safety and comfort from GEZE	4
Door applications	
Components / Areas of application	5
Emergency exit protection	
„Stand alone“ solution for individual non-networked doors	6
Nursery school solution - flexible and safe entrance and exit control for nursery schools	8
System solution for safety and sophisticated design (1-box solution)	10
More convenient passage of automatic emergency exit doors inside buildings	12
Bi-directional emergency exit protection for doors with emergency exit function in both directions	14
Tailor-made solution without local emergency push-button for increased safety requirements	16
Self-locking full panic solutions	
Door leaves which are automatic on one side	18
Door leaves which are automatic on both sides	20
Access control	
Non-contact access with wide-range reader	22
Effective access control with isolation in a revolving door	24
Interlocking door system with access control and isolation in a curved sliding door	26
Window applications	
Components / Areas of application	29
Simple ventilation solution for window drives	30
Wireless window control for window drives	32
Ventilation via on-site bus systems (KNX)	34
Window protection	36
Indoor climate control	38
Building applications	
Components / Areas of application	41
Central control units	
Control and release of doors from a central position	42
Tailor-made solution for escape balconies and access balconies	44
Doors in interlocking door systems	46
Security interlocking door system for sensitive areas	50
Personal protection system with wide-range reader for disoriented people or people suffering from dementia	54
Solution for individual storeys and small buildings (up to 20 doors)	56
Solution for medium to large buildings (up to 504 doors)	58
Solutions for smoke and heat extraction systems (RWA)	
Door leaves with fresh air supply for RWA (smoke and heat extraction)	60
Small smoke and heat extraction devices	62
Medium-sized to complex smoke and heat extraction systems	64
Components product information	68
Abbreviations	89
Terms and definitions	90

Perfectly networked safety and comfort from GEZE

Individual solution concepts for each application

Buildings of all kinds – be they offices, hospitals or shopping centres – are evaluated by their users according to their functionality, convenience, aesthetics and – in view of the perception of accidents and catastrophes all over the world – safety. The requirements made of safety technology are thus becoming more and more complex. This includes the connection of individual safety requirements in coordinated systems. GEZE supplies this added value with matching solutions from a single source. From access control, preventive fire protection, control of escape and rescue routes through to controlled daily aeration and ventilation. Product and system solutions from GEZE combine individual safety requirements in an intelligent system. In the event of a hazard, the coordinated opening and closing of doors and windows is initiated.

We pass on the knowledge and expertise we have acquired as a developer, manufacturer and system integrator during the realisation of numerous projects to our customers. Our experts and project consultants are available with solutions to individual problems – with the help of clever tools or in the form of personal support.



Munich Airport, Germany (photo: Martin Jakob)

Safety solutions for door applications

Components / Areas of application

	Components										Areas of application											Page
	Door central units	Panic locks	Access control systems	Control units	Swing door drives	Sliding door drives	Electric strikes	Door closers	Escape door lock	RWA fresh air supply	Meeting rooms	Shopping centres / points of sale	Hospitals	Schools / nursery schools	Industrial buildings	Multi-storey buildings	Offices and administration buildings	Sport and event halls	Public facilities	(High-)Security areas		
Emergency exit protection																						
Individual doors without network (stand-alone)	●	●	○					●	●		●			●	○	●	●	●	●		6	
Nursery school solution	●						●	●	●				●								8	
1-box solution	●	●	○	○	○			●	●		●			●	●		●	●	●		10	
Automatic emergency exit doors inside buildings	●	○	●	○	●		●		●		●	○	○	●	●		●	●	●		12	
Escape route in both directions (bi-directional)	●	○	○	○				●	●		●			●	●	●	○	○	○		14	
Tailor-made solution without local emergency push-button	●	○	○	●	○			●	●				●							○	16	
Self-locking full panic solutions																						
Door leaves which are automatic on one side	●	●	●	○	●									●		●	●	●	●	●	18	
Door leaves which are automatic on both sides	●	●	●	○	●									●			●	●	●	●	20	
Access control																						
Non-contact access with wide-range reader	○	●	○	○	●								●	●			●	●	●		22	
Access control in a revolving door	○		○	○	●												●	●	●	○	24	
Access control in a curved sliding door	○		○	○		●											●	●	●	○	26	
Page	68	71	74	76	83		73	85	70													

● = yes

○ = optional

Emergency exit protection

„Stand alone“ solution for individual non-networked doors

The emergency exit protection system for individual doors is a standard solution for increased convenience at heavily frequented doors. Individually electrically locked emergency exits are controlled and monitored by the door control unit TZ 300. Doors on escape routes are reliably protected against unauthorised passage. They are held closed by an additional electrical locking element which is controlled by the door control unit as the central system unit. The emergency exit system and lock release are cleared by just one key movement.



- 1 = Contact lock IQ Lock C
- 2 = Door closer TS 4000/TS 5000
- 3 = Door control unit TZ 300 SN, AP / UP
- 4 = Escape door lock FTV 320

System components

Door control unit TZ 300 SN, AP/UP	•
Escape door lock FTV 320	•
Contact lock IQ lock C	•
Door closer TS 4000/TS 5000	•

Optional components

Holding magnet with installation set and door contact instead of escape door lock	
Flashlight BLE 220	
Signal horn SLH 220	
Uninterruptible power supply (UPS)	
Access control	

• = YES

System description

Authorised passage in the direction of the emergency exit

Authorised passage through the secured door in the direction of the emergency exit is by means of an integrated key operated button of the door control unit. Optionally, the cylinder contact integrated in the lock can be used to enable passage using the profile cylinder of the lock. The door is released for 20 s for authorised passage (short-term release).

Authorised passage against the direction of the emergency exit

Authorised passage through the secured door against the direction of the emergency exit is by means of the profile cylinder of the door. When the profile cylinder is activated, the door control unit is activated via a contact. The door is released for 20 s for authorised passage (short-term release). The lock cylinder is activated only once to activate the lock and RWS system. Convenient passage is thus guaranteed.

Time monitoring of the door

If the door is not closed after the release time has expired, a pre-alarm is triggered. This is to draw attention to the fact that the time has been exceeded. If the pre-alarm time is also exceeded, a door alarm is triggered and has to be acknowledged by the key push button. The doors are equipped with a door closer to ensure they close automatically after passage.

Monitoring of the secured escape door

A „pre-alarm“ is signalled by the integrated handle contact of the contact lock if the door handle or panic bar is activated on a secured escape door. This is an early indication to unauthorised persons that the door is secured.

Passing of the door in case of emergency

The door can be released at any time via the integrated emergency button. Visual and acoustic signal transmitters in the door control unit signal passing of the door. There is also the possibility of triggering external signal transmitters via an alarm contact or relaying a message to a building management system.

Burglary protection

The door is locked safely again after every passage by the self-locking panic lock with 20 mm crossbar projection.

Emergency exit protection

Flexible and safe entrance and exit control for nursery schools

With this emergency exit protection system for doors in nursery schools, the emergency exit door is always locked and thus reliably protected against unauthorised passage. The special feature of this system is the push button on the inside of the door, which is positioned at a height of 1.80 m, inaccessible for children. In addition, the outside push button can be enabled or disabled via a switch for the parents during the arrival and collection periods. The activation of the emergency push button - at a level children can reach - immediately releases the door and is signalled by both visual and acoustic alarms.

This solution is also suitable for existing doors which are already fitted with an electric strike and a knob or pull handle on the outside.



- 1 = Panic lock with changeover function „E“ on site
- 2 = Door closer TS 4000/TS 5000
- 3 = Push button at 1.80 m
- 4 = Switch to enable or disable the outer push button
- 5 = Door control unit TZ 320 SN, AP/UP
- 6 = Escape door lock FTV 320
- 7 = Electric door opener IQ eStrike A5000--B
- 8 = Key push button
- 9 = Outside push button

System components

Door control unit TZ 320 SN, AP/UP	•
Escape door lock FTV 320	•
Electric strike IQ eStrike A5000--B	•
Relay board RP 220	•
Push button at 1.80 m	•
Push button outside	•
Switch to enable or disable the outside push button	•
Door closer TS 4000/TS 5000	•
Panic lock with changeover function „E“ on site	•

Optional components

Swing door drive as an alternative to the door closer for automatic door operation
Holding magnet with installation set and door contact instead of escape door lock
Flashlight BLE 220
Signal horn SLH 220
Uninterruptible power supply (UPS)
Timer instead of the switch

• = YES

System description

Passage by nursery school staff

Staff triggers a short-term release on the door control unit by activating the outside key push button. This allows the door to be passed using the key on the panic lock.

Arrival and collection times

The outside push button can be enabled or disabled via a switch in the office or on the nursery school door. This means that parents can trigger a short-term release when they are bringing or collecting their children, and open the door from the outside. Parents can leave the nursery school again by opening the door using the push button mounted at a height of 1.80 m. The installation height of 1.80 m means the push button is out of children's reach.

Time monitoring of the door

If the door is not closed after the release time for authorised activation has expired, a pre-alarm is triggered to draw attention to the time limit being exceeded. If the pre-alarm time is also exceeded, a door alarm is triggered and has to be acknowledged by the key push button. The door is equipped with a door closer to ensure it closes automatically after passage.

Passing of the door in case of emergency

The door can be released at any time in an emergency by pressing the integrated emergency button on the door control unit which is usually installed at a height of 850 mm and is thus also accessible for children. Visual and acoustic signal transmitters in the door control unit signal passing of the door. There is also the possibility of triggering external signal transmitters via an alarm contact or relaying a message to a building management system.

Burglary protection

The nursery school staff must lock the door manually using the panic lock in order to lock it in line with insurance requirements.

Emergency exit protection

System solution for safety and sophisticated design (1-box solution)

With the 1-box solution, GEZE supplies an emergency exit protection system for demanding design requirements. The full functionality of securing the emergency exit door can be achieved using only one UP-concealed casing. Doors on escape routes are reliably protected against unauthorised passage. The door is held closed by an additional electrical locking element which is controlled by the door control unit as the central system unit. Control of the operating modes and acknowledgement of alarms is taken over by the key of the GEZE IQ lock.



- 1 = Lever lock IQ lock EM
- 2 = Door closer TS 4000/TS 5000
- 3 = Door control unit TZ 320 N, UP
- 4 = Distributor
- 5 = Escape door lock FTV 320
- 6 = Optional: Access control on both sides

System components

Door control unit TZ 320 N, UP	•
Escape door lock FTV 320	•
Lever lock IQ lock EM	•
Door closer TS 4000/TS 5000	•

Optional components

Holding magnet with installation set and door contact instead of escape door lock	
Motor lock instead of the lever lock	
Flashlight BLE 220	
Signal horn SLH 220	
Uninterruptible power supply (UPS)	
Access control	
Control panel TE 220	
VAT 220 SN virtual display indicator board	
OPC interface for connection to GLT	

• = YES

System description

Authorised passage in the direction of the emergency exit

Authorised passage through the secured door in the direction of the emergency exit takes place using the cylinder contact of the lock. The door is released for authorised passage for a configurable amount of time (short-term release).

Authorised passage against the direction of the emergency exit

Authorised passage through the secured door against the direction of the emergency exit takes place using the cylinder contact of the lock. The door is released for authorised passage for a configurable amount of time (short-term release). The lock cylinder is activated only once to activate the lock and RWS system. Convenient passage is thus guaranteed.

Time monitoring of the door

If the door is not closed after the release time for authorised actuation has expired, a pre-alarm is triggered to draw attention to the time limit being exceeded. If the pre-alarm time is also exceeded, a door alarm is triggered and has to be acknowledged by the key push button. The door is equipped with a door closer to ensure it closes automatically after passage.

Monitoring of the secured escape door

A „pre-alarm“ is signalled by the integrated handle contact of the lock if the door handle or panic bar is activated on a secured escape door. This is an early indication to unauthorised persons that the door is secured.

Passing of the door in case of emergency

The door can be released at any time via the integrated emergency button. Visual and acoustic signal transmitters in the door control unit signal passing of the door. There is also the possibility of triggering external signal transmitters via an alarm contact or relaying a message to a building management system.

Burglary protection

The door is locked safely again after every passage by the self-locking panic lock with 20 mm crossbar projection.

Emergency exit protection

More convenient passage through automatic emergency exit doors inside buildings

The emergency exit protection system makes it easier to pass through 1-leaf doors by automatically opening the door using a swing door drive. This system solution is suitable for internal applications since in this case no insurance requirement for a self-locking panic motor lock is required. In the direction of emergency exit, the door is held closed by an additional electrical locking element which is controlled by the door control unit as the central system unit. The door is automatically opened by the swing door drive following authorised activation.



- 1 = Swing door drive Slimdrive EMD (F) / Powerturn (F)
- 2 = Safety sensor strip
- 3 = Door control unit TZ 320 SN, AP/UP
- 4 = Distributor
- 5 = Escape door lock FTV 320
- 6 = Electric strike IQ eStrike A5000--E
- 7 = Access control

System components	
Door control unit TZ 320 SN, AP/UP	•
Escape door lock FTV 320	•
Swing door drive Slimdrive EMD (F) / Powerturn (F)	•
Smoke switch control unit RSZ (with fire protection doors)	•
Door close push button (with fire protection doors)	•
Safety sensor strips	•
Push button inside and outside	•
Electric strike IQ eStrike A5000--E	•
Access control	•
Optional components	
Flashlight BLE 220	
Signal horn SLH 220	
Uninterruptible power supply (UPS)	
Card reader instead of fingerprint reader	
Timer instead of the switch	
Additional ceiling-mounted smoke detectors	
Programme switch for drive	
Radar movement detector instead of the push buttons	
Control panel TE 220	
VAT 220 SN virtual display indicator board	
OPC interface for connection to GLT	
• = YES	

System description

Authorised passage in the direction of emergency exit

Authorised passage through the secured door in the direction of emergency exit is by means of an integrated key-operated switch of the door control unit. The door is released for authorised passage for a configurable amount of time (short-term release). The RWS system releases the electrical locking, activates the motor lock and unlocks it. The swing door drive then opens the door automatically. Optionally, the door can be released by a central intercom system.

Authorised passage against the direction of emergency exit

Authorised passage through the secured door against the direction of emergency exit is by means of electrical access control. The system can be released by means of a biometric fingerprint reader and the swing door drive opens the door. Optionally, the door can be released by a central intercom system. The door is released for authorised passage for a configurable amount of time (short-term release).

Daytime operation with securing against the direction of emergency exit

During daytime operation it is possible to unlock the RWS system permanently and still secure the door against unauthorised passage from outside. The door is held closed by the electric strike. The door can be passed through from the outside either by means of access control or an intercom, as described above. In the direction of the emergency exit, the door can be passed through at any time by pressing the door handle or panic bar. As an option, push buttons can be installed on the inside and outside so that the door can be opened by anyone during daytime operation.

Daytime operation without securing against the direction of emergency exit (permanently open)

It is possible to unlock the door completely. The door can then be passed through in both directions, since the RWS system is released and the motor lock has been unlocked completely. As an option, push buttons can be installed on the inside and outside so that the door can be opened independently of the fingerprint reader.

Time monitoring of the door

If the door is not closed after the release time for authorised actuation has expired, a pre-alarm is triggered to draw attention to the time limit being exceeded. If the pre-alarm time is also exceeded, a door alarm is triggered which has to be acknowledged by the key switch.

Passage through the door in case of emergency

The door can be released at any time via the integrated emergency button on the door control unit. Visual and acoustic signal transmitters in the door control unit signal passing through the door. There is also the possibility of triggering external signal transmitters via an alarm contact or relaying a message to a building management system.

Burglary protection

To lock the door for the purposes of insurance, it must be locked manually using the panic lock. Automatic passage using the swing door drive is then no longer possible, since it is switched off by the lock switch contact in the locked state.

Emergency exit protection

Bi-directional emergency exit protection for doors with emergency exit function in both directions

In the case of doors that secure an escape route in both directions, a special system solution is necessary so that passage through these doors is possible in both directions in emergency situations. With the GEZE system solution, doors on escape routes are generally held closed via an additional electrical locking element and are thus reliably secured against unauthorised passage. Passage of the emergency exits is controlled by the door control unit TZ 320. The terminal T 320 is fitted in the second direction of emergency exit. This allows the door to be released safely from both sides via an emergency button at any time in the event of danger. The door can be controlled and monitored via the terminal T 320 and via the door control unit TZ 320.



- 1 = Door closer TS 4000/TS 5000
- 2 = Door control unit TZ 320 SN, AP/UP
- 3 = Escape door lock FTV 320
- 4 = Terminal T 320 S, AP / UP

System components	
Door control unit TZ 320 SN, AP/UP	•
Terminal T 320 S, AP/UP	•
Escape door lock FTV 320	•
Door closer TS 4000 / TS 5000	•
Optional components	
Holding magnet with installation set and door contact instead of emergency exit opener	
Flashlight BLE 220	
Signal horn SLH 220	
Uninterruptible power supply (UPS)	
Access control	
Control panel TE 220	
Virtual display indicator board VAT 220 SN	
OPC interface for connection to GLT	
• = YES	

System description

Authorised passage in the 1st direction of emergency exit

Authorised passage through the secured door in the 1st direction of the emergency exit is by means of an integrated key-operated switch of the door control unit. In addition, passage via external elements e.g. access control or a key-operated switch is also possible. The door is released for authorised passage for a configurable amount of time (short-term release).

Authorised passage in the 2nd direction of emergency exit

Authorised passage through the secured door in the 2nd direction of the emergency exit is by means of an integrated key-operated switch of the terminal. In addition, passage via external elements e.g. access control or a key-operated switch is also possible. The door is released for authorised passage for a configurable amount of time (short-term release).

Time monitoring of the door

If the door is not closed after the release time for authorised actuation has expired, a pre-alarm is triggered to draw attention to the time limit being exceeded. If the pre-alarm time is also exceeded, a door alarm is triggered and has to be acknowledged by the key push button. The door is equipped with a door closer to ensure it closes automatically after passage.

Passing of the door in case of emergency

The system can only be activated by an emergency button which is located at a permanently occupied desk. The emergency button interrupts a so-called safety circuit. This triggers the safe activation of all the doors connected to this safety circuit.

Emergency exit protection

Tailor-made solution without local emergency push button for increased safety requirements

GEZE offers special solutions corresponding to the legal requirements for securing emergency doors in areas without a local emergency push button e.g. in psychiatric units, court buildings or units housing patients with dementia. In this special version, there are no emergency push buttons on the doors to activate the doors in emergencies. The system can only be activated by an emergency button which is located at a permanently occupied desk. The emergency button interrupts a so-called safety circuit. This results in all the doors connected to this safety circuit being released safely. Approval is required in the individual case from the highest building authorities in the country for applications without a local emergency push button. The high-quality and sturdy stainless steel version is not only a number one choice in terms of design, it also provides increased protection against vandalism.



- 1 = Door closer TS 4000/TS 5000
- 2 = Door control unit TZ 322 stainless steel V2A, AP/UP
- 3 = Escape door lock FTV 320
- 4 = Key push button SCT 222 with LEDs to indicate state
- 5 = Control panel TE 220
- 6 = Central emergency push button NOT 320

System components	
Door control unit TZ 322 stainless steel V2A, AP/UP	•
Escape door lock FTV 320	•
Key switch SCT 222 with LEDs to indicate state	•
Control panel TE 220	•
Central emergency push button NOT 320	•
Uninterruptible power supply (UPS)	•
Door closer TS 4000/TS 5000	•
Optional components	
Holding magnet with installation set and door contact instead of escape door lock	
Motor lock IQ lock EL	
Lever lock IQ lock EM	
Contact lock IQ lock C	
Swing door drive TSA 160 NT / Slimdrive EMD / Powerturn	
Flashlight BLE 220	
Signal horn SLH 220	
Access control	
VAT 220 SN virtual display indicator board	
OPC interface for connection to building management system	
• = YES	

System description

Authorised passage in / against the direction of emergency exit

Authorised passage of the secured door both in and against the direction of emergency exit is via a key operated button on the door. The door is released for authorised passage for a configurable amount of time (short-term release). The key switch is equipped with two LEDs which display the locking and alarm state. If you do not wish the door control unit to be visible, it can be recessed in a wall or ceiling and connected by two key switches. As an option, an access control can be fitted for convenient passage.

Time monitoring of the door

If the door is not closed after the release time for authorised activation has expired, a pre-alarm is triggered to draw attention to the time limit being exceeded. If the pre-alarm time is also exceeded, a door alarm is triggered and has to be acknowledged by the key push button. The door is equipped with a door closer to ensure it closes automatically after passage.

Monitoring of the secured escape door

A „pre-alarm“ is signalled by the integrated handle contact of the lock if the door handle or panic bar is actuated on a secured escape door. This is an early indication to unauthorised persons that the door is secured.

Passing of the door in case of emergency

The system can only be activated by an emergency button which is located at a permanently occupied desk. The emergency button interrupts a so-called safety circuit. This triggers the safe activation of all the doors connected to this safety circuit.

Central monitoring and control of the doors

A control panel TE 220 can be used to monitor and control up to 20 doors from a permanently occupied desk.

Self-locking full panic solution

For door leaves which are automatic on one side

A full panic emergency exit solution with access control can be set up using the self-locking panic lock from GEZE combined with swing door drives. This system is suitable for emergency exits which safely lock again via one leaf of the swing door drive following barrier-free passage, yet which have to enable safe and approved escape through both door leaves (full panic door). The active leaf unlocks and opens automatically. The mechanical self-locking feature following door closure guarantees reliable protection against burglary.



- 1 = Full panic motor lock IQ lock EL DL
- 2 = Safety sensor strip
- 3 = Door control unit TZ 320 SN, AP/UP
- 4 = Swing door drive TSA 160 NT F-IS/TS
- 5 = Access control
- 6 = Motor lock control unit MST 210
- 7 = Fingerprint reader

System components	
Door control unit TZ 320 SN, AP/UP	●
Escape door lock FTV 320	●
Swing door drive TSA 160 NT F-IS/TS	●
Smoke switch control unit RSZ (with fire protection door)	●
Door close push button (with fire protection door)	●
Safety sensor strips	●
Push button inside and outside	●
Motor lock full panic IQ lock EL DL	●
Access control	●
Fingerprint reader	●
Optional components	
Flashlight BLE 220	
Signal horn SLH 220	
Uninterruptible power supply (UPS)	
Card reader instead of fingerprint reader	
Timer	
Additional ceiling-mounted smoke detectors	
Programme switch for drive	
Radar movement detector instead of the push buttons	
Control panel TE 220	
VAT 220 SN virtual display indicator board	
OPC interface for connection to GLT	
● = YES	

System description

Authorised passage in the direction of emergency exit

Authorised passage through the secured door in the direction of emergency exit is by means of an integrated key-operated switch of the door control unit. The RWS system releases the electrical locking, activates the motor lock and unlocks it. The swing door drive opens the active leaf automatically. As an option, the door can be released by a central intercom system. The door is released for authorised passage for a configurable amount of time (short-term release).

Authorised passage against the direction of emergency exit

Authorised passage through the secured door against the direction of emergency exit is by means of electrical access control. The system can be released by a biometric fingerprint reader. The motor lock releases and the swing door drive opens the active leaf. As an option, the door can be released by a central intercom system. The door is released for authorised passage for a configurable amount of time (short-term release).

Daytime operation with securing against the direction of emergency exit

During daytime operation it is possible to unlock the RWS system permanently and still secure the door against unauthorised passage from outside. For this purpose, the motor lock is switched to „daytime operation“ using the door control unit. This pulls back the bolt in the lock. The patented cross latch keeps the door locked. The door can be passed from the outside either by means of access control or the intercom, as described above. In the direction of emergency exit, the door can be passed at any time by pressing the door handle or panic bar. The advantage of this setting is that the door is released more quickly, since the bolt has already been pulled back and only the cross latch needs to be released. This additionally increases convenience. As an option, push buttons can be installed on the inside and outside so that the door can be opened by anyone during daytime operation.

Daytime operation without securing against the direction of emergency exit (permanently open)

It is possible to unlock the door completely. The door can simply be passed through from both directions since the RWS system has been released and the motor lock is completely unlocked.

Time monitoring of the door

If the door is not closed after the release time for authorised actuation has expired, a pre-alarm is triggered to draw attention to the time limit being exceeded. If the pre-alarm time is also exceeded, a door alarm is triggered which has to be acknowledged by the key switch.

Monitoring of the secured emergency exit door

A „pre-alarm“ is signalled by the integrated bolt signal of the motor lock if the door handle or panic bar is activated on a secured emergency exit door. This is an early indication to unauthorised persons that the door is secured.

Passing of the door in case of emergency

The door can be released at any time via the integrated emergency button on the door control unit. Visual and acoustic signal transmitters in the door control unit signal passing through the door. There is also the possibility of triggering external signal transmitters via an alarm contact or relaying a message to a building management system.

Burglary protection

The self-locking panic lock with 20 mm crossbar projection in the active leaf as well as the self-locking shoot bolt at the top and bottom of the passive leaf lock the door safely after every passage.

Self-locking full panic solution

For door leaves which are automatic on both sides

A full panic emergency exit solution with access control can be set up using the self-locking panic lock from GEZE combined with 2-leaf swing door drives. The fixed leaf is also unlocked automatically and can be self-locked mechanically just like the lock in the active leaf. This allows the full width of the door to be used as an emergency exit, permitted convenient, barrier-free passage in automatic operation. The mechanical self-locking feature following door closure guarantees reliable protection against burglary.



- 1 = Full panic motor lock IQ lock AUT
- 2 = Safety sensor strips
- 3 = Door control unit TZ 320 SN, AP/UP
- 4 = Swing door drive TSA 160 NT (F)-IS, Slimdrive EMD (F)-IS or Powerturn (F)-IS
- 5 = Access control
- 6 = Motor lock control unit MST 210
- 7 = Fingerprint reader

System components

Swing door drive TSA 160 NT (F)-IS, Slimdrive EMD (F)-IS or Powerturn (F)-IS

•

Safety sensor strips

•

Motor lock full panic IQ lock AUT

•

Access control

•

Fingerprint reader

•

Power supply

•

Optional components

RFID instead of fingerprint reader

Programme switch for drive

• = YES

System description

Authorised passage in the direction of the emergency exit

The full panic function guarantees passing of the door using both leaves at all times. During daytime operation, convenient passage can be permitted by the radar detectors on the swing door drives. These only work in daytime operation.

Authorised passage against the direction of the emergency exit

Release is by means of access control. Different functions can be set for different people. The system can be configured so that both doors always open for a wheelchair user or a nurse who transports a hospital bed, as required, whereas only the active leaf opens for all other authorised persons. During daytime operation, convenient passage can be permitted by the radar detectors on the swing door drives.

Passing of the door in case of emergency

The full panic function guarantees passing of the door using both door leaves at all times.

Burglary protection

The self-locking panic lock with 20 mm crossbar projection in the active leaf as well as the self-locking shoot bolt at the top and bottom of the passive leaf lock the door safely in accordance with insurance requirements after every passage.

Access control

Barrier-free access with wide-range reader

The wide-range reader solution GCLR provides convenient, barrier-free access for automatic door systems. With this system solution, access to certain areas and passageways can be monitored and controlled. The system consists of the wide-range reader GCLR near to the door and a transponder carried by the user.

In conjunction with automatically operated doors, barriers or gates, the wide-range reader solution provides barrier-free user comfort due to its „hand-free“ functionality. Doors open automatically as soon as the user enters the detection range of the reader.



- 1 = Swing door drive Slimdrive EMD F-IS / Powerturn
- 2 = Safety sensor strip
- 3 = Motor lock IQ lock EL
- 4 = Motor lock control unit MST 210
- 5 = Wide-range reader GCLR-I 2000 for internal applications
- 6 = Inside / outside push button
- 7 = Transponder GCLR-ID

System components	
Wide-range reader GCLR-I 2000 for internal applications	•
GCLR-ID TAG key ring	•
GCLR-ID TAG in drop design with 2 keys	•
GCLR-ID transponder	•
Swing door drive Slimdrive EMD F-IS / Powerturn	•
Safety sensor strip	•
Motor lock IQ lock EL	•
Optional components	
Wide-range reader Outdoor GCLR-O	
Sliding door drives Slimdrive / ECdrive / Powerdrive	
Swing door drives TSA 160 NT / ECturn	
Electric strike IQ eStrike	
Access control unit GCMU 524	
Emergency exit protection TZ 300 / TZ 320	
• = YES	

System description

„Normal“ passing of the door

Normal passing of the door is possible at any time by manually operating the door using the door handle or a key. Push buttons can be used for convenient passage; these activate the drive and open the door automatically.

„Barrier-free“ passing of the door

People who require barrier-free access can open these doors automatically simply by approaching them. Within the scanned area of 1.0 - 3.8 m, a transponder they carry with them transmits the signal to the wide-range reader which then transmits the open signal to the drive. To ensure the door remains open long enough for passage, the hold-open time for the door can be set at the swing door drive. Safety sensor strips guarantee that the automatically moving door leaf stops before it hits an obstacle.

„Barrier-free“ passage with conscious activation

A transponder with keys can be used to prevent doors opening automatically when they are approached. A signal to open the door is only relayed if the keys on the transponder are also pressed while this is in the scanned area. This is necessary particularly when there are several doors with wide-range reader in one building or the doors are near together. It effectively prevents doors opening unintentionally.

Burglary protection

The door is locked safely again after every passage by the self-locking panic lock with 20 mm crossbar projection.

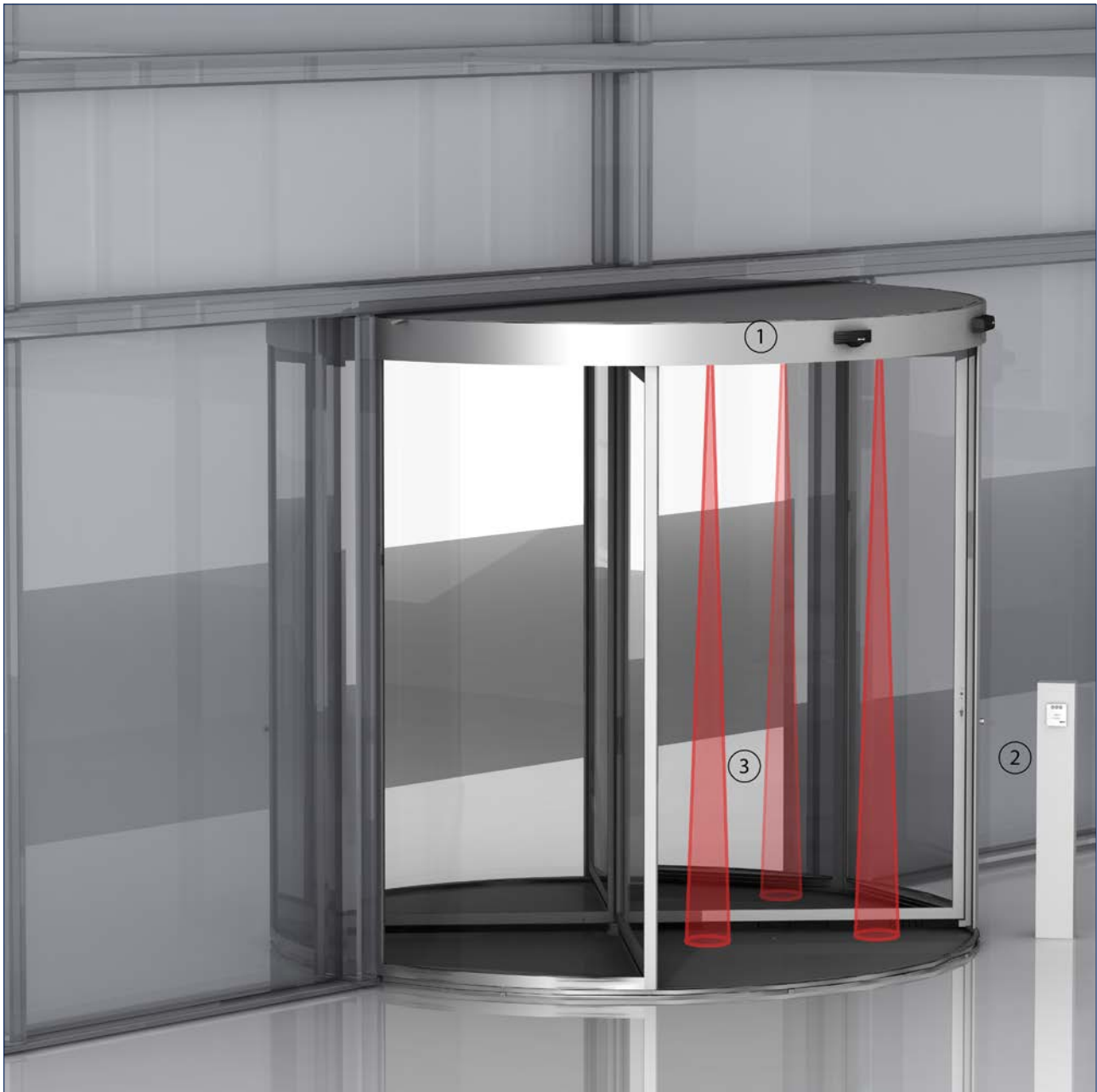
Optional networked operation in connection with the web-based access control system GCMU 524

The wide-range readers can be integrated in the online access control by means of the Master Unit GCMU 524 of the GEZE access control system. This allows profile-dependent authorisation to be assigned for persons or groups of people. Several wide-range readers can be networked and a combination with access control via fingerprint reader GCFP 401 is possible. The simultaneous operation of RFID readers with wide-range readers cannot be realised.

Access control

Effective access control with isolation in a revolving door

The entrance area is the poster child of your building and thus of your enterprise. Therefore it is imperative to validate the positive visual impression through the faultless function of the door system even in the case of high access frequency. GEZE revolving door systems satisfy these requirements. Effective access control also ensures that only authorised persons are entitled to access the building or a secured area.



- 1 = Revolving door drive
- 2 = Access control bollard (on site)
- 3 = Sensor controlled area

System description

The revolving door can be operated as a standard automatic door or as an isolating system, so that only one person can enter at a time. The switch-over takes place via a separate key push button. The night and shop closing LEDs are permanently illuminated on the keypad programme switch to display the „Isolation“ mode of operation. The radar movement detectors are switched off in isolation mode. All other safety devices on the revolving door are always active. The revolving door must be connected to an UPS in order to ensure isolation even in the event of a power failure.

Functions

- Effective access control for groups of people and specific building areas
- Capacity: approx. 6 - 8 persons per minute
- Isolation by ceiling sensors or contact mats
- High-quality product solutions for demanding building projects

External access

The release signal is provided by an activation device (card reader) on the outside. After release, the door only starts to rotate once the authorised person enters the open door segment. If no person enters, the door remains in the neutral position and locks after a set time. After rotating by 90°, the ceiling sensors are activated and the following segment is monitored. This monitoring prevents unauthorised access to the sector following authorised access to the first sector. Simultaneous movement of people from inside out is also possible without authorisation. In an active cycle, the door rotates by 180° to the next end position and locks.

If the ceiling sensors are activated by an unauthorised person accessing from outside, the door stops immediately and locks. The door rotates to the next end position once the person has exited and the ceiling sensor is released. The turnstile cannot be rotated backwards.

Internal access

An authorised person activates the door via an activation device (card reader). The door starts its rotary motion and the person can pass through the door. In the event of simultaneous unauthorised access from outside, the associated external chamber is monitored and the door stops immediately and locks. Rotation only continues once the unauthorised person has exited.

Application limits

- Number of leaves: only 4-leaf door systems
- Version: automatic revolving doors
- Diameter: from 1800 to approx. 2500 mm (recommended)
- Passage height: max. 2500 mm
- Canopy height: various canopy heights from 200 mm are possible

Access control

Interlocking door system with access control and isolation in a curved sliding door

Elegant curved sliding doors are generally prestigious access solutions. They create a large, bright access area with limited external dimensions. Additional sensors and an access control system also allows circular sliding doors to become interlocking door system with an isolating function.



- 1 = Sliding door drive
- 2 = Access control bollard (on site)
- 3 = Sensor controlled area

System description

The curved sliding door can be operated as a standard automatic door or as an isolating system, so that only one person can enter at a time. The switch-over takes place via a separate key switch or a signal from the building management system. The radar movement detectors are switched off in isolation mode. All other safety devices on the curved sliding door are always active. The curved sliding door must be connected to an UPS in order to ensure isolation even in the event of a power failure.

Functions

- Use as a „normal“ entrance door or as a security interlocking entrance and exit system for the controlled and authorised flow of individuals.
- Effective access control for groups of people and specific building areas
- Capacity: approx. 4 - 6 persons per minute
- Isolation by ceiling sensors or contact mats
- High-quality product solutions for demanding building projects
- Broad range of applications, the doors are custom-made according to the customer's requirements
- Slim-line profile with an appealing transparent design

Bi-directional operation

Both doors are closed and, where applicable, locked in the base position. One person has authorised control. The first door opens and the person enters the security interlocking system area. The door only closes once the set hold-open time has expired, if the person is located in the free space in the interlocking door system and is also detected by a sensor. This function ensures that no more than one person is located inside the interlocking door system. Once the first door closes, the second door immediately opens via sequence control. The person can leave the security interlocking system area. The second door remains open for as long as the person remains on the mat or in the sensor range of the free area. This prevents people from accidentally being locked in the area. However, leaving is always possible using the optional emergency open push button. This procedure applies for both passage areas (entrance and exit). Prioritisation in the event of simultaneous activation is also possible. A traffic light system is used for the display.

Unidirectional operation (one-way interlocking door system)

Both doors are closed and, where applicable, locked in the base position. One person has authorised control. The first door opens and the person enters the security interlocking system area. The door only closes once the set hold-open time has expired, if the person is located in the free space in the interlocking door system and is also detected by a sensor. This function ensures that no more than one person is located inside the interlocking door system. Once the first door closes, the second door immediately opens. Only then can the person leave the security interlocking system area. The second door remains open for as long as the person remains on the mat or in the sensor range of the free area.

Application limits

- Version: Slimdrive SCR curved sliding doors
- Special versions: FR-LL, FR-RWS
- Diameter: from 2000 to approx. 2500 mm (recommended)
- Passage height: max. 2500 mm
- Canopy height: various canopy heights from 75 mm are possible



Safety solutions for window applications

Components / Areas of application

Components										Areas of application										Page
Staircase control unit	RWA emergency power control units	RWA modular bus control unit	Fresh air openings	Electric window drives	Release elements	Signal of a fire alarm system	Operating elements for ventilation	Interfaces to external systems (GLT)	Networking via bus systems	Meeting rooms	Shopping centres / points of sale	Hospitals	Schools / nursery schools	Industrial buildings	Multi-storey buildings	Office and administration buildings	Sport and event halls	Public facilities	Staircases	
Ventilation solutions																				
Simple ventilation solution for window drives	●*	●*	●*		●			●		●	●	●	●	●	●	●	●	●	●	30
Wireless window control for window drives					●			●		●*	●*	●*	●*	●*	●*	●*	●*	●*	●*	32
Ventilation via on-site bus systems (KNX)					●			●	●	●	●	●	●	●	●	●	●	●	●	34
Window protection					●			●	●	●	●	●						●		36
Room climate control	●*	●*	●*	●*	●	●*	●	●	●	●	●	●	●	●	●	●	●	●	●	38
Page	86	86	87	87																

● = yes

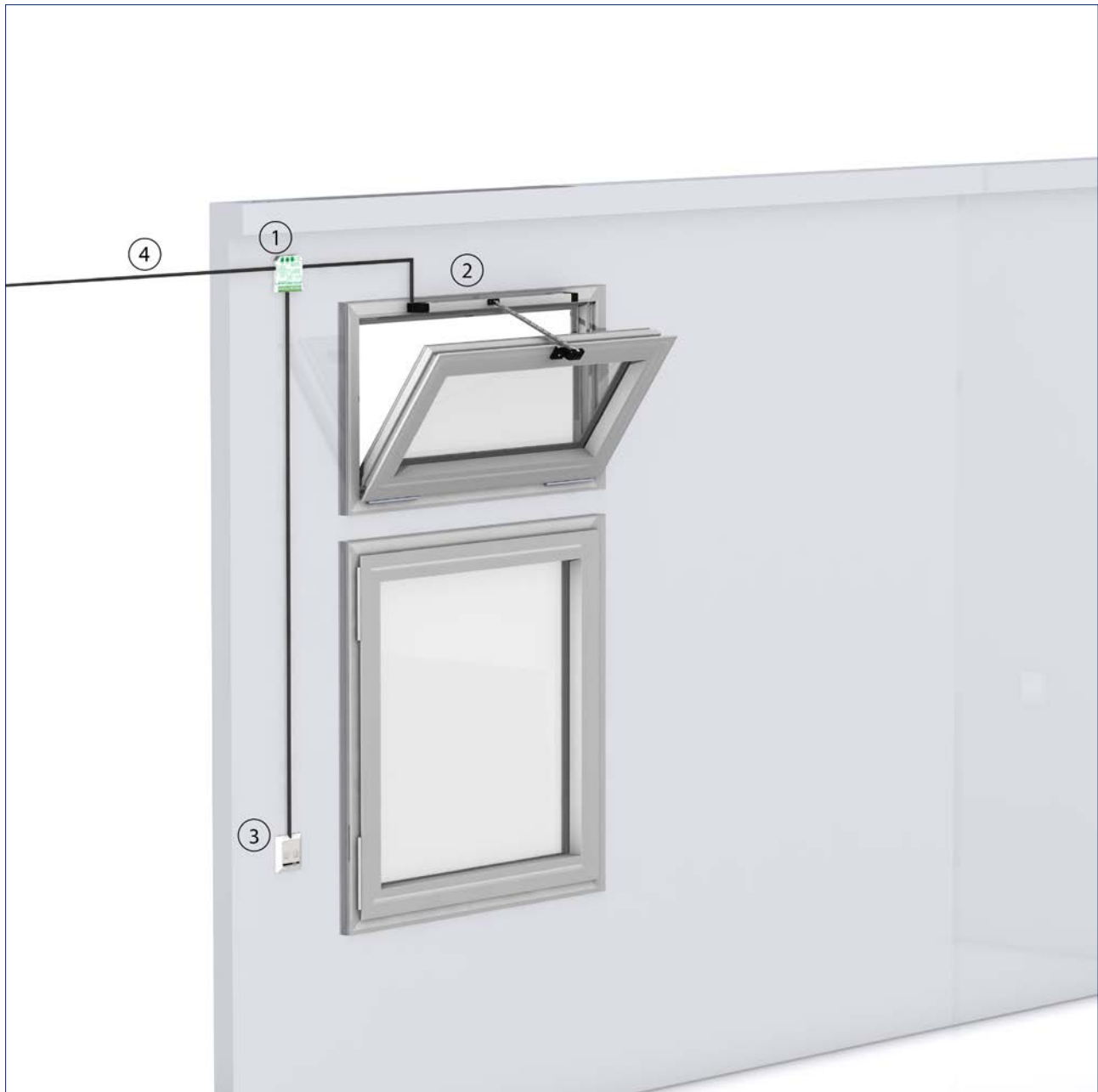
●* = yes, with limitations

Window/ Ventilation control

Simple ventilation solution for 24V and 230V window drives

Rooms need to be supplied with fresh air wherever people are located in closed buildings, e.g. in office buildings, schools and residential buildings.

Natural building ventilation using motor-driven windows provide a valuable contribution to a pleasant and balanced indoor climate. A coordinated control concept allows all the windows in a building to be ideally adapted and aligned to the structure and use of the building via individual, group and central control.



- 1 = 24V DC open/close control system or 230V AC open/close control system
- 2 = Window drive, e.g. Slimchain, Power chain, ECchain chain drive
- 3 = Ventilation button
- 4 = Voltage supply

System components

24V DC open/close control system or 230V AC open/close control system

•

Window drive, e.g. Slimchain, Power chain, ECchain chain drive

•

Ventilation button

•

Voltage supply

•

Optional components

Rain/wind control

Program clock/ Timer

Transmitter and receiver modules

• = YES

System description

The window/ventilation control for 24V or 230V window drives with auxiliary inputs for group and central control is used for window drives and can be controlled using customary mechanically unlocked push buttons. The overriding auxiliary inputs make it possible to combine multiple control units into group and central control units. The drive run time can be limited in order to keep the drive from being overloaded, for instance in case of mechanical blockage. A comfortable, automatic, and adjustable closing function keeps windows from being left open accidentally, for instance.

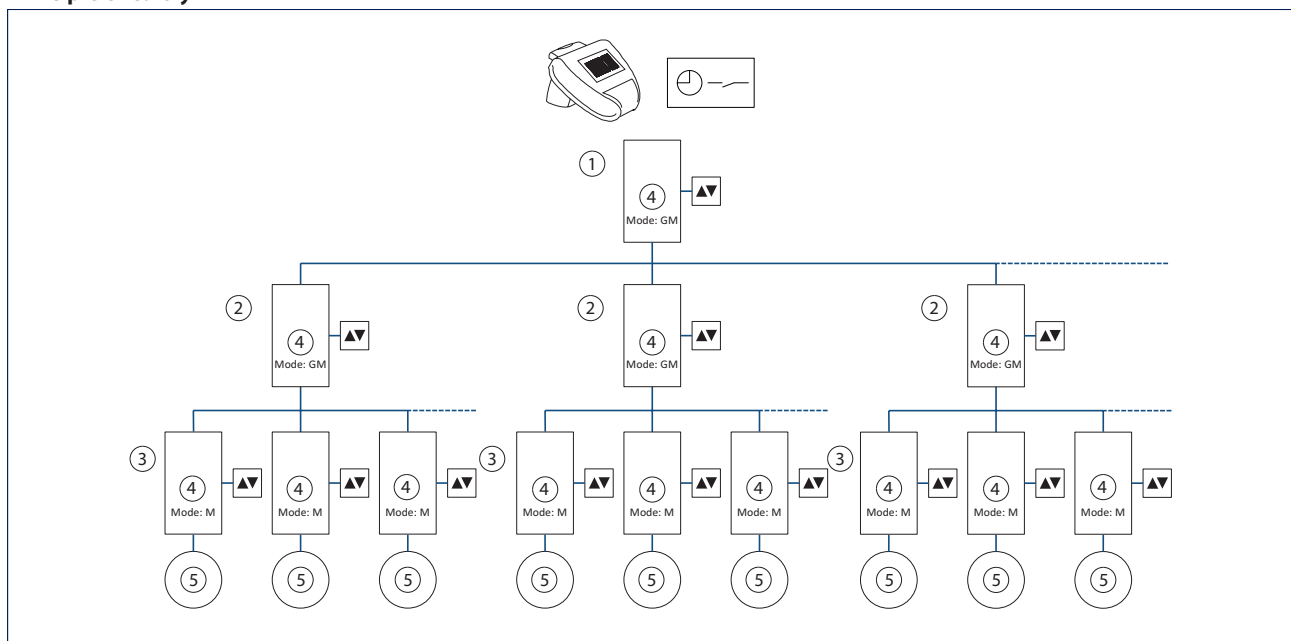
Areas of application

The open/close control for 24V or 230V window drives is ideal for controlling individual windows as well as for controlling large groups of windows and so has a very flexible and cascable structure. Installation can take place in a central control cabinet or locally, near a window, as required. The open/close control is available in both a small flush-mounted version and a practical series installation.

Functions

- Two push button activation (OPEN/CLOSE)
- One push button activation (open-stop-close-stop)
- Trigger mode (dead man)
- Automatic closing function with adjustable timing
- Gap ventilation: By means of time-triggered opening widths
- Restriction of the drive runtime as overload protection in the event of a mechanical blockage
- Option of activation via external sensors (e.g. weather station), timer or wireless

Principle circuitry



- 1 = Central control
- 2 = Group activation
- 3 = Local control
- 4 = Open/Close control
- 5 = Window drive

Window/ Ventilation control

Wireless window control for 24V and 230V window drives

The wireless window control ensures a controlled air exchange, even when no one is at home or in the building. Windows are opened or closed depending on the current room and outdoor temperature. Rain and wind alarm protect the equipment.



- 1 = Weather station to capture temperature, rainfall, wind speed and brightness
- 2 = Panel
- 3 = Window drive (for 24V drives with IQ gear)
- 4 = Voltage supply

System components

Weather station in the 24V or 230V design	•
Control panel (wireless communication with the weather station)	•
Window drive, e.g. Slimchain, Powerchain, ECchain chain drives	•
Voltage supply	•

Optional components

IQ gear to control 24V drives
24V DC open/close control or 230V AC open/close control to establish groups and central control units

• = YES

System description

Current weather data, the mode and alarm messages are displayed on the control panel display. An internal temperature sensor is integrated into the system. Push buttons control the drives and set the automatic functions. The control panel and weather station communicate wirelessly, so the control panel can be placed anywhere in the room. The control units are ideal for retrofitting as no cables need to be installed in the building.

Functions

- Depending on the current indoor and outdoor temperature, one or more windows are opened and closed again
- Rain and wind alarm protect the equipment against water damage
- The opening position of the windows can be adjusted. This means the window is only opened as wide as specified in automatic mode
- Several drives can be connected as a group. This means a series of windows can be controlled at the same time (via optional open/close control units)
- Direct connection of the drive to the weather station and wireless connection between the weather station and the control panel
- Manual opening and closing via the control panel

Ventilation via on-site bus systems (KNX)

Window drives in a KNX-networked building

Windows with electric motor drives can be used for ventilation. If no central control unit is used, bus networking is an optional solution. The windows are controlled via a BMS (building management system) with the aid of KNX actuators. Since there is a wide range of individual requirements for such ventilation control systems, this solution is always project-specific.



- 1 = Window drives, e.g. Chain drive Slimchain, Powerchain, spindle drive E 250 NT
- 2 = KNX actuators (e.g. shutter actuators) and power supply
- 3 = KNX sensors
- 4 = On-site bus system with sensors and control for controlled natural ventilation

System components

Window drives e.g. chain drive Slimchain, Powerchain, spindle drive E 250 NT	•
KNX actuators (e.g. blind or shade actuators) and power supplies	•
KNX sensors	•
On-site bus system with sensors and control for controlled natural ventilation	•

• = YES

System description**Activation of the windows**

Shutter or blind actuators from any manufacturer can be used. Depending on the manufacturer and model, these have different functional and parameter scopes. What they have in common is the activation of a drive which, described in abstract terms, can move a component in two opposite directions. This can be applied to window drives with the directions of travel „open“ and „close“.

Design of the activation

The outputs of the actuators selected must be designed for the drives used i.e. either 24 V DC with polarity inversion or 230 V AC with contacts for „open“ and „close“. Several windows can be connected to one output or they can be divided individually to separate outputs. Depending on the product, the actuators can be set up decentrally near the drives or centrally in one distributor.

Supply

Power supplies are required for 24 V drives. 230 V drives can be supplied directly from the mains. Depending on the KNX-actuators, composition of the overall system and customer wishes, the windows and window groups can be supplied individually or several windows and groups can be combined together. The power supplies can also be set up decentrally near the windows or centrally in one distributor.

Further components

Further KNX-capable devices from different manufacturers can be integrated in the KNX-system e.g. indoor climate controls, wind and rain sensors, temperature, humidity and CO₂ or VOC sensors. This results in numerous automation options for the windows.

Programming and commissioning

The actuators are programmed and parameters are set via the ETS software from KNX. For the windows to be integrated in a KNX system, programming and commissioning on site must be done by a KNX specialist.

Option:

- The exact running time of the windows can be determined during commissioning, allowing parameters to be set for the actuator accordingly. Since the windows move at constant speed, they can be moved to defined positions depending on how long they are activated.

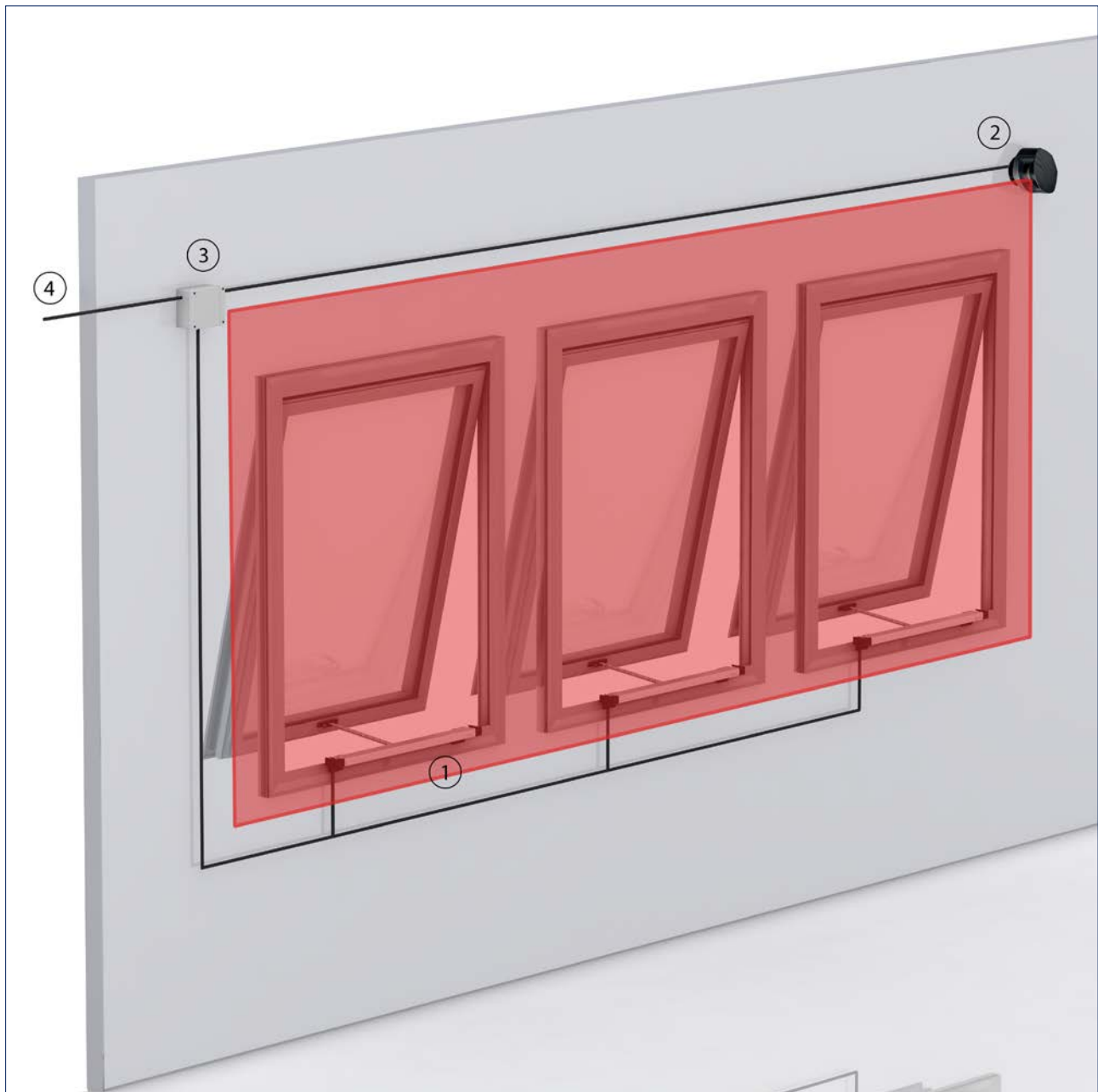
Connection with RWA applications (option)

It is also possible to combine the KNX system with RWA applications. In this case, the KNX actuator does not activate the drives directly but rather via the RWA control unit which processes the signals for „open“ and „close“. In the event of an alarm, the RWA control unit retains top priority so that the windows safely move to their required position.

Window protection

Pinch protection for power-operated windows

Power-operated windows are façade or roof elements equipped with a drive system; these are widespread as components in smoke and heat extraction systems and ventilation systems. Their automatic activation results in a certain potential hazard for users of the building which must be absolutely taken into account during the planning phase. First, a risk analysis must be carried out to minimise the potential hazard. It defines the installation position, room use and control of the power-operated window. This means potential hazards, hazardous situations and hazard results are determined. Any protection rating determined by the safety analysis is taken into account. Installers, operators and maintenance staff must take appropriate measures to minimise potential hazards when the power-operated window is put into operation.



- 1 = Window drives, e.g. chain drive Slimchain, Powerchain
- 2 = Safeguarding sensor: Laser scanner
- 3 = Safeguarding evaluation
- 4 = Activation and supply of the drives

System components

Window drives (24 V / 230 V) e.g. Slimchain, Powerchain chain drives

•

Safeguarding sensor: Laser scanner

•

Safeguarding evaluation

•

Activation and supply of the drives

•

Optional components

RWA emergency power control unit

Other non-contact sensors

• = YES

System description**Safeguarding against pinching**

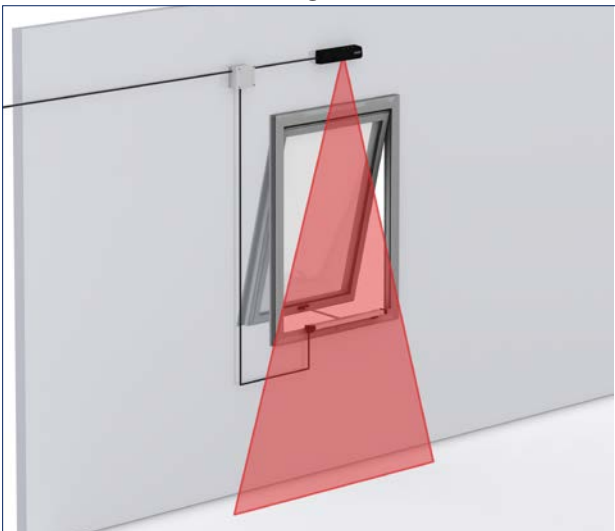
The highest protection rating is ideally achieved with non-contact sensors which stop the windows in an emergency. The protection by sensors provides a discreet solution compared to a protection of the danger area using structural measures (barrier in the form of walls or the like). Since all power-operated windows and their environments can be different, detailed planning and project-specific solutions are recommended.

Non-contact detection of an emergency

Depending on the constructional circumstances on site, components such as the control for safeguarding evaluation can be recessed in the ceiling (suspended ceiling) or in the wall. Power-operated windows are safeguarded by non-contact detection by active infrared sensors as a GEZE solution. These represent tried-and-tested technologies which are also used to safeguard automatic doors. Non-contact safeguarding is not only an option for new buildings, it can also be retrofitted.

Securing windows against jamming and shearing

The area around the power-operated window, near the closing edges, is monitored by sensors. If a person enters the defined danger zone near the closing edge during the closing process, the sensors reliably and permanently detect this person. The closing procedure is interrupted for the duration of the dangerous situation. The following options are available to re-start the procedure: Immediate start-up, delayed start-up or start-up after release via key push button.

Version with active infrared light curtain**Version with active infrared control spotlight**

Indoor climate control

Controlled natural ventilation

Another possibility for intelligent ventilation control is the use of an indoor climate control which defines various ventilation scenarios and then forwards the signals to the drives. Activation via on-site bus systems (KNX) and the activation of blinds is also possible here. Signals can also be forwarded to a RWA control unit, resulting in a combination of smoke and heat exhaust and controlled ventilation. Since there is a wide range of individual requirements for such ventilation control systems, this solution is always project-specific.



- 1 = Window drives, e.g. chain drive Slimchain, Powerchain
- 2 = Power supplies, IQ gear
- 3 = Indoor climate control with touch panel
- 4 = Ventilation button
- 5 = Weather station
- 6 = Sensors, e.g. CO₂, internal temperature, humidity

System components	
Window drives e.g. chain drive Slimchain, Powerchain	●
Power supplies, IQ gear	●
Indoor climate control with touch panel	●
Ventilation button	●
Weather station	●
Sensors e.g. CO ₂ , inside temperature, humidity	●
Optional components	
Activation of blinds	
Activation via a KNX bus system	
Integration of further KNX components	
Voltage supply and activation via RWA control unit in the event of an alarm	
● = YES	

System description

Controlled natural ventilation

Scenarios can be set for indoor climate control to allow the windows to be opened and closed automatically, depending on temperature, humidity and air quality. A weather station allows the external climatic conditions to be integrated in the control. It is also possible to activate the windows manually - either by means of local push buttons or centrally at the touch panel.

Drives and supply

230 V drives can be connected directly to the control. 24 V drives are activated and supplied either by changeover power supplies or with the aid of IQ gear and power supplies. The power supplies can be arranged centrally or decentrally.

Option:

- For combinations with smoke and heat exhaust the drives are connected to the RWA control unit. The indoor climate control then activates the RWA control unit which processes the signals. In the event of an alarm, the RWA control unit retains top priority so that the windows move to their required safe position in any case.

Parameter setting and commissioning

The desired complex requirements e.g. temperature-dependent or timed ventilation, night time back cooling, weather alarms, etc., can be programmed using the touch panel.

Option:

- The exact running time of the windows is determined during commissioning, allowing control unit parameters to be set accordingly. Since the windows move at constant speed, they can be moved to defined positions depending on how long they are activated.

Further components

In addition, blinds or other sun protection devices can be integrated in the control, and parameters can be set for a multitude of automatic functions: opening and closing depending on brightness or position of the sun in the sky, blind tracking etc. The sun protection devices can also be integrated in the RWA concept so that they are also opened in the event of an alarm.



Safety solutions for building applications

Components and areas of application

	Components										Areas of application										Page
	Door central units	Panic locks	Access control systems	Control units	Electric window drives	Release elements	Signal of a fire alarm system	RWA control units	Interfaces to external systems (BMS)	Networking via bus systems	Meeting rooms	Shopping centres / points of sale	Hospitals	Schools / nursery schools	Industrial buildings	Multi-storey buildings	Office and administration buildings	Sport and event halls	Public facilities	Staircases	
Central control units																					
Control and release of doors from a central position	•	•	•	•							•	•	•	•		•	•		•	•	42
Tailor-made solution for escape balconies and access balconies	•	•	•	•							•	•	•	•		•			•		44
Doors in interlocking door systems	•	•	•	•					•	•			•			•			•		46
Security interlocking door system for sensitive areas	•	•	•	•					•	•						•			•		50
Personal protection system with wide-range reader for disoriented people or people suffering from dementia		•	•	•									•								54
Solution for individual storeys and small buildings (up to 20 doors)	•			•					•	•	•	•	•	•	•	•	•	•	•		56
Solution for medium to large buildings (up to 504 doors)	•			•					•	•	•	•	•	•		•	•	•	•		58
Solutions for smoke and heat extraction systems (RWA)																					
Door leaves with fresh air supply for RWA								•		•	•	•	•		•	•			•	•	60
Small smoke and heat extraction devices					•	•	•	•	•	•	•	•	•		•	•			•	•	62
Medium-sized to complex smoke and heat extraction systems					•	•	•	•*	•	•	•	•	•	•	•	•	•	•	•	•	64
Page	68	71	74	79	87			86													

• = yes

•* = yes, with limitations

Central control units

Control and release of doors from a central position

This emergency exit protection system is suitable for heavily frequented doors where increased convenience is required. The system is particularly suitable for buildings which are to be protected reliably from unauthorised access, yet at the same time open to a changing flow of visitors; such buildings are care homes and residential homes for the elderly as well as office or court buildings. Authorised passage through the secured door in the direction of the emergency exit is by means of an integrated key-operated switch of the door control unit. As an option, passage is possible using the cylinder contact of the lock. In addition, the door can be released remotely via an intercom or another central position, making passage from outside possible.



- 1 = Lever lock IQ lock EM
- 2 = Door closer TS 4000/TS 5000
- 3 = Door control unit TZ 320 SN, AP/UP
- 4 = Distributor
- 5 = Intercom forwarding system
- 6 = Escape door lock FTV 320
- 7 = Access control

System components	
Door control unit TZ 320 SN, AP/UP	•
Escape door lock FTV 320	•
Lever lock IQ lock EM	•
Access control	•
Power supply	•
Door closer TS 4000/TS 5000	•
Optional components	
Holding magnet with installation set and door contact instead of escape door lock	
Flashlight BLE 220	
Signal horn SLH 220	
Uninterruptible power supply (UPS)	
Fingerprint instead of a card reader	
Control panel TE 220	
VAT 220 SN virtual display indicator board	
OPC interface for connection to GLT	
• = YES	

System description

Authorised passage in the direction of the emergency exit

Authorised passage through the secured door in the direction of the emergency exit is by means of an integrated key operated button of the door control unit. Optionally, the cylinder contact integrated in the lock can be used to enable passage using the profile cylinder of the lock. The door can be released using the central intercom. The RWS system releases the electrical locking, activates the lock and unlocks this. The door is released for authorised passage for a configurable amount of time (short-term release).

Authorised passage against the direction of the emergency exit

Authorised passage through the secured door against the direction of the emergency exit takes place using the electrical access control. The system can be released by a card reader. The lock unlocks and the door can be opened from the outside. In addition, lock release is possible via the integrated cylinder contact. When the profile cylinder is activated, the door control unit is activated via the contact. The lock cylinder is activated only once to activate the lock and RWS system. Convenient passage is thus guaranteed. Furthermore, the door can be released for people who have no individual authorisation through a central intercom system. The door is released for authorised passage for a configurable amount of time (short-term release).

Daytime operation with securing against the direction of emergency exit

During daytime operation it is possible to unlock the RWS system permanently and still secure the door against unauthorised passage from outside. For this purpose, the lock is switched to „daytime operation“ using the door control unit. This pulls back the bolt in the lock. The patented cross latch keeps the door locked, however. The door can be passed from the outside either by means of access control, the cylinder contact or an intercom, as described above. In the direction of the emergency exit, the door can be passed at any time by pressing the door handle or panic bar. The advantage of this setting is that the door is released more quickly, since the bolt has already been pulled back and only the cross latch needs to be released. This additionally increases convenience.

Daytime operation without securing against the direction of emergency exit (permanently open)

It is possible to unlock the door completely. The door can then simply be used in both directions, since the RWS system is released and the motor lock has been unlocked completely.

Time monitoring of the door

If the door is not closed after the release time for authorised actuation has expired, a pre-alarm is triggered to draw attention to the time limit being exceeded. If the pre-alarm time is also exceeded, a door alarm is triggered and has to be acknowledged by the key push button. The door is equipped with a door closer to ensure its closes automatically after passage.

Monitoring of the secured escape door

A „pre-alarm“ is signalled by the integrated handle contact of the lock if the door handle or panic bar is activated on a secured escape door. This is an early indication to unauthorised persons that the door is secured.

Passing of the door in case of emergency

The door can be released at any time via the integrated emergency button on the door control unit. Visual and acoustic signal transmitters in the door control unit signal passing of the door. There is also the possibility of triggering external signal transmitters via an alarm contact or relaying a message to a building management system.

Burglary protection

The door is locked safely again after every passage by the self-locking panic lock with 20 mm crossbar projection.

Central control units

Tailor-made solutions for escape balconies and access balconies

With this tailor-made solution, GEZE offers an emergency exit protection system for buildings where the escape route leads over an escape balcony or access balcony. In these application cases, the escape route leads from inside the building through a door to the outside, and through another door back into the building. This means that the door that leads back into the building must be able to be passed by anyone at any time. This is not in the interest of the operator of the building, however, who would like to reliably protect the external doors of the building against unauthorised passage. For this reason, this solution has to do without an emergency push-button on the outside. The locking elements of both doors are connected to the door control unit. The terminal, which has the same visual design as the door control unit, controls authorised passage at the second door and guarantees activation. Approval is required in the individual case from the highest building authorities in the country for applications without an emergency push-button in the direction of emergency exit.



- 1 = Escape door lock FTV 320
- 2 = Door closer TS 4000/TS 5000
- 3 = Door control unit TZ 320 SN, AP/UP
- 4 = Key push button
- 5 = Terminal T 320

System components

Door control unit TZ 320 SN, AP/UP	•
Terminal T 320	•
Escape door lock FTV 320	•
Door closer TS 4000 / TS 5000	•

Optional components

Holding magnet with installation set and door contact instead of escape door lock	
Motor lock IQ lock EL	
Lever lock IQ lock EM	
Contact lock IQ lock C	
Swing door drive	
Flashlight BLE 220	
Signal horn SLH 220	
Uninterruptible power supply (UPS)	
Access control	
Timer instead of the switch	
Control panel TE 220	
VAT 220 SN virtual display indicator board	
OPC interface for connection to GLT	

• = YES

System description

Authorised passage from inside the building

Authorised passage through the secured door from inside the building is by means of an integrated key push button in the door control unit or terminal. The door is released for authorised passage for a configurable amount of time (short-term release).

Authorised passage from outside the building

Authorised passage through the secured door from outside the building is by means of a separate key push button. The door is released for authorised passage for a configurable amount of time (short-term release).

Time monitoring of the door

If the door is not closed after the release time for authorised actuation has expired, a pre-alarm is triggered to draw attention to the time limit being exceeded. If the pre-alarm time is also exceeded, a door alarm is triggered and has to be acknowledged by the key push button. The door is equipped with a door closer to ensure its closes automatically after passage.

Passing of doors in an emergency

Both doors are released in an emergency via the integrated emergency button on the door control unit and on the terminal. Visual and acoustic signal transmitters in the door control unit signal passing of the door. There is also the possibility of triggering external signal transmitters via an alarm contact or relaying a message to a building management system.

Timer (optional)

There is a weekly timer integrated in the door control unit which can be used to store up to three authorisation times. In addition, external timers such as those of the building management system can be connected to the door control unit or via terminal boxes.

Central control units

For doors in security interlocking door systems

This system allows security interlocking door systems (active or passive) to be set up on escape routes e.g. in operating wings, laboratories and quarantine wards. This is the case when several doors are released in succession and may only be passed once the respective previous door has been closed again. The doors in one group mutually lock each other. A door control unit can be assigned to several groups at the same time. The security interlocking door system relations can be changed at any time through simple parameter setting. A maximum of 10 security interlocking door groups with up to 10 door control units each are possible. For both types of security interlocking door system, immediate access can be gained by activating the emergency push button. The security interlocking door function can be switched on and off by means of key switches.



- 1 = Door closer TS 4000/TS 5000
- 2 = Door control unit TZ 320 SN, AP/UP, integrated reader
- 3 = Signal light display red/green
- 4 = Escape door lock FTV 320

System components	
Door control unit TZ 320 SN, AP / UP	•
Escape door lock FTV 320	•
Signal light display red / green	•
Door unit access control system GCDU	•
RFID card reader GCRR 200	•
Push button	•
Power supply	•
Door closer TS 4000 / TS 5000	•
Service terminal ST 220 for setting the functions	•
Optional components	
Holding magnet with installation set and door contact instead of escape door lock	
Red indicator lamp instead of the traffic light display	
Motor lock IQ lock EL	
Lever lock IQ lock EM	
Contact lock IQ lock C	
Swing door drive TSA 160 NT / Slimdrive EMD / Powerturn	
Timer (ZSU)	
Flashlight BLE 220	
Signal horn SLH 220	
Uninterruptible power supply (UPS)	
Fingerprint FP 401 instead of the card reader	
Control panel TE 220	
VAT 220 SN virtual display indicator board	
OPC interface for connection to GLT	
• = YES	

System description

Active security interlocking door system

In the closed state, all the doors programmed as part of an active security interlocking door system are locked. If one of these doors is released short-term via respective activation devices, it transmits a signal to all the other doors in the group at the same time and locks the activation devices of the other (still locked) doors.

Passive security interlocking door system

In contrast to the active security interlocking door system, all the doors parameterised as part of a passive security interlocking door system are not generally locked when in a closed state. If one of these doors is opened, a signal is sent to all other doors and locks these.

Mixed security interlocking door system (active and passive)

Both security interlocking door system types can be combined in one security interlocking door group.

Re-locking of the security interlocking doors to balance pressure or clean the air e.g. in clean room applications

A time can be set for the security interlocking door system to remain locked after it has been passed through (locking all the doors of a security interlocking door group). Different times can be set at all the door control units of a security interlocking door system. This makes it possible, for example, to keep the door locked for 5 s following passage from a clean room to a grey room, and for 15 s following passage in the opposite direction (grey room > clean room), since more time is required to clean the air in this case.

Authorised passage from the non-secured area to the security interlocking door system area

Authorised passage from the non-secured area is by means of electric access control using a card reader or the integrated key operated button of the door control unit. The door is released for authorised passage for a configurable amount of time (short-term release).

Authorised passage out of the interlocking door system area

In the interlocking door system area, the doors are released via a push button without special authorisation. If a higher safety standard is required, an electric access control or mechanical key push button must be used here as well.

Authorised passage from the secured area to the security interlocking door system area

In the secured area, the door is released via a push button without special authorisation. If a higher safety standard is required, an electric access control or mechanical key push button must be used here as well.

Opening several security interlocking door system doors for transport purposes

The „permanent unlocking“ function on the door control units is used to disable the security interlocking door system function. This then allows several doors in one security interlocking door group to be opened at the same time. If deactivation of the security interlocking door system is not possible for security reasons, the „permanent unlocking“ function can be suppressed on the door control units.

Visual display of the security interlocking door system state

A locked security interlocking door system is indicated by the integrated LEDs on the door control unit flashing red. In addition, the green signal on the traffic light system indicates an interlocking door system that can be entered, a red signal indicates one which is blocked. As an option, the system can display only a red signal; this indicates that the security interlocking door system is occupied. If no visual signal is displayed, the door can be passed.

Time monitoring of the door

If the door is not closed after the release time for authorised activation has expired, a pre-alarm is triggered to draw attention to the time limit being exceeded. If the pre-alarm time is also exceeded, a door alarm is triggered and has to be acknowledged by the key push button. The door is equipped with a door closer to ensure it closes automatically after passage.

Automatic security interlocking door systems

In the context of security interlocking door system control it is also possible to activate swing door drives via the door control unit and thus to open and close specific doors in defined building sections. If a door is locked by the door control unit (basic state of active security interlocking door system), the door drive is in the so-called night mode. If the short-term release is triggered, the drive is automatically activated and the door opens. After the hold-open time set on the drive has passed, the door closes and the door control unit locks the door. If a door is in an unlocked state (basic state of passive security interlocking door system), the door drive is switched to automatic mode. The activation devices connected to the drive are active as long as the door is unlocked. If the door control unit locks, all the activation devices belonging to the automation are without function.

Passing of the door in case of emergency

The door can be released at any time via the integrated emergency button on the door control units. Visual and acoustic signal transmitters in the door control unit signal unauthorised passing of the door. There is also the possibility of triggering external signal transmitters via an alarm contact or relaying a message to a building management system.

Integration of doors without emergency exit function

Other types of doors such as sliding doors or industrial doors can be integrated in a simple security interlocking door relation by means of the door control units. In this case, the door control unit serves as a security interlocking door system control which interrupts or releases the activation devices of the other doors. Its standardisation means that this solution is more straightforward than a security interlocking door system control via a programme controller (SPS), which generally requires separate programming and a wiring and connection diagram.

Central control units

Security interlocking door system for sensitive areas

Great demands are placed on entrances to sensitive company areas, such as laboratories or data centres. Sensitive data and the high value must be protected from unauthorised access. For this reason, entrance areas are designed as security interlocking door systems which can only be entered by authorised persons following access control. To avoid unauthorised passage, the security interlocking door systems can be executed in such a way that only one person can enter at once.



- 1 = Swing door drive Slimdrive EMD F-IS / Powerturn
- 2 = Door control unit TZ 320 SN, AP/UP, integrated reader
- 3 = Signal light display red/green
- 4 = Escape door lock FTV 320
- 5 = Access control with card reader
- 6 = Terminal box KL 220
- 7 = Sensor mat

System components	
Door control unit TZ 320 SN, AP/UP	•
Terminal box KL 220	•
Escape door lock FTV 320	•
Signal light display red/green	•
Swing door drive Slimdrive EMD / Powerturn	•
Sensor mat for network connection	•
Access control with card reader	•
Voltage supply	•
Uninterruptible power supply (UPS)	•
Push button	•
Service terminal ST 220 for setting the functions	•
Optional components	
Motor lock IQ lock EL	
Lever lock IQ lock EM	
Contact lock IQ lock C	
Sliding door drives Slimdrive/ECdrive/Powerdrive	
CCTV	
Uninterruptible power supply (UPS)	
Fingerprint FP 401 instead of the card reader	
Control panel TE 220	

• = YES

System description

Basic state

Both doors in the security interlocking door system are closed. The doors are locked in accordance with insurance requirements using the self-locking panic locks. The emergency exit protection is activated and locks the door electrically as well.

Entering the security interlocking door system from outside

The outer door can be activated by an authorised person via the access control system. The emergency exit protection and the lock are unlocked and the door is opened by means of the swing door drive. A signal can be transmitted to a CCTV system which switches a camera on to monitor the access process (optional).

Passage through the inner security interlocking door

The inner door can only be passed e.g. if an optional sensor mat within the area protected by the security interlocking door system only detects one person. In addition, the outer security interlocking door must be closed and authorisation must be provided by access control. The emergency exit protection and the lock are unlocked and the door is opened by means of the swing door drive.

Leaving the secure area

In order to leave the secure area, the same authorisation procedure is passed as for entering from outside. Alternatively, a lower security level can be chosen for leaving the centre by installing a push button rather than access control and not only allowing one person at a time in the security interlocking door system.

Opening several security interlocking door system doors for transport purposes

If both security interlocking doors are unlocked and opened at the same time in order for goods to be transported, for example, the door control units must be permanently unlocked. The security interlocking door system function is then disabled. Now, the swing door drives can be switched to permanently open by the integrated programme switches. If deactivation of the security interlocking door system is not possible for security reasons, the „permanent unlocking“ function can be deselected on the door control units.

Visual display of the security interlocking door system state

A locked security interlocking door system is indicated by the integrated LEDs on the door control unit flashing red. In addition, the light is green when the security interlocking door system can be entered and red when it is locked.

Time monitoring of the door

If the door is not closed after the release time for authorised actuation has expired, a pre-alarm is triggered to draw attention to the time limit being exceeded. If the pre-alarm time is also exceeded, a door alarm is triggered and has to be acknowledged by the key push button.

Passing of the door in case of emergency/fire

The door can be released manually at any time via the integrated emergency button on the door control units. If there is a fire, the fire detector system (BMA) transmits a signal to the door control unit which triggers emergency unlocking of the system. Visual and acoustic signal transmitters in the door control unit signal emergency unlocking/activation of the door. It is also possible to trigger external signal transmitters via an alarm contact or relay a message to a building management system.

Behaviour in the event of a power failure

To guarantee the described function even in the event of a power failure, the system must be safeguarded by an uninterruptible emergency power supply (UPS).

Integrating further doors in the security interlocking door system

If further doors are to be integrated in the security interlocking door system so that doors on the inside can only be opened once the security interlocking doors have been closed, for example, this can be achieved using further TZ 320 door control units. Other types of doors such as sliding doors, industrial doors etc. can be integrated in a simple security interlocking door relation by means of the door control units.

Central control units

Personal protection system with wide-range reader for disoriented people or people suffering from dementia

In this solution, the wide-range reader can ensure that disoriented people or people suffering from dementia cannot leave the areas they are allowed to be in unchecked. This protects such people from getting into dangerous situations. Doors which can usually be passed by anyone are closed or locked if they are approached by a person who must not leave this area unnoticed.



- 1 = Swing door drive Slimdrive EMD F-IS / Powerturn
- 2 = Safety sensor strip
- 3 = Motor lock IQ lock EL
- 4 = Motor lock control unit MST 210
- 5 = Wide-range reader GCLR-I 2000 for internal applications
- 6 = GCLR-ID transponder for wristband

System components

Wide-range reader GCLR-I 2000 for internal applications	●
GCLR-ID TAG key ring	●
GCLR-ID TAG in drop design with 2 keys	●
GCLR-ID transponder for wristband	●
Swing door drive Slimdrive EMD F-IS / Powerturn	●
Safety sensor strip	●
Motor lock IQ lock EL	●

Optional components

Wide-range reader Outdoor GCLR-O	
Safety bracelet for wristband	
Sliding door drives Slimdrive / ECdrive / Powerdrive	
Swing door drives TSA 160 NT / ECturn	
Electric strike IQ eStrike	
Access control unit GCMU 524	
Emergency exit protection TZ 300 / TZ 320	

● = YES

System description

„Normal“ passing of the door

In normal mode, the door just looks like a conventional door. Visitors to a nursing home can pass through the doors normally. Either by manually operating the door using the door handle or key or comfortably by pressing push buttons which activate the drive and make the door open automatically.

Prevention of the door being passed by someone who is disoriented or suffering from dementia

If the door may not be used in an uncontrolled way by a specific person, it is closed/locked when this person approaches. This is achieved by means of a wrist transponder which can be equipped with an optional wristband with special lock. An output of the wide-range reader locks the door or prevents activation of the door.

Passing of the door by a person who is disoriented or suffering from dementia

A person who is disoriented can still pass through the door when accompanied by a member of staff. A transponder carried by the staff overrides the system lock triggered by the disoriented person and opens the door.

Burglary protection

The door is locked safely again after every passage by the self-locking panic lock with 20 mm crossbar projection.

Optional networked operation in connection with the web-based access control system GCMU 524

The wide-range readers can be integrated in the online access control by means of the Master Unit GCMU 524 of the GEZE access control system. This allows profile-dependent authorisation to be assigned for persons or groups of people. Several wide-range readers can be networked and a combination with access control via fingerprint reader GCFP 401 is possible. The simultaneous operation of RFID readers with wide-range readers cannot be realised. This means that people can only pass certain doors uncontrolled at certain times.

Option with emergency exit protection TZ 320

Doors on emergency exit routes can also be equipped with this control in connection with a GEZE emergency exit protection TZ 320. In this case, the door control unit is locked by the wide-range reader when an unauthorised person with wrist transponder approaches the door. Passage by staff is possible at all times by means of an activation device such as a push button. In an emergency, the doors can be cleared at any time by the integrated emergency push button on the TZ 320.

Central control units

Solution for individual storeys and small buildings (up to 20 doors)

The GEZE SecuLogic building system is used for the central display and control of GEZE systems and external products. The solution for 20 doors can be used in small to medium-sized buildings such as old people's homes, residential homes for the elderly, hospitals or public buildings to monitor and control all the relevant doors from a central desk. Feedback of the system state of the doors and windows can be seen at a glance at all times. The individual control elements (visualisation software, panel units, door control units, IO modules as well as automatic door drives from GEZE) can be arranged as required in the individual bus systems. Combination with the visualisation software VAT 220 is also possible. This allows individual storeys to be monitored and controlled using a control panel, and the entire building can be monitored and controlled via PC using the VAT 220 SN.



- 1 = IQ lock EL
- 2 = Door closer TS 4000/TS 5000
- 3 = Door control unit TZ 320
- 4 = Escape door lock FTV 320
- 5 = Control panel TE 220

System components	
Control panel TE 220	•
Door control unit TZ 320	•
Escape door lock FTV 320	•
Door Control Unit for automatic GEZE drives DCU 103	•
Coupling module IO 420	•
Door closer TS 4000 / TS 5000	•
Optional components	
Table control panel TTE 220	
VAT 220 SN virtual display indicator board	
Interface to the building management system OPC 220	
Repeater for extending the bus topology	
• = YES	

System description

Bus topology: line-shaped bus structure

The maximum cable length is 1000 m. For practical purposes, we recommend restricting maximum bus length to 900 m since the quality of the bus signal can be impaired by numerous terminal points. A maximum of 20 participants are permitted per control panel. Additional repeaters can be used to achieve star or tree structures and to extend bus lengths by another 1000 m.

Visualisation

The operating states „door closed/open“, „door locked/unlocked“ and „alarm“ can be displayed per bus participant. The reason for the alarm is displayed in a log window. If components are connected via an I/O module, the system states which are available as potential-free contacts can be visualised.

Control

The components can be „permanently unlocked“, „locked“ and „short-term released“. Other control commands can be realised depending on the application. The central control unit permits convenient operation of the doors.

Alarms

The alarm display allows alarm states to be recognised early and the building operator can react accordingly. If an emergency exit has not been closed after passage, for example, a „door alarm“ is signalled and the emergency exit can be secured again by closing the respective door.

Central control units

Solution for medium to large buildings (max. 504 doors)

The GEZE SecuLogic building system is used for the central display and control of GEZE systems and external products. The solution for up to 504 doors can be used in medium-sized to large buildings such as shopping centres, malls or public buildings to monitor and control all the relevant doors from a central desk. The system state of the doors and windows can thus be seen at a glance at all times. The individual control elements (visualisation software, panel units, door control units, IO modules as well as automatic door drives from GEZE) can be arranged as required in the individual bus systems.



- 1 = Motor lock IQ lock EL
- 2 = Door closer TS 4000/TS 5000
- 3 = Door control unit TZ 320
- 4 = Escape door lock FTV 320
- 5 = Motor lock control unit MST 210
- 6 = Virtual display indicator board VAT 220 SN

System components	
VAT 220 SN virtual display indicator board	•
Door control unit TZ 320	•
Door Control Unit for automatic drives from GEZE DCU 103	•
Coupling module IO 420	•
Optional components	
Interface to the building management system OPC 220	
Control panel TE 220	
Repeater for extending the bus topology	
• = YES	

System description

Bus topology: Linear bus structure

The maximum cable length of each bus system is 1000 m. For practical reasons, we recommend restricting the maximum bus length to 900 m as there is a loss of quality of the bus signal due to numerous terminal points. A maximum of 63 participants are permitted per bus line. Up to 8 bus lines can be realised using a virtual display indicator board VAT 220 SN. Additional repeaters can be used to achieve star or tree structures and to extend bus lengths by another 1000 m.

Visualisation

The operating modes „door closed/open“, „door locked/unlocked“ and „alarm“ can be displayed per bus participant. The reason for the alarm is displayed in a log window. If components are connected via an I/O module, the system states which are available as potential-free contacts can be visualised.

Control

The components can be „permanently unlocked“, „locked“ and „short-term released“. Other control commands can be realised as required by installation. A central control unit makes convenient operation of the doors possible.

Alarms

The alarm display allows alarm states to be recognised early and the building operator can react accordingly. If an emergency exit has not been closed after passage, for example, a „door alarm“ is signalled and the escape door can once again be secured by closing the respective door.

Solutions for smoke and heat extraction systems (RWA)

Door leaves with fresh air supply for RWA (smoke and heat extraction)

GEZE supplies an emergency exit solution with access control for full panic doors which are used as a 2-leaf RWA fresh air opening. In the direction of emergency exit, at least one door leaf can always be opened using the full panic function. In the case of authorised activation by means of access control, the active leaf lock is unlocked by motor and the door can be passed through mechanically from the outside. The self-locking mechanism guarantees reliable burglary protection. In the event of a fire, the automatic unlocking and opening of both door leaves ensures fast and reliable smoke removal.



- 1 = Full panic motor lock IQ lock AUT
- 2 = Door control unit TZ 320 (optional)
- 3 = Retractable arm drives K 600 in combination with door closer TS 5000 ISM
- 4 = Fingerprint reader

System components	
Retractable arm drives K 600 (2 pcs)	●
Door closer TS 5000 ISM	●
Full panic motor lock IQ lock AUT	●
RWA control unit (MBZ 300)	●
Access control	●
Fingerprint reader	●
Power supply	●
Optional components	
RFID instead of fingerprint reader	
Emergency exit protection TZ 320	
● = YES	

System description

Authorised passage in the direction of the emergency exit

The full panic function guarantees passing of the door using both leaves at all times. The self-locking mechanism guarantees the reliable locking of both leaves following passage.

Authorised passage against the direction of the emergency exit

The door can be released via access control or mechanically by means of the key. Where access control is used, the active leaf lock is unlocked by motor and the door can be passed through mechanically from the outside.

Passing of the door in case of emergency

The full panic function guarantees passing of the door using both leaves at all times.

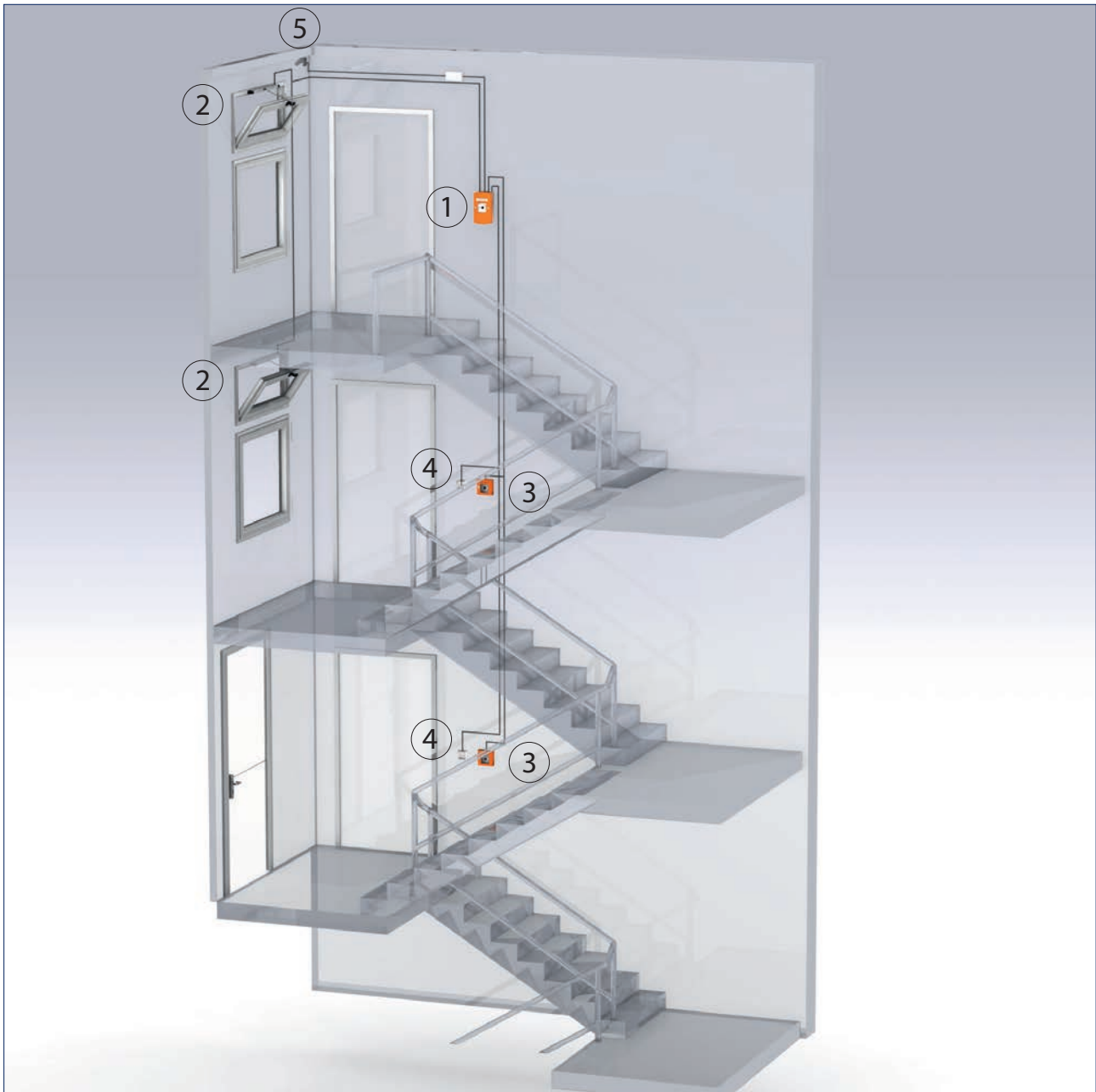
Behaviour in the event of a fire

If a fire is detected by the RWA system, both motor locks are unlocked so that the retractable arm drives can open both door leaves. This guarantees that sufficient fresh air can be routed to the RWA section via both leaves. At the same time, the RWA system also opens the corresponding exhaust air openings so that the escape route is kept free of smoke.

Solutions for smoke and heat extraction systems (RWA)

Small smoke and heat extraction devices

According to (German) state building regulations, there must be a smoke removal device installed in staircases and small fire sections in special buildings (e.g. places of public assembly). The staircase control units THZ or THZ Comfort are suitable for controlling between one and four window drives for example.



- 1 = Staircase control unit THZ Comfort with integrated RWA and ventilation button
- 2 = Window drive, e.g. chain drive Slimchain
- 3 = RWA button
- 4 = Ventilation button
- 5 = Weather station

System components

Staircase control unit THZ Comfort with integrated RWA and ventilation button	•
Window drive e.g. chain drive Slimchain	•
RWA button	•
Ventilation button	•
Weather station	•

Optional components

Staircase control unit THZ
Compact emergency power control unit E 260 N8/2
Smoke or heat detector
Connection to a fire alarm system BMA
Use of potential-free contacts (outputs) for status message to a building management system
Use of potential-free contacts (inputs) for triggering ventilation by a building management system
Activation of fresh air openings
Link to a further THZ or THZ Comfort for a second ventilation group

• = YES

System description

Activation of and emergency power supply to smoke removal windows with electric motors

In the event of an alarm the control units activate all the connected 24 V electric drives, should there be a mains power failure there is a guaranteed 72 hour battery back-up.

Options:

In the event of an alarm the direction of travel of the drives can be set up, which means that smoke vents can open or close windows e.g. if a mechanical smoke removal system or smoke protection pressure system (RDA) is to become active.

- When IQ windowdrives are used, a distinction between RWA case (fast and maximum opening of the window) and ventilation case (slow, quiet and limited opening) is possible. All this requires is a fourth wire in the power supply cable, which is connected to an alarm relay in the control unit and signals the alarm state to the drives.

Alarm triggered by manual RWA buttons

Depending on requirements, different activation elements can be connected to the RWA control for triggering an alarm case. In staircases, a manual release button is usually required on the top landing and on the ground floor.

Option:

- Quite often, automatic releases via smoke or heat detectors are used.

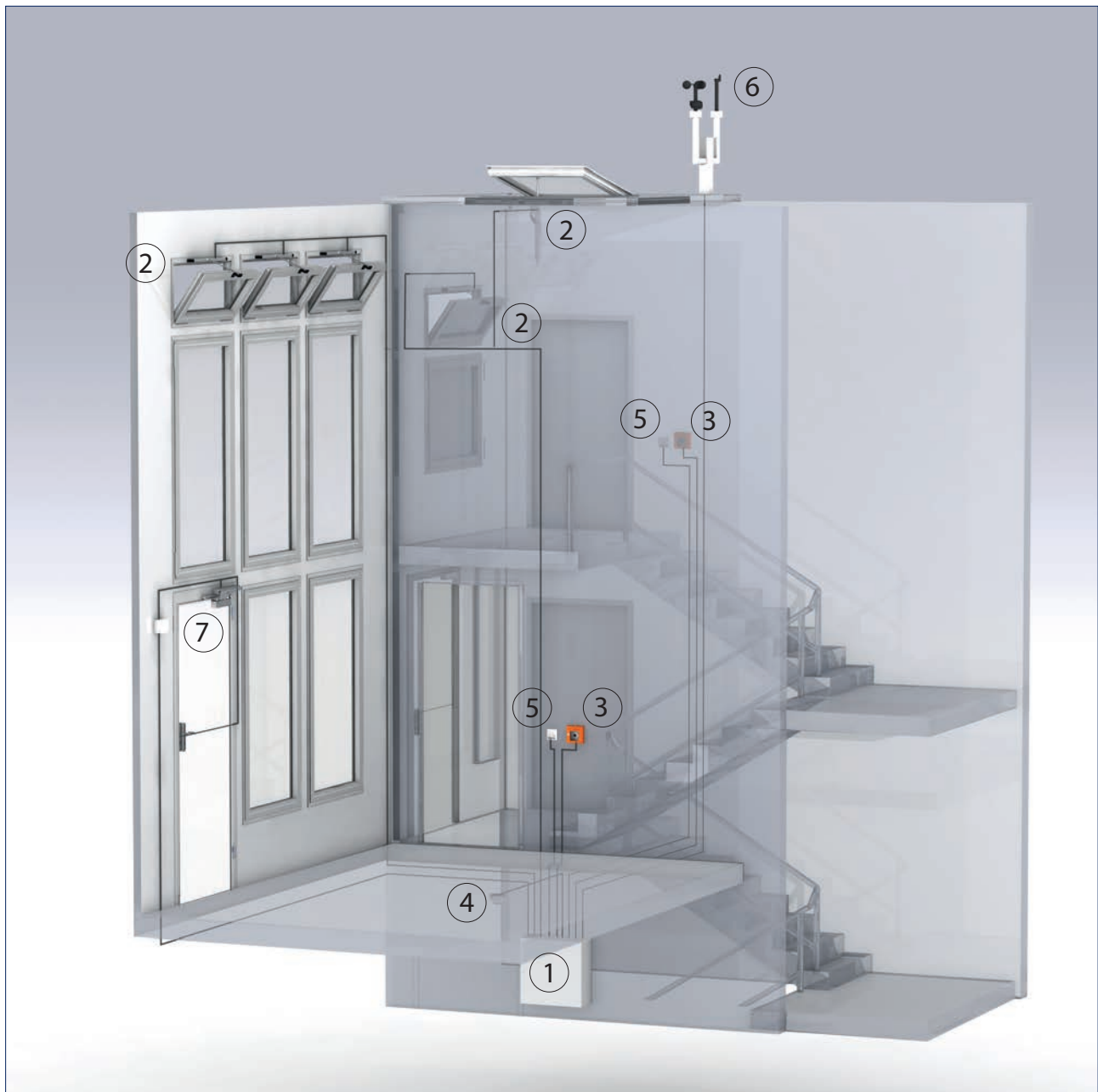
Use for simple daily ventilation (push button, rain/wind sensors)

The smoke vent windows can also be used for daily ventilation. For this purpose, the RWA control units provide connection possibilities for vent switches which can even be used to show the window state via LED. The reactions of the windows to these ventilation signals can often be adapted to the on-site conditions, depending on the control unit used: Self-locking or dead man operation as well as adjustable running time, venting period or automatic steps are possible. A weather station can also be connected so that open windows are closed automatically if it starts to rain or if heavy winds occur.

Solutions for smoke and heat extraction systems (RWA)

Medium-sized to complex smoke and heat extraction systems

Depending on the fire protection concept, building type and requirements of regional and special building directives, smoke and heat extraction systems must be planned for certain fire sections. The controlled construction product SHEV (natural smoke and heat exhaust ventilator) as per EN 12101-2 is required here: a certified combination of window and drive. The smoke and heat extraction system must then also control fresh air openings. The modularity of the RWA emergency power control unit MBZ 300 makes it particularly suitable for adaptation to the circumstances and requirements on site. Various basic sizes and modules make flexible grouping and functionalities possible. Thus smoke vents and fresh air openings can be activated differently in the event of an alarm or for ventilation.



- 1 = Modular emergency power control unit MBZ 300 with modul and software configuration for specific projects
- 2 = Window drives, e.g. chain drive Slimchain, spindle drive E 250 NT
- 3 = RWA button
- 4 = Smoke or heat detector
- 5 = Vent switches
- 6 = Rain/wind sensors and wind direction sensor for the wind-direction dependent activation of façade SHEVs in the RWA case (according to EN 12101-2)
- 7 = Activation of a fresh air door with K 600, IQ lock EL and door closer TS 5000

System components

Modular emergency power control unit MBZ 300 with object-specific module and software configuration	•
Window drives e.g. chain drive Slimchain, spindle drive E 250 NT	•
RWA button	•
Smoke or heat detector	•
Vent switch	•
Rain/wind sensors and wind direction sensor for the wind-direction dependent activation of façade SHEVs in the RWA case (according to EN 12101-2)	•
Activation of a fresh air door with K 600, IQ lock EL and door closer TS 5000	•

Optional components

Signal from a fire alarm system BMA
Fresh air door with inverse door closer
Fresh air door with automatic door systems
Use of potential-free contacts (outputs) for status message to a building management system
Use of potential-free contacts (inputs) for triggering ventilation by a building management system
Activation/supply of blinds at smoke extraction windows
Linking to further MBZ 300 via CAN-module
Networking via on-site bus actuators (feedback and activation for ventilation)
Activation of contactors to activate mechanical smoke removal

• = YES

System description

The emergency power control unit MBZ 300

The modular control unit is the central control unit of the smoke and heat extraction system and is equipped with different modules depending on system requirements. The standard configuration results from the module sequence - further functions are adjusted with the aid of PC configuration software (with licence).

Activation and emergency power supply of natural smoke and heat exhaust ventilation with electric motors on windows

In the event of an alarm the control units activate all the connected 24 V electric drives, should there be a mains power failure there is a guaranteed 72 hour battery back-up. Different fire sections can be set up depending on the control unit type. The modular RWA control unit MBZ 300 is particularly flexible: It permits alarm groups (fire sections) and ventilation groups to be classified, combined and prioritised freely as required. The control units guarantee the drives are post-triggered in accordance with VdS 2581. This ensures that all smoke vents are opened e.g. even iced-up skylights.

Options:

- When IQ windowdrives are used, a distinction between RWA case (fast and maximum opening of the window) and ventilation case (slow, quiet and limited opening) is possible. All this requires is a fourth wire in the power supply cable, which is connected to an alarm relay in the control unit and signals the alarm state to the drives.
- In the event of an alarm the direction of travel of the drives can be set up, which means that smoke vents can open or close windows e.g. if a mechanical smoke removal system or smoke protection pressure system (RDA) is to become active.
- The MBZ 300 allows the operating mode for the drives to be selected: standard drive, hold-open magnet (permanent supply when idling) or pressure gas generator mode (impulse in the event of an alarm). Thus other types of actuators besides electric motors can be actuators and supplied.

Activation of fresh air e.g. doors

DIN 18232-2 requires fresh air openings to supplement smoke vents. These must open at the same time as the vents, which is also guaranteed by control units. Windows and doors can be used for the fresh air supply. The doors usually only have to open in the event of an alarm, in other words they are not activated for the ventilation case. This is easy to achieve using a separate venting group.

Alarm triggered by manual RWA push buttons and automatic smoke or heat detectors

Depending on requirements, different activation elements can be connected to the RWA control for triggering an alarm case. Usually, automatic triggers via directly connected smoke or heat detectors and additional manual push buttons are required.

Smoke detectors must always be reset after they have been triggered. This is done by a reset switch in the control unit or as remote reset using the RWA button (optional).

Alarm triggering by fire alarm systems

If there is already a fire alarm system / fire alarm central unit (BMZ) installed in the building, this can also signal the alarm state to the RWA control unit. The BMZ signal can be programmed using self-locking or dead man function.

Use for daily ventilation (push button, rain/wind sensors)

The smoke vent windows can also be used for daily ventilation. For this purpose, the RWA control units provide connection possibilities for vent switches which can even be used to show the window state via LED. The reactions of the windows to these ventilation signals can often be adapted to the on-site conditions, depending on the control unit used: Self-locking or dead man operation as well as adjustable running time, venting period or automatic steps are possible. A rain/wind sensor can also be connected so that open windows are closed automatically if it starts to rain or if heavy winds occur.

Options:

- Use for controlled daily ventilation (sensors, building management system etc.): Instead of manual vent switches, the ventilation signals „open“ and „closed“ from a building management system can also be used. In addition, potential-free sensor contacts e.g. humidity, CO₂ and temperature or timers can guarantee intelligent ventilation control.
- Activation can also take place via an on-site bus system (e.g. KNX) via bus actuators which supply potential-free ventilation signals.

System comprising several linked control units

If the building and thus the smoke and heat extraction system are enlarged, it can make sense for different reasons to divide the RWA control among several points in the building and to link the control units to one another. This results in shorter cable paths and thus smaller cable cross-sections. Equally, local groups can be combined into higher-order fire sections or vent groups. Networking also permits the straightforward relaying of problem or state signals via the internal bus.

State signal

Depending on the control unit type, one, three or more status contacts can be parameterised, for example for problem or alarm signals or for window or ventilation states. These can be relayed to a building management system.

Options:

- These contacts can also be used to signal an alarm to a mechanical smoke removal device and activate this.
- Integration in an on-site bus system (e.g. KNX) is also possible via bus actuators and these contacts.

Activation / supply of blinds at smoke extraction windows (option)

In rooms used for events in particular, there are often shades or blinds at the windows which have to open at the same time or even prior to the smoke extraction windows if an alarm is triggered. Delays or end position contacts enable sequence control and thus collision-free activation.

GEZE Door Control Unit TZ 300

For monitoring individual doors without network

Door control units are the „brain“ of an efficient emergency exit system. They secure and monitor opening and closing actions of doors on escape and rescue routes and ensure that buildings can be evacuated in seconds. The TZ 300 is the entry-level model without network for straightforward applications or smaller buildings. The sophisticated yet robust design, minimum dimensions and individual colour harmoniously fit into any building design. A resilient emergency exit sign integrated in the switch design optimises its perception and thus contains the vandalism hazard. The large-surface impact cover can be operated by anyone quickly and safely even in a panic situation. It enables reliable release of the illuminated emergency push button.



On the left: Surface-mounted version (AP), on the right: flush-mounted version (UP) with control unit

GEZE Door Control Unit TZ 320

For monitoring of emergency exit doors with network functions

The GEZE door control unit TZ 320 is part of the GEZE SecuLogic emergency exit system and is used to control and monitor electrically locked doors on emergency exit routes. Doors on emergency exit routes are reliably protected against unauthorised passage by the door control unit. At the same time, the integrated emergency button guarantees passage at all times in emergency situations. The TZ 320 offers numerous interfaces to other products (e.g. swing door drives, motor locks, signal transmitters) and systems. Messages to higher-order building management systems or central visualisation via PC or control panel are also possible without additional components. Intelligent functions between the door control units can be realised via the GEZE bus system, e.g. security interlocking door system or connection to and relaying of fire alarm or burglar alarm systems. The door control unit TZ 320 is the model with integrated bus function for complex applications. Three freely configurable inputs and two freely configurable outputs allow almost all requirements to be realised without additional components. The flat impact cover can be quickly and reliably operated by anyone, even in panic situations. It enables reliable release of the illuminated emergency push button.



GEZE Terminal T 320

Bi-directional emergency exit protection for doors with emergency exit function in both directions

In the case of doors that serve as an escape route in both directions, a special system solution is necessary so that passage through these doors is possible in both directions in emergency situations. With the GEZE system solution, doors on escape routes are generally held closed via an additional electrical locking element and thus reliably secured against unauthorised passage. Passage of the emergency exits is controlled by the door control unit TZ 320. The terminal T 320 is fitted in the second direction of emergency exit. This allows the door to be released safely from both sides via an emergency button at any time in the event of danger. The door can be controlled and monitored via the terminal T 320 and via the door control unit TZ 320.



On the left: Surface-mounted version (AP), on the right: flush-mounted version (UP) with control unit

GEZE TZ 320 with terminal box KL 220

System extension by further inputs and outputs

More inputs and outputs, more possibilities: The door control unit TZ 320 can be used even more intensively in connection with the terminal box KL 220. The terminal box provides further inputs and outputs, so that even more devices can be connected to extend the area of application e.g. by swing door drives, fire detector systems, burglar alarms. The respective terminal box is connected to a system-internal bus. This means a separate, higher-capacity power supply is available, as well as additional inputs and outputs for which parameters can be set, resulting in even more application possibilities. The corresponding version for the widespread 55 switch ranges round off the profile.



Door control unit TZ 320 with terminal box KL 220

Escape door lock FTV 320

For use on doors in emergency exit protection and GEZE SecuLogic emergency exit systems

The GEZE escape door lock FTV 320 is part of the GEZE SecuLogic emergency exit system and is used to control and monitor electrically locked doors on escape and rescue routes. The FTV 320 unlocks the door electrically following authorised activation or pushing of the emergency push button on the GEZE door control units TZ 300 / TZ 320 and releases it.

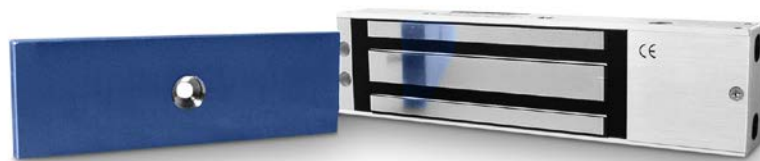
Thanks to its high retention forces, secure and immediate unlocking under preload as well as unlocking in a de-energised state (closed circuit current principle), the FTV 320 can be used as a lock in countless other security applications.



Holding magnet MA 500 with counter plate

For the magnetic locking of emergency exits according to the closed circuit current principle

The GEZE holding magnet MA 500 is suitable for retro-fitting to fire protection doors. The holding magnet has an integrated Hall sensor for locked/unlocked signals. A bi-colour LED indicates the current state (green = locked, red = malfunction).



GEZE IQ lock C

The mechanical contact lock for single-leaf doors

The contact lock GEZE IQ lock C is perfect for activating emergency exit doors secured by RWS with a closing process from outside. An additional key switch is not required. The IQ lock C combines the features of a mechanical panic lock and a lever lock. In terms of functionality, it is a mechanical panic lock with a door handle on the inside and a door knob on the outside. Evaluation via potential-free contacts and forwarding to a monitoring system takes place via cylinder, follower, bolt and auxiliary latch contacts. The integrated cylinder contact makes a single-box solution possible for the emergency exit system.



GEZE IQ lock EM

The electromechanical lever lock for single-leaf doors

The electromechanical lever lock GEZE IQ lock EM is ideally suited for combination with access control systems. While the panic function is effective in the direction of emergency exit, the outside handle is decoupled from the lock mechanism. An electrical signal emitted by an access control system enables the outside handle to be coupled for a specific period of time or permanently, therefore allowing the door to be opened against the emergency exit direction. Just like with the IQ lock EL, the IQ lock EM can also evaluate the cylinder, follower, bolt and auxiliary latch contacts and use them as potential-free status inputs.



GEZE IQ lock EL

The motor lock for single-leaf doors

The outstanding feature of the electronic motor lock GEZE IQ lock EL is its motorised unlocking in less than one second. It makes complete monitoring of the door possible via integrated contacts. The GEZE cross latch design and the absolutely jarring-free movement of the bolt related to this reduces the load on the electromechanical components: an advantage that makes the IQ lock EL predestined for combination with swing door drives.



GEZE IQ lock EL DL

The motor lock for double-leaf doors

When the passive leaf is activated, the active leaf also opens and allows the complete escape route width to be exploited. After passage, the self-locking mechanism guarantees that the door is locked again in line with insurance requirements. The contacts permit the straightforward transmission of signals via a fire alarm or other alarm system. This guarantees registration of every passing of the door, including in emergencies or any misuse. The system solution for double-leaf doors can therefore be monitored and controlled constantly. Free passing of the door in the direction of emergency exit is guaranteed at all times.

As well as the mechanical strike box, all the components required for the full panic door function are included in the set. A configurable number guarantees that the right components are always put together for the respective door.

The IQ lock EL DL for the active leaf offers the same functions and advantages as the IQ lock EL.



GEZE IQ lock AUT

System solution for 2-leaf full panic doors

IQ lock AUT is a multifunctional system solution for full panic doors with automatic door leaves on both sides. This means that both active and passive leaf can be unlocked by a motor drive. Thanks to the full panic function, both door leaves can be unlocked mechanically at the same time in an emergency by pressing the panic bar. After passage through the door, the mechanical self-locking feature becomes active, locking both door leaves in accordance with insurance requirements. As an RWA fresh air system, the IQ lock AUT guarantees the automatic unlocking of both door leaves after automatic release e.g. by means of a smoke detector. This ensures both smoke removal and a convenient exit from the building. The operating mode „permanently unlocked“ allows both locks to be permanently unlocked so that the swing door drives can be activated very quickly by the respective activation devices e.g. a radar detector or access control system, allowing fast and safe passage through both door leaves. IQ AUT can easily be fitted to existing doors with the IQ lock EL DL.

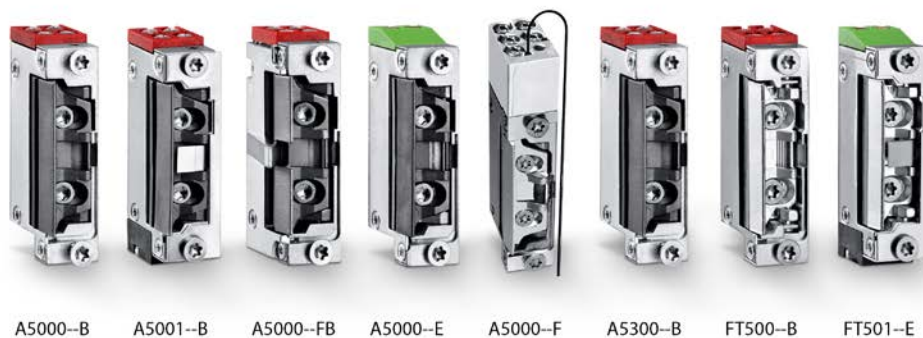


On the left: Motor lock IQ lock EL DL, in the middle: strike box DL, on the right: rod drive IQ AUT

GEZE electric strikes

Compact electric strikes for all doors which are to be held closed very conveniently

The electric strike GEZE A5000/A5300 for standard applications can be used on all door systems where doors have to be held closed smoothly. Its compact dimensions of 15.8 x 59.5 x 25.5 mm (W x H x D) make it one of the smallest electric strikes on the market. With a retention force of 5000 N, an integrated bipolar EMC protection diode and a radius latch with 6 mm engagement depth it has very convenient standard features. The GEZE electric strikes for fire protection doors FT500/FT501 is used on fire protection doors with increased safety requirements. With a retention force of 8000 N, an integrated bipolar EMC protection diode and a radius release with 6.5 mm engagement depth this variant provides very convenient standard features. It has additional functions such as a door status contact, signal processor with power-saving function or latch guide.



A5000--B

A5001--B

A5000--FB

A5000--E

A5000--F

A5300--B

FT500--B

FT501--E

GEZE number codelocks Toplocks CTI, CTI B, CTS V, CTS BV

Number codelocks with cast casing and metal keypads for protection against vandalism

The TOPLOCK number codelocks are a simple access control option which require neither keys nor passes. Doors can only be opened when the correct number code has been entered, making „lockout“ practically impossible.

The CTI versions are particularly suitable for internal applications, since the activating relay is fitted directly to the reader. Installation and connection are made much easier since no control unit is required. The CTS versions are ideal for external applications, since the external control unit makes them manipulation-proof and they also have a sturdy metal keypad. A master code is used to enter up to 5 code numbers, each a maximum of 6 digits, via the keypad. Once the data has been entered, it will remain stored even in the case of a power failure.



Toplock CTI



Toplock CTI B with lighting



Toplock CTS V with metal keypad

GEZE RFID reader GCER 100

All-purpose access control at a top price/performance ratio. Solution with RFID technology in stand-alone operation to control one door. In addition to the conventional pass types such as cards or key rings, the system can also be taught to accept car keys as ID passes.

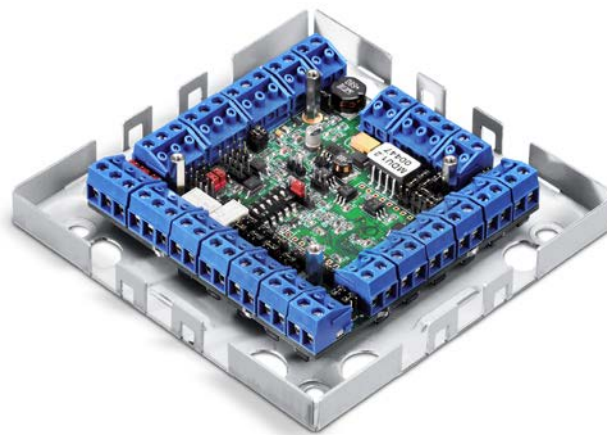
Thanks to the frequency range of 120 - 140 kHz, the system can also be taught to accept existing ID passes providing these are within the same frequency range (EM4102 / HID Prox / Hitag 1.). The management of means of identification, e.g. creation / deletion, is carried out very easily using a master card. Manipulation is excluded by encrypted communication between the reader and the control unit and will not lead to the door opening. Installation in or on metal surfaces is possible.



GEZE Door Unit GCDU 200

Door control unit for up to two doors or in the Individual-Line system using the GCMU 524

The Door Unit GCDU 200 transmits the closing and opening commands to up to two doors. It can be used together with the Master Unit GCMU 524 (Individual-Line) for a modular design of the access control system. It can be fitted with all standard reader systems and communicates with the Master Unit and readers via an RS 485 interface. Thanks to the variable and diverse system of interfaces as well as inputs and outputs, the GCDU also transmits numerous switching functions (e.g. door opener) or sends messages.



GEZE Master Unit GCMU 524

Access control application for up to 240 doors and 3000 persons

The Master Unit GCMU 524 with integrated web server and access control software can be used to manage up to twelve Door Units GCDU 200 and thus up to 24 doors/control points. Cluster mode permits the joint management of up to 255 GCMU 524 and thus a maximum of 240 doors/control points (120 Door Units). The biometric solution using fingerprint reader GCFP 401 can be used to manage up to 3000 users. For the convenient teaching of the biometric fingerprints of a large number of users, a central recording unit can be connected to the PC. In alarm situations, a message can be sent by e-mail. Offline fittings such as mechatronic cylinders or digital fitting solutions can be integrated via ACCES on Card and the GCMU 524 to extend the system. The connection of GCLR wide-range readers to the system is also possible. These can be used to activate automatic doors in barrier-free public buildings, for example.



GEZE RFID reader GCVR 200

RFID reader for systems both indoors and outdoors

The non-contact reader GCVR 200 is excellently suitable for higher-order systems both indoors and outdoors, e.g. for access control, parking systems or visitor identification. Comparable in function with the GCRR 200, the GCVR 200 is also available as a version with keypad (GCVR 200 T). The surface-mounted version provides variable cable inlet options from above, the side or below to simplify mounting.



GEZE RFID reader GCRR 200

Reader for flush-mounted installation for integration in System 50 switch ranges

The non-contact reader GCRR 200 fits all standard switch ranges and can thus be integrated perfectly in the building's appearance. It can be connected to the Single Door Unit GCDU 100/2 as a reader for doors in stand-alone operation or be integrated in the Individual-Line systems by connection to the Door Unit GCDU 200.



GEZE wide-range reader GCLR-I 2000 / GCLR-O 2000

Access control and personal protection system for interior and exterior applications

GEZE wide-range readers offer numerous application options. By automatically opening doors and gates from a distance, they facilitate the absolutely barrier-free passage of automatic doors on the one hand by opening them without a switch or push button needing to be activated, and on the other allow gates or barriers to be opened early to avoid unnecessary waiting times.

Another potential application is to prevent people in special need of protection from leaving the areas designed especially to protect them. Doors can be locked using the so-called „dementia“ function when they are approached, yet remain passable for personnel.

As an extension to stand-alone operation, the wide-range readers can be integrated in the Individual Line systems, which allows the authorisation and management of ID cards to be carried out conveniently on the user interface of the GCMU 524.

The wide-range reader produces an adjustable, spherically shaped magnetic field with a max. transponder detection range of 3.8 m. Wireless authorisation is also possible via transponders with keys over a range of up to 50 m.



GEZE control panel TE 220

Controls and manages up to 20 emergency exit doors, individually or in groups

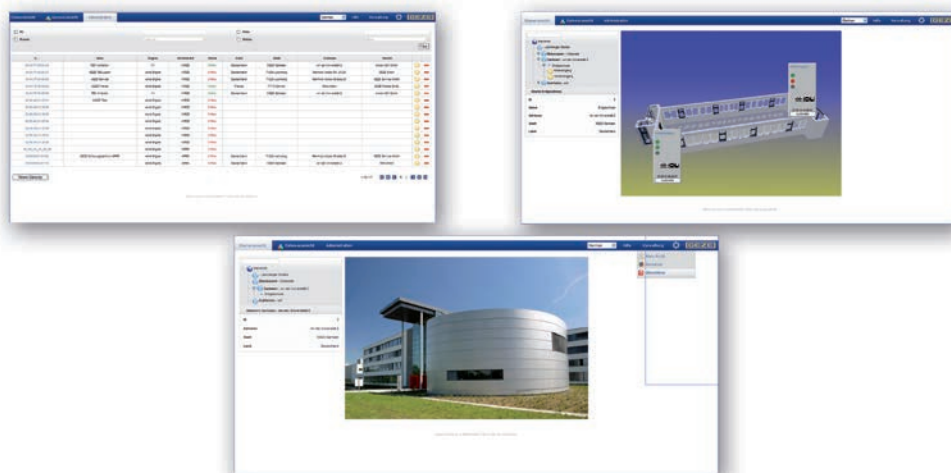
The GEZE control panel TE 220 is part of the GEZE SecuLogic building system. It is used for the central display and control of GEZE systems and external products. The control panel is suitable for use in small and medium-sized buildings with up to 20 doors. The system state of the doors and windows can be seen at a glance at all times.



VAT 220 SN, virtual display indicator and control board

Controls and manages up to 504 emergency exits

504 doors (divided into 8 bus lines) can be displayed and operated using the visualisation software VAT 220 SN. The VAT 220 SN can work both as a central and as a parallel operating point. A maximum of 63 doors can be connected with each of the 8 bus systems. Further control panel units TE 220/TTE 220 can be connected, allowing further operating points to be set up. There is no classic server-client relationship, because with VAT 220 SN all the doors in the system can conveniently be controlled centrally and without a loop via a server. In addition, the OPC interface guarantees simple communication between devices from different manufacturers.



GEZE Service Terminal ST 220

For setting all the parameters and functions of the emergency exit system

Mobile, handy and straightforward that is parameter setting for the automatic GEZE door systems using the service terminal ST 220. Communication and data exchange between service terminal and door drive is via an integrated RS 485 interface. The large illuminated display is easy to operate thanks to the plain text display. The service terminal is equipped with a readout function for servicing and diagnosis work. Power is supplied via the door system. Password protection to freeze operating parameters and servicing data guarantees there will be no unauthorised modifications made.



GEZE Door Control Unit DCU 103

BUS extension module for sliding door and swing door drives

GEZE sliding door drives and the swing door drive Slimdrive EMD are connected to the GEZE building system by the DCU 103. Connection is via two wires in the GEZE bus system.



GEZE coupling module IO 420

The BACnet module for building automation

The new GEZE IO 420 coupling module allows GEZE products in the fields of automatic door systems, window technology and RWA (smoke and heat extraction) as well as safety technology to be networked in buildings. In addition, communication standard BACnet is supported. The IO 420 is consequently suitable for the fast, simple and standardised integration of BACnet into building management systems (BMS). It enables GEZE products to be visualised and controlled via building management systems.



GEZE interface OPC 220

OPC server for connection to the building management system (BMS)

All the relevant data is transmitted via the GEZE OPC interface to a higher-order building management system. Visualisation and control of the GEZE products is then carried out via the BMS. This allows the GEZE system to be integrated in the existing visualisation system.

GEZE motor lock control MST 210

For the electric control of the IQ lock EL and interface to higher-order systems

The motor lock control MST 210 is used for the electric control of the IQ lock EL and is thus the „brain“ behind the lock. It is here that all the information is processed and the commands are transmitted to the lock. The MST 210 is also connected to the higher-order systems via the corresponding outputs. LEDs also visualise the lock states. In the event of a fire, locking of the lock is guaranteed by the combination of an external fire alarm and a capacitor integrated on the control.

GEZE swing door drive Slimdrive EMD

Electromechanical swing door drive for 1 and 2-leaf single-action doors

The electromechanical swing door drive GEZE Slimdrive EMD stands out due to its numerous areas of application. The compact drive is only 7 cm high and can move large and heavy internal and external doors comfortably and quietly. This makes the Slimdrive EMD the ideal solution wherever efficiency has to be coupled with silent running. State-of-the-art control technology combined with a low-wear and maintenance-free high-power motor guarantees reliable operation even for doors which are heavily frequented. All door parameters e.g. opening and closing speed as well as latching action, can be optimally adapted. Manual door opening can be supported by the drive (servo function) and ensures that even heavy doors can be opened more easily manually. The push & go function can be activated on request, i.e. the door is only slightly opened by hand and the automatic activation opens the door completely. In low-energy mode, the drive moves the door at reduced speed. The optional CAN interface can be used to meet demanding requirements e.g. interlocking door systems control.



GEZE swing door drive ECTurn

Electromechanical swing door drive for 1-leaf single-action doors as „entry door solution“ (including all-glass doors)

This extremely quiet electromechanical swing door drive meets the requirements of barrier-free building. It makes life easier and more convenient particularly for people with mobility problems or little strength. Doors can comfortably be opened automatically or manually and closed automatically. The GEZE ECTurn can be operated both in low-energy mode and in automatic mode in accordance with DIN 18650. In low-energy mode, the drive moves the swing door at reduced speed. The use of safety sensors to safeguard the system is only necessary in individual cases, taking the user group into account. In automatic mode, however, the swing area of the door must always be safeguarded with safety sensors. An optional rechargeable battery ensures maximum safety even in the event of a power failure. This swing door drive covers all internal application cases. Thanks to the glass guide rail available as an accessory, the ECTurn can also be used on glass doors (glass thickness 8-10 mm). The ECTurn is very flexible and permits all hinge variants, both for DIN left and DIN right doors.



GEZE swing door drive TSA 160 NT

Electrohydraulic swing door drive for 1 and 2-leaf single-action doors

The TSA 160 NT is an electronically controlled hydraulic swing door system for single-action doors made of wood, steel, aluminium or plastic with leaf weights of up to 310 kg and leaf widths of up to 1600 mm. The drive works with a hydraulic pump system during opening. The closing process is by means of a closing spring mechanism and adjustable hydraulic valves. The TSA 160 NT also has low power consumption and is low-maintenance. The door can be opened by hand in the event of a power failure. Manual opening is also possible with motor operation switched on. A reinforced and highly stable link arm meets the requirements of large and heavy doors which are highly frequented. The TSA 160 NT masters large amounts of foot traffic reliably and easily.



GEZE swing door drive Powerturn

Fully automatic swing door drive for 1 and 2-leaf single-action doors

The new swing door drive Powerturn offers comfort and safety for every access situation. The fully automatic drive is powerful and opens doors with leaf widths of up to 1600 mm or leaf weights of up to 300 kg reliably and safely. It offers freedom to design for a wide range of uses. The unique „Smart swing“ function allows for easy manual use even of large, heavy doors, e.g. fire protection doors or façade doors, at any time. The powerful closing spring is once pre-tensioned and does not have to be moved permanently during passage. In addition, the „Smart swing“ function reduces energy costs during operation and in the „permanently open“ position. The small overall height and discreet design make it flexible and future-proof for multifunction safety doors, safe escape and rescue routes and complex interlocking door systems. This makes the Powerturn an excellent example of „Universal Design - made in Germany“. Installation is straightforward and safe due to the simple GEZE installation system.



GEZE TS 4000

Link arm door closer for single-leaf doors with a leaf width of up to 1400 mm

TS 4000 overhead door closer is approved for use with left-hand and right-hand single-action doors with leaf widths of up to 1400 mm (without the need for conversion) and for installation on fire and smoke protection doors. The closing force in accordance with EN 1154 size 1-6 can be variably adjusted from the front and is easy to monitor thanks to the visual closing force display. The back check and thermoconstant closing speed are also adjustable from the front; the latching action is adjusted by means of the link arm. The closer features a safety valve for both the open and close directions.



GEZE TS 5000

Guide rail door closer for 1-leaf doors of up to 1400 mm leaf width

The overhead door closer TS 5000 stands for clear lines and numerous system variants. It is approved for 1-leaf right and left single-action doors with larger leaf widths of up to 1400 mm and for use on smoke and fire protection doors. The closing force, size 2-6 acc. to EN 1154, the thermally stabilised closing speed, the hydraulic latching action and the back check can all easily be regulated from the front in the installed state. The set closing force can easily be checked due to the visual closing force display.



GEZE THZ and THZ Comfort - the compact staircase control units

Additional safety with the RWA complete solution for staircases

The emergency power control units THZ and THZ Comfort represent compact and appealing solutions for safe smoke extraction e.g. in staircases. Each control unit enables the connection of a complete smoke extraction solution, which may comprise two drives of a fresh air and exhaust air opening each with a power of 3.4 A, for example. Combined with the RWA button FT4 K, the THZ provides a low-cost solution for smaller RWAs. Attractive and extremely compact, the THZ Comfort can be installed in a space-saving, visible position even in narrow staircases. The extremely sturdy housing is made completely of metal and is suitable for use in public areas. The new integrated RWA and vent switches which no longer need separate cabling provide an extra degree of comfort. Buttons are illuminated, allowing them to be seen better and thus improving safety even further.



On the left: THZ, on the right: THZ Comfort

GEZE RWA modular bus control unit MBZ 300

Modular bus control unit for the flexible adaptation to building-specific requirements

Thanks to its modular structure, the MBZ 300 can be adapted to building-specific RWA requirements and can be extended easily. The modules are simply clicked to the control unit. Standard settings are then automatically adapted, building-specific functions are set by software. Alongside the usual RWA safety functions, the MBZ 300 also has an option for the wind direction dependant activation of the smoke vents (SHEV) according to EN 12101-2. With the MBZ 300, the drives on windows and smoke extraction openings can also be controlled for daily ventilation. Convenient ventilation settings permit individual day-to-day use. A comprehensive PC software allows configuration and control of the control unit, updates and the storage of important operating states and the service settings. The status display directly on the module makes installation and maintenance easier and allows simple functional tests to be carried out.



GEZE retractable arm drive RWA K 600

Retractable arm drive for opening doors and windows

The RWA K 600 retractable arm drive is suitable wherever large opening angles are required on doors and windows. It achieves opening angles of more than 90°. The integrated control permits synchronous multiple operation and closing sequence control without an additional module being necessary. In addition, the drive has an integrated status contact for the direct connection of a door opener. In the installation version fitted from the top with pressure roller, the RWA K 600 can be combined with GEZE door closers and is therefore ideal for air inlet openings with high passage convenience. The combination of RWA K 600, motor lock and door closer is the single source solution for air inlet openings with lock suitable for insurance requirements. The GEZE retractable arm drive is available in three versions:

- RWA K 600 G: fixed to door or window with guide rail
- RWA K 600 T: on the door with a roller (door can still be passed through)
- RWA K 600 F: fixed to window with articulated lever



GEZE chain drive Slimchain

Universal chain drive with attractive design

The GEZE Slimchain is for universal use, since it offers a wide range of parameter setting possibilities e.g. stroke and speed. This chain drive can be integrated perfectly into the façade design thanks to its slim and discreet look. The drive stroke (stroke variants 300, 500, 800 mm) can be variably adjusted. Individual speeds can be set for ventilation and RWA mode. The integrated Syncro module allows up to 3 drives to be used even on large and heavy windows without an external control unit being necessary. The drive is equipped with a DIP switch for changing between the modes of operation (Solo/Syncro, Master/Slave). Installation can be carried out quickly and easily using the GEZE Smart fix installation system.



GEZE chain drive Powerchain

Powerful chain drive for large and heavy window elements

The GEZE Powerchain is suitable wherever large forces and very large opening widths are required. In addition, it facilitates fast opening speeds particularly for the RWA case, even with very heavy windows. The Powerchain offers a wide range of parameter setting possibilities e.g. for stroke and speed. The drive stroke (stroke variants 600, 800, 1200 mm) can be variably adjusted. Individual speeds can be set for ventilation and RWA mode. The integrated Syncro module allows up to 3 drives to be used without an external control unit being necessary. The drive is equipped with a DIP switch for changing between the modes of operation (Solo/Syncro, Master/Slave). Installation can be carried out quickly and easily using the GEZE Smart fix installation system.



GEZE spindle drive E 250 NT

Drive in compact design with a large application range

Heavy and wide casements in particular can be opened and closed by the GEZE E 250 NT electric motor drive. The drive stroke (stroke variants 100 - 1000 mm) can be variably adjusted. Individual speeds can be set for ventilation mode. Its small dimensions and technically advanced detail solutions such as cables routed on the interior and the integrated, intelligent control make it the ideal drive for the direct opening of RWA windows. The integrated Syncro module allows up to 3 drives to be used without an external control unit being necessary. The drive is equipped with a DIP switch for changing between the modes of operation (Solo/Syncro, Master/Slave). With the swivelling console the spindle drive in Syncro version can be fitted directly to the secondary edge. A greater opening width is achieved in comparison with attachment on the main closing edge of the skylight window with a comparable stroke.



Abbreviations

System components	Meaning
AP	Surface-mounted version
BLE 220	Flashlight
BMA	Fire alarm system
EMA	Burglar alarm system
FS	Latch lock
FTV 320	Escape door lock
FWS	Emergency exit sign
GLT	Building management system
GMA	Hazard alarm system
IQ lock C	Contact lock
IQ lock EL	Motor lock
IQ lock EM	Lever lock
IQ lock M	Motor lock
KL 220	Terminal box
KZF	Short-term release
MA 500	Holding magnet
MST 210	Motor lock control
NC	Potential-free opener contact (normally closed)
NO	Potential-free closer contact (normally open)
NOT 320	Emergency push button
NT	Power supply
OK	Upper edge
RP200	Relay board
RWA	Smoke and heat extraction system
SCT 221	Key switch, one-pole switch (closer)
SCT 222	Key switch with LED display, one-pole reversible switch (two closers)
SCT 320	Key switch, one-pole reversible switch (two closers)
SHB 220	Signal horn with flashlight
SLE 220	Signal light
SLH 220	Signal horn
T 320	Terminal for bi-directional escape route
TE 220	Control panel
TZ 320	Door control unit using bus technology
TZ 322	Door control unit using bus technology without emergency push-button
TZ 323	Door control unit using bus technology, turned through 180°
...B	Door control unit with illuminated emergency exit sign
...S	Door control unit with Key switch (connection via ribbon cable)
...N	Door control unit with integrated power supply
...BSN	Door control unit with illuminated emergency exit sign, Key switch and integrated power supply
...BS	Door control unit with illuminated emergency exit sign and Key switch
...SN	Door control unit with Key switch and integrated power supply
TZ 300	Door control unit, stand-alone
UK	Lower edge
UP	Flush-mounted
USV	Uninterruptible power supply (UPS)
VAT 220 SN	Visualisation software
VB	Distributor box
ZSU	Timer
ZuKo	Access control

Terms and definitions

Emergency exit control units

Aborting the short-term release

When the short-term release is aborted, the door is locked prematurely when it is closed and the short-term release has not expired. This prevents the door being accessible for unauthorised people after someone has passed through it.

The abortion setting can be deactivated via the service menu. In this case, the door remains unlocked for the duration of the time set. The release time can be ended prematurely by activating the key switch again.

Direct release (in compliance with EltVTR)

Safety-relevant interruption of power supply to the electrical locking system by means of an opener contact when the emergency push button is activated.

Unlocking (in compliance with the directive for electric locking systems for doors on rescue routes EltVTR)

Non-safety-relevant interruption of the power supply to the electrical locking system e.g. through a key switch.

Indirect release (in compliance with EltVTR)

Safety-relevant interruption of the power supply to the electrical locking system if a further switching process is triggered by the opener contact of the emergency push button, with this new process interrupting the power supply to the electrical locking system.

Re-triggering the short-term release

If a new short-term release is triggered during the release time, the release time begins again. The re-triggering setting can be deactivated via the service menu. If a new short-term release is triggered during the release time by means of the internal key switch or a programmable input, the system locks again.

Emergency unlocking (in compliance with EltVTR)

Non safety-related interruption of the power supply to the electrical locking system e.g. through a danger alarm system (GMA) or similar automatic triggering device.

Pre-alarm

If the release time is exceeded during passage, an acoustic signal is emitted which informs the user that the time has been exceeded. The duration of the pre-alarm can be set. If the door is closed during a pre-alarm, it is automatically locked and the pre-alarm is reset.

Door alarm

If the pre-alarm time is also exceeded, the so-called door alarm is triggered. This can be reset via the integrated key switch or all inputs „short-term release“ as well as via the control panel TE 220 or the visualisation VAT 220 SN. If the door is closed during a door alarm, the door will be locked and can only be unlocked again once the alarm has been reset (except if the emergency push button is pressed). A door alarm will also be given if the door is „broken open“, in other words when the door is opened by force or without prior release.

Terms and definitions

Access control systems

Biometrics

Biometrics (from Greek: bios = life, metron = measurement) measures human features e.g. face, fingers and iris for identification and verification.

Door Unit

The Door Unit has a relay for activating the door opener. There are also further inputs/outputs available for monitoring and controlling the door. The door controller is the interface between reader and Master Unit.

Finger Print / fingerprint reader

Biometric reader for recognising fingerprints.

Identification

Identification during access control is by means of an RFID pass - whereby the pass is assigned to a card - or via the fingerprint reader using a person's finger as a means of identification.

Reading technology

Describes the different RFID standards. These differ in terms of design set-up, transmission and frequency range. The standards are summarised in different standards. The most well-known reading technologies are EM, Mifare, Legic, Hitag or similar.

Master Unit

The Master Unit is the „heart“ of the access control system. It is responsible for the complete software application. It manages all data and regulates access authorisation. The Master Unit should therefore always be installed in a secured internal area.

RFID Radio Frequency Identification

A method used for automatic non-contact identification using transponder and reading unit.

Web server with integrated access control application

A standard web browser can be used for direct access to the access control application of the Master Unit via TC P/IP. No additional software or database is required.

Access authorisation

Access authorisation defines WHO may pass an access point WHEN and WHERE.

Access point

Describes the physical location where access control takes place. This is usually the door, but the term is sometimes also used for the reader.

Terms and definitions

Self-locking panic locks GEZE IQ locks

Outside handle, electrically engaged

When the supply voltage is applied to the lock, the outside handle is engaged and remains engaged as long as the voltage is applied (working current 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.

Panic functions B, C and D can be realised with the aid of the IQ lock EM by combining self-locking and switch-on handle. The handle can be switched remotely i.e. manual closing is no longer necessary.

Automatic locking 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 in such a way that the slide bolt in the lock can move to the „night“ position. This automatically pre-closes the crossbar when the door is closed. If the door is still open at this point, the crossbar projection is controlled via the auxiliary latch when the door is closed.

Fittings

According to DIN EN 179 or 1125 the fittings must be tested together with the lock. Tested fittings can be found in the EC Conformity certificates.

Permanently open

Alongside automatic re-locking (night mode of operation) and secured daytime operation (day mode of operation), a third mode of operation is possible: Permanently open. Here, the bolt is retracted and the halves of the cross latch 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 is activated directly by the fire alarm system in this case.

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

Electrical timeout function

During release time, manipulation attempts on the auxiliary latch by the control are ignored, the bolt remains retracted. After the release time has expired, the bolt is extended when the auxiliary latch is activated. The control detects the manipulation attempt by the check on the door position and the motor retracts the bar again.

Secured daytime operation with door opener function

In adjustable daytime operation, the bolt remains retracted even if the door has closed and the two halves of the cross latch are in place. The door is blocked from the outside. Escape is always possible from the inside thanks to the panic function. In conjunction with access control, for example, very short opening times of much less than one second can be realised. This has only been achieved by electric strikes up to now. Exception: In the event of a fire the door is completely locked. The motor lock is activated directly by the fire alarm system in this case.

Mechanical timeout function

Activating the auxiliary latch does not lead to uncontrolled crossbar projection.

Mechanical re-locking

The two halves of the cross latch are latched by activating the auxiliary latch. Latching only takes place after intervention and positioning of the two halves of the cross latch in the strike box. Crossbar projection only takes place after the cross latch has been positioned in the strike box.

Panic function

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

Panic function B – switchover function B

The door is equipped with handles on both sides. The locked door can be opened from the inside via the anti-panic function in the lock. The outer handle is always idle.

Normal function is achieved by turning the key in the direction of unlocking as far as it will go. The door can then be opened from the inside and outside using the handles. Anti-panic and idling function are re-established (switchover function) by pre-blocking with the key.

Panic function C – forced closing function C

The door is equipped with handles on both sides. The locked door can be opened from the inside via the anti-panic function in the lock. The outer handle is always idle.

The idling function is switched off by turning the key in the direction of unlocking as far as it will go. The door can then be opened from the inside and outside using the handles. The key can only be removed again after pre-blocking i.e. after the idling function has been re-established.

Panic function D – passage function D

The door is equipped with handles on both sides. This solution is suitable for doors which have to be passed through from the inside and outside at times. After the fitting has been activated from the inside, the door can also be opened from the outside. To prevent opening from the outside, the door has to be locked again from the outside using a key. Doors with passage function are available opening both in direction of emergency exit (outwards) and against direction of emergency exit (inwards). The direction of opening must be specified when ordering the lock.

Panic function E – change function E

The door is equipped with a handle on one side and a static knob on the other. The locked door can be opened from the inside using the anti-panic function in the lock, and from the outside using a key (the bolt is locked back and the latch pulled back).

Sabotage monitoring

The connection 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.

Full panic

In the case of double-leaf doors the active leaf is also unlocked when the panic rod of the passive leaf is operated so that the escape route is free across the entire width.

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