



GEZE SYSTEM MANUAL  
COMFORT AND SAFETY SOLUTIONS  
FOR DOORS AND WINDOWS



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## 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

### System solutions and components

	Number of door leaves		Door central units			Panic locks				Access control systems			Central control unit			Swing door drives	Electr. door opener	Door closer	RWA fresh air supply	
	1-leaf	2-leaf	TZ 300	TZ 320 / TZ 322	T 320	IQ lock C	IQ lock EM	IQ lock EL / DL	IQ lock AUT	Basic	Comfort	Individual	TE 220	VAT 220	OPC 220	TSA 160 NT, EMD, Ecturn	A5000 / A5300 FT500 / FT501	TS 4000 TS 5000	K 600	Page
Emergency exit protection																				
Individual doors without network (stand-alone)	●	○	●			●	○			○								●		8
Nursery school solution	●	○	●														●	●		10
1-box solution	●	○		●	○	●	○	○		○	○	○	○	○	○	○		●		12
Automatic emergency exit doors inside buildings	●	○		●	○	○	○	○		●	○	○	○	○	○	●	●			14
Control and release of doors from a central position	●	○		●	○		○	●		●	○	○	○	○	○	○		●		16
Escape route in both directions (bi-directional)	●	○		●	●	○		○		○	○	○	○	○	○			●		18
Tailor-made solution for escape and access balconies	●	○		●	●	○	○	○		○	○	○	○	○	○	○		●		20
Tailor-made solution without local emergency push-button	●	○		●		○	○	○		○	○	○	●	○	○	○		●		22
Doors in interlocking door systems	●	○		●	○	○	○	○		○	○	○	○	○	○	○		●		24
Security interlocking door system for data processing centre	●	●		●	○	○	○	○	○	○	○	●	○	○	○	●	○	○		28
Self-locking full panic solutions																				
Door leaves which are automatic on one side		●		●	○			●		●	○	○	○	○	○	●				32
Door leaves which are automatic on both sides		●		●	○				●	●	○	○	○	○	○	●				34
Door leaves with fresh air supply for RWA		●							●									●	●	36
Access control																				
Non-contact access with wide-range reader	●	○	○	○	○	○	○	●	○	○	○	○	○	○	○	●	○	○		38
Personal protection system with wide-range reader	●	○	○	○	○	○	○	●	○	○	○	○	○	○	○	●	○	○		40
Central control and visualisation system																				
Individual storeys and small buildings (up to 20 doors)	●	●		●	○	○	○	●		○	○	○	●	○	○	●	○	○		42
Medium to large buildings (up to 504 doors)	●	●		●	○	○	○	●		○	○	○	●	●	●	●	○	○		44
Page			60	60	61	62	62	63	64	65	66	67	71	72	74	75	76	77	79	

• = yes  
○ = optional



## Safety solutions for door applications

## Areas of application

	Individual doors without network (stand-alone)	Nursery school solution	1-box solution	Automatic emergency exits inside buildings	Control and release of doors from a central position	Escape route in both directions (bi-directional)	Tailor-made solution for escape and access balconies	Tailor-made solution w/o local emergency push-button	Doors in interlocking door systems	Security interlocking door system for data processing centre	Door leaves which are automatic on one side	Door leaves which are automatic on both sides	Door leaves with fresh air supply for RWA	Non-contact access with wide-range reader	Personal protection system with wide-range reader	Individual storeys and small buildings (max. 20 doors)	Medium to large buildings (up to 504 doors)
Offices and administration buildings	•		•	•	•				•		•	•	•	•		•	•
Discos	•										•	•	•				
Cinemas	•			•	•						•	•	•				
Multi-storey car parks	•			•										•			
Sport and event arenas	•		•	•	•						•	•	•	•		•	•
Airports	•		•	•	•						•	•	•	•		•	•
Health services														•			
Hospitals (psychiatric wards, closed wards)	•			•	•			•	•	•	•	•	•	•	•	•	•
Public buildings	•		•	•	•	•	•		•	•	•	•	•	•		•	•
Schools	•		•	•	•	•	•				•	•	•	•		•	•
Nursing and residential homes for the elderly	•		•	•	•	•	•	•	•		•	•	•	•	•	•	•
Assisted accommodation	•		•	•	•	•	•	•	•		•	•	•	•		•	•
High-rise buildings	•					•	•				•		•				
Museums	•										•	•	•			•	•
Court buildings	•			•	•			•									
Prisons								•								•	•
High-security areas								•								•	•
Nursery schools		•															
Underground car parks				•										•			
Event grounds					•												
Research facilities									•	•							
Laboratories									•	•							
Data processing centres										•							
<b>Page</b>	<b>8</b>	<b>10</b>	<b>12</b>	<b>14</b>	<b>16</b>	<b>18</b>	<b>20</b>	<b>22</b>	<b>24</b>	<b>28</b>	<b>32</b>	<b>34</b>	<b>36</b>	<b>38</b>	<b>40</b>	<b>42</b>	<b>44</b>

• = YES

## Safety solutions for door applications

### System features

	Individual doors without network (stand-alone)	Nursery school solution	1-box solution	Automatic emergency exits inside buildings	Control and release of doors from a central position	Escape route in both directions (bi-directional)	Tailor-made solution for escape and access balconies	Tailor-made solution w/o local emergency push-button	Doors in interlocking door systems	Security interlocking door system for data processing centre	Door leaves which are automatic on one side	Door leaves which are automatic on both sides	Door leaves with fresh air supply for RWA	Non-contact access with wide-range reader	Personal protection system with wide-range reader	Individual storeys and small buildings (max. 20 doors)	Medium to large buildings (up to 504 doors)
Low-cost solution for doors with simple requirements	•														•		
Increased convenience by passing through by key from outside	•		•														
Low-cost solution		•													•		
Attractive solution			•												•		
Only one UP-concealed casing required			•														
Low-cost version of an automatic and secured escape door				•													
Convenient solution				•	•	•			•	•				•			
Greater convenience				•	•			•		•				•			
Maximum convenience												•	•				
Barrier-free convenience														•			
Hands-free, automatic access														•			
Functions can be extended				•	•	•	•	•	•	•	•						
Networking without further components possible				•	•	•	•	•	•	•	•					•	•
Bus function integrated				•	•	•	•	•	•	•	•						
All required components on the door						•											
Favourable solution for special application							•										
Tried-and-trusted solution for this special application								•									
Convenient to install									•								
Easy commissioning																•	•
Easy setting of the interlocking door system function									•								
Fast function modifications possible									•								
Comprehensive functionality for a wide range of different interlocking door system application cases									•	•							
Signal light indicator can be connected without further modules									•	•							
High level of burglary protection										•	•						
Full panic and automatic combined											•						
Full panic lock with self-locking and motor-driven activation												•	•				
Remote locking and monitoring of the door												•	•				
No keys lost												•					
Passes can be issued and deleted quickly and easily												•	•				
Authorisations can be issued and withdrawn quickly and simply												•	•				
Time- and calendar-dependent control of the door possible												•	•				
Individual authorisation allocation depending on function												•					
High protection against burglary and RWA function at the same time													•				
Wide range of functional extensions through the access control system														•			
Attractive design																	
2-wire bus technology										•						•	•
Many bus functions possible for RWS (EMA / BMA / ZSU / interlocking door system)																•	•
No licences required																	•
No limit to the number of doors or background images (only system-related limitation to 504 doors in total)																	•

Page

8 10 12 14 16 18 20 22 24 28 32 34 36 38 40 42 44

• = YES

## 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 = Emergency exit opener with latch lock



### System components

Door control unit TZ 300 SN, AP/UP	•
Emergency exit opener with latch lock	•
Contact lock IQ lock C	•
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	

• = 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 switch of the door control unit. As an option, 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 release 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 which has to be acknowledged by the key-operated switch. The doors are equipped with a door closer to ensure they close automatically after passage.

### Monitoring of the secured emergency exit door

A „pre-alarm“ is signalled by the integrated handle contact 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.

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

## Emergency exit protection

### Nursery school solution – 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. Unauthorised use of the emergency exit door by children can thus best be guaranteed by an approved system. 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 electronic door opener 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 outside push button
- 5 = Door control unit TZ 300 SN, AP/UP
- 6 = Emergency exit opener with latch lock
- 7 = Electric door opener IQ eStrike A5000--B
- 8 = Key-operated switch
- 9 = Outside push button

System components	
Door control unit TZ 300 SN, AP/UP	•
Emergency exit opener with latch lock	•
Electric door opener 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	
Holding magnet with installation set and door contact instead of emergency exit opener	
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-operated switch. This allows the door to be passed through 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 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 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, which has to be acknowledged by the key-operated switch. 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 passage 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, nursery school staff must lock it manually using the panic lock.

## 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 = Contact lock IQ lock EM
- 2 = Door closer TS 4000/TS 5000
- 3 = Door control unit TZ 320 N, UP
- 4 = GCMU 524 and GCDU 200 (optional)
- 5 = Distributor box
- 6 = Emergency exit opener with latch lock
- 7 = Access control (optional)

System components	
Door control unit TZ 320 N, UP	•
Emergency exit opener with latch lock	•
Contact lock IQ lock EM	•
Door closer TS 4000/TS 5000	•
Optional components	
Holding magnet with installation set and door contact instead of emergency exit opener	
Lever lock instead of the contact lock	
Motor lock instead of the contact lock	
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 direction of the emergency exit

Authorised passage through the secured door in the direction of the emergency exit is by means of the cylinder contact of the contact 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 is by means of the cylinder contact of the contact 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 release 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, which has to be acknowledged by the key-operated switch. The door is equipped with a door closer to ensure its closes automatically after passage.

### Monitoring of the secured emergency exit door

A „pre-alarm“ is signalled by the integrated handle contact 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.

### Passage through 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 passage 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 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)
- 2 = Safety sensor strip
- 3 = Door control unit TZ 320 SN, AP/UP
- 4 = GCMU 524 and GCDU 200 (optional)
- 5 = Distributor box
- 6 = Emergency exit opener with latch lock
- 7 = Electric door opener IQ eStrike A5000--E
- 8 = Fingerprint reader GCFP 401



**System components**

Door control unit TZ 320 SN, AP/UP	•
Emergency exit opener with latch lock	•
Swing door drive Slimdrive EMD (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 door opener IQ eStrike A5000--E	•
Door unit access control system GCDU	•
Fingerprint reader GCFP 401	•

**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	
Virtual display indicator board VAT 220 SN	
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 electronic door opener. 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 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 which has to be acknowledged by the key-operated 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

### 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 in 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 = Motor lock IQ lock EL
- 2 = Door closer TS 4000/TS 5000
- 3 = Door control unit TZ 320 SN, AP/UP
- 4 = Intercom forwarding system
- 5 = Door Unit access control system GCDU 100/2
- 6 = Emergency exit opener with latch lock
- 7 = RFID card reader GCRR 200

System components	
Door control unit TZ 320 SN, AP/UP	•
Emergency exit opener with latch lock	•
Motor lock IQ lock EL	•
Door unit access control system GCDU 100/2	•
RFID card reader GCRR 200	•
Power supply	•
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)	
Fingerprint FP 401 instead of the card reader	
Control panel TE 220	
Virtual display indicator board VAT 220 SN	
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 the emergency exit is by means of an integrated key-operated switch of the door control unit. As an option, 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 motor lock and unlocks it. 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 the emergency exit is by means of electrical access control. The system can be released by a card reader. The motor 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 release 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 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, however. The door can be passed through 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 passed through 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 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 which has to be acknowledged by the key-operated switch. The door is equipped with a door closer to ensure its closes automatically after passage.

### Monitoring of the secured emergency exit door

A „pre-alarm“ is signalled by the integrated handle contact 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.

### 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

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

## Emergency exit protection

### 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 in order for them to allow passage 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 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 = Emergency exit opener with latch lock
- 4 = Terminal T 320 S, AP/UP

#### System components

Door control unit TZ 320 SN, AP/UP	•
Terminal T 320 S, AP/UP	•
Emergency exit opener with latch lock	•
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 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 which has to be acknowledged by the key-operated switch. The door is equipped with a door closer to ensure its closes automatically after passage.

#### 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 and/or on the terminal. Visual and acoustic signal transmitters in the door control unit and in the terminal signal unauthorised 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.

## Emergency exit protection

### 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 = Emergency exit opener with latch lock
- 2 = Door closer TS 4000/TS 5000
- 3 = Door control unit TZ 320 SN, AP/UP
- 4 = Key-operated switch
- 5 = Terminal T 320



System components	
Door control unit TZ 320 SN, AP/UP	•
Terminal T 320	•
Emergency exit opener with latch lock	•
Door closer TS 4000 / TS 5000	•
Optional components	
Holding magnet with installation set and door contact instead of emergency exit opener	
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	
Virtual display indicator board VAT 220 SN	
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-operated switch 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-operated switch. 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 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 which has to be acknowledged by the key-operated switch. The door is equipped with a door closer to ensure it closes automatically after passage.

### Passage through 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 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.

## Emergency exit protection

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

GEZE offers special solutions for the securing of emergency exits in areas without local emergency buttons, in accordance with legal requirements, for example, in psychiatric and forensic units 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.



- 1 = Door closer TS 4000/TS 5000
- 2 = Door control unit TZ 322 stainless steel V2A, AP/UP
- 3 = Emergency exit opener with latch lock
- 4 = Key-operated switch 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	•
Emergency exit opener with latch lock	•
Key-operated 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	
Hold-open magnet with installation set and door contact instead of emergency exit opener	
Motor lock IQ lock EL	
Lever lock IQ lock EM	
Contact lock IQ lock C	
Swing door drive TSA 160 NT	
Swing door drive Slimdrive EMD	
Flashlight BLE 220	
Signal horn SLH 220	
Access control	
Virtual display indicator board VAT 220 SN	
OPC interface for connection to GLT	

• = 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 by means of a key-operated switch on the door or the 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 key-operated switch and the door control unit are 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-operated switches. As an option, an access control system can be fitted for convenient passage.

### 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-operated switch. The door is equipped with a door closer to ensure its closes automatically after passage. The door can be opened and closed automatically using an optional swing door drive.

### Monitoring of the secured emergency exit door

A „pre-alarm“ is signalled by the integrated handle contact 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. If the pre-alarm time is exceeded, a door alarm is triggered and has to be acknowledged by the key-operated switch.

### 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. Thus the escape route is always cleared even in the event of a power failure.

### 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. The emergency button can be integrated attractively.

## Emergency exit protection

### 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 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-operated switches.



- 1 = Door closer TS 4000/TS 5000
- 2 = Door control unit TZ 320 SN, AP/UP, reader integrated
- 3 = Signal light display red/green
- 4 = Emergency exit opener with latch lock

System components	
Door control unit TZ 320 SN, AP/UP	•
Emergency exit opener with latch lock	•
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 emergency exit opener	
Red indicator lamp instead of signal light display	
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)	
Fingerprint FP 401 instead of the card reader	
Control panel TE 220	
Virtual display indicator board VAT 220 SN	
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 actuation devices, it transmits a signal to all the other doors in the group at the same time and locks the actuation devices of the other (still locked) doors.

### Passive security interlocking door system

In contrast to the active security interlocking door system, all the doors programmed 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.

### Timer

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.

### 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 an security interlocking door group). Different times can be set at all the door control units of an 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 switch of the door control unit. The door is released for authorised passage for a configurable amount of time (short-term release).

### Authorised passage from the security interlocking door system area

In the security interlocking door system area, doors are released via a switch without special authorisation. If the security standard is higher, an electric access control or a mechanic key-operated switch has to be used.

**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 system or mechanical key-operated switch 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.

**Optical 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 signal light display is green when the security interlocking door system can be entered and red when it is locked. As an option, the system can display only a red signal; this indicates that the security interlocking door system is occupied. If no optical signal is displayed, the door can be passed.

**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-operated switch. The door is equipped with a door closer to ensure it closes automatically after passage.

**Timer**

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 a terminal box.

**Automatic security interlocking door systems**

In the context of security interlocking door 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 actuation devices connected to the drive are active as long as the door is unlocked. If the door control unit locks, all the actuation 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, industrial doors etc. 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 only as a security interlocking door control which interrupts or releases the actuation devices of the other doors. The standardisation of this solution makes it easier to handle than a security interlocking door control by means of a programme controller (SPC), since special programming and a cable and wiring diagram are usually required with an SPC.





## Emergency exit protection

### Security interlocking door system for data processing centre

High demands are made of the entrance areas to data processing centres. Sensitive data and the high value are to 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 a time.



- 1 = Swing door drive Slimdrive EMD
- 2 = Door control unit TZ 320 SN, AP/UP, reader integrated
- 3 = Signal light display red/green
- 4 = Emergency exit opener with latch lock
- 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	•
Emergency exit opener with latch lock	•
Signal light display red/green	•
Swing door drive Slimdrive EMD	•
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	

## System description

### Basic state

Both doors in the security interlocking door system are closed. The doors are locked in accordance with insurance requirements by means of 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 door

The inner door can only be passed if the 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 data processing centre

In order to leave the data processing centre again, 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 an 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 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.

### Optical 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 a door is not closed within an adjustable time limit following authorised passage, 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-operated switch.

**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 alarm 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, for example, doors on the inside can only be opened once the security interlocking doors have been closed, 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.



## 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 = Motor lock full panic IQ lock EL DL
- 2 = Safety sensor strip
- 3 = Door control unit TZ 320 SN, AP/UP
- 4 = Swing door drive Slimdrive EMD (F)-IS
- 5 = Master Unit GCMU 524 and Door Unit GCDU 200
- 6 = Motor lock control unit MST 210
- 7 = Fingerprint reader GCFP 401



System components	
Door control unit TZ 320 SN, AP/UP	•
Emergency exit opener with latch lock	•
Swing door drive Slimdrive EMD (F)-IS	•
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	•
Door unit access control system GCDU	•
Fingerprint reader GCFP 401	•
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	
Virtual display indicator board VAT 220 SN	
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 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 which has to be acknowledged by the key-operated 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 fixed 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, permitting convenient, barrier-free passage in automatic operation. The mechanical self-locking feature following door closure guarantees reliable protection against burglary.



- 1 = Motor lock full panic 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/TS or Slimdrive EMD (F)-IS
- 5 = Master Unit GCMU 524 and Door Unit GCDU 200
- 6 = Motor lock control unit MST 210
- 7 = Fingerprint reader GCFP 401

System components	
Swing door drive TSA 160 NT (F)-IS/TS or Slimdrive EMD (F)-IS	•
Safety sensor strips	•
Motor lock full panic IQ lock AUT	•
Door unit access control system	•
Fingerprint reader GCFP 401	•
Power supply	•
Optional components	
RFID instead of fingerprint reader	
Programme switch for drive	

• = yes

## System description

### Authorised passage in the direction of 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 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 nurse wheeling a bed, for example, 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 leaves at all times.

### Self-locking full panic solution

#### For door leaves with fresh air supply for RWA (smoke and heat extraction)

GEZE supplies an emergency exit solution with access control for full panic door 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 = Motor lock full panic 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 GCFP 401

System components	
Retractable arm drives K 600 (2 pcs)	•
Door closer TS 5000 ISM	•
Motor lock full panic IQ lock AUT	•
RWA control unit (MBZ 300)	•
Door unit access control system	•
Fingerprint reader GCFP 401	•
Power supply	•
Optional components	
RFID instead of fingerprint reader	
Emergency exit protection TZ 320	

• = yes

## System description

### Authorised passage in the direction of 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 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 through the door in case of emergency

The full panic function guarantees passing through 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 folding arm drives can open both door leaves. This guarantees that sufficient fresh air can be routed to the RWA section. At the same time, the RWA system also opens the corresponding exhaust air openings so that the escape route is kept free of smoke.

## 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
- 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 = Button inside/outside
- 7 = GCLR-ID transponder

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	●
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 door opener IQ eStrike	
Access control unit GCMU 524 with Door Unit DU 200	
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

### 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
- 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 application
- 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	•
Safety sensor strip	•
Motor lock IQ lock EL	•

**Optional components**

Wide-range reader Outdoor GCLR-O
Safety bracelet for wrist
Sliding door drives Slimdrive / ECdrive / Powerdrive
Swing door drives TSA 160 NT / ECturn
Electric door opener IQ eStrike
Access control unit GCMU 524 with Door Unit DU 200
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 passed uncontrolled 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. The door is locked via a wide-range reader output or activation of the door is prevented.

**Passing of the door by someone 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 actuation 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 and visualisation system

### 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 by means of 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 = TZ 320, door control unit
- 4 = Emergency exit opener with latch lock
- 5 = Control panel TE 220

System components	
Control panel TE 220	•
Door control unit TZ 320	•
Emergency exit opener with latch lock	•
Door Control Unit for automatic GEZE drives DCU 103	•
IO module for non-bus-capable components or external products IO 220	•
Door closer TS 4000/TS 5000	•
Optional components	
Table control panel TTE 220	
Virtual display indicator board VAT 220 SN	
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 due to the risk of loss of quality of the bus signal caused by numerous terminal points. 20 participants maximum can be connected 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 displayed.

### Control

The components can be „permanently unlocked“, „locked“ and „short-term released“. Other control commands can be realised depending on the application. 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 emergency exit can be secured again by closing the respective door.

## Central control and visualisation system

### Solution for medium to large buildings (up to 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. Feedback of 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 = Emergency exit opener with latch lock
- 5 = Motor lock control unit MST 210
- 6 = Virtual display indicator board VAT 220 SN

System components	
Virtual display indicator board VAT 220 SN	•
Door control unit TZ 320	•
Door Control Unit for automatic drives from GEZE DCU 103	•
IO module for non-bus-capable components or external products GEZE IO 220	•
Optional components	
OPC 220, interface to the building management system	
TE 220, control panel unit	
Repeater for extending the bus topology	
• = yes	

## System description

### Bus topology: Line-shaped bus structure

The maximum cable length of each bus system is 1000 m. For practical purposes, we recommend restricting maximum bus length to 900 m since 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 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 displayed.

### Control

The components can be „permanently unlocked“, „locked“ and „short-term released“. Other control commands can be realised depending on the application. 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 emergency exit can be secured again by closing the respective door.



## Solutions for window applications

### Components and areas of application

	Components										Applications										Page
	Staircase control unit THZ / THZ Comfort	RWA emergency power control unit E 260 N8/2	RWA modular bus control unit MBZ 300	Electr. window drives, e.g. Slimchain, Powerchain, E 250 NT	Fresh air openings, e.g. doors with K 600	Release elements for alarm (RWA push button, smoke detector)	Signal of a fire alarm system	Operating elements for ventilation	Interface 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	
Solutions for smoke and heat extraction systems (RWA)																					
Small smoke and heat extraction devices with compact RWA control units for small systems or for smoke removal in staircases	•	•	•	•	•	•	•	•	•	•	•	•	•			•	•		•	•	48
Medium-sized to complex smoke and heat extraction devices with modular RWA control units		•	•*	•	•	•	•	•	•	•	•	•	•			•	•	•	•	•	50
Connecting possibilities																					
Activation and emergency power supply of natural smoke and heat extractions with electric motors on windows	•*	•*	•	•							•	•	•	•	•	•	•	•	•	•	
Activation of fresh air solutions, e.g. doors (with different door openers, locks, K 600 or similar)	•*	•	•		•						•	•	•	•	•	•	•	•	•	•	
Alarm triggering via manual RWA button and automatic smoke or heat detectors	•	•*	•			•					•	•	•	•	•	•	•	•	•	•	
Alarm triggering via fire alarm system	•	•	•				•				•	•	•	•	•	•	•	•	•	•	
Use for simple daily ventilation (button, rain/wind sensors)	•	•*	•	•				•			•	•	•	•	•	•	•	•	•	•	
Use for controlled daily ventilation (sensors, building management system or similar)	•	•	•	•					•	•	•	•	•	•	•	•	•	•	•	•	
Signal output, e.g. for automatic smoke removal	•	•	•							•	•	•	•	•	•	•	•	•	•	•	
Activation / supply of blinds in front of smoke removal windows			•	•		•	•	•	•		•							•			
Networking via on-site bus coupler (feedback and activation for ventilation)	•	•	•				•	•	•	•	•	•	•	•	•	•	•	•	•	•	
Ventilation solutions																					
Ventilation via on-site bus systems (KNX)				•					•	•	•	•	•	•	•	•	•	•	•	•	54
Room climate control	•*	•*	•*	•					•	•	•	•	•	•	•	•	•	•	•	•	56
Safeguarding windows				•					•	•	•	•							•		58
Page	78		78	79	79																

• = yes

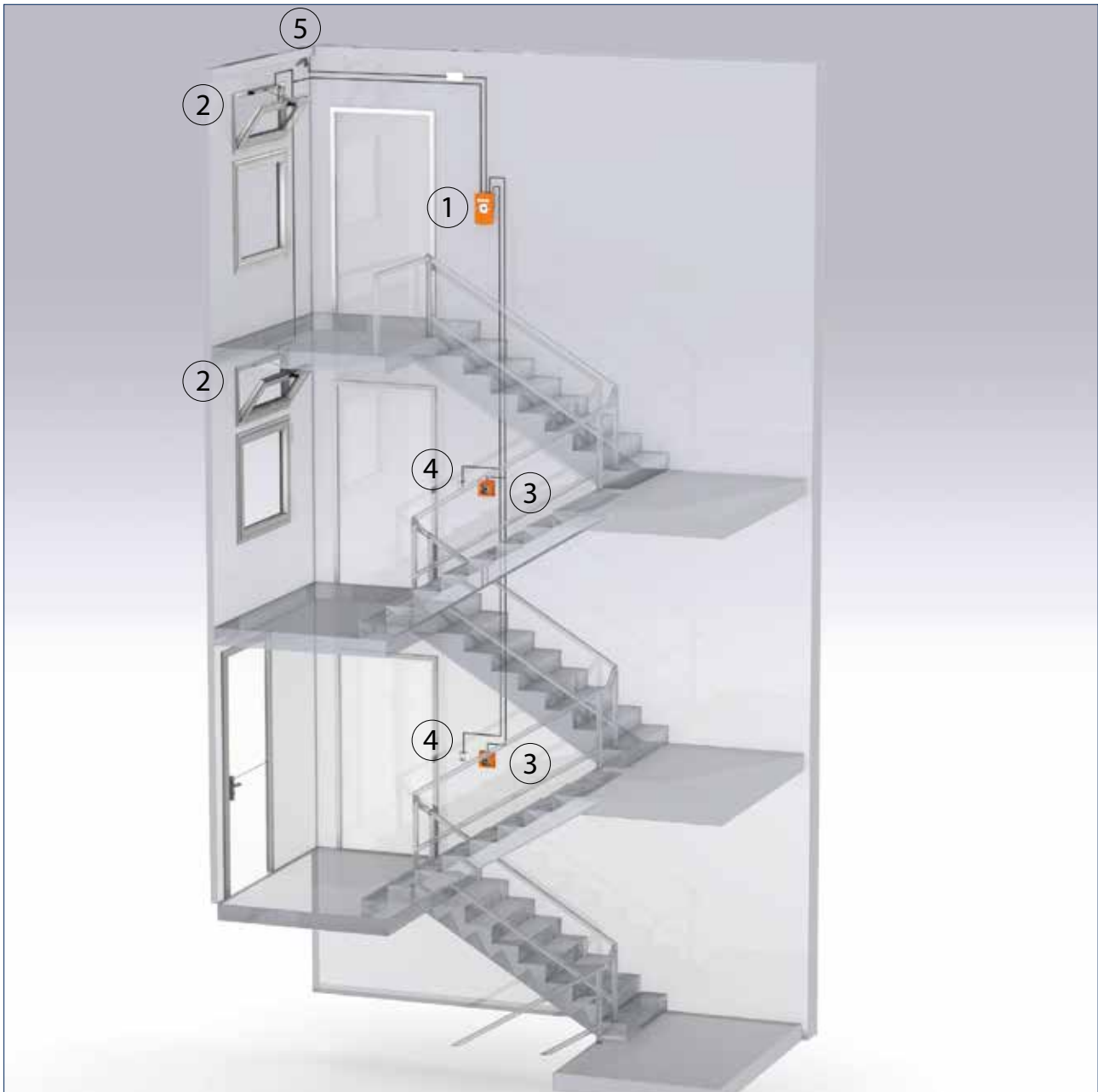
•\* = yes, with restrictions



## Small smoke and heat extraction devices

### With compact RWA control units for small systems or for smoke removal in staircases

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



<b>System components</b>	
Staircase control unit THZ Comfort with integrated RWA and ventilation button	●
Window drive e.g. chain drive Slimchain	●
RWA button	●
Ventilation button	●
Weather station	●
<b>Optional components</b>	
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	
Linking 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 adjusted, 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 actuation 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.

## Medium-sized to complex smoke and heat extraction systems

### With modular RWA control units

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 object-specific module and software configuration
- 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 sensor and wind direction sensor for the wind-direction dependent control of façade SHEVs in the RWA case (as per 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 sensor and wind direction sensor for the wind-direction dependent control of façade SHEVs in the RWA case (as per 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 adjusted, 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 actuation 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 adjusted 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 controls 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 adjusted, 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.



## 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 a central control unit is not used, bus networking is an optional solution. The windows are controlled via a GLT (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. blind or shade actuators) and power supplies
- 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**

Shade 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. room climate control units, wind and rain sensors, temperature, humidity and CO<sub>2</sub> or VOC sensors. This results in numerous automation options for the windows.

**Programming and commissioning**

The actuators are programmed and adjusted 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 move to their required safe position in any case.

## Room climate control

### Controlled natural ventilation

Another possibility for intelligent ventilation control is the use of a room 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 = Room climate control with touch panel
- 4 = Ventilation button
- 5 = Weather station
- 6 = Sensors e.g. CO<sub>2</sub>, inside temperature, humidity



**System components**

Window drives e.g. chain drive Slimchain, Powerchain	●
Power supplies, IQ gear	●
Room climate control with touch panel	●
Ventilation button	●
Weather station	●
Sensors e.g. CO <sub>2</sub> , 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 room 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 room 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 cooling, weather alarms etc. can be programmed at 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.

## Safeguarding windows

### 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 absolutely be 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: active infrared sensor
- 3 = Safeguarding evaluation
- 4 = Activation and supply of the drives

**System components**

Window drives e.g. chain drive Slimchain, Powerchain	●
Safeguarding sensor: active infrared sensor	●
Safeguarding evaluation	●
Activation and supply of the drives	●
Optional components	
RWA emergency power supply unit	
Tactile safeguarding by means of contact strip	
Other non-contact sensors	

● = YES

**System description****Safeguarding against pinching**

The highest protection rating can be achieved with contact or non-contact sensors which stop the windows in an emergency. Sensor-controlled safeguarding is more discrete than safeguarding the hazard area by means of construction measures (walls etc.). 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 as a GEZE solution by means of an active infrared sensor. This is tried-and-trusted technology which has been in use for many years to safeguard automatic doors. The major advantage of an active infrared sensor is that a large defined area can be monitored using only one device. 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 is monitored using an active infrared sensor. If a person enters the defined danger zone near the closing edge during the closing process, the sensor reliably and permanently detects this person. The closing process is interrupted and the window opens again if appropriate. The window is then either activated automatically again after a certain set time or it has to be activated manually again.

## GEZE Door Control Unit TZ 300

### For monitoring individual doors without network

The GEZE door control unit TZ 300 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. A fire alarm, RWA or danger alarm system can be connected via an integrated interface; this unlocks the doors in an emergency in order to make escape from the building possible. External signal transmitters such as signal horns or lights can also be connected and the alarm can be forwarded to a higher-order building management system. Visual and acoustic alarm signals are given by integrated buzzers and LEDs. 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. 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 TZ 300



Surface-mounted version (AP), flush-mounted version (UP), 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 TZ 320



## 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 in order for them to allow passage 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 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.

### GEZE T 320



Surface-mounted version (AP), flush-mounted version (UP), control unit

## GEZE TZ 320 Comfort with terminal box KL 220

**System extension by further inputs and outputs**

In connection with the GEZE terminal box KL 220 the GEZE door control unit TZ 320 is extended by four freely programmable inputs and six freely programmable outputs. This means the KL 220 can be used for a wide range of required functions where two TZ 320 outputs and three inputs are no longer sufficient. In addition, the KL 220 can be used when there is not enough space for connection in the door control unit. This can be particularly sensible for UP door control units since space in the flush-mounted boxes is limited on account of the system. The KL 220 takes over the voltage supply to the system by means of an integrated power supply.

Note: The door control units TZ 320 are to be used without power supply in connection with the KL 220.

### GEZE KL 220



Door control unit TZ 320 with terminal box KL 220

## 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-operated 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 C



## 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 EM



## 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



## GEZE IQ lock EL DL

### The motor lock for double-leaf doors

When the fixed 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 escape 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 EL DL



## GEZE rod drive IQ AUT for the motorised unlocking of the fixed leaf

### 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 fixed leaves 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 quickly and securely. 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 actuation 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.

### GEZE IQ AUT SET



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



## GEZE Basic-Line access control system

### Stand-alone system for independent doors

GEZE Basic-Line is an access control system used for stand-alone operation. An RFID reader or fingerprint reader can be connected to the control. Up to two doors can be activated via two outputs by authorisation levels and different control modes. The control mode is set on the control using a DIP switch. Where RFID technology is used, authorisations are assigned using a master card system, whereas with the biometric solution this takes place via the integrated keypad of the fingerprint reader. Basic-Line is the ideal system for doors which are not to be networked and are used by a maximum of 20 people. Where a larger number of users is involved, a network solution is recommended; this can be implemented using GEZE Comfort-Line. The Basic-Line can be upgraded to Comfort-Line at any time by exchanging the control.

#### System components

- GEZE Single Door Unit GCDU 100/2
- GEZE RFID reader GCVR 200
- GEZE RFID reader GCRR 200
- GEZE Finger Print GCFP 401
- GEZE power supply NET 320

#### Optional

- GEZE electric door opener IQ eStrike
- GEZE lever lock IQ lock EM
- GEZE motor lock IQ lock EL
- GEZE door control units TZ 300 / TZ 320
- GEZE swing door drives TSA 160 NT / Slimdrive EMD
- GEZE sliding door drives e.g. Slimdrive SL

#### System structure



NET 320	= Power supply
GCDU 100/2	= Single Door Unit
GCVR 200	= RFID reader
GCRR 200	= RFID reader
GCFP 401	= Finger Print
TSA 160 NT	= Swing door drive
IQ lock EL	= Motor lock
TZ 320	= Door control unit
FTÖ	= Remote-controlled door opener
TÖ	= Door opener
1	= Power supply for door opener (TÖ)

## GEZE Comfort-Line access control system

### Network solution for up to eight doors (can be expanded if required)

GEZE Comfort-Line extends the Basic-Line access control system and is managed using an integrated software application. Up to four GCDU 200 Door Units can be connected to the GCMU 200 Master Unit with integrated web server. Each of these can be equipped with up to two RFID or fingerprint readers, allowing up to eight doors/control points to be controlled using the system. In addition, up to four Master Units can be managed together in cluster mode, allowing up to 32 doors/control points to be realised under maximum exploitation of the system's possibilities. Access to the web server of the Master Unit is via a standard browser. No additional software needs to be installed. Settings e.g. concerning persons, control points or authorisations can be made on the clearly designed user interface. No PC connection is required during operation since all the settings are stored on the access control components.

#### System components

- GEZE Master Unit GCMU 200
- GEZE Door Unit GCDU 200
- GEZE RFID reader GCVR 200
- GEZE RFID reader GCRR 200
- GEZE RFID reader GCVR 200 (T)
- GEZE Finger Print GCFP 401
- GEZE power supply NET 320

#### Optional

- GEZE electric door opener IQ eStrike
- GEZE lever lock IQ lock EM
- GEZE motor lock IQ lock EL
- GEZE door control units TZ 300 / TZ 320
- GEZE swing door drives TSA 160 NT / Slimdrive EMD
- GEZE sliding door drives e.g. Slimdrive SL

#### System structure



NET 320	= Power supply
GCMU 200/GCDU 200	= Master Unit/Door Unit
GCFP 401	= Finger Print
TSA 160 NT	= Swing door drive
IQ lock EL	= Motor lock
TÖ	= Door opener
1	= Power supply for door opener (TÖ)

## GEZE Individual-Line access control system

### Precisely tailored solution for any building

GEZE Individual-Line extends the possibilities provided by Comfort-Line by numerous additional functions. 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 up to 240 doors/control points (120 Door Units). Up to 3000 users can be managed using the fingerprint reader GC FP 401. 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.

#### Advantages

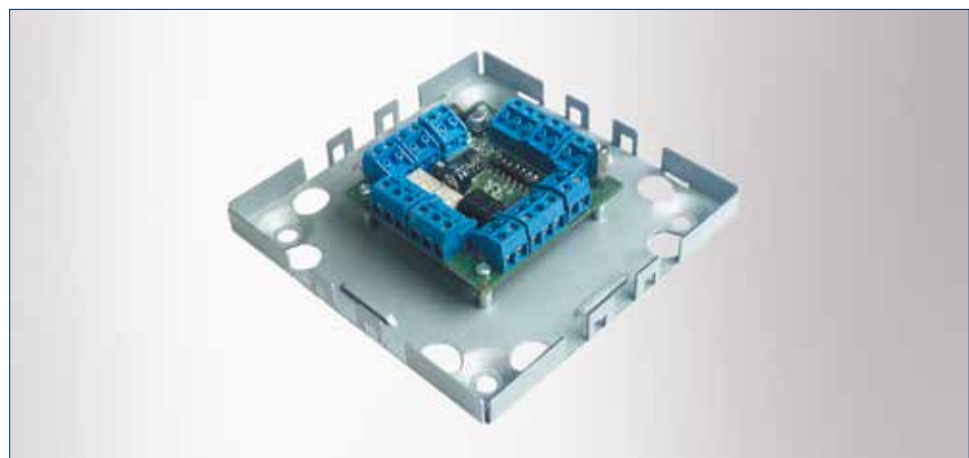
- 24 control points possible.
- Extension through cluster mode to up to 240 control points
- 3000 users in biometric version
- Arrival and leaving time recording
- Integration of mechatronic cylinders
- Integration of digital fittings
- Encrypted data transfer HTTPS
- Alarms sent by e-mail
- Reporting

## GEZE Single Door Unit GCDU 100/2

### Individual door control for the connection of an GCRR 200/GCVR 200 or a GCFP 401

The Single Door Unit GCDU 100/2 controls and monitors one door and manages up to 100 people using an RFID reader or 500 people using a fingerprint reader GCFP 401. A number of 20 users is recommended based on user management via the master card system or keypad. The Door Unit must be installed in the secured area. Optionally, an RFID reader (e.g. GCVR 200) or a fingerprint reader (e.g. GCFP 401) can be connected via an RS 485 interface. Communication between the Single Door Unit and the reader is encrypted. After successful booking the electric strike is, upon authorisation, activated via a potential-free relay.

#### GEZE GCDU 100/2



## GEZE Door Unit GCDU 200

**Door control unit for up to two doors in the Comfort-Line system using the GCMU 200 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 200 (Comfort-Line) or the GCMU 524 (Individual-Line) for a modular design 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. In the Comfort-Line system, up to four Door Units can be managed via bus by one Master Unit, which allows eight control points to be controlled. Cluster mode can be used to network four Master Units GCMU 200 in master/slave mode, whereby a maximum of 32 access points can be controlled. In the Individual-Line system, up to twelve Door Units can be managed by the Master Unit GCMU 524. Cluster mode can be used to network 255 GCMU 524 units, whereby a maximum of 240 access points (120 Door Units) is possible. 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 GCDU 200

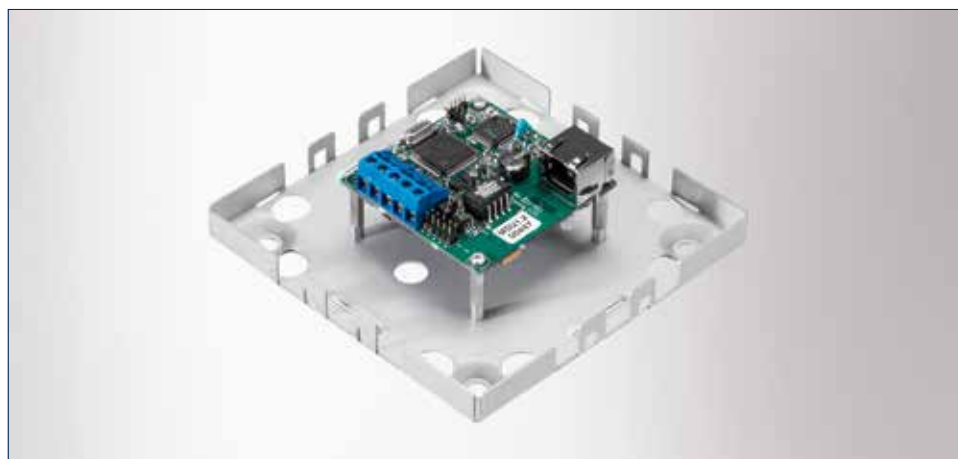


## GEZE Master Unit GCMU 200

**Central unit of the Comfort-Line access control system with integrated web server**

The Master Unit GCMU 200 is the central unit of the Comfort-Line access control system and manages several Door Units GCDU 200 in a networked system. It also serves as a web server and has the appropriate access control software. In addition to the control function of the Master Unit GCMU 200, the comfortable selection between four identification modes must be mentioned: The users can thus identify themselves with a card, per biometrics (fingerprint), with a card & PIN or per biometrics & PIN. Access to integrated access control software is ensured through simple linking to the extended TCP/IP network of the Master Unit GCMU 200 and via a standard browser (Internet Explorer, Firefox, Opera).

### GEZE GCMU 200



## 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 (150 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 GCMU 524



## GEZE Finger Print GCFP 401

### The biometric reader for stationary operation

This optical biometrics reader recognises authorised persons on the basis of their fingerprints. The GCFP 401 optionally accepts the input of a PIN on the keypad. Thanks to its enclosure rating IP 65, the GCFP 401 is suitable both for stationary operation in interiors as well as for protected exterior applications. Finger data are recorded directly at the reader (enrolment). Stored finger data are transmitted via the network to further biometrics readers in the access control system so that the data only have to be recorded once.

#### GEZE GCFP 401 - 500/3000



## GEZE RFID reader GCVR 200 / GCVR 200 T

### Non-contact readers for higher-order systems

The GCVR 200 is a non-contact reader, optimally suited for higher-level systems both on the interior and exterior, e.g. for access control, parking systems or for user identification. Comparable in function with the GCRR 200, the GCVR 200 is also available as a variant with keyboard (GCVR 200 T). The surface-mounted variant provides variable cable inlet options from above, the side or below to simplify mounting.

### GEZE GCVR 200 / GCVR 200 T



On the left: RFID reader GCVR 200, on the right: RFID reader GCVR 200 T

## 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 Comfort-Line or Individual-Line systems by connection to the Door Unit GCDU 200.

### GEZE GCRR 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 possibilities e.g. the automatic opening and closing of doors, gates or barriers on the interior and exterior of hospitals. The wide-range readers can be networked via the Master Unit GCMU 524 of the GEZE access control system and thus permit simple and straightforward user and ID card management via the user interface of the GCMU 524. Stand-alone operation is also possible. The wide-range reader generates an adjustable spherical magnetic field with a range of up to 3.8 m. This magnetic field enables the ID number of the wide-range reader to be transmitted to the transponder. When a person carrying a transponder approaches the reader, the transponder is activated and transmits its transponder ID back. The higher-order access control evaluates the data accordingly and switches the relay according to the mode selected.

#### GEZE GCLR-I 2000 / GCLR-O 2000



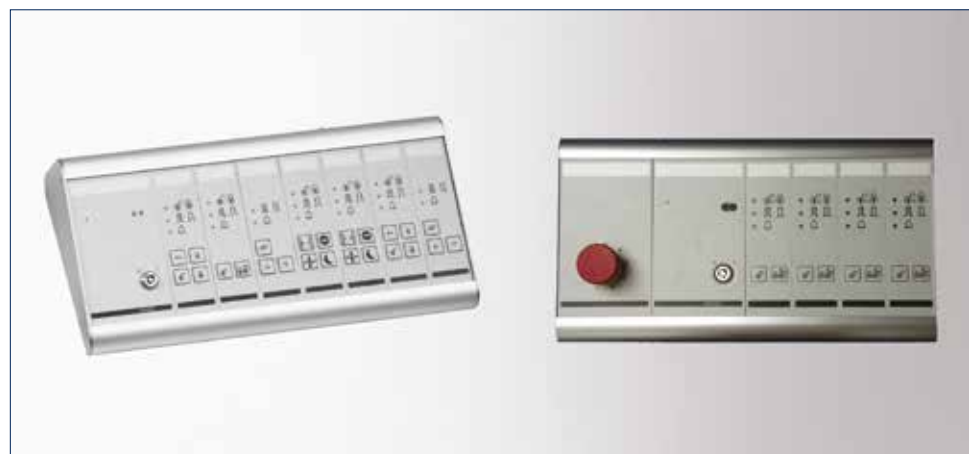
On the left: GCLR-I 2000 for internal application, on the right: GCLR-O 2000 for external application

## GEZE table control panel TTE 220 and wall control panel TE 220

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

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

#### GEZE TE 220



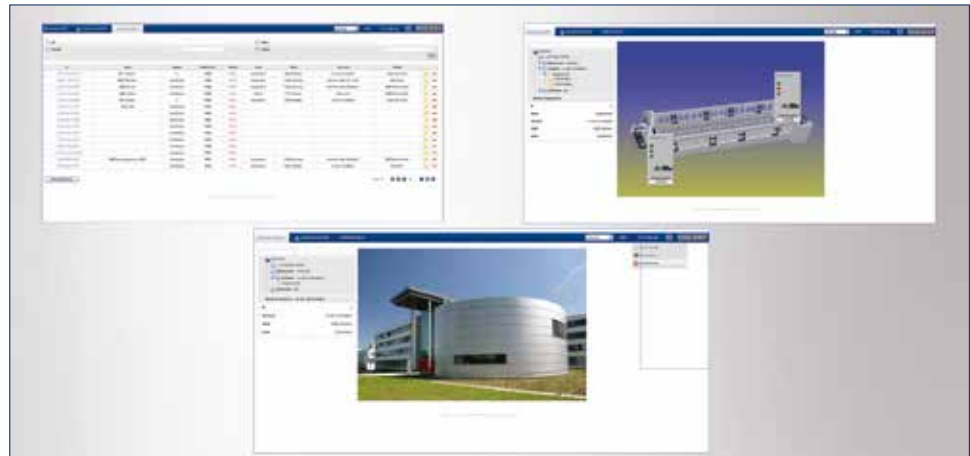
On the left: table control panel TTE 220, on the right: wall control panel TE 220

## 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 VAT 220 SN



## 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 ST 220



Service Terminal ST 220



## 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 DCU 103



DCU 103, Door Control Unit

## GEZE input and output module IO 220

### Connection of non-bus-capable components to the GEZE building system

With the IO 220 module, non-BUS-capable components are connected to the GEZE building system. This allows locks, door openers, door contacts, gate drives etc. to be controlled and visualised using GEZE VAT 220 SN or TE 220. The IO 220 has five inputs and four potential-free outputs as well as a bus interface.

#### GEZE IO 220



Input and output module IO 220

### GEZE interface OPC 220

#### OPC server for connection to the building management system (GLT)

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 GLT. 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 capacitor integrated on the control.

#### GEZE MST 210



## 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 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 TSA 160 NT



## 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. air lock control.

#### GEZE Slimdrive EMD



## GEZE swing door drive ECTurn

### Electromechanical swing door drive for 1-leaf single-action internal doors (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 / EN 16005. 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-hand and DIN right-hand doors.

#### GEZE ECTurn



## GEZE electric door opener IQ eStrike

### Compact door openers for all doors which are to be held closed very conveniently

The compact door opener GEZE IQ eStrike A5000/A5300 for standard applications can be used on all door systems where doors have to be able to be held closed very conveniently. Its compact dimensions of 15.8 x 59.5 x 25.5 mm (W x H x D) makes 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 compact door opener IQ eStrike 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.

#### GEZE IQ eStrike



## GEZE TS 4000

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

The overhead door closer TS 4000 is approved without conversion for right and left single-action doors up to 1400 mm and for installation on fire and smoke protection doors. The closing force according to EN 1154 size 1-6 is continuously adjustable from the front and is easy to check thanks to the optical size indicator. Back check and the thermo-constant closing speed are also adjustable from the front; adjustment of latching action is via the link arms. The closer is equipped with a safety valve in the opening and closing direction.

#### GEZE TS 4000



## GEZE TS 5000

### Guide rail door closer for 1-leaf doors 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 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 size indicator.

#### GEZE TS 5000



## 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.

#### GEZE THZ / THZ Comfort



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 MBZ 300



## 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 window with a roller (door can still be passed through)
- RWA K 600 F: fixed to window with articulated lever

#### GEZE RWA K 600



## 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 Slimchain



## 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 Powerchain



## 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.

#### GEZE E 250 NT





## Abbreviations

System components	Meaning
AP	Surface-mounted version
BLE 220	Flashlight
BMA	Fire alarm system
EMA	Burglar alarm system
FS	Latch lock
FTÖ	Emergency exit opener
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 (normal closed)
NO	Potential-free closer contact (normal open)
NOT 320	Emergency push button
NT	Power supply
OK	Upper edge
RP200	Relay board
RWA	Smoke and heat extraction system
SCT 221	Key-operated switch, one-pole switch (closer)
SCT 222	Key-operated switch with LED display, one-pole reversible switch (two closers)
SCT 320	Key-operated 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-operated switch (connection via ribbon cable)
...N	Door control unit with integrated power supply
...BSN	Door control unit with illuminated emergency exit sign, key-operated switch and integrated power supply
...BS	Door control unit with illuminated emergency exit sign and key-operated switch
...SN	Door control unit with key-operated switch and integrated power supply
TZ 300	Door control unit, stand-alone
UK	Lower edge
UP	Concealed, 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 this 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-operated switch again.

#### **Direct release (in compliance with EltVTR)**

Safety-related 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-related interruption of the power supply to the electrical locking system e.g. through a key-operated switch.

#### **Indirect release (in compliance with EltVTR)**

Safety-related 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-operated 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 sounded 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-operated 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 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 moving leaf is also unlocked when the panic rod of the fixed leaf is operated so that the escape route is free across the entire width.

# POTENTIAL APPLICATIONS OF GEZE PRODUCTS

You will find more product information in the relevant brochures, see ID numbers.

## Door technology

01	Overhead door closers ID 091593, ID 091594
02	Hold-open systems ID 091593, ID 091594
03	Integrated door closers ID 091609
04	Floor springs ID 091607
05	Sliding door gear systems and linear guides ID 123605, ID 008770, ID 000586

## Automatic door systems

06	Swing doors ID 144785
07	Sliding, telescopic and folding doors ID 143639
08	Circular and semi-circular sliding doors ID 135772
09	Revolving doors ID 132050
10	Actuation devices and sensors ID 142655

## Smoke and heat extraction and window technology

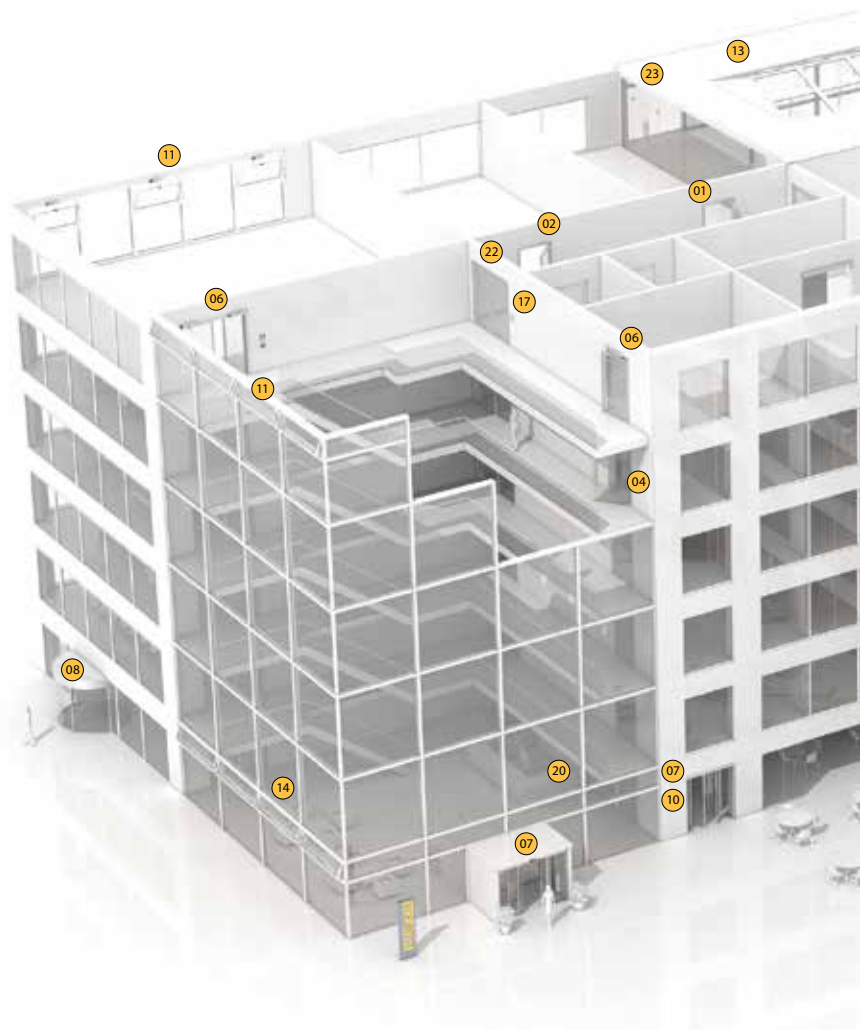
11	Fanlight opening systems ID 127787
12	Electric opening and locking systems ID 154851
13	Electrical spindle and linear drives ID 154851
14	Electric chain drives ID 154851
15	Smoke and heat extraction systems ID 154851

## Safety technology

16	Emergency exit systems ID 132408
17	Access control systems ID 132158
18	Panic locks ID 132848
19	Electric strikes ID 148666
20	Building management system ID 132408

## Glass systems

21	Manual sliding wall systems (MSW) ID 104377
22	Integrated all-glass systems (IGG) ID 104366
23	GEZE Patch fittings mono glass systems ID 122521



# POTENTIAL APPLICATIONS OF GEZE PRODUCTS



## Door technology

The functionality, superior performance and reliability of GEZE door closers are impressive. A common design across the range, the ability to use them on all common door leaf widths and weights, and the fact that they can be individually adjusted makes their selection simple. They are continually being improved and enhanced with up-to-date features. For example, the requirements of fire protection and accessibility are fulfilled with a door closer system.

## Automatic door systems

GEZE automatic door systems open up a huge variety of options in door design. The latest, innovative high-performance drive technology, safety, ease of accessibility and first class universal drive design set them apart. GEZE offers complete solutions for individual requirements. A dedicated division is responsible for the development and construction of individual special designs.

## Smoke and heat extraction and window technology

GEZE smoke and heat extraction systems and ventilation technology provide complete systems solutions combining the many requirements of different types of windows. We supply a full range from energy efficient drive systems to natural ventilation and complete solutions for supplying and extracting air, also as certified SHEVs.

## Safety technology

GEZE safety technology sets the standards where preventative fire protection, access control and anti-theft security in emergency exits are concerned. For each of these objectives GEZE offers tailored solutions, which combine the individual safety requirements in one intelligent system and close doors and windows in case of danger in a coordinated manner.

## Building systems

In GEZE's Building Management System GEZE door, window and safety products can be integrated in to the security and control systems of the building. A central control and visualisation system monitors various automation components in the building and offers security through many different networking capabilities.

## Glass systems

GEZE glass systems stand for open and transparent interior design. They can either blend discreetly into the architecture of the building or stand out as an accentuated feature. GEZE offers a wide variety of technologies for functional, reliable and aesthetic sliding wall or sliding door systems providing security with lots of design scope.

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