

IQ box KNX

EN Commissioning manual

166560-01

Contents

1	About this document.....	3
1.1	Product description and compatibility.....	3
1.2	Further documents	3
1.3	Symbols and illustrations.....	3
2	Safety notices.....	4
3	Product overview	4
3.1	Technical data	4
3.2	Designs and installation possibilities	5
3.3	Accessories.....	5
4	Electrical connection.....	6
4.1	IQ box KNX flush mounting wiring diagram	6
4.2	IQ box KNX top hat rail wiring diagram	6
5	Test operation and commissioning of the IQ windowdrives.....	7
5.1	Test operation	7
5.2	KNX commissioning.....	7
5.2.1	Load ETS product database IQ box KNX.....	7
5.2.2	Assign physical address of the IQ box KNX	7
6	Overview of the KNX communication objects of the IQ box KNX.....	8
7	Set parameters of the IQ box KNX functions using the ETS.....	9
7.1	Description of the functions.....	9
7.2	IQ box KNX set parameters – ETS menu	11
7.2.1	Common	11
7.2.2	Movement	12
7.2.3	Automatic.....	13
7.2.4	State.....	14
7.2.5	Alert	15
7.2.6	External button	16
7.2.7	Service	17
8	Application examples	18
9	Troubleshooting	21

1 About this document

The Commissioning manual is a supplement to the addendum of the IQ box KNX. It provides comprehensive documentation about the commissioning and setting parameters of the GEZE IQ box KNX. Knowledge of the KNX Bus System and of the KNX ETS software from version 4.0 is required for setting the parameters and for integrating the IQ box KNX into a KNX bus system.

1.1 Product description and compatibility

The IQ box KNX makes the control and monitoring of the GEZE IQ windowdrives (Slimchain, Powerchain, E 250 NT, Power lock, etc.) via the KNX-bus system possible. The drives can be moved to the required positions and the current drive position and various drive states can be requested. Two additional binary inputs can be used either for direct operation (e.g. manual push buttons) or as bus inputs. Configuration is done using the KNX software ETS (from version 4.0). The ETS product database can be downloaded via the internet from www.geze.com or directly from www.iq-box-knx.geze.de.



The IQ windowdrives used for operating the IQ box KNX must have software version 3.0 or higher. The SW version of the drives is shown on the packaging label and on the identification plate.

1.2 Further documents

- **IQ box KNX leaflet**
The leaflet is enclosed with the IQ box KNX and contains the most important product information and instructions about the electrical connection and about commissioning of the IQ box KNX.
- **IQ windowdrives installation instructions**
The installation instructions are enclosed with the IQ windowdrives and contain information about installing the IQ windowdrives.
- **IQ windowdrives wiring diagram**
The wiring diagram is also enclosed with the IQ windowdrives and contains information about the electrical connection of the IQ windowdrives.

All documents can also be found on the internet at www.geze.com.

1.3 Symbols and illustrations

Warning notices

Warning notices are used in these instructions to warn you of property damage and personal injury.

- ▶ Always read and observe these warning notices.
- ▶ Follow all measures that are labelled with the warning symbol and warning word .

Warning symbol	Warning word	Meaning
	ATTENTION	Danger to persons. Non-compliance can result in death or serious injuries.
	CAUTION	Danger to persons. Non-compliance may lead to minor injuries.
-	CAUTION	Information to prevent property damage, to understand or optimise the operation sequences.

More symbols and illustrations

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

Symbol	Meaning
	means "important note"
	means "additional Information"
▶	Symbol for an action: there is something you must do here. If there are several actions to be taken, keep to the given order.

2 Safety notices



ATTENTION Windows, which can be controlled with the IQ box KNX via the KNX Bus, must not be used in smoke and heat extraction systems.
Area of use for the IQ box KNX is natural ventilation



CAUTION For automatically controlled windows, which are fitted at heights below 2.5 m, appropriate safety measures to secure against crush and shearing edges must be taken within the framework of a safety analysis

To ensure personal safety, it is important to follow these safety instructions.
These instructions must be kept.

- Before installation, read and observe the enclosed safety notes.
Warranty claims require proper mounting, installation and maintenance in accordance with the manufacturer's specifications.
 - Only appropriately qualified people may carry out installation, commissioning and maintenance. Unauthorised modifications to the system release GEZE from liability for any resulting damages.
 - Only use GEZE original parts for repair and service work.
 - Ensure that the connection to the power supply is only carried out by a qualified electrician. The power connection and safety earth conductor test must be carried out in accordance DIN VDE 0100-610.
 - Observe the latest versions of guidelines, standards and country-specific regulations.
 - The safety notices in the IQ windowdrives ID 148327 wiring diagram must be observed!
- ▶ The IQ box KNX must be protected from building dirt and water.
 - ▶ The IQ box KNX is a product of the KNX systems and detailed specialist know-how gained through KNX training is required for the product to be understood.

3 Product overview

3.1 Technical data

Bus voltage KNX	30 V DC SELV *)
Supply voltage IQ box KNX and drives	24 V DC, +/-25%, SELV *)
Max. current drives	6 A
Induced current intake to KNX-bus	5 mA
Induced current intake to 24V	20 mA
IP rating	IP20
Protection rating	III
Ambient temperature	-5°C...+70°C
Connection cross-section 24V supply and drives	max. 1,5 mm ²
Connection cross-section inputs/push buttons, rigid or flexible without wire-end ferrule	max. 0.5 mm ²
KNX-bus connection	KNX supply terminal red/black
Max. cable length for push buttons	30 m
Max. overall cable length for drives (LIN-BUS)	50 m

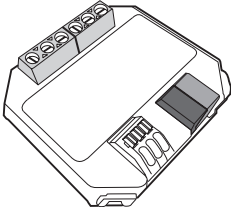

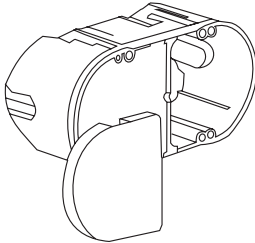
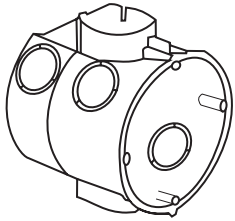
3.2 Designs and installation possibilities

Two versions of the IQ box KNX are available UP (flush mount) and HS (top hat rail).

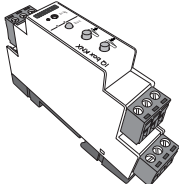
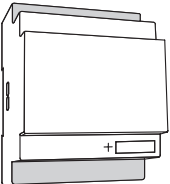
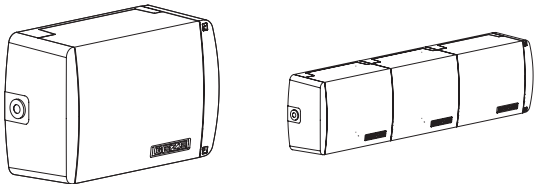


The overall cable length between IQ box KNX and window must not exceed max. 50 m.
With Synchro or locking drives, all the individual drive cables count.

3.2.1 IQ box KNX flush mounting – Design for flush mounting installation

IQ box KNX flush mounting	Power supply 1.1 A - 24 V flush-mounting	Electronic standard box	Flush mounting switch box, 60 mm deep
			
Dimensions IQ box KNX flush mounting: 50 mm x 45 mm x 19 mm Installation location: Standard box insulation material (DIN 49073)		Mounting sequence: not relevant	Mounting sequence: 230 V internal, 24 V external

3.2.2 IQ box KNX top hat rail – fitting to top hat rail

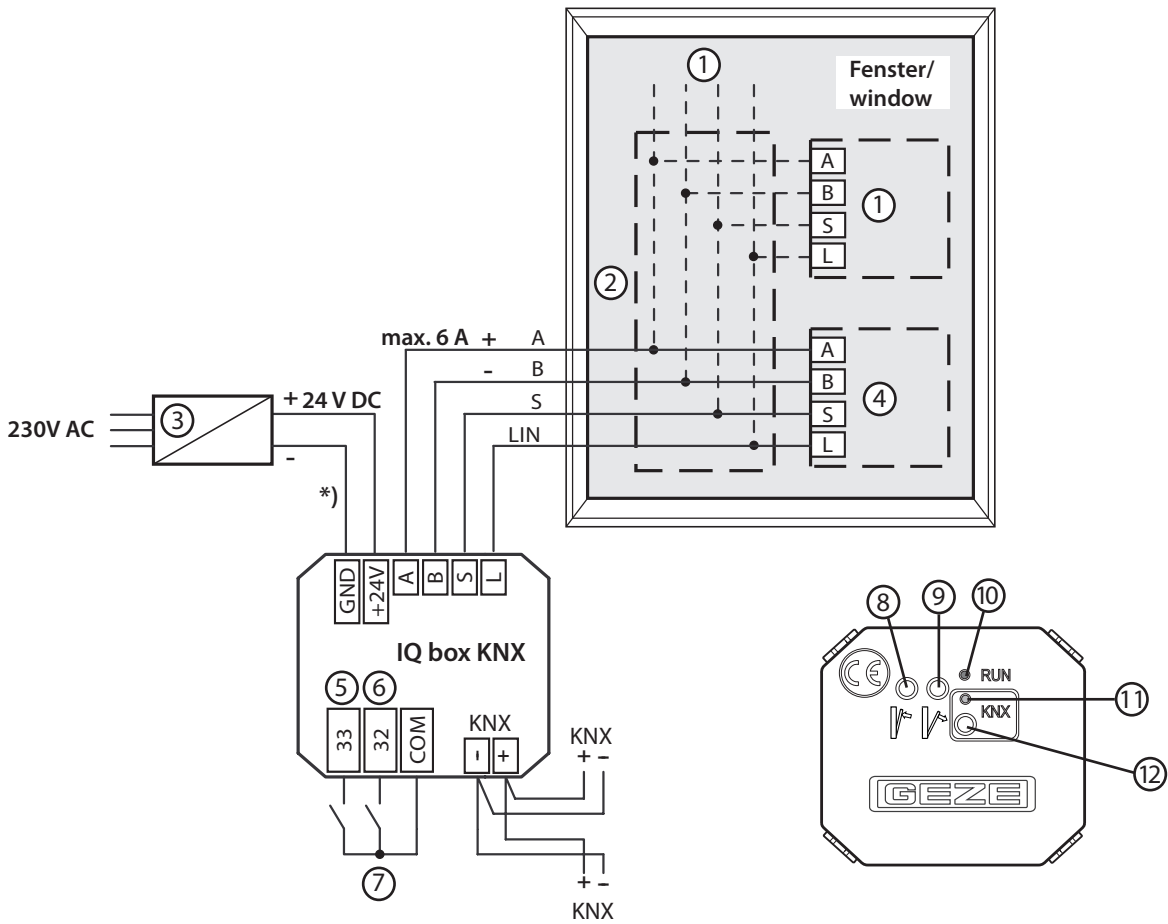
IQ box KNX top hat rail	Power supply NT 1.5 - 4.2 A - 24 V HS	GEZE surface housing ID 152010 with 35 mm top hat rail for 6 modules	
			
Dimensions IQ box KNX top hat rail: 98 mm x 62 mm x 18 mm Installation location: Surface or flush mounting housing on 35 mm top hat rail.		A maximum of 2 IQ box KNX HS and the 2.5 A power supply ID 151424 can be installed in a GEZE surface housing. The housing can be expanded as required for further top hat rail power supplies + IQ box KNX HS.	

3.3 Accessories

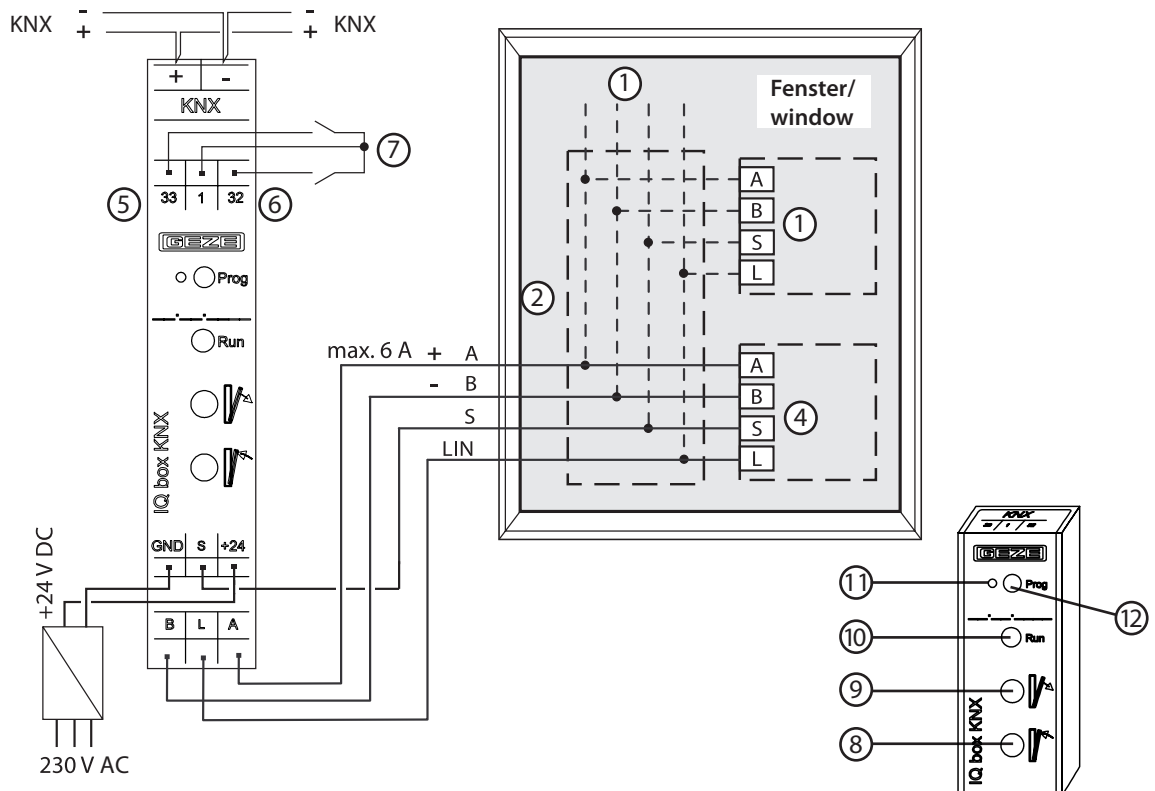
Material	Identification no.	
Drives	GEZE IQ windowdrives: from SW 3.0 Slimchain, Powerchain, E 250 NT, E 90x, Power lock	
Vent switch	LTA-24-AZ LTA-LSA	ID 129393 ID 118476
Power supplies	NT 1.1A-24 V UP NT 1.5A-24 V HS NT 2.5A-24 V HS NT 4.2A-24 V HS	ID 151426 ID 151425 ID 151424 ID 151423
Housing	Surface housing	ID 152010

4 Electrical connection

4.1 IQ box KNX flush mounting wiring diagram



4.2 IQ box KNX top hat rail wiring diagram



- 1 Optional further Slave drives (with Syncro) or locking drives
- 2 Additional branch box for the connection of several drives
- 3 Power supply 24V DC
- 4 IQ windowdrive
- 5 Input S33 (window CLOSED); parameters can be set
- 6 Input S32 (window OPEN); parameters can be set
- 7 e.g. Vent switch LTA-24-AZ
- 8 Window OPEN key
- 9 Window CLOSED key
- 10 Status LED (green)

Continuous light	Function OK
Slow flashing	No communication with drive
Fast flashing	supply voltage polarity reversed
- 11 KNX programming LED (red) for commissioning KNX-BUS
- 12 KNX programming key for commissioning KNX-BUS
- *) In the case of 24 V DC and a longer power supply line, the cable must have a sufficiently large cross-section in order to prevent a voltage drop. Calculate the cross-section.



The overall cable length between IQ box KNX and window must not exceed max. 50 m.
With Syncro or locking drives, all the individual drive cables count.

Note the wiring diagram for IQ windowdrives ID 148327.

Can only be used with GEZE IQ windowdrives from software version 3.0 onwards.

5 Test operation and commissioning of the IQ windowdrives

5.1 Test operation

Following connection of the drives and the 24 V supply voltage, the key "Window OPEN" (9) and the key "Window CLOSED" (8) (see fig. IQ box KNX top hat rail + flush mounting) can be used to carry out a test run, even if the KNX system has not been programmed at this point.

Note: short button press = step mode, long button press = self-hold mode

If the IQ windowdrives are being operated for the first time, the closing position of the window is detected during the first closing procedure and is saved automatically. Should the drive reverse after reaching the closing position (drive opens by approximately 15 mm), a commissioning run must be started. See wiring diagram for IQ windowdrives ID 148327.

With the chain drives Slimchain/Powerchain, the ventilation stroke ex works is limited to 300 mm in the software of the drives. In KNX mode, the maximum pre-set ventilation stroke can be approached. The ventilation stroke can be adjusted in the drive software via the GEZE ST 220 and the GEZE service case. The maximum ventilation stroke is prescribed by the nominal stroke of the drives.

5.2 KNX commissioning

The KNX bus cable and the 24 V supply must be connected for the commissioning of the IQ box KNX. The drives can also be connected subsequently.

5.2.1 Load ETS product database IQ box KNX

In order to set the parameters of the IQ box KNX via the ETS software (from version 4.0), the product database file must be loaded. The ETS product database can be downloaded via the internet from www.geze.com or directly from www.iq-box-knx.geze.de.

5.2.2 Assign physical address of the IQ box KNX

From the factory, the IQ box KNX has the physical address 15.15.255. In the KNX-Bus-System, an individual physical address must be specified for each KNX participant using the ETS software.

Before or during the programming procedure of the physical address, the KNX programming button (11) of the IQ box KNX must be pressed. KNX programming LED turns red. No other KNX participants may be in programming mode while assigning the address.

6 Overview of the KNX communication objects of the IQ box KNX

Object no.	Object name	Function	DPT	Flags	Length	Direction	
Operation and automatic							
1	Window - Drive command	Open/Close	1.009	C W	1 Bit	IN	<input checked="" type="checkbox"/>
2	Window - Drive command	Step/Stop	1.007	C W	1 Bit	IN	<input checked="" type="checkbox"/>
3	Window - Position	Value [%]	5.001	C W	1 Byte	IN	<input checked="" type="checkbox"/>
4	Window - Gap ventilation	Trigger	1.017	C W	1 Bit	IN	<input type="checkbox"/>
5	Window - Time ventilation	Trigger	1.017	C W	1 Bit	IN	<input type="checkbox"/>
6	Window - Lock 1	Switch	1.001	C W	1 Bit	IN	<input type="checkbox"/>
7	Window - Lock 2	Switch	1.001	C W	1 Bit	IN	<input type="checkbox"/>
8	Automatic - Drive command	Open/Close	1.019	C W	1 Bit	IN	<input checked="" type="checkbox"/>
9	Automatic - Lock	Switch	1.001	C W	1 Bit	IN	<input type="checkbox"/>
10	Window - Speed next drive	Value [%]	5.001	C W	1 Byte	IN	<input checked="" type="checkbox"/>
11	Window - Actual position	State value [%]	5.001	CT	1 Byte	OUT	<input type="checkbox"/>
12	Window - Position between	State	1.002	CT	1 Bit	OUT	<input type="checkbox"/>
13	Window - Opened	State	1.002	CT	1 Bit	OUT	<input type="checkbox"/>
14	Window - Closed	State	1.002	CT	1 Bit	OUT	<input type="checkbox"/>
15	Window - Not closed	State	1.002	CT	1 Bit	OUT	<input type="checkbox"/>
16	Window - Do open	State	1.002	CT	1 Bit	OUT	<input type="checkbox"/>
17	Window - Do close	State	1.002	CT	1 Bit	OUT	<input type="checkbox"/>
Alarm							
21	Alert - Safety	Switch	1.001	C S	1 Bit	IN	<input checked="" type="checkbox"/>
22	Alert - Wind speed	Value [m/s]	9.005	C S	2 Byte	IN	<input type="checkbox"/>
23	Alert - Wind alert	Switch	1.001	C S	1 Bit	IN	<input checked="" type="checkbox"/>
24	Alert - Rain alert	Switch	1.001	C S	1 Bit	IN	<input checked="" type="checkbox"/>
External push button							
31	Button 1 (Cl.33) - Drive command	Open/Close	1.019	CT	1 Bit	OUT	<input type="checkbox"/>
32	Button 1 (Cl.33) - Drive command	Step/Stop	1.007	CT	1 Bit	OUT	<input type="checkbox"/>
33	Button 1 (Cl.33) - Position	Value [%]	5.001	CT	1 Byte	OUT	<input type="checkbox"/>
34	Button 2 (Cl.32) - Drive command	Open/Close	1.019	CT	1 Bit	OUT	<input type="checkbox"/>
35	Button 2 (Cl.32) - Drive command	Step/Stop	1.007	CT	1 Bit	OUT	<input type="checkbox"/>
36	Button 2 (Cl.32) - Position	Value [%]	5.001	CT	1 Byte	OUT	<input type="checkbox"/>
Service							
41	Service - Check unit	State	1.005	CT	1 Bit	OUT	<input type="checkbox"/>
42	Service - Error unit	State	1.005	CT	1 Bit	OUT	<input type="checkbox"/>
43	Service - Error collection	State byte	5.010	CT	1 Byte	OUT	<input type="checkbox"/>

- Standard object
- Object becomes active by setting the parameter

Flags: K = Communication
 S = Write
 Ü = Transmit

7 Set parameters of the IQ box KNX functions using the ETS

Use the ETS software to set parameters of the IQ box KNX.

7.1 Description of the functions

ETS parameters menu item	Function	Description
General information	Energy-saving mode	After an adjustable waiting period, the IQ box KNX enters energy-saving mode. The drives are switched to energy-saving mode and are only re-activated with the next movement command.
General information	Reaction to a bus power failure	Behaviour of the drives if the KNX bus power fails
General information	Reaction after restoration of power	Behaviour of the drives after restoration of power
General information	Status delay after restoration of power	In order to reduce the bus load after restoration of power, a status transmission delay can be set here
Operation	Manual controls	There are several possibilities for the manual controls via KNX: <ul style="list-style-type: none"> ▫ Addressing the movement command Open/Close (KNX Com. Object # 1) ▫ Addressing the movement command Open/Close (KNX Com. Object # 1) and Stop (KNX Kom. Object # 2) long-term and short-term function for blinds operation ▫ Addressing the movement command target position by stating percentage (KNX Com. Object # 3)
Operation	Speed Manual controls	Open/Close speed as a percentage of the max. ventilation speed of the drive in manual mode (actual max. ventilation speed depending on load). <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p> To secure windows against jamming, a leaf speed of < 5 mm/s can be required within the framework of a safety analysis.</p> </div> <p>Drive noise increases as speeds increase.</p>
Operation	Interval ventilation	Settable step width in %, by which the window is moved when opening or closing when pressing the button. Additional pushes of the button are accumulated. Interval ventilation can be controlled using the blinds function like the normal manual controls. Open/Close over long-term operation and Step/Stop over short-term operation.
Operation	Gap ventilation	When triggering the gap ventilation function, the window is opened to a settable window position in %.
Operation	Timed ventilation	When the timed ventilation function is triggered, the window is opened to a window position settable in % and automatically closes again after the end of a settable ventilation period.
Operation	Block window	2 block objects, with which the window is closed in manual mode. Unblocking takes place via the block object. E.g. for sequence controls with sun protection, blocking the window if heating or air-conditioning is switched on.
Automatic	Automatic mode	For automatic control of the windows, e.g. via a central KNX room/building control unit with defined speed. Lower priority as manual mode
Automatic	Speed automatic	Open/Close speed as percentage of the max. ventilation speed of the drive in automatic mode. (actual max. ventilation speed depending on load) <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p> To secure windows against jamming, a leaf speed of < 5 mm/s can be required within the framework of a safety analysis.</p> </div> <p>Drive noise increases as speeds increase.</p>

Automatic	Block automatic	Block object, with which opening, closing or opening and closing of the window is blocked in automatic mode. Unblocking takes place via the block object. Alternatively, via a settable blocking time. E.g. for sequence controls with sun protection, blocking the windows if heating or air-conditioning are switched on.
Status messages	Send current position	The drive position is sent after a settable position change in %.
Status messages	Send status messages	During a change, or after a settable cycle time, the following status messages are sent by the window: <ul style="list-style-type: none"> ▫ Temporary position ▫ Opened ▫ Closed ▫ Not closed ▫ Is opened ▫ Is closed
Alarm	Reaction to safety alarm	If there is a safety alarm with the highest priority, the window can be opened and closed. When opening, the drive moves at maximum alarm speed, when closing at maximum ventilation speed. (Not suitable for RWA.)
Alarm	Wind alarm/Rain alarm	For wind alarm, a binary wind alarm and a wind alarm as threshold value in m/s can be selected. After the end of the wind/rain alarm and a settable waiting period, the window closes or moves to the last position (depending on the parameter adjustment).
External push button	Push button	The IQ box KNX has 2 button inputs (terminal 32, 33). The inputs can be parametrised as local push buttons or KNX buttons. Both button inputs can be parametrised individually. Setting of local push button only controls the directly connected window. Setting KNX push button generates a KNX communication object for the push button.
Service	Maintenance message	Drive sends a maintenance message after 11,000 cycles
Service	Fault message	Fault messages can be issued for the drives as collective message, or as binary message.

Table 8-bit collective notification:	
Field	Description
8 (bit 0)	Polarity of power supply reversed
7 (bit 1)	Energy-saving mode fault
6 (bit 2)	Communication error to the drive
5 (bit 3) – 1 (bit 7)	Reserve

7.2 IQ box KNX set parameters – ETS menu

7.2.1 Common

15.15.255 IQ box KNX HS > Common

Common	Device name	IQ box KNX
Movement	Energy saving	<input type="radio"/> Disabled <input checked="" type="radio"/> Enabled
Automatic	Delay time [min]	1
State	Reaction on busvoltage reset	No reaction
Alert	Reaction after power on	No reaction
External button	Switch delay after power on	10 seconds
Service	State delay after power on	30 seconds

Parameters		Values	Linked object
Device name	30 digits (IQ box)		
Energy saving	Disabled		
	Enabled	Delay time [min]	1 ... 20 (1)
Reaction on busvoltage reset	No reaction		
	Close window	Off time	1 second 5 seconds 10 seconds 30 seconds 1 minute 2 minutes 5 minutes 10 minutes 20 minutes 30 minutes
	Open window	Off time	1 second 5 seconds 10 seconds 30 seconds 1 minute 2 minutes 5 minutes 10 minutes 20 minutes 30 minutes
Reaction after power on	No reaction Close window Open window		
Switch delay after power on	1 second 5 seconds 10 seconds 30 seconds		
State delay after power on	1 second 5 seconds 10 seconds 30 seconds 1 minute		

7.2.2 Movement

15.15.255 IQ box KNX HS > Movement

Common	Speed hand control - open	50%
Movement	Speed hand control - close	50%
Automatic	Step ventilation	Open and close
State	Step width [%]	50
Alert	Gap ventilation	<input type="radio"/> Disabled <input checked="" type="radio"/> Enabled
External button	Window position [%]	50
Service	Time ventilation	<input type="radio"/> Disabled <input checked="" type="radio"/> Enabled
	Window position [%]	50
	Ventilation time	1 hour
	Window lock 1	Disabled
	Window lock 2	Disabled

Parameters		Values	Linked object
Speed hand control - open [%]		0, 10, 20, ..., 100 (50)	
Speed hand control - close [%]		0, 10, 20, ..., 100 (50)	
Step ventilation	Disabled		2 Window - Drive command Stop
	Open only	Step width [%] 2 ... 50 (10)	2 Window - Drive command Step/Stop
	Open and close	Step width [%] 2 ... 50 (10)	2 Window - Drive command Step/Stop
Gap ventilation	Disabled		
	Enabled	Window position [%] 0 ... 100 (50)	4 Window - Gap ventilation Trigger
Time ventilation	Disabled		
	Enabled	Window position [%] 0 ... 100 (50)	5 Window - Time ventilation Trigger
		Ventilation time 5/10/15/30/45 minutes 1/2/3/4/8 hour(s)	
Window lock 1	Disabled		
	Locked to open		6 Window - Lock 1 Switch
	Locked to close		6 Window - Lock 1 Switch
	Locked to open and close		6 Window - Lock 1 Switch
Window lock 2	Disabled		
	Locked to open		7 Window - Lock 2 Switch
	Locked to close		7 Window - Lock 2 Switch
	Locked to open and close		7 Window - Lock 2 Switch

7.2.3 Automatic

15.15.255 IQ box KNX HS > Automatic

Common	Speed automatic control	50%
Movement	Automatic lock	Locked to open
Automatic	Unlock	<input type="radio"/> Via object <input checked="" type="radio"/> Until timeout
State	Locking time [min]	30
Alert		
External button		
Service		

Parameters			Values	Linked object
Speed automatic control [%]			0 ... 100 (100)	
Automatic lock	Disabled			
	Locked to open	Unlock	Via object	9 Automatic - Lock Switch
			Until timeout	Locking time [min] 1 ... 300 (30)
	Locked to close	Unlock	Via object	9 Automatic - Lock Switch
			Until timeout	Locking time [min] 1 ... 300 (30)
	Locked to open and close	Unlock	Via object	9 Automatic - Lock Switch
			Until timeout	Locking time [min] 1 ... 300 (30)



To secure windows against jamming, a leaf speed of < 5 mm/s can be required within the framework of a safety analysis.
Drive noise increases as speeds increase.

7.2.4 State

15.15.255 IQ box KNX HS > State

Common	Send actual position	<input type="radio"/> Disabled <input checked="" type="radio"/> On change
Movement	Position change [%]	20
Automatic	Send states	Disabled
State		
Alert		
External button		
Service		

Parameters		Values	Linked object
Send actual position	Disabled		11 Window - Actual position State value [%]
	On change	Position change [%]	1 ... 20 (10)
Send state	Disabled		12 Window - Position between State 13 Window - Opened State 14 Window - Closed State 15 Window - Not closed State 16 Window - Do open State 17 Window - Do close State
	Cyclic	Cycle time [min]	1 ... 255 (50) 12 Window - Position between State 13 Window - Opened State 14 Window - Closed State 15 Window - Not closed State 16 Window - Do open State 17 Window - Do close State

7.2.5 Alert

15.15.255 IQ box KNX HS > Alert

Common	Reaction on safety alert	<input type="radio"/> Close window <input checked="" type="radio"/> Open window
Movement	Type wind alert	<input type="radio"/> Binary <input checked="" type="radio"/> Threshold
Automatic	Threshold windspeed [m/s]	4
State	Behavior after wind-/rain alert	<input checked="" type="radio"/> Closed <input type="radio"/> Last position
Alert	Delay time after wind-/rain alert [min]	10
External button		
Service		

Parameters	Values	Linked object
Reaction on safety alert	Close window	
	Open window	
Type wind alert	Binary	23 Alert - Wind alert Switch
	Threshold	22 Alert - Wind speed value [m/s]
	Threshold windspeed [m/s]	2 ... 30 (4)
Behavior after wind-/rain alert	Closed	
	Last position	
Delay time after wind-/rain alert [min]	1 ... 60 (10)	

7.2.6 External button

15.15.255 IQ box KNX HS > External button

Common	Button 1 (Cl.33)	Local
Movement		
Automatic	Drive type	<input checked="" type="radio"/> Tip operation with self locking <input type="radio"/> Tip operation without self locking
State	Direction	Open
Alert	Step width [%]	10
External button		
Service	Button 2 (Cl.32)	Local
	Drive type	<input checked="" type="radio"/> Tip operation with self locking <input type="radio"/> Tip operation without self locking
	Direction	Open

Parameters					Values	Linked object
Button 1 (Cl.33)	Disabled	Lokal	Drive type	Tip operation with self locking	Direction	Open
						Close
					Toggle	
					Step width [%]	2 ... 50 (10)
				Tip operation without self locking	Direction	Open
						Close
	KNX	Drive type	Tip operation with self locking	Direction	Open	31 Button 1 (Cl.33) - Drive command Open/Close
					Close	
					Toggle	32 Button 1 (Cl.33) - Drive command Step/Stop
			Tip operation without self locking	Direction	Open	31 Button 1 (Cl.33) - Drive command Open/Close
				Close		
					32 Button 1 (Cl.33) - Drive command Step/Stop	
Position	Window position [%]	0 ... 100 (50)	33 Button 1 (Cl.33) - Position Value [%]			
Button 2 (Cl.32)	Disabled	Lokal	Drive type	Tip operation with self locking	Direction	Open
						Close
					Toggle	
					Step width [%]	2 ... 50 (10)
				Tip operation without self locking	Direction	Open
						Close
	KNX	Drive type	Tip operation with self locking	Direction	Open	34 Button 2 (Cl.32) - Drive command Open/Close
					Close	
					Toggle	35 Button 2 (Cl.32) - Drive command Step/Stop
			Tip operation without self locking	Direction	Open	34 Button 2 (Cl.32) - Drive command Open/Close
				Close		
					35 Button 2 (Cl.32) - Drive command Step/Stop	
Position	Window position [%]	0 ... 100 (50)	36 Button 2 (Cl.32) - Position Value [%]			

7.2.7 Service

15.15.255 IQ box KNX HS > Service

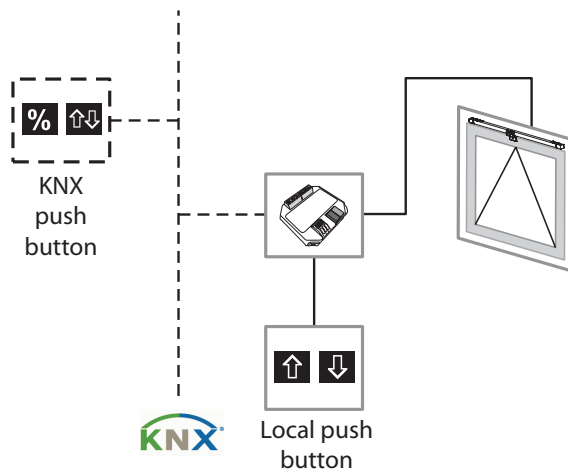
Common	Performance information	<input type="radio"/> Disabled <input checked="" type="radio"/> On change
Movement	Error information	Error unit ▼
Automatic	Send condition	<input checked="" type="radio"/> On change <input type="radio"/> Cyclic
State		
Alert		
External button		
Service		

Parameters			Values	Linked object
Performance information	Disabled			41 Service - Check unit State
	On change			
Error information	Disabled			42 Service - Error unit State
	Error unit	Send condition	On change	
			Cyclic	
			Cycle time [min] 1 ... 255 (50)	
Error collection	Disabled			43 Service - Error collection State byte
	Error collection	Send condition	On change	
			Cyclic	
			Cycle time [min] 1 ... 255 (50)	

8 Application examples

The application examples shown should provide an overview of the application possibilities of the IQ box KNX. The application examples can be combined and expanded as desired.

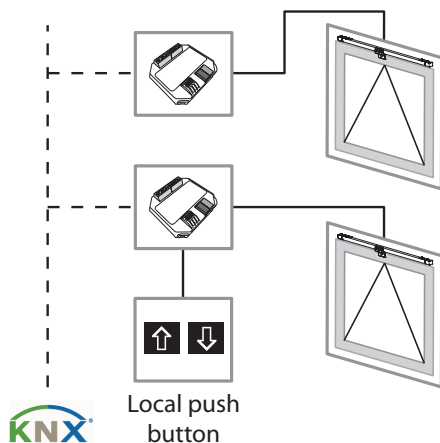
Assembly example: Push button (local/KNX)



Basic functions + Easy ventilation controls

- **Manual open/close/stop**
Open to the maximum opening position or close to the closed state by pressing the push button (local/KNX)
- **Gap ventilation**
Open to the defined percentage (e.g. 25%) by pressing the push button (local/KNX)
- **Interval ventilation**
Gradual opening/closing by the interval angle or percentage (e.g. 25% - 50% - 75% - 100%) through repeated pressing of the push button (local/KNX)
- **Timed ventilation**
Open the window to a defined opening position by pressing the push button (local/KNX) and automatic closing after a set time

Assembly example: Local push button + Several windows in one ventilation group



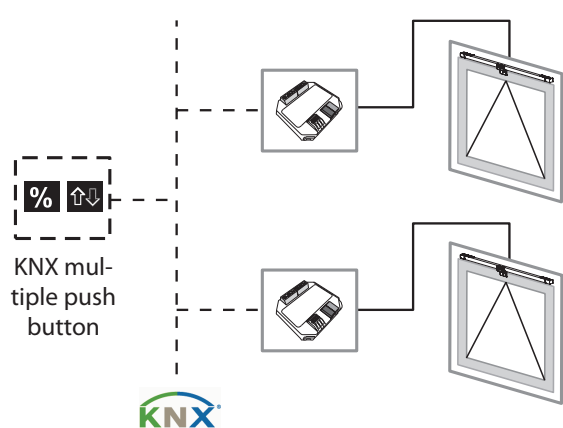
Expanded function examples KNX

- **Easy ventilation controls**
All basic functions can be realised through the grouping of several windows centrally for the entire ventilation group. For example, pressing a local push button on an IQ box KNX controls all windows in parallel.

Example functions:

- Central OPEN (all windows open)/Central CLOSE (all windows close)
- Central gap, interval and timed ventilation (control all windows)

Assembly example: Multiple push buttons (KNX) + Several windows in one ventilation group



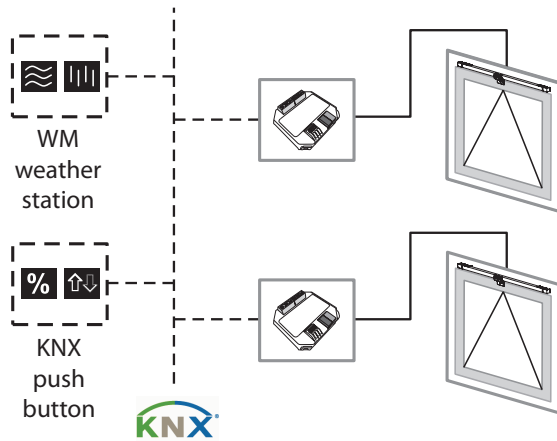
Expanded function examples KNX

- **Control several windows in a group or individual windows**
All basic functions can be realised through the grouping of several windows, also centrally for the entire ventilation group. For example, pressing a multiple push button (KNX) controls all windows in parallel. In addition, an individual control is possible at any time.

Example functions:

- Central OPEN (all windows open)/Central CLOSE (all windows close)
- Central gap, interval and timed ventilation (control all windows)
- Control individual windows (OPEN/CLOSE/gap, interval and timed ventilation)

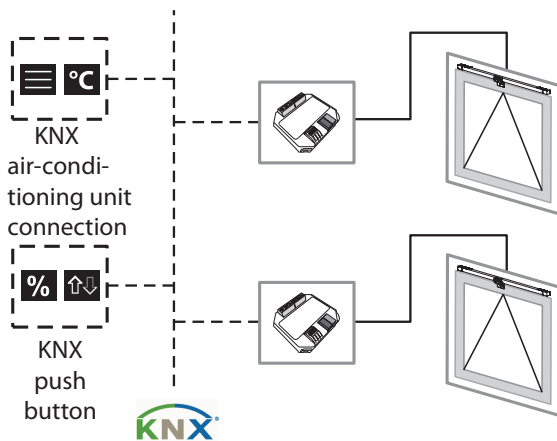
Assembly example: Expansion through weather station (rain/wind/temperature)



Expanded function examples KNX

- **Automatic closing in the event of rain**
If rain is detected by the weather station, the window or window group closes automatically.
- **Automatic closing in the event of wind**
Above a certain wind speed or binary, the window or window group is closed automatically.

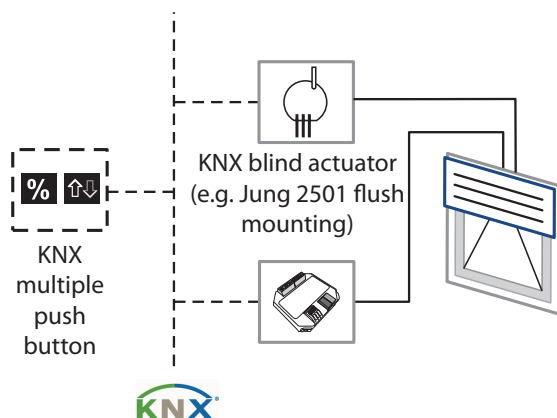
Assembly example: Expansion through air-conditioning unit



Expanded function examples KNX

- **Automatic closing when the air-conditioning is activated**
If the air-conditioning is activated, the windows are closed automatically.
- **Blocking of the manual opening**
As long as the air-conditioning is active, the manual opening by push button or opening via the window's central controls can be blocked. (In other application cases, it is also possible to block the closing.)

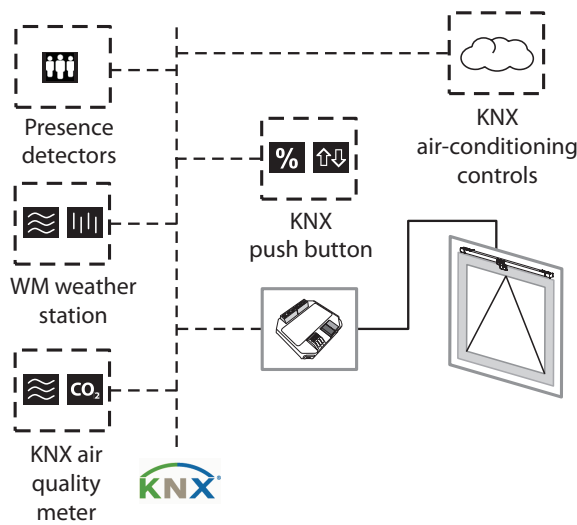
Assembly example: Expansion through blinds



Expanded function examples KNX

- **Blocking opening**
If the blind has a not opened state (closed or moving), opening of the window is blocked.
- **Blocking the blinds**
If the window has an unclosed state (open or moving), closing of the blinds is blocked.

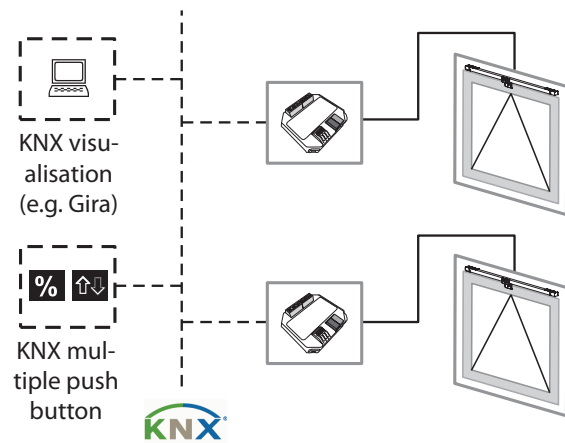
Assembly example: Intelligent ventilation controls



Expanded function examples, intelligent KNX ventilation controls

- **Night cooling**
In summer, intelligent ventilation is applied above certain temperature differences (between inside and outside) to lower the indoor temperature.
- **Controls depending on air quality**
If defined threshold values (CO₂, temperature, humidity) are exceeded, intelligent ventilation is applied until the air quality returns to the requirements.
- **Controls depending on times of day and usage**
Ventilation at certain times, depending on room usage (presence of persons in the room)

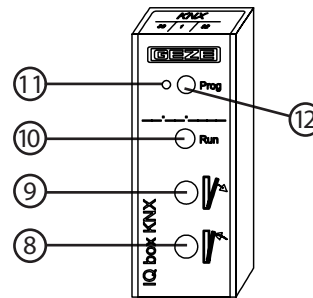
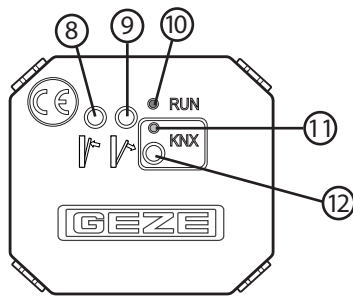
Assembly example: Display window states



Expanded function examples KNX visualisation/ building management system

- **Controls of all windows**
All actuators can be controlled from a central location in the building (manually/automatically) e.g. by Facility Management.
- **Display all window states**
Central and clear representation of all window states (open/closed) e.g. for Facility Management/Security

9 Troubleshooting



- 8 Window OPEN key
- 9 Window CLOSED key
- 10 Status LED (green)

Continuous light Function OK
 Slow flashing No communication with drive
 Fast flashing supply voltage polarity reversed

- 11 KNX programming LED (red) for commissioning KNX-BUS
- 12 KNX programming key for commissioning KNX-BUS

*) In the case of 24 V DC and a longer power supply line, the cable must have a sufficiently large cross-section in order to prevent a voltage drop. Calculate the cross-section.

Error	Possible cause	Information about troubleshooting
Drive does not move when push button 8 or 9 pressed. LED 10 flashes slowly.	No communication to the drive	<ul style="list-style-type: none"> ▫ Check connection of the drives to IQ box KNX. ▫ Check length of the connection cable to the drive. The overall cable length between IQ box KNX and window must not exceed max. 50 m. ▫ Check software version of the drives on the identification plate. SW 3.0 or higher is required
Drive does not move when push button 8 or 9 pressed. LED 10 flashes quickly.	Polarity of supply voltage reversed	<ul style="list-style-type: none"> ▫ Check connection of the power supply to IQ box KNX
Drive does not move when push button 8 or 9 pressed. LED 10 is not lit	No power supply	<ul style="list-style-type: none"> ▫ Check power supply and connection to IQ box KNX.
	Performance of the power supply too low for connected drives. DIP switch position incorrect in synchro-mode	<ul style="list-style-type: none"> ▫ Check current consumption of the drives and check output current of power supply ▫ Check DIP switch
Drive moves when push button 8 or 9 pressed but not via KNX	KNX connection faulty Error in ETS parameter setting	<ul style="list-style-type: none"> ▫ Check KNX bus cable and connections ▫ Check ETS parameter setting

Germany
GEZE GmbH
Niederlassung Süd-West
Tel. +49 (0) 7152 203 594
E-Mail: leonberg.de@geze.com

GEZE GmbH
Niederlassung Süd-Ost
Tel. +49 (0) 7152 203 6440
E-Mail: muenchen.de@geze.com

GEZE GmbH
Niederlassung Ost
Tel. +49 (0) 7152 203 6840
E-Mail: berlin.de@geze.com

GEZE GmbH
Niederlassung Mitte/Luxemburg
Tel. +49 (0) 7152 203 6888
E-Mail: frankfurt.de@geze.com

GEZE GmbH
Niederlassung West
Tel. +49 (0) 7152 203 6770
E-Mail: duesseldorf.de@geze.com

GEZE GmbH
Niederlassung Nord
Tel. +49 (0) 7152 203 6600
E-Mail: hamburg.de@geze.com

GEZE Service GmbH
Tel. +49 (0) 1802 923392
E-Mail: service-info.de@geze.com

GEZE GmbH
Reinhold-Vöster-Straße 21–29
71229 Leonberg
Germany

Austria
GEZE Austria
E-Mail: austria.at@geze.com
www.geze.at

Baltic States
GEZE GmbH Baltic States office
E-Mail: office-latvia@geze.com
www.geze.com

Benelux
GEZE Benelux B.V.
E-Mail: benelux.nl@geze.com
www.geze.be
www.geze.nl

Bulgaria
GEZE Bulgaria - Trade
E-Mail: office-bulgaria@geze.com
www.geze.bg

China
GEZE Industries (Tianjin) Co., Ltd.
E-Mail: chinasales@geze.com.cn
www.geze.com.cn

GEZE Industries (Tianjin) Co., Ltd.
Branch Office Shanghai
E-Mail: chinasales@geze.com.cn
www.geze.com.cn

GEZE Industries (Tianjin) Co., Ltd.
Branch Office Guangzhou
E-Mail: chinasales@geze.com.cn
www.geze.com.cn

GEZE Industries (Tianjin) Co., Ltd.
Branch Office Beijing
E-Mail: chinasales@geze.com.cn
www.geze.com.cn

France
GEZE France S.A.R.L.
E-Mail: france.fr@geze.com
www.geze.fr

Tel.: 0049 7152 203 0
Fax.: 0049 7152 203 310
www.geze.com

Hungary
GEZE Hungary Kft.
E-Mail: office-hungary@geze.com
www.geze.hu

Iberia
GEZE Iberia S.R.L.
E-Mail: info@geze.es
www.geze.es

India
GEZE India Private Ltd.
E-Mail: office-india@geze.com
www.geze.in

Italy
GEZE Italia S.r.l
E-Mail: italia.it@geze.com
www.geze.it

GEZE Engineering Roma S.r.l
E-Mail: roma@geze.biz
www.geze.it

Poland
GEZE Polska Sp.z o.o.
E-Mail: geze.pl@geze.com
www.geze.pl

Romania
GEZE Romania S.R.L.
E-Mail: office-romania@geze.com
www.geze.ro

Russia
OOO GEZE RUS
E-Mail: office-russia@geze.com
www.geze.ru

Scandinavia – Sweden
GEZE Scandinavia AB
E-Mail: sverige.se@geze.com
www.geze.se

Scandinavia – Norway
GEZE Scandinavia AB avd. Norge
E-Mail: norge.se@geze.com
www.geze.no

Scandinavia – Denmark
GEZE Danmark
E-Mail: danmark.se@geze.com
www.geze.dk

Singapore
GEZE (Asia Pacific) Pte, Ltd.
E-Mail: gezesea@geze.com.sg
www.geze.com

South Africa
GEZE Distributors (Pty) Ltd.
E-Mail: info@gezesa.co.za
www.geze.co.za

Switzerland
GEZE Schweiz AG
E-Mail: schweiz.ch@geze.com
www.geze.ch

Turkey
GEZE Kapı ve Pencere Sistemleri
E-Mail: office-turkey@geze.com
www.geze.com

Ukraine
LLC GEZE Ukraine
E-Mail: office-ukraine@geze.com
www.geze.ua

United Arab Emirates/GCC
GEZE Middle East
E-Mail: gezeme@geze.com
www.geze.ae

United Kingdom
GEZE UK Ltd.
E-Mail: info.uk@geze.com
www.geze.com

