IQ box KNX

EN   Commissioning manual

GEZE

Contents

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
❶	means "important note"
i	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

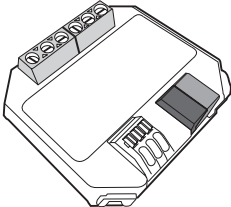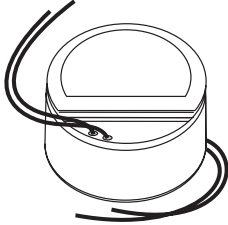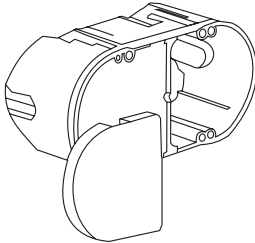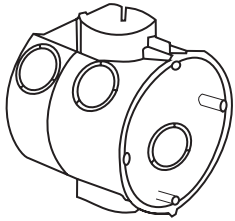|	
Bus voltage KNX	30 V DC SELV *)
Supply voltage IQ box KNX and drives	24 V DC, +/-25%, SELV *)
Max. current drives	6 A
Induced current intake to KNX-bus	5 mA
Induced current intake to 24V	20 mA
IP rating	IP20
Protection rating	III
Ambient temperature	-5°C…+70°C
Connection cross-section 24V supply and drives	max. 1,5 mm²
Connection cross-section inputs/push buttons, rigid or flexible without wire-end ferrule	max. 0.5 mm²
KNX-bus connection	KNX supply terminal red/black
Max. cable length for push buttons	30 m
Max. overall cable length for drives (LIN-BUS)	15 m

3.2 Designs and installation possibilities

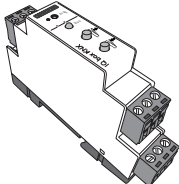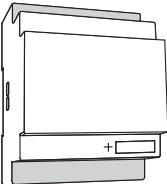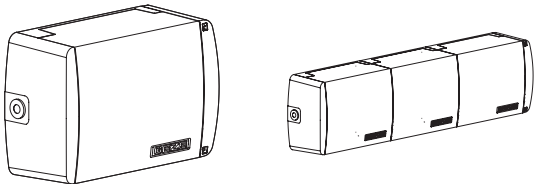Two versions of the IQ box KNX are available UP (flush mount) and HS (top hat rail).

> ⓘ The overall cable length between IQ box KNX and window must not exceed max. 15 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
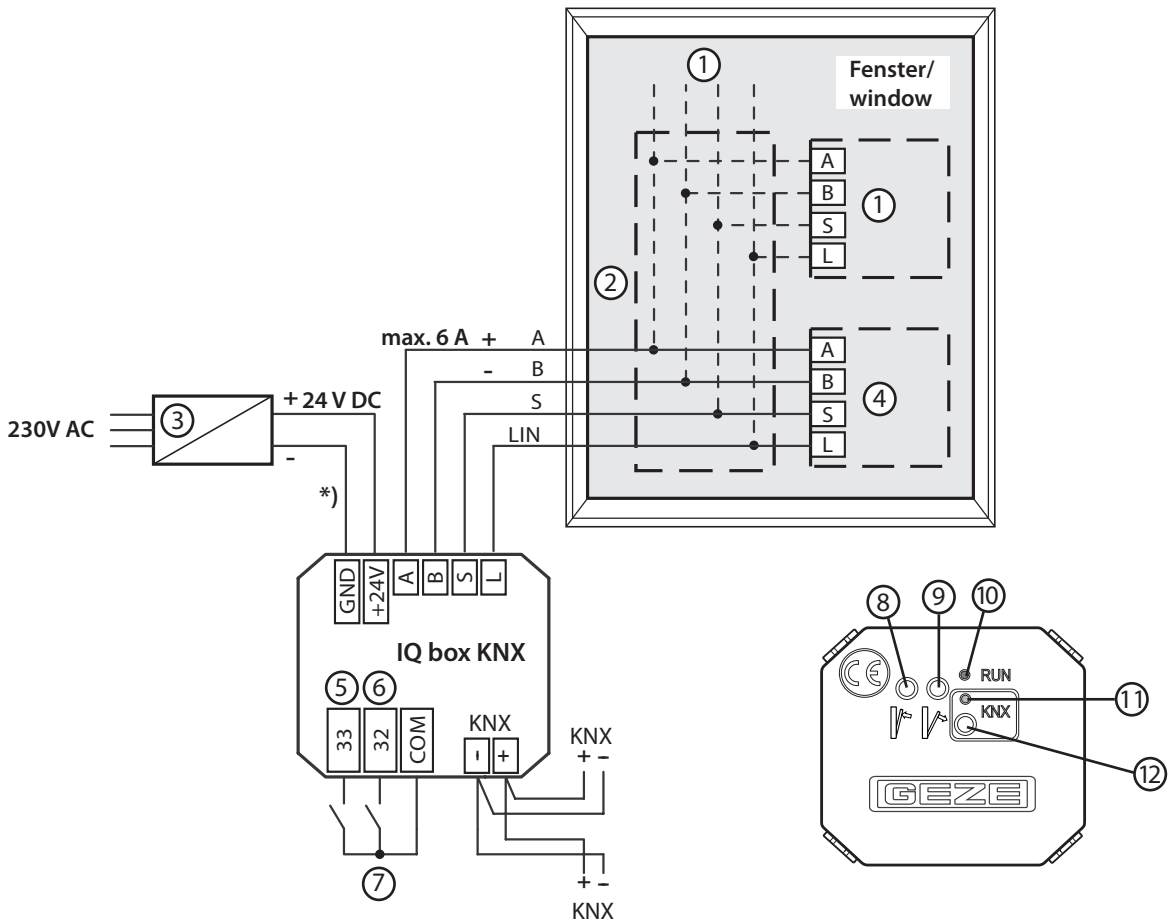
4.2   IQ box KNX top hat rail wiring diagram
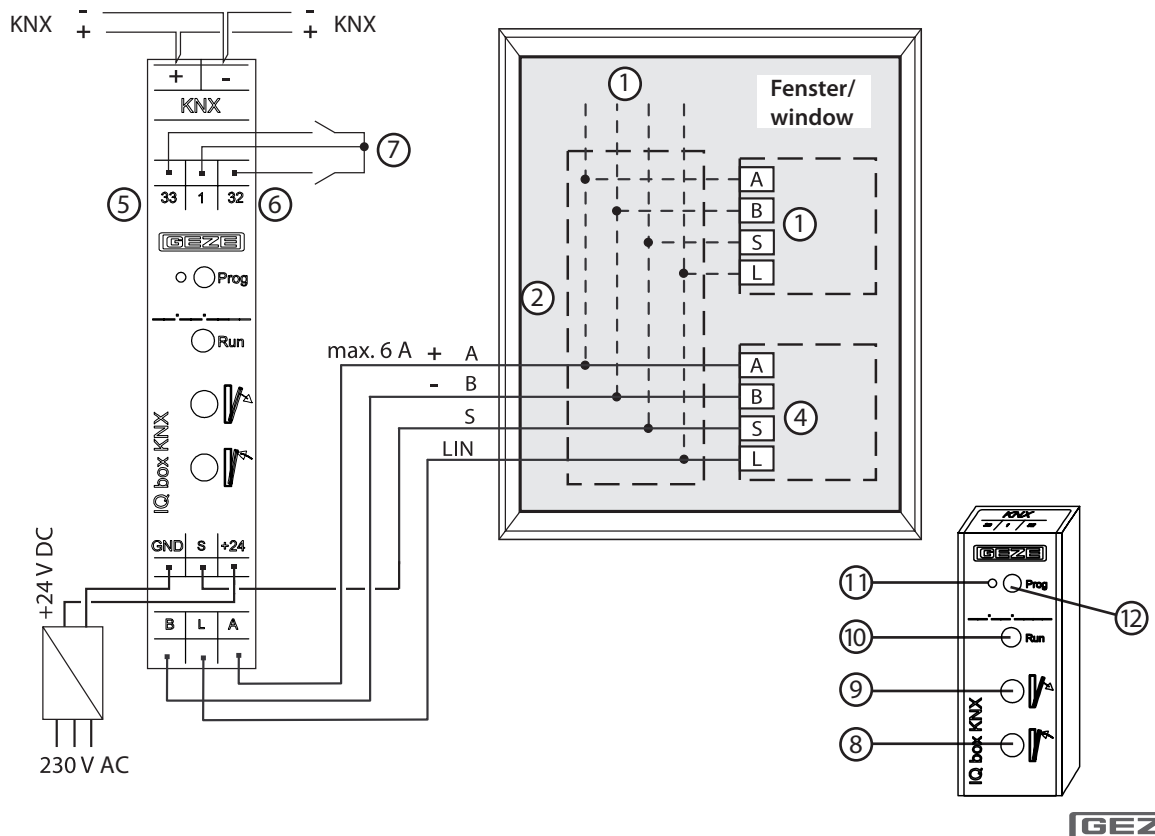
1	Optional further Slave drives (with Syncro) or locking drives
2	Additional branch box for the connection of several drives
3	Power supply 24V DC
4	IQ windowdrive
5	Input S33 (window CLOSED); parameters can be set
6	Input S32 (window OPEN); parameters can be set
7	e.g. Vent switch LTA-24-AZ
8	Window 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. 15 m.
> With Synchro 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 use to carry out a test run, even if the KNX system has not been programmed at this point.
 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 ETSasoftware.
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	1.019	C W	1 Bit	IN	☑
2	Window - Drive command	Step/Stop	1.007	C W	1 Bit	IN	☑
3	Window - Position	Value [%]	5.001	C W	1 Byte	IN	☑
4	Window - Gap ventilation	Trigger	1.017	C W	1 Bit	IN	☒
5	Window - Time ventilation	Trigger	1.017	C W	1 Bit	IN	☒
6	Window - Lock 1	Switch	1.001	C W	1 Bit	IN	☒
7	Window - Lock 2	Switch	1.001	C W	1 Bit	IN	☒
8	Automatic - Drive command	Open/Close	1.019	C W	1 Bit	IN	☑
9	Automatic - Lock	Switch	1.001	C W	1 Bit	IN	☒
10	Window - Speed next drive	Value [%]	5.001	C W	1 Byte	IN	☑
11	Window - Actual position	State value [%]	5.001	C T	1 Byte	OUT	☒
12	Window - Position between	State	1.002	C T	1 Bit	OUT	☒
13	Window - Opened	State	1.002	C T	1 Bit	OUT	☒
14	Window - Closed	State	1.002	C T	1 Bit	OUT	☒
15	Window - Not closed	State	1.002	C T	1 Bit	OUT	☒
16	Window - Do open	State	1.002	C T	1 Bit	OUT	☒
17	Window - Do close	State	1.002	C T	1 Bit	OUT	☒
Alarm							
21	Alert - Safety	Switch	1.001	C S	1 Bit	IN	☑
22	Alert - Wind speed	Value [m/s]	9.005	C S	2 Byte	IN	☒
23	Alert - Wind alert	Switch	1.001	C S	1 Bit	IN	☑
24	Alert - Rain alert	Switch	1.001	C S	1 Bit	IN	☑
External push button							
31	Button 1 (Cl.33) - Drive command	Open/Close	1.019	CT	1 Bit	OUT	☒
32	Button 1 (Cl.33) - Drive command	Step/Stop	1.007	CT	1 Bit	OUT	☒
33	Button 1 (Cl.33) - Position	Value [%]	5.001	CT	1 Byte	OUT	☒
34	Button 2 (Cl.32) - Drive command	Open/Close	1.019	CT	1 Bit	OUT	☒
35	Button 2 (Cl.32) - Drive command	Step/Stop	1.007	CT	1 Bit	OUT	☒
36	Button 2 (Cl.32) - Position	Value [%]	5.001	CT	1 Byte	OUT	☒
Service							
41	Service - Check unit	State	1.005	CT	1 Bit	OUT	☒
42	Service - Error unit	State	1.005	CT	1 Bit	OUT	☒
43	Service - Error collection	State byte	5.010	CT	1 Byte	OUT	☒

☑ Standard object
☒ Object becomes active by setting the parameter

Flags: K = Communication
S = Write
Ü = Transmit

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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: ▫ 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). ❗ 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.
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) ❗ 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.

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: ▫ 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

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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		
Automatic	Energy saving	○ Disabled ● Enabled
State	Delay time [min]	1
Alert	Reaction on busvolt reset	No reaction
External button	Reaction after power on	No reaction
Service	Switch delay after power on	10 seconds
	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 busvolt 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

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

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**)	9 Automatic - Lock Switch
	Locked to close	Unlock	**Via object**		9 Automatic - Lock Switch
			Until timeout	Locking time [min] 1 … 300 (**30**)	9 Automatic - Lock Switch
	Locked to open and close	Unlock	**Via object**		9 Automatic - Lock Switch
			Until timeout	Locking time [min] 1 … 300 (**30**)	9 Automatic - Lock Switch

> ❗ 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

Parameters			Values	Linked object
Send actual position	**Disabled**			11 Window - Actual position State value [%]
	On change	Position change [%]	1 … 20 **(10)**	
Send state	**Disabled**			
	On change			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

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

7.2.6   External button

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

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

KNX
push
button

Local push
button
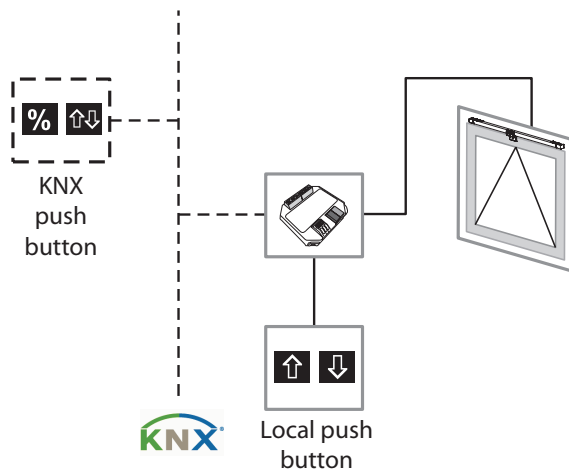
Basic functions + Easy ventilation controls

▫ **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

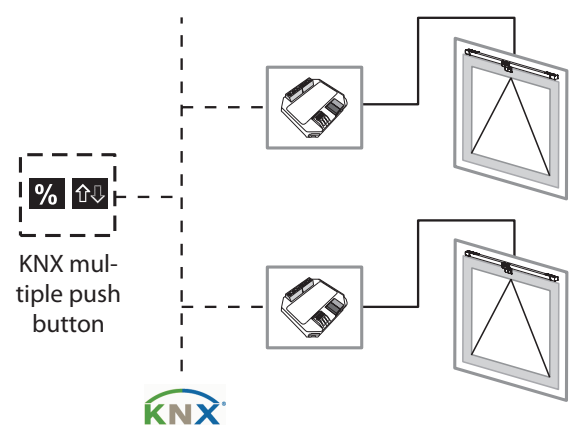**Assembly example: Local push button + Several windows in one ventilation group**
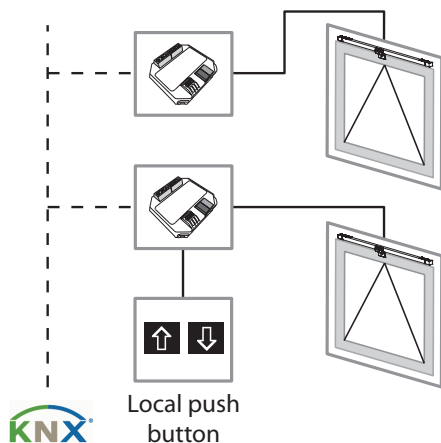
Local push
button

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**

KNX mul-
tiple push
button

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)

WM
weather
station

KNX
push
button
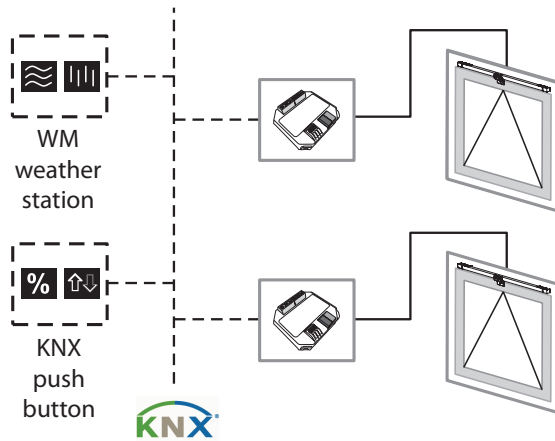
Expanded function examples KNX

- **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

KNX
air-condi-
tioning unit
connection

KNX
push
button
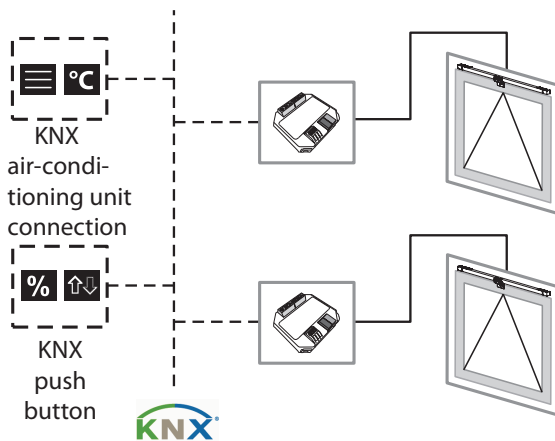
Expanded function examples KNX

- **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.)
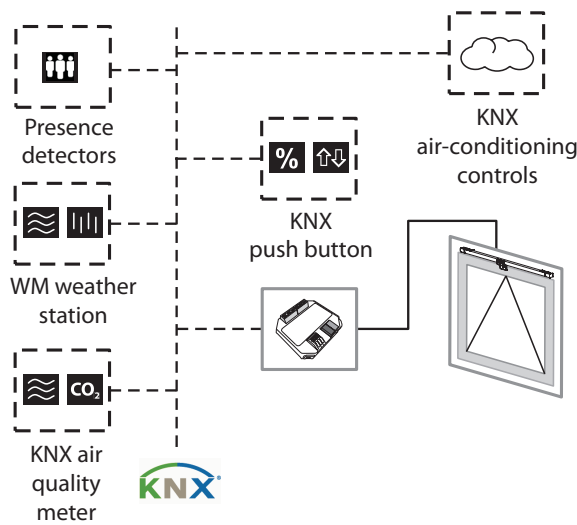
Assembly example: Expansion through blinds

KNX blind actuator
(e.g. Jung 2501 flush
mounting)

KNX
multiple
push
button
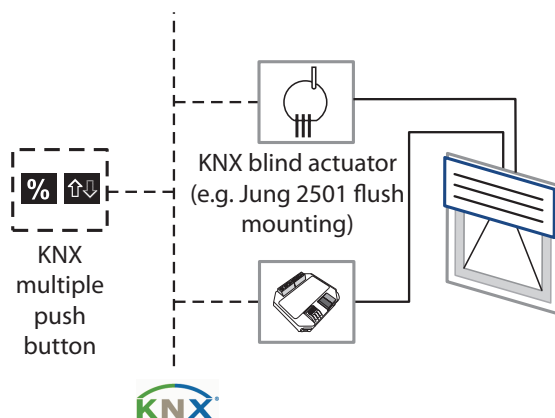
Expanded function examples KNX

- **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

Presence detectors

WM weather station

KNX air quality meter

KNX push button

KNX air-conditioning 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 (CO_2, 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

KNX visualisation (e.g. Gira)

KNX multiple push button
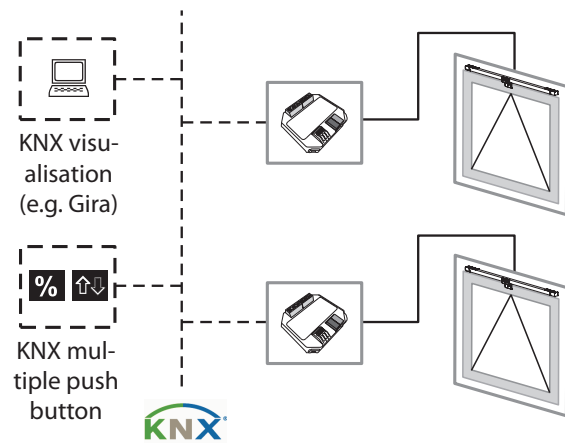
Expanded function examples KNX visualisation/ building management system

▫ **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

GEZE

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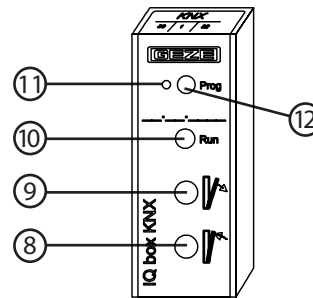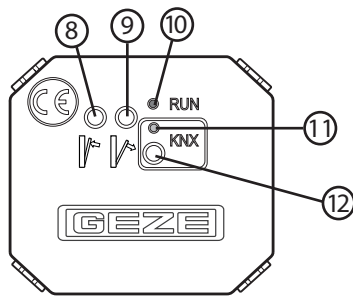
8 Window OPEN key
9 Window CLOSED key
10 Status LED (green)

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	□ 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. 15 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	□ 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	□ 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	□ 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	□ 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

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

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

Der
Maßstab
DIN ISO 9001
unseres
Handelns

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

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

GEZE