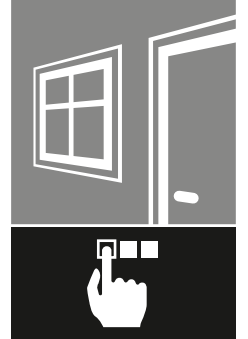


en Original operating instructions or (and)
translation of original operating instructions

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Aluminium- und Stahl-Systeme Aluminium and Steel Systems

Technische Informationen

Technical Information

KNX Gateway
Operating Instructions **en**

de 00 Operating instructions

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1. Notes on this document

1.1. Target groups and qualifications

This document is intended for specialists, such as trained fitters and electricians. Before installing and commissioning, read through this document thoroughly and adhere to the specified sequence of the instructions. Schüco International KG shall not be liable for any damage which arises from a failure to adhere to these instructions.

Qualified personnel means employees who know how to assemble, install, commission, test and operate the product and who have the relevant qualifications, e.g. who have been trained and instructed in accordance with safety regulations on the maintenance and use of appropriate safety equipment and who have received training in First Aid.

Experts are people whose training and experience means that they have sufficient knowledge of power-operated windows, doors and gates and the corresponding electrical installations. They are familiar with the relevant accident prevention regulations, government "safety at work" regulations, guidelines and generally recognised technical regulations so that they are qualified to judge the occupational safety of power-operated windows, doors and gates and the corresponding electrical installations.

1.2. Handover of the document

After commissioning, hand over all the documentation pertaining to this product to the end customer. Make them aware of the safety instructions, to which they must pay particular attention.

1.3. Retention of the document

This document is a component of the product. Keep this document in an accessible place even after installation and commissioning, so that the information is always available.

2. Security

2.1. About the safety instructions



KEY WORD

Type / source / consequence of the danger

Pictograms and key words advise of the type of danger and the level of danger:



General personal injury



Personal injury from electrocution



Damage to property

DANGER!		Imminent danger resulting in death or severe injuries.
WARNING!		Potential imminent danger which may lead to death or severe injuries.
CAUTION!		Potentially dangerous situation which may lead to minor injuries.
NOTE		Imminent danger of damage to property which may lead to damage to or destruction of the product or environment.
INFORMATION		Information Information, tips and advice

2.2. Laws, regulations and technical rules

During installation and operation, observe the international, national and local safety regulations, laws and guidelines.

Accepted practice as usually codified in standards, guidelines, specifications, and regulations laid down by recognised bodies must be followed.

This applies in particular to:

- European and international standards, e.g. EN 60335-2-103 on the safety of electrical devices
- VDE guidelines and regulations, e.g. DIN VDE 0100, DIN VDE 0160, DIN VDE 0632
- Guidelines and regulations of the professional trade associations, e.g. BGR 232 (previously ZH 1/494) for power-operated windows, doors and gates, BGV A2 (previously VBG4) accident prevention regulations for electrically-operated systems and devices
- Data sheets of the German Association of Window and Façade Manufacturers e.V. (e.g. KB.01 / KB.02 electrically operated windows)

-

2.3. Proper use

The KNX gateway is connected between the KNX building bus and the Schüco device bus. With the KNX gateway, it is possible to control Schüco elements from a KNX building bus. Conversely, status information and messages from Schüco elements are made available on the KNX bus via the KNX gateway. The KNX gateway is set up via ETS4 or ETS5. The application is loaded into the ETS for this. The device has no control logic to control the elements. It works as bi-directional data transfer.

The device has the following electrical interfaces:

- Connection to the Schüco device bus Connection to the KNX building bus (KNX and EIB)
- Power is supplied to the device via the device bus connection.

The device is designed for fixed installations in dry rooms. It must be installed on a standardised profile track (DIN mounting rail, 35 mm) in the distributor or control cabinet.

Proper use also includes adhering to the installation and operating instructions.
Any alternative use or a use beyond this remit is not in accordance with its purpose.

Incorrect use or unauthorised modification of the product may result in death or serious injury, or damage to the product and other material assets. Only original replacement parts may be used. The manufacturer / supplier shall not be liable for any damage resulting from infringement. The user alone bears the risk.

2.4. General safety instructions

Follow the safety instructions in this document so as not to endanger your own life or that of others and to ensure error-free operation.



DANGER!

Imminent danger resulting in death or severe injuries.

- ▶ Before any work on the product, all power packs must be disconnected and protected against anyone inadvertently switching them back on.
- ▶ Following each installation or alteration to the electrical system, carry out a test run to test all functions.
- ▶ When operating, note that Schüco windows and doors may open and close automatically when left unattended.

For reasons of simplicity, this documentation does not contain every detail of all product types and it cannot cover every possible installation, operation or maintenance scenario.

Should you require further information or encounter problems not dealt with in detail in these operating instructions, contact technical support (+49) 521 783 – 665.

Moreover, we would like to point out that these installation instructions do not form part of or replace any previous or existing agreement or contract.

All obligations to be fulfilled by Schüco can be found in the appropriate sales contract, which also contains the complete current conditions of the warranty. These operating instructions do not add to or limit the warranty conditions.

3. Contents of delivery, transportation and storage

3.1. Contents of delivery

Open all the packing units. Check that no components are missing and familiarise yourself with the components.

Included in delivery:

Art. No.	Description	
263 243	KNX gateway	<input type="checkbox"/>
	Operating Instructions	<input type="checkbox"/>

3.2. Transportation and storage



NOTE

Damage to property

- ▶ Protect against impact.
- ▶ Store only in dry interior rooms.
- ▶ Protect the device against moisture and dirt.

3.3. Technical data

Rear connection for inserting into the mounting rail bus connector	
Type of connection	Plug-in connection, 8-pole, Schüco device bus and supply
Power supply	24 V DC (-20 % +30 %)
Input current	25 mA with 24 V DC
Schüco device bus	Standard in accordance with RS-485
Connection terminal X31 (KNX/EIB connector)	
Type / media type	Terminal block for KNX and EIB / TP (TP = Twisted Pair)
Type of terminals	Pin contacts, micro connection terminal
Cable cross section	Solid individual wires 0.5 to 1.5 mm ² (KNX/EIB cable type Ø 0.8 mm)
Mechanical data	
Housing, design	Series installation device, width = 2 modules
Housing, installation	Can be snapped on to standardised profile track in accordance with EN50022, NS 35 x 7.5
Colour, weight, dimensions	Black/light grey, approx. 70 g, (36 x 90 x 62) mm (W x L x H)
Protection rating	IP 20 (installed in the distributor)
Ambient conditions	
Temperature range	Operation: -5 °C to +50 °C; transportation / storage: -40 °C to +85 °C
Relative humidity	5% to 93% (non-condensing)
Electromagnetic compatibility	
EMC requirements in accordance with	DIN EN 50491-5-1/2/3 (VDE 0849-5):2010-11; EN 50491-5-1/2/3:2010
Operating and display units for EIB programming (front)	
Programming button	To find the "physical address" in addressing mode
Programming light (red LED)	To check the bus voltage and feedback when programming

4. Assembly and installation



INFORMATION!

- ▶ ETS 4 or later is required for programming the application

4.1. KNX application

The KNX gateway requires an application for operation. Using the ETS, the application is selected and the specific parameters and addresses are assigned and transferred to the device during commissioning (see section 5).

The KNX product database can be obtained as follows:

- Online at www.schueco.com
- From the Mechatronic hotline: (0049) 0521 783 - 665
- Via e-mail: Support_Automation@schueco.com

4.2. Connection terminal and operating units



①	Programming button	③	KNX connection terminal X31
②	Programming light	④	Connector socket of mounting rail bus connector
⑤	Catch area		

4.3. Assembly and installation instructions

Ensure that the rear plug-in connection is inserted accurately into the connection socket of the mounting rail bus connector ④. The device is then held in place by the orange catch springs. For dismantling, release the catch springs ⑤ using a flat-head screwdriver (3.5 mm blade width).



INFORMATIONNOTE

- ▶ The power pack for supplying power to the KNX gateway and the KNX gateway itself must be installed within the same distributor or control cabinet.
- ▶ KNX bus cables are separated and are laid at a distance from other cables supplying power. When laying the cable ducts, the bus cables must also be kept separate from other cables.



DANGER!

- ▶ The device can only be installed in a suitable distributor or control cabinet and can only be installed and operated by a qualified technician. After installing the device, cover the entire terminal area. This is the only way to protect the live components of the device adequately from unauthorised tampering.

4.4. Physical address assignment

To assign the physical address, connect a PC using the EIB Tool Software (ETS) via an interface to the bus line.

After briefly pressing the programming button, the programming light illuminates.

Once the programming of the physical address has been carried out correctly, the red programming light goes off. The device has now saved the assigned physical address.

4.5. Abbreviations used

EIB	European Installation Bus	KNX	Worldwide standard for home and building control
ETS	EIB Tool Software	LED	Light-emitting diode
DC	Direct current	SELV	Safety Extra Low Voltage

5. ETS product database – KNX gateway

5.1. Product database

The Schüco product database for KNX products is available to download from the download area at www.schueco.com.

The product database is supplemented on an ongoing basis and contains the latest applications at the time of delivery.

5.2. Programming



INFORMATIONNOTE

- ▶ To install / program the application, ETS 4 or later is required.

5.3. Overview of functions

The application has no control logic to control the windows. It works only as bi-directional data transfer.

Using the communication objects, individual elements as well as entire groups can be assigned functions.

5.4. Communication objects

The application has a total of 226 communication objects (Fig. 1), consisting of receiver and transmitter objects. The object values received via the building bus are forwarded by the KNX gateway via the device bus to the Automation Manager for processing.

The Schüco elements are then controlled using the receiver objects. The transmitter objects comprise a range of messages which, for example, deliver the status or error information to the KNX gateway to register these on the building bus.

Nummer	Name	Objektfunktion	Beschreibung	Gruppenadresse	Länge	K	L	S	Ü	A	Datentyp	Priorität
12	Element 12 Auf/Zu	Öffnen/Schließen		1/13	1 bit	K	-	S	-	-	1-Bit	Niedrig
13	Element 13 Auf/Zu	Öffnen/Schließen		1/14	1 bit	K	-	S	-	-	1-Bit	Niedrig
14	Element 14 Auf/Zu	Öffnen/Schließen		1/15	1 bit	K	-	S	-	-	1-Bit	Niedrig
15	Element 15 Auf/Zu	Öffnen/Schließen		1/16	1 bit	K	-	S	-	-	1-Bit	Niedrig
16	Element 16 Auf/Zu	Öffnen/Schließen		1/17	1 bit	K	-	S	-	-	1-Bit	Niedrig
17	Element 17 Auf/Zu	Öffnen/Schließen		1/18	1 bit	K	-	S	-	-	1-Bit	Niedrig
18	Element 18 Auf/Zu	Öffnen/Schließen		1/19	1 bit	K	-	S	-	-	1-Bit	Niedrig
19	Element 19 Auf/Zu	Öffnen/Schließen		1/20	1 bit	K	-	S	-	-	1-Bit	Niedrig
20	Element 20 Auf/Zu	Öffnen/Schließen		1/21	1 bit	K	-	S	-	-	1-Bit	Niedrig
21	Element 21 Auf/Zu	Öffnen/Schließen		1/22	1 bit	K	-	S	-	-	1-Bit	Niedrig
22	Element 22 Auf/Zu	Öffnen/Schließen		1/23	1 bit	K	-	S	-	-	1-Bit	Niedrig
23	Element 23 Auf/Zu	Öffnen/Schließen		1/24	1 bit	K	-	S	-	-	1-Bit	Niedrig
24	Element 24 Auf/Zu	Öffnen/Schließen		1/25	1 bit	K	-	S	-	-	1-Bit	Niedrig
25	Element 25 Auf/Zu	Öffnen/Schließen		1/26	1 bit	K	-	S	-	-	1-Bit	Niedrig
26	Element 26 Auf/Zu	Öffnen/Schließen		1/27	1 bit	K	-	S	-	-	1-Bit	Niedrig
27	Element 27 Auf/Zu	Öffnen/Schließen		1/28	1 bit	K	-	S	-	-	1-Bit	Niedrig
28	Element 28 Auf/Zu	Öffnen/Schließen		1/29	1 bit	K	-	S	-	-	1-Bit	Niedrig
29	Element 29 Auf/Zu	Öffnen/Schließen		1/30	1 bit	K	-	S	-	-	1-Bit	Niedrig
30	Element 30 Auf/Zu	Öffnen/Schließen		1/31	1 bit	K	-	S	-	-	1-Bit	Niedrig
31	Element 01 Position	Positionsfahrt		1/32	1 byte	K	-	S	-	-	Prozent (0...)	Niedrig
32	Element 02 Position	Positionsfahrt		1/33	1 byte	K	-	S	-	-	Prozent (0...)	Niedrig
33	Element 03 Position	Positionsfahrt		1/34	1 byte	K	-	S	-	-	Prozent (0...)	Niedrig
34	Element 04 Position	Positionsfahrt		1/35	1 byte	K	-	S	-	-	Prozent (0...)	Niedrig
35	Element 05 Position	Positionsfahrt		1/36	1 byte	K	-	S	-	-	Prozent (0...)	Niedrig
36	Element 06 Position	Positionsfahrt		1/37	1 byte	K	-	S	-	-	Prozent (0...)	Niedrig
37	Element 07 Position	Positionsfahrt		1/38	1 byte	K	-	S	-	-	Prozent (0...)	Niedrig
38	Element 08 Position	Positionsfahrt		1/39	1 byte	K	-	S	-	-	Prozent (0...)	Niedrig
39	Element 09 Position	Positionsfahrt		1/40	1 byte	K	-	S	-	-	Prozent (0...)	Niedrig
40	Element 10 Position	Positionsfahrt		1/41	1 byte	K	-	S	-	-	Prozent (0...)	Niedrig
41	Element 11 Position	Positionsfahrt		1/42	1 byte	K	-	S	-	-	Prozent (0...)	Niedrig
42	Element 12 Position	Positionsfahrt		1/43	1 byte	K	-	S	-	-	Prozent (0...)	Niedrig
43	Element 13 Position	Positionsfahrt		1/44	1 byte	K	-	S	-	-	Prozent (0...)	Niedrig
44	Element 14 Position	Positionsfahrt		1/45	1 byte	K	-	S	-	-	Prozent (0...)	Niedrig
45	Element 15 Position	Positionsfahrt		1/46	1 byte	K	-	S	-	-	Prozent (0...)	Niedrig

5.4.1. Receiver objects

The receiver objects comprise both individual commands and group commands.

While for the group command, the entire element group is activated (max. 30 elements), for the individual commands, the elements can be operated independently of one another.

No.	Function	Project name	Object character	DPT
1	Open/close	Element 01 open/closed	Receiver object (bit)	1
to				
30	Open/close	Element 30 open/closed	Receiver object (bit)	1
31	Positioning	Element 01 position	Receiver object (byte)	5
to				
60	Positioning	Element 30 position	Receiver object (byte)	5

No.	Function	Project name	Object character	DPT
61 to 90	Security mode	Element 01 element protection	Receiver object (bit)	1
91 to 120	Choice of function	Element 01 choice of function	Receiver object (bit or byte)	1
	Choice of function	Element 30 choice of function	Receiver object (bit or byte)	1

Other control commands can be set up individually for the elements under the communication objects (Fig. 2)



Group control commands (KNX receiver objects)

No.	Function	Project name	Object character	DPT
211	Open/close	Group open/closed	Receiver object (bit)	1
212	Positioning	Group position	Receiver object (byte)	5
213	Security mode	Group element protection	Receiver object (bit)	1
214	Activate timed ventilation	Group timed ventilation	Receiver object (byte)	5
215	Stop	Group stop	Receiver object (bit)	1
216	Unlocking in turn position	Group unlocking	Receiver object (bit)	1
217	SHEVS air vent opening	Group open SHEVS	Receiver object (bit)	1
218	Activate ventilation lock	Group ventilation lock	Receiver object (bit)	1
219	Release anti-turn lock	Group anti-turn lock	Receiver object (bit)	1

No.	Function	Project name	Object character	DPT
220	Lock operation	Group operation lock	Receiver object (bit)	1
221	Activate silent mode	Group silent mode	Receiver object (bit)	1
222	Maximum ventilation	Group maximum ventilation	Receiver object (bit)	1

5.4.2. Transmitter objects

Just as for the receiver objects, there are also group and individual commands for the transmitter objects. Likewise for the group here, the status/information for all elements (max. 30) can be requested or targeted from specific subscribers using the individual command.

Individual messages (KNX transmitter objects)

No.	Function	Project name	Object character	DPT
121 to 150	Report element status	Element 01 status Element 30 status	Transmitter object (double word)	12
151 to 180	Report opening width	Element 01 opening width Element 30 opening width	Transmitter object (double byte)	5
181 to 210	Report event	Element 01 error Element 30 error	Transmitter object (double byte)	7

Group messages (KNX transmitter objects)

No.	Function	Project name	Object character	DPT
0	Report number of elements	Number of elements	Transmitter object (byte)	5
223	Report closure	Group closure	Transmitter object (bit)	1
224	Report ventilation position	Group ventilation	Transmitter object (bit)	1
225	Report error	Group error	Transmitter object (bit)	1
226	Report SHEVS opening	Group SHEVS opening	Transmitter object (bit)	1

5.5. Description of communication objects

Description of communication objects

KNX layer		
Communication object	Telegram values	Meaning
No.1 to 30		
Element ENo open/closed	0 or 1	Open element
	1 or 0	Close element
No.211		
Group open/closed	0 or 1	Open element group
	1 or 0	Close element group
No.31 to 60		
Element ENo position	0	Element moved into 0% (closed) position
	50	Element moved into 50% (half-open) position
	100	Element moved into 100% (completely open) position
No.212		
Group positioning	0	Element group moved into 0% (closed) position
	50	Element group moved into 50% (half-open) position
	100	Element group moved into 100% position
No.61 to 90		
Element ENo element protection	1	Element protection is activated
	0	Element protection is deactivated
No.213		
Group element protection	1	Element protection is activated for the element group
	0	Element protection is deactivated for the element group
No.121 to 150		
Element ENo timed ventilation	0....255	Activate timed ventilation

KNX layer		
Communication object	Telegram values	Meaning
No.215		
Group timed ventilation	0...255	Activate timed ventilation for the element group
No.91 to 120		
Element ENo choice of function	1	Stop command is activated
	0	Stop command is activated
No.214		
Group stop	1	Stop command is activated for the element group
	0	Stop command is activated for the element group
No.91 to 120		
Element ENo choice of function	1	Activate unlocking
	0	Activate unlocking
No.216		
Group unlocking	1	Activate unlocking for the element group
	0	Deactivate unlocking for the element group
No.91 to 120		
Element ENo choice of function	1	Maximum ventilation
	0	Maximum ventilation
No.222		
Group maximum ventilation	1	Maximum ventilation for the element group
	0	Maximum ventilation for the element group
No.91 to 120		
Element ENo choice of function	1	Activate SHEVS air vent opening
	0	Deactivate SHEVS air vent opening
No.217		
Group open SHEVS	1	Activate SHEVS air vent opening for the element group
	0	Deactivate SHEVS air vent opening for the element group

KNX layer		
Communication object	Telegram values	Meaning
No.91 to 120		
Element ENo choice of function	1	Activate ventilation lock
	0	Deactivate ventilation lock
No.218		
Group ventilation lock	1	Activate ventilation lock for the element group
	0	Deactivate ventilation lock for the element group
No.91 to 120		
Element ENo choice of function	1	Release anti-turn lock
	0	Do not release anti-turn lock
No.219		
Group anti-turn lock	1	Release anti-turn lock for the element group
	0	Do not release anti-turn lock for the element group
No.91 to 120		
Element ENo choice of function	1	Activate operation lock
	0	Deactivate operation lock
No.220		
Group operation lock	1	Activate operation lock for the element group
	0	Deactivate operation lock for the element group
No.91 to 120		
Element ENo choice of function	1	Activate silent mode
	0	Deactivate silent mode
No.221		
Group silent mode	1	Activate silent mode
	0	Deactivate silent mode

KNX layer		
Communication object	Telegram values	Meaning
No.151 to 180		
Element ENo opening width	0...100 170 255	Report actual value of the element position 0-100%, 170 opened to max., 255 invalid value
No.121 to 150		
Element ENo status	0... 0x00FFFFFF	Report element status, element type and operating mode
No.181 to 210		
Element ENo error	0...0xFFFF	Report event and event type
No.0		
Number of elements	0...30 and 255	Number of elements present 0-30, 255 no elements declared
No.223		
Group closure	0	Element group is not completely closed
	1	Element group is completely closed (locked)
No.224		
Group ventilation	0	Element group is not completely open
	1	Element group is completely open
No.225		
Group error	0	No errors have been reported for any of the elements
	1	An error has been reported for at least one element in the group
No.226		
Group SHEVS opening	0	Group not open to SHEVS opening width
	1	Group not open to SHEVS opening width

