



Web server

OZW772... V3.0

For Synco™, Synco™ living

Web server OZW772... allows for remote plant control and monitoring via the web.

Four versions of the web server OZW772... are available:

To connect 1, 4, 16, or 250 KNX devices from Synco 700, Synco RXB/RXL, RDG/RDF/RDU room thermostats, and the QAX9... Synco living central apartment units.

- Operate web browser via PC/laptop or Smartphone.
- Connections: USB and Ethernet.
- Display fault messages in the web browser.
- Send fault messages to a maximum of 4 e-mail recipients.
- Periodically send system reports to e-mail recipients.
- Visualize the plants in the web browser based on standard plant diagrams and customized plant web pages.
- Acquire and display consumption data.
- Send consumption data file to 2 email recipients.
- Encrypted with https and TLS for emails.

Use

Building

- Apartments in single and multi-family homes.
- Office and administrative buildings, residential housing.
- Schools, gymnasiums, leisure facilities, hotels.
- Municipal buildings, smaller industrial buildings.

Owners/operators

- End customers, HVAC and electrical installers.
- Real estate companies, real estate management companies.
- Building maintenance companies, facility management.

Functions

Commissioning

A web browser or ACS7... is used for commissioning.

Compatible with ACS7...

The web server is compatible with ACS7... from V 5.12.15.

The following functionality is available:

- Commissioning with PC/Laptop and installed ACS.
- Operation with PC/Laptop and installed ACS.

Operation

- Remotely operate and monitor plants and devices on a KNX network.
- Simultaneously support multiple users.
- User accounts for web operation (user groups, operating language).
- Set up visualized operation based on standard plant diagrams (loaded via HVAC Integrated Tool, HIT) or customized plant web pages.

User interface

Datapoint	Value
Area	0
Line	2
Device address	150
Clock time mode KNX	Autonomous
Clock slave remote adj KNX	Yes
Number of devices max	4
Number of devices current	2
Last change	Tuesday, 14. December 2010 16:51

Primary navigation

Primary navigation offers the following functions:

Home	Menu-based plant and device operation.
Faults	Display system faults.
File transfer	Download consumption data and event history, upload documents, logos and system definitions.
User accounts	User administration.
Device web pages	Create device list and operating pages.

Secondary navigation

The secondary navigation (menu tree) allows users to select devices and operating pages.

Display

The display range displays content corresponding to the selected primary and secondary navigation.

Plant state




The display indicates no fault or the most serious plant fault depending on plant state.

Faults

Fault sources

The web server recognizes failures and fault signals from KNX devices contained in the device list. Own faults also are recognized.

Fault display, fault acknowledgement

The LED  signals a fault on the web server. The LED  blinks to indicate that a fault is unacknowledged. The LED continues to be lit for as long as the fault is pending after the fault is acknowledged with the  button via web operation or ACS. (See page 10 for LED displays and operating buttons).

Fault status message


Fault status messages can be sent as an e-mail to as many as 4 e-mail recipients and/or via a service provider to SMS recipients. The fault priority for each e-mail recipient (urgent/all) can be set. Each recipient has a "Time switch with calendar" to program three sending times per day and holidays/special days.

System report

System messages

The web server generates system reports and periodically sends the system state to e-mail recipients. Messages are sent as per the set time (hh:mm), the message cycle interval (1...255 days), and priority (urgent/non-urgent).

Connection test

Press the  button on the web server to send a system report to all defined email recipients regardless of fault priority.

History

The last 500 fault events, fault messages and system reports are entered in the web server's circular message buffer. The events or history data can be read via web browser.

Updates

We differentiate between the following:

- System definition updates to integrate device descriptions of new devices in the web server.
- Firmware updates to update the web server to the latest firmware version. Firmware updates may also contain new device descriptions (system definitions).

A system definition update requires one simple action via the web browser. No operator actions on the web server are required to update the firmware. Procedures are communicated when a firmware update is issued.

Visualize plants

Web server OZW772... allows for visualizing technical equipment in buildings via plant web pages. For example, a plant web page can be set up visualizing a plant with data points (max. 100 data points per plant web page) on a floor plan.

In the event of a fault, users can quickly access the impacted locations. For writable parameters, users can click to open a dialog box and change the parameter (as e.g. the "Comfort cooling setpoint" displayed below).

The screenshot displays the Siemens Web Server interface. At the top, the Siemens logo is visible, along with the text "Web Server" and a user account "Miller [Logout]". The main content area shows a technical diagram of a plant with various components and temperature readings. A dialog box titled "Web Server - Building Technologies Division" is open, showing a "Comfort cooling setpoint" field with a value of 24. Below the field, there are two temperature markers: 21.0 °C and 28.0 °C. The dialog box also includes "OK" and "Cancel" buttons. The background diagram shows a network of pipes and valves with several temperature points: 29.1 °C, 25.3 °C, 24.0 °C, and 23.1 °C. A status box indicates "Preselection Auto" and "State Comfort".

Download plant diagrams

Web-capable plant diagrams can be downloaded from the HIT online platform for Synco 700 series and RXB/RXL room controller series standard applications.

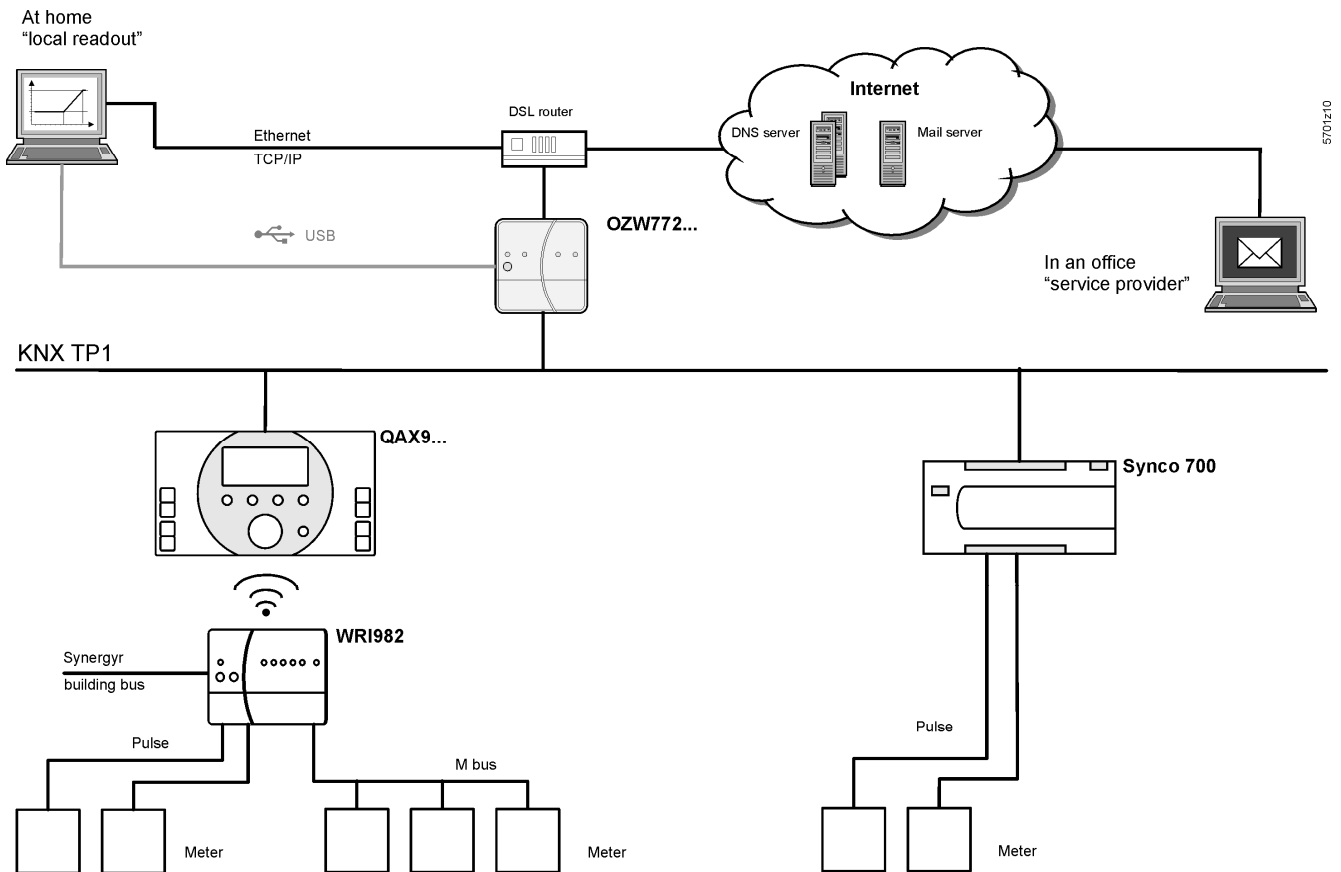
Create own plant web pages

You can freely design plant web pages. As a hybrid form, you can also modify and extend downloaded plant diagrams.

Web page elements

Users can also embed additional data in a plant diagram such as links to plant, function and maintenance descriptions or data sheets. Moreover, users can integrate external links allowing, for example, to directly browse multiple plants. Users can embed current webcam images in a plant diagram.

Consumption data acquisition



Meter

Current consumption data is saved in the meters (legal requirement).

QAX / Synco 700

- Every 4 hours, QAX9... receives raw data via KNX radio.
- Synco 700 controllers generate the meter data via pulse inputs as per the configured valency.

Consumption data can be viewed on individual QAX central units or Synco controllers using the associated menus.

Web server, local or remote

The web server offers comfortable access to consumption data:

- The web browser on the web server allows users to navigate to the consumption data of the associated devices.
- Or a consumption data file can be downloaded from the web server. The file contains a list of consumption data for all QAX units (apartment units) and Synco controllers.
- Users can access the web server either local or remote via the Internet.

Web server, email

Consumption data can be sent periodically (set up via web server) to max 2 email recipients (e.g. billing company).

Time of day

The web server has a system clock with adjustable time zone and daylight saving/standard time changeover. As clock time master, it can send the set system time (date and time) to KNX devices (clock time slave).

Type summary

Name		Product number
Web server	for 1 KNX device	OZW772.01
Web server	for 4 KNX devices	OZW772.04
Web server	for 16 KNX devices	OZW772.16
Web server	for 250 KNX devices	OZW772.250

Ordering and delivery

When ordering, please specify the name and **product number**. Example:

- Web server **OZW772.16**

The web server is delivered in a cardboard box.

The following is included in the package:

- Installation instructions G5701xx (multilingual).
- Power cable, power supply AC 230 V.
- Ethernet cable.
- USB cable.
- 2 cable ties.

Note

The commissioning instructions C5701 (de/en) are available on the web server at <http://<IP-Adresse>/doc/>

Equipment combinations

KNX devices

The following devices from the Synco product range can be connected to each OZW772... web server via KNX.

	Devices	Data sheet no.	
Synco 700	Universal controllers	RMU7x0, RMU7x0B	N3144, N3150
	Heating controllers.	RMH760, RMH760B	N3131, N3133
	Boiler sequence controller	RMK770	N3132
	Central control unit	RMB795	N3121
	Switching & monitoring unit	RMS705, RMS705B	N3123, N3124
	Bus operator unit	RMZ792	N3113
	Room unit	QAW740	N1633
	Central communication units	OZW771, OZW775	N3117, N5663

	Devices	Data sheet no.	
Synco RXB/RXL	Room controllers	RXB21.1, RXB22.1	N3873
	Room controllers	RXL21.1, RXL22.1	N3877
	Room controllers	RXB24.1	N3874
	Room controllers	RXL24.1	N3878

Synco RDG/RDF/RDU	Room thermostat for fan coils	RDG100KN	N3191
	Room thermostat for VAV	RDG400KN	N3192
	Room thermostat for fan coils	RDF301	N3171
	Room thermostat for fan coils and lighting	RDF301.50	N3171
	Room thermostat for VAV	RDU341	N3172

Synco living	Central apartment unit	QAX903	N2741
	Central apartment unit	QAX910	N2707
	Central apartment unit	QAX913	N2740

Consumption data functionality

Web server OZW772... from V3.0 offers consumption data functionality for the following devices:

- Synco: RMB795, RMK770 (from V2.0), RMS705, RMS705B, RMU7x0B, RMH760B
- Synco living: QAX903, QAX913

Web browser

Devices	Requirements
PC/Laptop (1024 x 786)	Internet Explorer V6.0, V7.0 or higher recommended Firefox V3.0 or higher.
iPhone (480x320)	Safari (specific to end device)

Number of browsers

Any number of browsers can be used simultaneously. The maximum data throughput rate is distributed among the browsers. Operation slows down as the number of users increases accordingly.

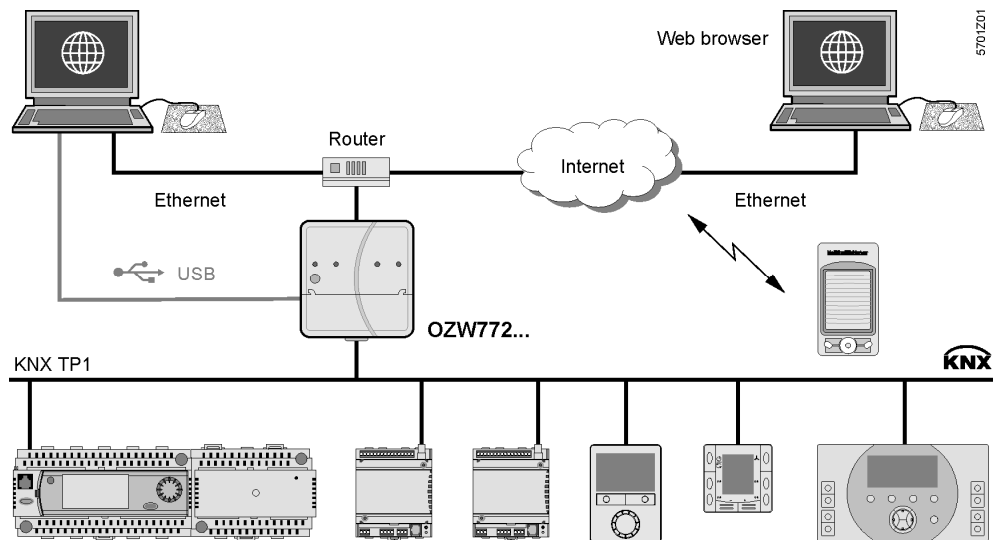
Product documentation

	Document type	Document no.
Web server OZW772...	Data sheet (this document))	N5701
	Installation instructions (package insert)	G5701
	Commissioning instructions	C5701
	CE declaration of conformity	T5701
	Environmental product declaration	E5701
KNX bus	Data sheet	N3127
	Basic documentation	P3127
ACS7... software	Data sheet	N5640
Service tool OCI700.1	Data sheet	N5655

Technical design

Operation, monitoring, alarming

Communication connections for local commissioning (USB) and remote operation, remote monitoring and alarming via Ethernet.



Interfaces

USB

The USB interface directly connects the PC/laptop on site. The required USB cable type A – type Mini-B is delivered with the device.

Ethernet

The router/network is connected to the Ethernet RJ45 plug. The Ethernet interface features Auto-MDI(X) for crossed and non-crossed Ethernet cables. An Ethernet category 5 cable is supplied.

KNX

The KNX bus is connected to the CE+ and CE- connection terminals labeled "KNX". See data sheet N3127 for more information on the KNX bus.

Logs

Web operation

Use HTTP (Port 80) via TCP/IP for web operation. In addition https encryption via port 443 is supported. The required certificate is not accredited. The self-signed certificate from Siemens is valid for 20 years and is installed on the web server. The certificate can be installed on the web browser as needed.

A RNDIS driver on the PC/laptop is required for USB communication. The RNDIS driver is automatically installed on PC/laptops connected to the Internet (provided the network administrator enables "online update"). The RNDIS driver is also saved to the web server under <http://<IP address>/drivers/>.

Send email

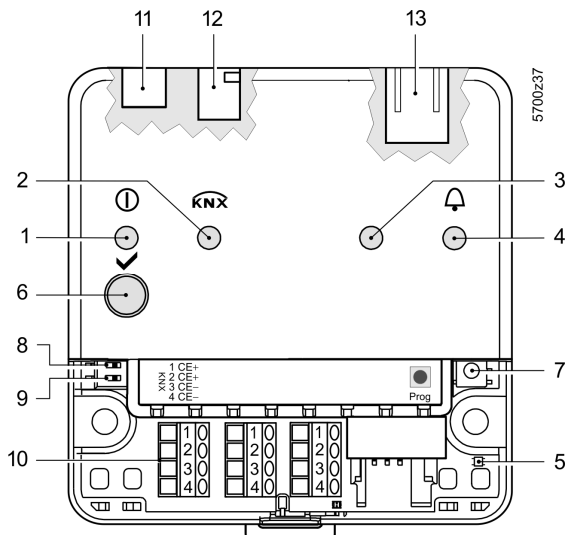
Fault messages and consumption data are sent in an email via SMTP. The email is encrypted using TLS if supported by the mail server.

Design

Basic design

The web server consists of a housing lower section containing printed circuit boards with interfaces. The upper housing section covers the printed circuit boards. The upper housing section contains the LED displays and one operating button. The connection terminals and additional display and operating elements are located under the removable cover for the upper housing section. All display and operating elements are labeled.

Display and operating elements



Pos	Name
1	LED On ①
2	LED KNX
3	LED field bus 2 (reserve)
4	LED fault 🔔
5	LED addressing mode
6	Remote button ✓
7	Addressing mode button Prog
8	"Message suppression" switch
9	Switch 2 (no function)
10	KNX bus connection terminals
11	Operating voltage connection
12	USB connection Mini-B
13	Ethernet connection, RJ45 plug

LED displays

- | | | |
|--------------------------------|--|---|
| 1 ① (green/red) | <ul style="list-style-type: none"> • Dark • Steady red • Flashing red • Steady green | <ul style="list-style-type: none"> No operating voltage DC 24 V. Web server starts operating system. Web server starts application. Web server operational. |
| 2 KNX (green) | <ul style="list-style-type: none"> • Dark • Lit • Flashing | <ul style="list-style-type: none"> No bus power. KNX operational. Communication on KNX. |
| 3 Field bus 2 (reserve) | <ul style="list-style-type: none"> • Dark | <ul style="list-style-type: none"> No function. |
| 4 Fault 🔔 (red) | <ul style="list-style-type: none"> • Dark • Lit • Flashing | <ul style="list-style-type: none"> No fault (normal operating state). Acknowledged fault. Unacknowledged fault. |
| 5 Addressing mode (red) | <ul style="list-style-type: none"> • Dark • Lit | <ul style="list-style-type: none"> KNX addressing mode off. KNX addressing mode on. |

Operating buttons

- | | | |
|-------------------------------|---|---|
| 6 Remote button ✓ | <ul style="list-style-type: none"> • Short (< 2 s) • Long (> 6 s) | <ul style="list-style-type: none"> Acknowledges fault message. Sends system report to all defined email recipients. |
| 7 Addressing mode Prog | <ul style="list-style-type: none"> • Short (< 2 s) | <ul style="list-style-type: none"> Press once: KNX addressing mode on. Press again: KNX addressing mode off. |

Button combinations

✓ and Prog

- Long (> 6 s) Simultaneously pressing the buttons ✓ and Prog restores defaults.
- i** All configuration data and settings are reset. The device list, plant diagrams, and unsent messages are deleted. History data is not deleted.

Switches

- | | | |
|------------------------------|---|--|
| 8 Message suppression | <ul style="list-style-type: none"> • Position ON <input type="checkbox"/> • Position OFF <input type="checkbox"/> | <ul style="list-style-type: none"> Sending messages is suppressed. Sending messages permitted. |
| 9 DIP switch 2 | <ul style="list-style-type: none"> • Switch settings | <ul style="list-style-type: none"> No function. |

Notes

Installation

The web server can be mounted in a panel, distribution box, or on a wall. Include space for wiring when planning. Make sure service can easily access the unit and the unit is ventilated properly.

- Standard mounting On standard rail TH 35-7.5.
- Wall mounting Attached with 2 screws.
- Mounting position Horizontal or vertical.
- Mounting and dimensions See "Dimensions".

Install

Important notes

Observe the following when installing:

- Run fuses, switches and wiring as per local regulations for electrical installations.
- We do not recommend plant monitoring via USB interface in environments with strong electromagnetic interference (e.g. in industrial environments with electrical welding equipment).
- See "Technical data" for electromagnetic compatibility.

Operating voltage

The supplied AC 230 V power supply provides the DC 24 V operating voltage for the web server.

Wiring

The operating voltage, USB and Ethernet plugs are located on the upper part of the housing.

The terminals on the device for the KNX bus are located under the removable cover.

Connection terminals

The connection terminals are designed for wire diameters of min. 0.5 mm or cross-sections of 0.25...1.5 mm² or stranded wire cross-sections of 0.25...1.0 mm².

Commissioning

Connections

The web server is commissioned locally via USB with a PC/laptop. A web browser must be installed on the PC/laptop. The supplied USB cable type A – Type Mini-B connects the web server to the PC/laptop.


Additional information is available in the installation instructions G5701 inserted in the package or the commissioning instructions C5701, available at: <http://<IP address>/doc/>

Router



A suitable router is required for remote operation via Internet. The router must support NAT/PAT as well as DynDNS for dynamic IP addressing.

IP address

- The IP address via USB is set: **192.168.250.1**.
- Default setting for the IP address via Ethernet: **192.168.251.1**.
- The network administrator must provide an IP address for the web server before you can connect the web server via Ethernet to a managed network.

User groups	User accounts are created and assigned to specific user groups for customized user operation.
End user	<ul style="list-style-type: none"> • Access to end-user data and fault overview. • Operate and monitor via menu tree and plant diagrams. • Administer own user accounts.
Service	<p>Same as end user. In addition:</p> <ul style="list-style-type: none"> • Access service data. • Download consumption data and message history. • Upload customized logos and documents. • System definitions update. • Update device web pages.
Administrator	<p>Same as service. In addition:</p> <ul style="list-style-type: none"> • Edit device list. • Create device web pages. • Create, copy, change, and delete plant diagrams. • Administer all user accounts.
Maintenance	The OZW772... web server is maintenance free (no battery changes, no fuses). Use only a dry towel to clean the housing.
Repair	The OZW772... web server cannot be repaired on site. If faulty, return to the Repair Center at the relevant Regional Company.
Disposal	 <p><i>Dispose of the device as electronic waste in compliance with European directive 2002/96/EEC (WEEE) and not as municipal waste. Observe all relevant national regulations and dispose of the unit correctly. Observe all local and applicable laws.</i></p>

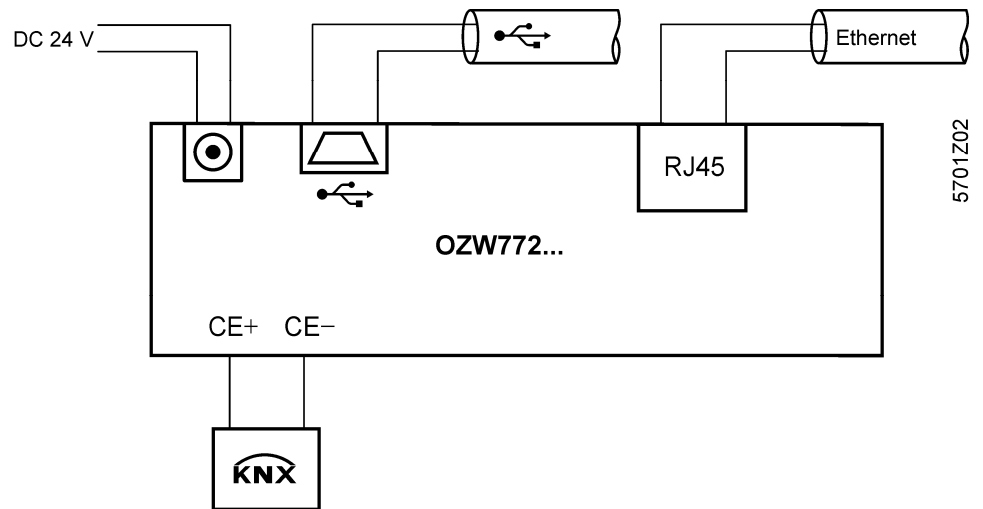
Technical data

Power cable for web server OZW772...	Operating voltage	AC 230 V \pm 15 %	
	Rated voltage	AC 230 V	
	Frequency	50/60 Hz	
	Power consumption (including web server OZW772...)	3 VA typical	
	Protection class	II	
	Output voltage	SELV 24 VDC	
	Supply line fusing	Max. 16 A	
	Cable length (distance from AC 230 V plug to web server)	Max. 1.6 m	
Web server OZW772...	Operating voltage	SELV DC 24 V, \pm 5 %, 625 mA max.	
	Power consumption	2 W typical	
Function data	Clock reserve	Min. 72 hours	
	Device list		
	OZW772.01	1 KNX device	
	OZW772.04	Up to 4 KNX devices	
OZW772.16	Up to 16 KNX devices		
OZW772.250	Up to 250 KNX devices		
KNX bus	Interface type	TP1 (twisted pair, 1 cable pair)	
	2-wire bus	CE+, CE- (non exchangeable)	
	Bus load number	E 0.3	
	KNX bus power consumption	6 mA	
	Permissible line length and cable types	See data sheet N3127	
	Connection, screw terminals for		
Solid/stranded wire (twisted or with ferrule)	Min. dia. 0.5 mm		
1 solid wire per terminal	0.25...1.5 mm ²		
1 stranded wire per terminal	0.25...1.0 mm ²		
USB	Interface type	USB V2.0	
	Device class	RNDIS	
	Baud rate	Max. 12 Mbps (full speed)	
	Connecting cable		
	Cable length	Max. 3 m	
Cable type for connection to PC/laptop	USB type A		
Cable type for connection to OZW772...	USB type Mini-B		
Ethernet	Interface type	100BaseTX, IEEE 802.3 compatible	
	Bit rate	Max. 100 Mbps	
	Protocol	TCP/IP	
	Identification	Auto MDI-X	
	Connection, plug	RJ45 plug (screened)	
Cable type	Standard Cat-5, UTP or STP		
Cable length	Max. 100 m.		
Standards	Product safety		
	Safety of information technology equipment	EN 60950-1	
	Home and Building Electronic System (HBES)	EN 50491-3	
	Electromagnetic compatibility		
	Immunity	Industrial sector	EN 61000-6-2
	Emissions	(Residential, business and commercial as well as light industrial environments)	EN 61000-6-3
	Home and Building Electronic System (HBES)		EN 50491-5-3
	 Conformity		
	EMC guidelines		2004/108/EC
	Low voltage directive		2006/95/EC
	Ecodesign directive		2005/32/EC
	 Conformity		
	Australian EMC Framework		AS/NZS 61000-6-3
Radio Interference Emission Standard			
Environmental compatibility		ISO 14001 (environment)	
The product environmental declaration CE1E5701en contains data on environmentally compatible product design and assessments (RoHS compliance, materials composition, packaging, environmental benefit, disposal)		ISO 9001 (quality) SN 36350 (environmentally compatible products) 2002/95/EC (RoHS)	

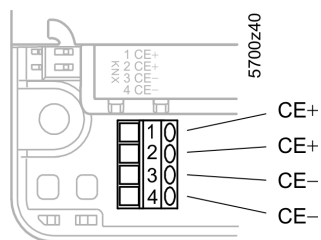
Degree of protection	Protective category	IP30 as per EN 60529
	Protection class	III as per EN 60950-1
Ambient conditions	Operation	IEC 60721-3-3
	Climatic conditions	Class 3K5
	Temperature (housing and electronics)	0...50 °C
	Humidity	5...95 % r. h. (non-condensing)
	Mechanical conditions	Class 3M2
	Transport	IEC 60721-3-2
Climatic conditions	Class 2K3	
Temperature	-25...+70 °C	
Humidity	<95 % r. h.	
Mechanical conditions	Class 2M2	
Materials and colors	Upper housing section	PC + ASA, RAL 7035 (light-gray).
	Lower housing section	PC + ASA, RAL 5014 (dove blue).
Dimensions	Length x width x height (max. dimensions)	87.5 mm x 90 mm x 40 mm.
Weight	Web server OZW772...	0.136 kg
	Web server with packaging, installation instructions, power unit, USB and Ethernet cable, cable ties.	0.589 kg
	Packaging	Cardboard box
Terms, abbreviations	Auto Medium Dependent Interface – Crossed	Auto-MDI(X)
	Dynamic Domain Name System	DynDNS
	HVAC Integrated Tool von Siemens	HIT
	Hyper Text Transfer Protocol	HTTP
	Hyper Text Transfer Protocol Secure	HTTPS
	Internet Protocol	IP
	Konnex	KNX
	Network Address Translation	NAT
	Port and Address Translation	PAT
	Remote Network Driver Interface Specification	RNDIS
	Shielded Twisted Pair	STP
	Simple Mail Transfer Protocol	SMTP
	Transport Layer Security	TLS
	Transmission Control Protocol	TCP
	Universal Serial Bus	USB
	Unshielded Twisted Pair	UTP

Connection diagrams

Connection diagram

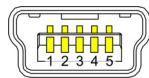


KNX connection terminals



Pin assignment USB

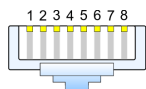
Plug, type Mini-B



1	VCC	4	ID
2	D -	5	GND
3	D +		

Ethernet

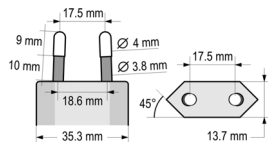
RJ45 plug



1	Tx +	5	Unused
2	Tx -	6	Rx -
3	Rx +	7	Unused
4	Unused	8	Unused

Power cable

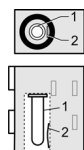
Type Euro plug as per EN 50075 and VDE 0620-1.



P	AC 230 V	N	AC 230 V
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Operating voltage

DC 24 V plug



1	DC 24 V (+)	2	GND (-)
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Dimensions

