

TEMPERATURE SENSOR



MANUFACTURER INFORMATION

Dear Customer,
should you require technical advice and your retailer could not help please contact our technical support.

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BDA_ZHD01

GB USER MANUAL ZHD01



Business hours:
Monday to Thursday: 08:00 - 17:00
Friday: 08:00 - 14:30

Congratulations and thank you for purchasing the Schwaiger ZHD01 product. Below you will find useful operating guidelines.

Paste in Z-Wave

- Make sure that Z-Wave RS is in the factory defaults setting.
- Activate „Inclusion/Paste” on the Z-Wave controller.
- Press the LED button on Z-Wave RS.
- Check the process status on the controller and Z-Wave RS.

Introduction

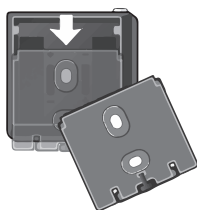
Schwaiger ZHD01 is a battery-operated temperature sensor. If it is integrated into the wireless Z-Wave network, the control buttons can be used to control the heating system.

LED button**INCREASE temperature****Display**

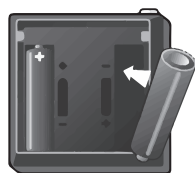
(with backlight)

LOWER temperature**Installation**

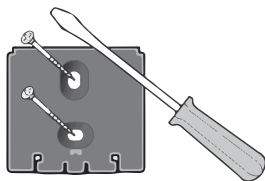
1. Remove the back panel by sliding it downwards.



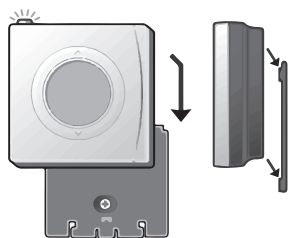
2. Replace the batteries.



3. Fasten the back panel to the wall.



4. Gently push the Z-Wave RS on the back panel.

**Z-Wave information**

General device class	Multi-level sensor
Specific device class	Routing multilevel sensor
Device type	Routing slave
SDK	4.55
NWI	Yes
Explorer frames	Yes
Manufacturer ID	0x0002
Product type ID	0x0003
Product ID	0x8010

Display information

Display	LED	Explanation
		Room temperature displayed
		Rapid green flashing
		Red flashing
		Runs insertions or deletions
		Red flashing every 150 seconds
		Red flashing every 30 seconds
		Insertions or deletions failed

Z-Wave command classes

Command Class	Version	Description
BASIC	V1	<ul style="list-style-type: none"> • Basic SET: Not supported • Basic GET: Multi-level sensor get • Basic REPORT: Multi-level sensor report (1 °C accuracy)
MANUFACTURER_SPECIFIC	V2	ID from Danfoss and Z-Wave RS
VERSION	V2	Version of command classes, of the Z-Wave Library and of Z-Wave RS
BATTERY	V1	Battery status
MULTI_CMD	V1	Conserve battery power by transmitting multiple commands in a single package
WAKE_UP	V2	Switch-on intervals of 5 min to 24 h (default: 60 minutes)
PROTECTION	V2	0 = No protection 2 = User interface locked
CONFIGURATION	V2	Specific Z-Wave RS configuration
SENSOR_MULTILEVEL	V6	Specifies the value from the room temperature sensor again
CENTRAL_SCENE	V1	By pressing the LED button the transmission of CENTRAL_SCENE_NOTIFICATION is triggered.
THERMOSTAT_SETPOINT	V3	When selecting a temperature setpoint on the display controller, the setpoint is reported.
SCHEDULE	V1	When selecting a temperature and a number of hours on the display controller reported the program change values.
INDICATOR	V1	Control of the LED display.


Disposal information

This device contains no batteries. It is an electrical device. It can be disposed of free of charge at specified disposal sites.

EC Declaration of Conformity

„Hereby Schwaiger GmbH declares that the ZHD01 product is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. ” The Declaration of Conformity can be found at the following address: <http://www.schwaiger.de/downloads>

Functions

1. Raumtemperatursensor		
Command Class	SENSOR_MULTILEVEL	The room temperature is shown on the display as the icon  indicates. If inserted in the Z-Wave network the temperature is reported to the controller when the device is switched on as well as during changes in temperature, in which the configured limit is exceeded.
Display accuracy	0,1 °C	
Sensor read	Every 5 minutes	
Report send	When switching on If you exceed the reporting threshold	
CONFIGURATION COMMAND CLASS	Default setting	Area
Report threshold	0,5 °C	0,1 to 10 °C
2. Rocker switch		
Command Class	CENTRAL_SCENE	When clicking the LED button a CENTRAL_SCENE_NOTIFICATION is sent to the controller.
Supported key attributes	0x00/0x01/0x02	
3. LED control		
Command Class	INDICATOR	The controller can trigger and stop a flashing session on the LED button using the set display command. The frequency, flashing frequency and colour of the session are controlled by 4 configuration parameters.
Indicator Set	0xFF = start LED flashing session 0x00 = stop current session	
CONFIGURATION COMMAND CLASS	Default setting	Area
LED on time	100 ms	100 to 500 ms in steps of 100 ms
LED Flash period	1 s	0 to 65535 seconds
Number of LED flashes (duration)	5	0 to 255 x flashing
LED colour	Green	Green, red
4. Change setpoint		
Command Class	THERMOSTAT_SETPOINT	The up and down arrow keys are used to select a new setpoint temperature. After selection of a setpoint this flashes for 5 seconds. Thereafter, the measured temperature is displayed again and the Z-Wave RS sends the selected temperature as THERMOSTAT_SETPOINT_REPORT to the Z-Wave controller.
Indicator Set	0xFF = LED-flashing session starts 0x00 = stop current session	
CONFIGURATION COMMAND CLASS	Default setting	Area
Setpoint control function	Activated	Deactivated/activated
Set-point display resolution	0,5 °C	From 0.1 to 10 °C in steps of 0.1 °C
Max set-point and override limit	28 °C	From min. setpoint/clip to max. 40 °C
Min. set-point and override limit	12 °C	From min. 0 °C to max. setpoint/clip
Setpoint in Thermostat_Setpoint_Reports	Heating #1	Heating #1, cooling #1, auto changeover
5. Scheduler override thermostat		
Command Class	SCHEDULE	The up and down arrow keys are used to select the temporary override temperature. The selected value flashes on the display for 5 seconds. Press the LED button before the 5 seconds are over to select the number of hours for the override. The selected number of hours flashes for 5 seconds. Thereafter, the measured temperature is displayed again and the Z-Wave RS sends the selected temperature and the number of hours as SCHEDULE_REPORT to the Z-Wave controller.
CONFIGURATION COMMAND CLASS	Default setting	
Temporarily override scheduler	Activated	Deactivated/activated
Set-point display resolution	0,5 °C	From 0.1 to 10 °C in steps of 0.1 °C
Max set-point and override limit	28 °C	From min. setpoint/clip to max. 40 °C
Min. set-point and override limit	12 °C	From min. 0 °C to max. setpoint/clip

Technical specifications

Battery	Alkali 2 x AA, 1.5 V
Battery life	Up to 4-5 years
Backlight	Green LED
Ambient temperature	0° to +40 °C
Battery monitoring	The sensor has a built-in monitoring circuit which detects a low or critical battery level.
Transmission frequency	868.42 MHz
Transmission range in normal buildings	Up to 30 m
Transmission power	Max. 1 mW
IP degree of protection	21
Dimensions	81 mm x 66 mm x 21 mm

Configuration Command Class

No.	Configuration parameter	Standard setting	Area	Coding
1	Temperature Report threshold	0,5 °C	0.1 to 10 °C	2 bytes 1 = 0.1 °C 100 = 10.0 °C
2	Set-point display resolution	0,5 °C	From 0.1 to 10 °C in steps of 0.1 °C	2 bytes 1 = 0.1 °C 100 = 10.0 °C
3	Min. set-point and override limit	12 °C	Min. 0 °C to max. setpoint/output	2 bytes 0 = 0 °C 40 = 40 °C
4	Max set-point and override limit	28 °C	Min. setpoint/output to max. 40 °C	
6	Setpoint control function	Activated	Deactivated/activated	1 byte 0 = deactivated 1 = activated
7	Temporarily override scheduler	Activated	Deactivated/activated	
8	Setpoint in Thermostat_Setpoint_Reports	Heating	Heating #1, cooling #1, auto changeover	1 byte 1 = heating #1 2 = cooling #1 10 = auto changeover
9	LED on time	100 ms	100 to 500 ms in steps of 100 ms	1 byte 1 = 100 ms 5 = 500 ms
5	LED Flash period	1 s	0 to 65,535 seconds	2 bytes
10	Number of LED flashes (duration)	5	0 to 255 x flashes	1 byte
11	LED Color	Green	Green, red	1 byte 0x01 = green 0x02 = red

Z-Wave networks

Z-Wave RS can be installed and operated in any Z-Wave network with other Z-Wave certified devices from other manufacturers. Independently from respective manufacturers all permanently powered Z-Wave nodes function as Repeaters within a network

Z-Wave best practice

- After the successful „paste“ the controller must send a WAKE_UP_INTERVAL_SET command to Z-Wave RS to specify where and when Z-Wave RS should communicate wirelessly.
- After issuing the command WAKE_UP_INTERVAL_SET, the controller must assign return routes, so that Z-Wave RS can reach its goal, i.e. the node ID given by the command WAKE_UP_INTERVAL_SET
- The node ID given by the command WAKE_UP_INTERVAL_SET applies to a permanently switched-on device that responds to commands sent from Z-Wave RS. If the controller is turned off for long periods, the batteries of the Z-Wave RS are used up too quickly.
- Although Z-Wave RS responds to individual commands, multiple commands must always be used to ensure the two year battery life.

Delete from Z-Wave

- Press „Exclusion/Remove“ on the Z-Wave controller.
- Keep the three buttons on the Z-Wave RS pressed for 5 seconds (up, down and LED buttons).
- Check the process status on the controller and Z-Wave RS.

Z-Wave wake up

A controller can only communicate with Z-Wave RS when the device is switched on. The intervals in which Z-Wave RS is turned on can be adjusted by means of the command class „switch on.“ The default setting for switching on is 60 minutes. Z-Wave RS can be turned on manually by pressing one of three buttons and then stays on for 10 seconds.

Resetting to factory default settings

- Remove one of the batteries.
- Hold the LED button for about five seconds when reinserting the battery until the LED flashes red. The Z-Wave RS is now reset to the factory default settings.

