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1 Brief description of wireless kit

The wireless kit is part of the GEZE hold-open system FA GC 150 or FA GC 160. The wireless module GC 171, ID 163051, makes wireless communication possible between the lintel-mounted smoke switch and the various wireless devices.

- Wireless ceiling-mounted smoke detector GC 172, ID 159656
- Wireless ceiling-mounted thermal detector GC 173, ID 159657
- Wireless input module GC 175, ID 163068 (for the connection of manual trigger switches or contacts for the fire detector system)

2 Wireless module GC 171

2.1 Use

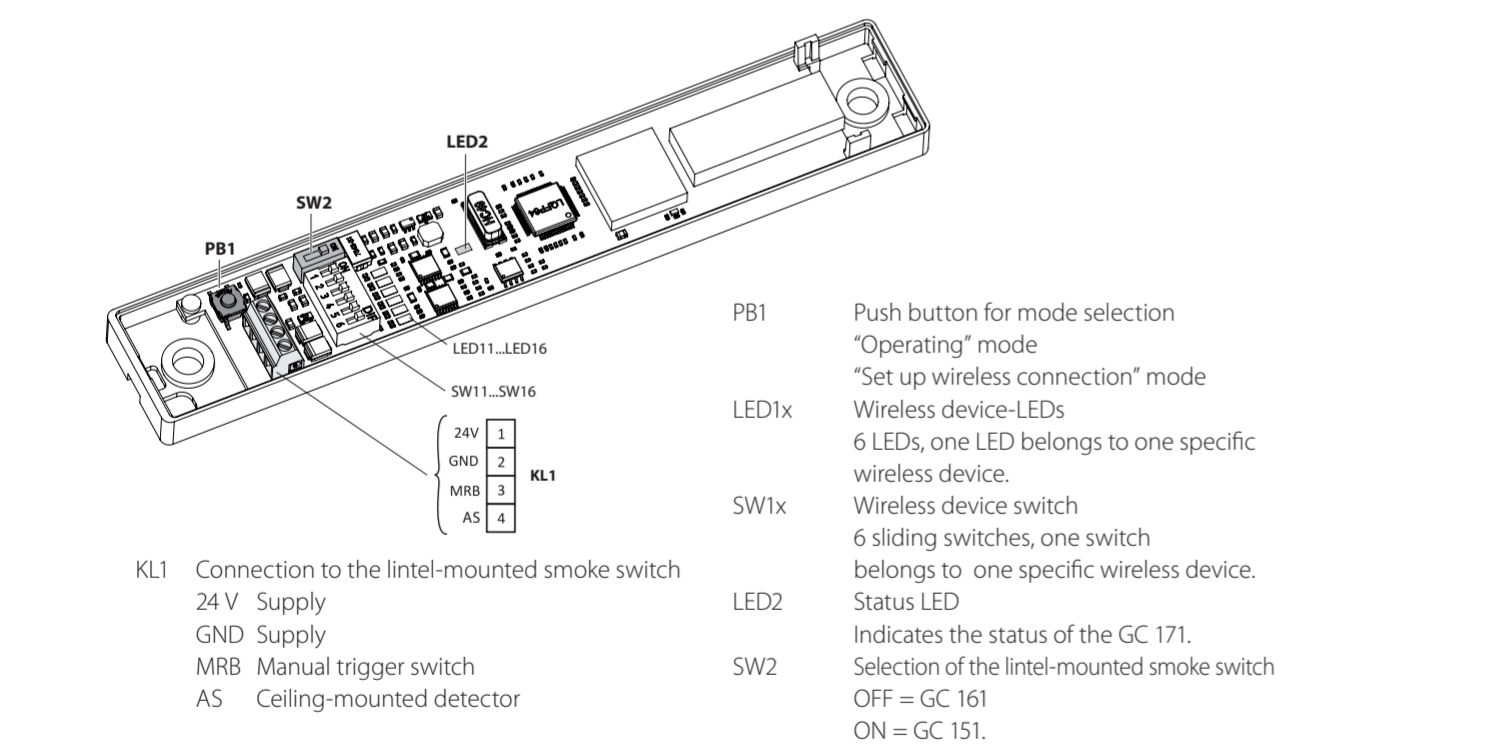
The wireless module GC 171 is connected to the lintel-mounted smoke switch. An alarm triggered at a wireless module is indicated immediately at the lintel-mounted smoke switch. Interference with a wireless device or a problem with communication is indicated on the lintel-mounted smoke switch in less than 100 ms. The wireless module GC 171 forwards wireless signals to the lintel-mounted smoke switch as changes in resistance.

i Heed the document for the hold-open system FA GC 150 or FA GC 160 - Instructions for the installation, commissioning, operation and maintenance, see www.geze.com.

2.2 Technical data

Wireless module GC 171	ID 163051
Colour	RAL 7016 (anthracite grey)
Dimensions (W x H x D)	177 mm x 30 mm x 18 mm
Installation position	Wall assembly
IP rating (in acc. with EN 60529)	IP20, only for dry areas
Ambient temperature	-5°C to 50°C
Input voltage	24 V DC *
Input current	Maximum of 15 mA *
Number of wireless participants	The wireless module GC 171 can communicate with a maximum of 6 wireless devices.
Signal transfer period	60 s
Antenna	integrated
Frequency range	868.15 MHz to 869.85 MHz
Range	10 m (100 m in space)
Number of frequency channels	7
Modulation technique	FSK (frequency shift keying)
Radiated power	10 dBm / 10 mW

* The GC 171 will be supplied from a limited power source (LPS).

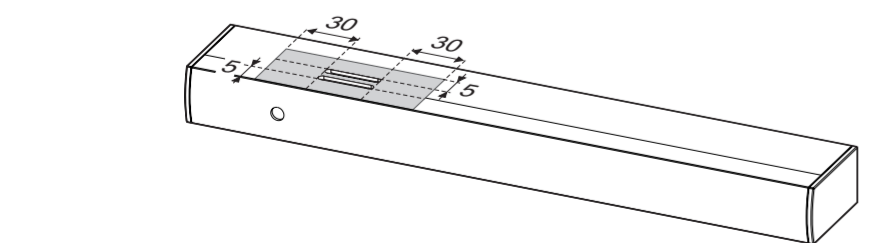


2.3 Connection to the lintel-mounted smoke switch GC 151

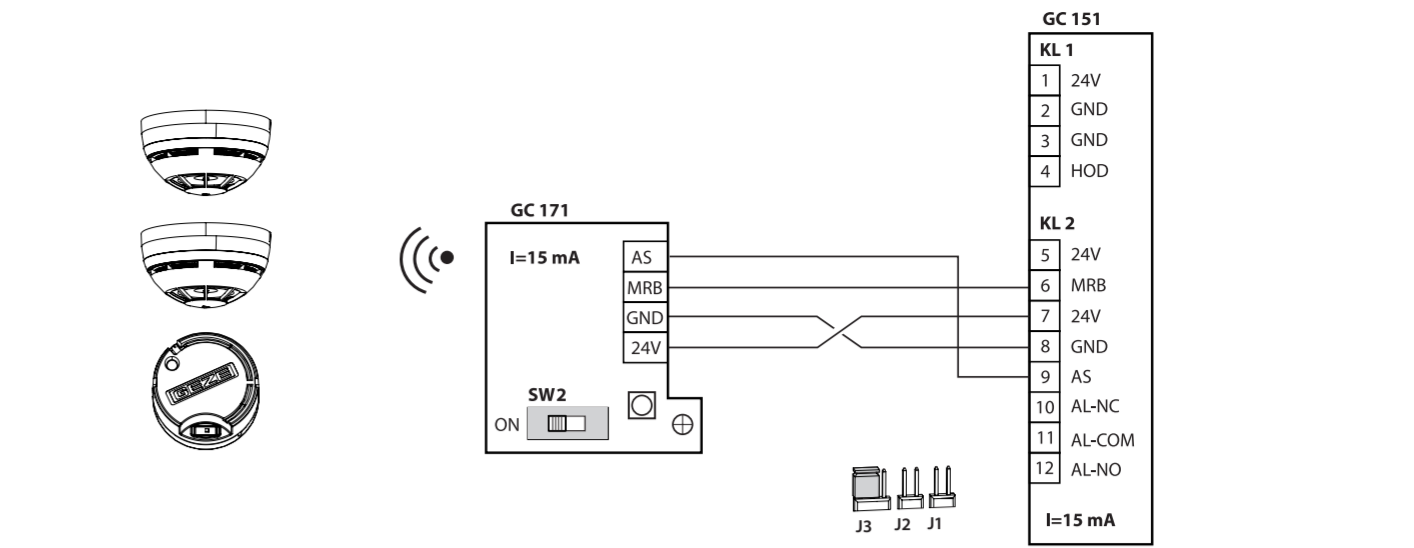
- Lintel-mounted smoke switch GC 151:**
- Remove jumper J1.
 - Remove jumper J2 (red).
 - Set jumper J3 to the measuring chamber (PIN 2-3 with line monitoring).

Wireless module GC 171:

- The area defined in the following illustration must be kept free.



- Set switch SW2 to the ON position.
- Use cable type J-Y(ST)Y, 2x2x0.6 mm or 2x2x0.8 mm. Length max. 3 m.



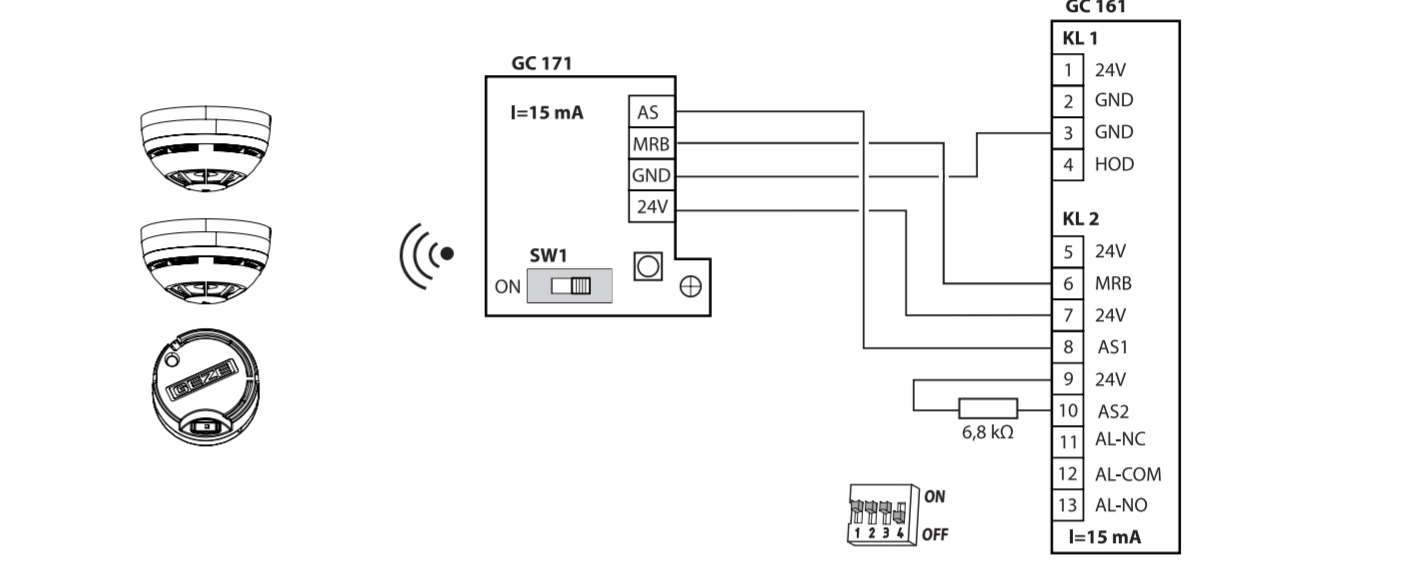
i Always remove jumpers J1 and J2 from the GC 151.

2.4 Connection to the lintel-mounted smoke switch GC 161

- Lintel-mounted smoke switch GC 161:**
- DIP1 = ON (with manual trigger switch)
 - DIP2 = ON (with ceiling-mounted detector)
 - DIP3 = ON (line monitoring to the manual trigger switch)
 - Connect KL2.9 to KL2.10 via a 6.8 kΩ resistor

Wireless module GC 171:

- The housing of the wireless module must be at least 7 cm away from the smoke intake openings of the lintel-mounted smoke switch.
- Set switch SW2 to the OFF position.
- Use cable type J-Y(ST)Y, 2x2x0.6 mm or 2x2x0.8 mm. Length max. 3 m.



i On GC 161 always set DIP switch 1 to DIP switch 3 to ON.

2.5 "Operating" mode

After the supply voltage has been switched on, the wireless module GC 171 is in "operating" mode. In "operating" mode the wireless module monitors the set-up wireless connections and signals faults and alarms to the lintel-mounted smoke switch. Faults and alarms are also indicated on the status LED and the wireless device LEDs of the wireless module. The following table shows the states for the different events:

- of the wireless device LEDs of the wireless module,
- of the status LED of the wireless module,
- of the LED of the lintel-mounted smoke switch,
- of the hold-open output of the lintel-mounted smoke switch.

The wireless module indicates an event until the cause has been eliminated. If the cause of an event is no longer present, the wireless module changes back to normal mode (the displays are deleted and 24 V is applied to the hold-open output of the lintel-mounted smoke switch again).

Wireless connection	State / fault	Wireless module GC 171 ("operating" mode)		Lintel-mounted smoke switch GC 151	
		Wireless device LED 1x	Status LED	LED ¹⁾	Hold-open output KL1: 3-4 / KL3: 1-2
GC 171	Connection quality	green flashes → good yellow flashes → sufficient red flashes → poor	off	green	24 V
	General fault	off	yellow	red	0 V
GC 172 GC 173	General fault	red	off	red	0 V
	Sabotage	red	off	red	0 V
	Loss of connection	red	off	yellow	0 V
	Low battery charge (warning)	yellow	off	green	24 V
	Soiling (warning)	red/green briefly	off	red	0 V
	Soiling limit reached	red/green long	off	red	0 V
	Wireless detector alarm	red	red	red	0 V
GC 175	General fault, broken cable	red	off	red	0 V
	Loss of connection	red	off	red	0 V
	Low battery charge (warning)	yellow	off	green	24 V
	Contact (N/O contact) activated, short-circuit	yellow	off	yellow	0 V

1) If the LED flashes red 5 x on the lintel-mounted smoke switch GC 161, the 6.8 kΩ resistor has not been connected properly.

Connection quality

If the wireless device switch is in the OFF position during "operating" mode, the corresponding wireless device LED indicates the connection quality to the corresponding wireless device:

- LED is off → no wireless connection set up
- LED flashes green every 2 s → good connection quality
- LED flashes yellow every 2 s → sufficient connection quality
- LED flashes red every 2 s → still connected but poor connection quality

Connection interference is possible, the quality of the wireless connection should be optimised by changing the position of the wireless device.

If the wireless device switch is in the OFF position in "operating" mode and the wireless device signals an event (a warning, a fault or an alarm), the wireless device LED indicates this event in compliance with the table above instead of the connection quality.

General fault

The wireless module signals "general fault" if

- no wireless connection is set up,
- the wireless module is in the "set up wireless connection" mode,
- the set-up switch is in the ON position with GC 172, GC 173 or GC 175,
- an internal fault has occurred during smoke detection with GC 172
- the connection between the wireless input module and termination resistor is interrupted with GC 175.

Sabotage

The wireless module signals "sabotage" if a wireless detector GC 172 or GC 173 has been removed from its base.

Loss of connection

If the wireless module does not receive a new message from a set-up wireless device within 100 s of the last message, the wireless module signals "loss of connection" for the corresponding wireless connection. The wireless module continues to monitor this wireless connection. If the wireless module sends a signal again in time, the wireless module returns to "normal operation".

Low battery charge

The wireless module signals "low battery charge" if the voltage of the main battery of the corresponding wireless device falls to less than 2.6 V. Both batteries (main battery and slave battery) must be replaced.

Soiling

The wireless module signals "soiling" if the inside of the smoke chamber of the wireless smoke detector GC 172 is heavily soiled. The corresponding wireless smoke detector should be replaced.

Soiling limit reached

The wireless module signals "soiling limit reached" if the inside of the smoke chamber of the wireless smoke detector GC 172 is too heavily soiled. The wireless smoke detector must be replaced.

Wireless detector alarm

The wireless module signals "wireless ceiling-mounted detector alarm" if the wireless smoke detector GC 172 or the wireless thermal detector GC 173 triggers. The signal is acknowledged automatically when the cause of the alarm is no longer present. The wireless module returns to "normal operation".

Contact activated

The wireless module signals "contact activated" if the input of the wireless input module GC 175 is short-circuited (when the connected contact is closed or in the event of short-circuit of the connection to the contact). The signal is acknowledged automatically when the short-circuit is no longer present.

The wireless module returns to "normal operation".

Event memory

The wireless module saves the last event for every connected wireless device. A new event overwrites the last event. In order to check whether an event has been saved for the wireless device, slide the corresponding wireless device switch to the ON position. If an event has been saved for this wireless device, the corresponding wireless device LED will then display this event as shown in the table above. If the wireless device LED is green, then no event has been saved for this wireless device.

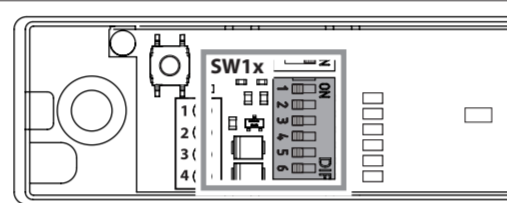
When the wireless device switch is slid back to the OFF position, any event saved is deleted.

2.6 Set up wireless connection" mode

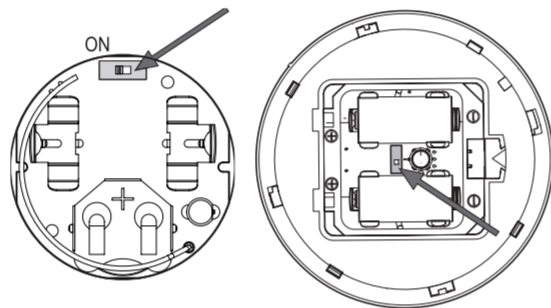
In the "set up wireless connection" mode, new wireless connections can be set up to new wireless devices GC 172, GC 173 or GC 175. A maximum of 6 wireless connections can be set up.

Pre-conditions

▫ All the wireless device switches of the wireless module GC 171 are in the OFF position.



▫ The set-up switch of the new wireless device is set to the ON position.

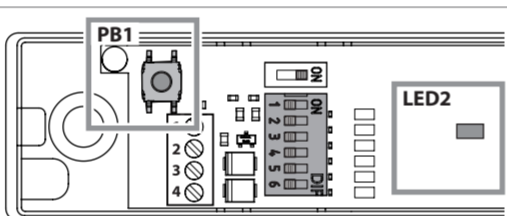


▫ The protective film is on the battery compartment of the new wireless device and the main battery for the new wireless device has not been fitted.

After the supply voltage has been switched on, the wireless module GC 171 is in "operating" mode.

▶ Press the PB1 push button on the wireless module GC 171 briefly to change to the "set up wireless connection" mode.

The status LED2 of the wireless module GC 171 is now permanently lit red.

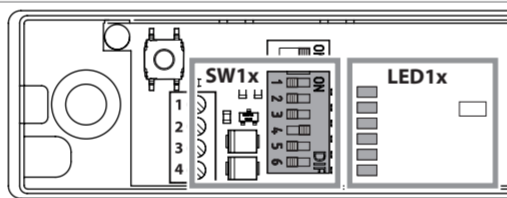


Set up wireless connection

▶ Slide a free wireless device switch SW1x of the wireless module GC 171 to the ON position.

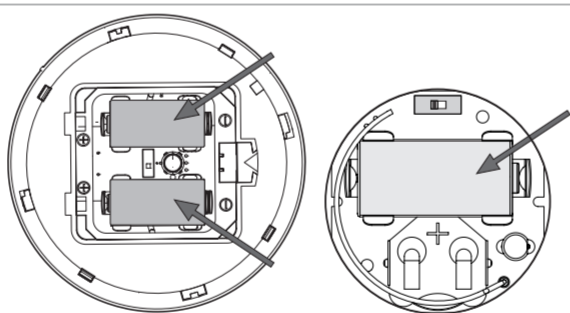
If a connection has already been set up for the wireless device switch selected, this is overwritten by the following process. The corresponding wireless device LED1x starts to flash green. The wireless module GC 171 waits for the connection query for a new wireless device. If a wireless device does not respond within 2 minutes, the GC 171 cancels the connection attempt, the corresponding wireless device LED1x lights up red.

▶ To start the connection attempt again, slide the corresponding wireless device switch SW1x to the OFF position briefly, then slide it back into the ON position. The corresponding wireless device LED1x flashes green again for 2 minutes.



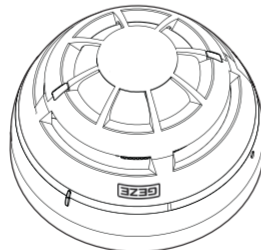
Install batteries

▶ Remove the protective film from the battery compartment of the new wireless device and install the main battery in the new wireless device (ensure correct polarity).



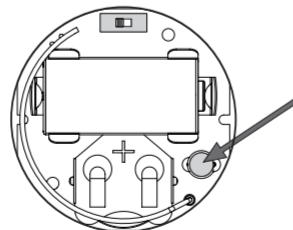
Wireless ceiling-mounted detector GC 172 or GC 173:

The LED of the new wireless ceiling-mounted detector flashes green twice first, then lights up yellow for one second and then flashes red four times. As soon as the LED goes out after that, the connection can be set up.



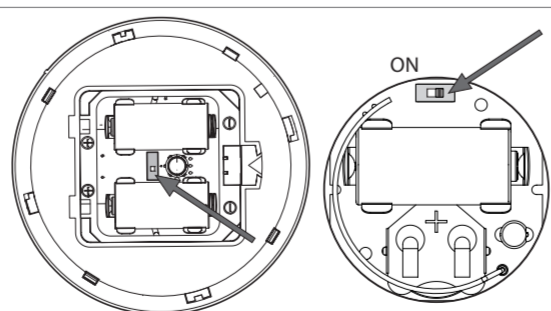
Wireless input module GC 175:

The LED of the new wireless input module flashes green once first, then lights up yellow for one second and then flashes red four times. As soon as the LED goes out after that, the connection can be set up.



▶ Slide the set-up switch on the new wireless device to the 1 position.

After a short time, the LED of the new wireless device will flash green for a few seconds. The corresponding wireless device LED1x of the wireless module GC 171 lights up green permanently.



If the LED on the new wireless device lights up red permanently, no connection has been made.

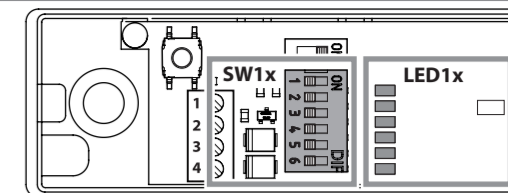
▶ In this case, remove the main battery from the new wireless device, slide the set-up switch on the new wireless device back and forward six times and start again with "Install batteries".

▶ Fit the wireless ceiling-mounted detector to the base and close the housing of the wireless input module.

▶ Slide the wireless device switch SW1x of the wireless module GC 171 to the OFF position again.

The colour of the flashing of the corresponding wireless device LED1x indicates the quality of the wireless connection (see chap. 4.5.1).

▶ Optimise the quality of the wireless connection if necessary by changing the position of the wireless device.



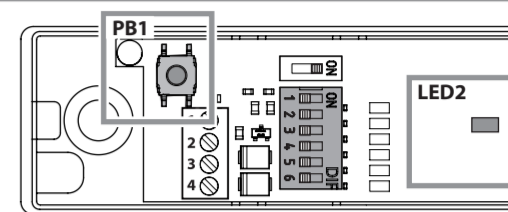
The connection of the wireless module GC 171 to the new wireless device has been set up.

▶ Note the set-up connection (number of the assigned wireless device switch) on the new wireless device unit e.g. on its identification plate.

▶ To set up further wireless connections, continue with step "Set up wireless connection".

▶ Press the PB1 push button on the wireless module GC 171 briefly to change to the "operating" mode.

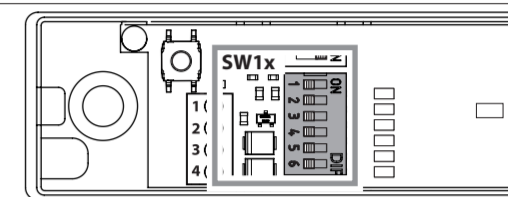
The status LED2 of the wireless module GC 171 goes off.



Delete all wireless connections

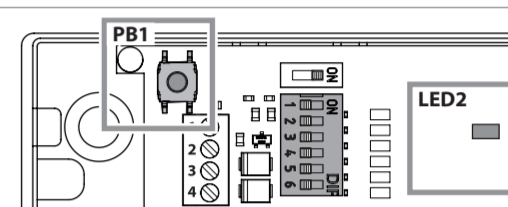
All wireless connections already set up can be deleted in the "set up wireless connection" mode.

After the supply voltage has been switched on, the wireless module GC 171 is in "operating" mode. All the wireless device switches SW1x are in the OFF position.

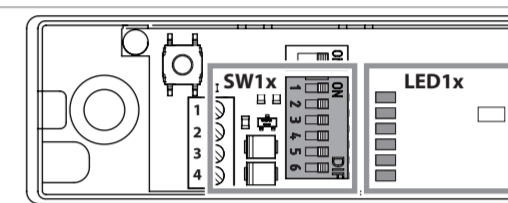


▶ Press the PB1 push button briefly to change to the "set up wireless connection" mode.

The status LED2 of the wireless module is now permanently lit red.

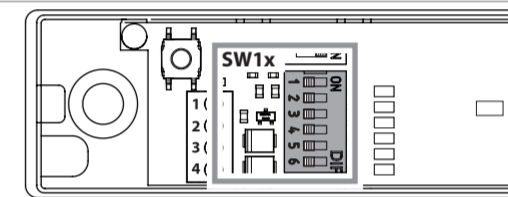


▶ Slide all 6 wireless device switches SW1x to the ON position. The wireless device LED1x light up yellow in succession until all the wireless device switches are in the ON position. They then flash red for 5 s. Within these 5 s, deletion of the wireless connections can be cancelled by sliding one or more wireless device switches back to the OFF position

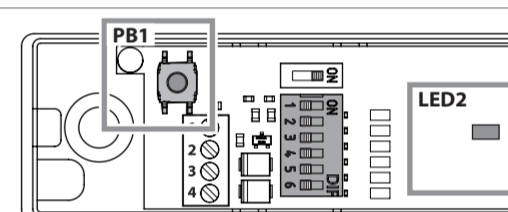


Now all 6 wireless device LED1x are lit yellow permanently, all wireless connections are deleted

▶ Slide all 6 wireless device switches SW1x back to the OFF position.



▶ Press the PB1 push button briefly to change back to the "operating" mode. The status LED2 of the wireless module is now permanently lit yellow.



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