



ATTENTION – Danger of electrical hazard!

Installation and putting into operation of the PP45 Act may only be done by authorized personnel. Mains power has to be disconnected or switched off before installation!

Intended use:

The PP45 Act may only be used in fixed installations to switch directly connected appliances with a supply voltage of 230V AC. These may be lights or fans etc. It is not intended to be used for switching electrical heaters, machines or power outlets.

The PP45 Act is designed to be used in fixed installations in buildings or homes. The suitability of the product has to be verified before installing it by checking the technical data and the operating conditions.

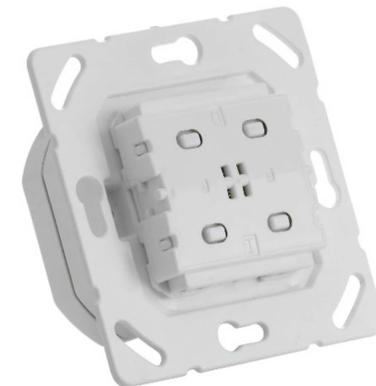
The PP45 Act may not be used to switch life supporting devices or appliances, which can endanger people, animals or goods.

Warranty:

Warranty gets void in case of unintended use of the PP45 Act or when the housing is opened or the PP45 Act is modified.

TECHNICAL DATA

Voltage	230V~ 50/60Hz
Switching power	5A, max. switch-on current 80A
Terminals	1,5mm ² rigid wire
External input	230V~
Operating conditions	-10°C ... +50°C max. 85%rH, non condensing
EnOcean radio	868,3 MHz ASK
Protection class	IP30



PRODUCT DESCRIPTION

The PP45 Act is an electronic 1-channel flush-mounted switch with local operation and an external input for push-buttons. It can easily be matched to the home decor lines of many prominent manufacturers and is operated by one or two rockers, which can be snapped on. The selectable timer-function with variable delay values offers many possible applications as a direct replacement of a traditional mechanical switch.

Wireless EnOcean switches or EnOcean Sensors (with or without integrated brightness measurement) can be placed anywhere and are still able to control the PP45 Act via the integrated EnOcean radio. Fully automatic light control can be realised with the PP45 Act using the timer-function and the variable brightness level. The manual configuration of the PP45 Act is described on the following pages.

PRODUCT FUNCTIONALITY

PP45 Act offers two different operating modes, toggle and timer. Selection of the desired mode can be done by manual configuration, see page 6: SELECT MODE OF OPERATION, TIMER VALUE, BRIGHTNESS LEVEL.

If there is a single rocker snapped on the PP45 Act, it can be controlled locally using this rocker. If there are two rockers snapped on the PP45 Act, local control is done with the right rocker. The left rocker operates like a wireless switch (e.g. a PTM).

Toggle mode (Basic function for the Communication with MAICO PP45 RC):

In toggle mode the single rocker from PP45 Act toggles the output, from on to off and from off to on. Rockers of wireless switches teached-in to the PP45 Act switch the output in the same way as the local rocker. It is not relevant, if the rocker is activated on the upper or on the lower side. A push-button connected to the external input operates the output with each pushing similar to the rocker. Several push-buttons can be connected in parallel.

Timer mode (Additional function for light or similar):

The single rocker controls the built-in timer, which defines the status of the output. When the output is off, a short press on the single rocker starts the timer run-time, which switches on the output. When the output is on, a further short press retriggers the timer (reset of the timer run-time). After passing the timer run-time the output will switch off.

Rockers of wireless switches teached-in to the PP45 Act control the timer in the same way as the rocker of the PP45 Act. It is not relevant, if the rocker is activated on the upper or on the lower side.

A push-button connected to the external input operates the timer with each pushing similar to the rocker. Several push-buttons can be connected in parallel.

As a warning before switch-off the timer deactivates the output for 0.5 seconds 30 seconds before the end. After expiration of the timer the output is switched off.

Timer mode – Function Cleaning mode (Additional function for light or similar):

A long press (>2s) of the rocker or a single rocker or of a wireless switch teached-in rocker to the output or an external pushbutton activates the cleaning mode. In this mode the timer is set to an especially long time of 60 minutes. This will be confirmed by a short switch off / on of the output. Cleaning mode does not allow a retriggering of the timer run-time. A warning before switch-off is also integrated. Cleaning mode can be terminated by another long press (>2s). After that the output switches off immediately.

Timer mode – Combination with presence- or moving detector (Additional function for light or similar):

When a presence or motion detector is teached-in to the PP45 Act, it starts the timer run-time and switches on the output after detection of a motion. It retriggers the timer run-time periodically as long as it detects motion. If the detector also delivers brightness measurement values, than the output is only switched on, when the latest brightness measurement value was below the selected brightness level.

In case that there are several motion detectors are teached-in, the PP45 Act combines them according to a „logical or“. The latest received brightness measurement value will be used regardless which sensor sent it. The measuring and transmitting cycles of the presence or motion detectors have to be observed carefully as they define the reliability of the automatic light control!

NOTE (for timer mode):

Manual switch off of the timer (during the active timer run-time) and thus of the output is only possible by activating and early deactivating of the cleaning mode (2 times long press (>2s)).

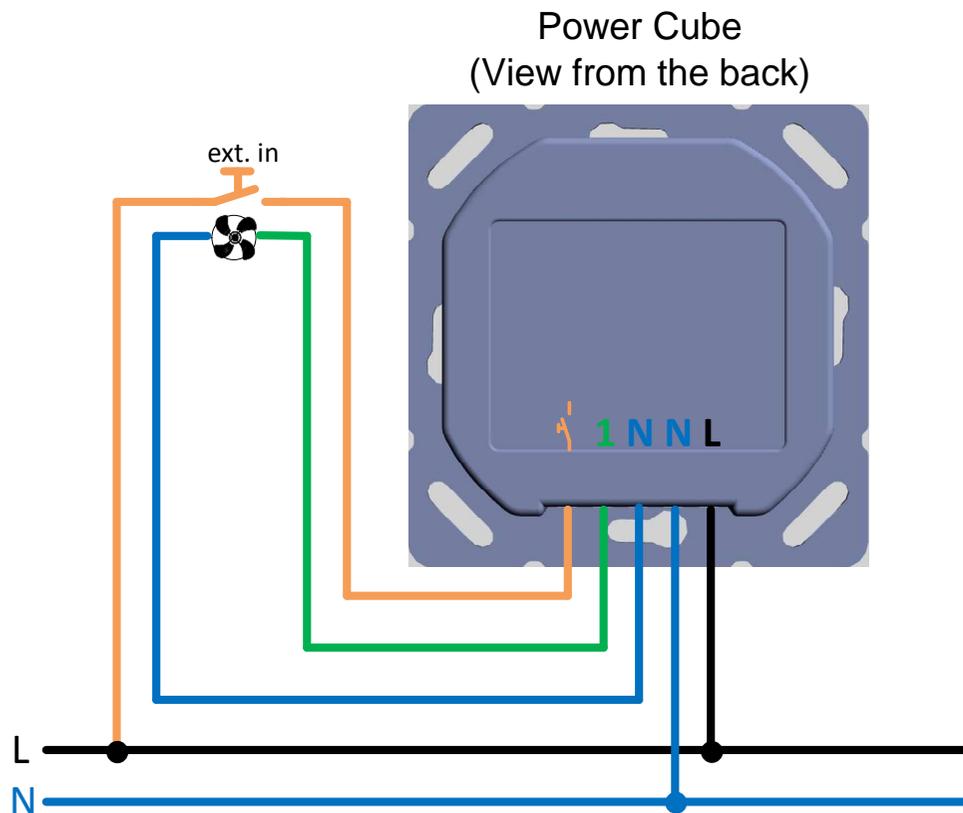
PRODUCT COMPONENTS AND ELECTRICAL CONNECTION

The PP45 Act consists of the Power Cube, which has to be installed in the flush-mounted box and the Radio Controller, which can be operated locally and which is snapped on the Power Cube during installation. The Power Cube includes the connecting terminals, the two power switches, the external input and the internal power supply for the PP45 Act. The Radio Controller includes the controller and offers the user interface through rockers, which can be snapped on. The EnOcean Radio is integrated in the Radio Controller. The antenna is located out of the wall and thus the PP45 Act offers the optimum radio performance.

The external input offers the possibility to connect directly a 230V push-button (ext. in) to switch the output. Functionality is the same as when pushing the rocker. PP45 Act acts on rising voltage level.

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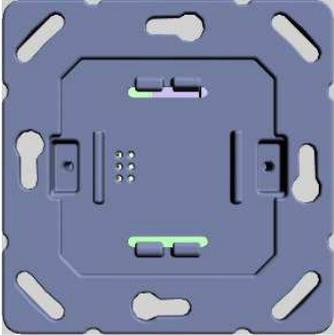
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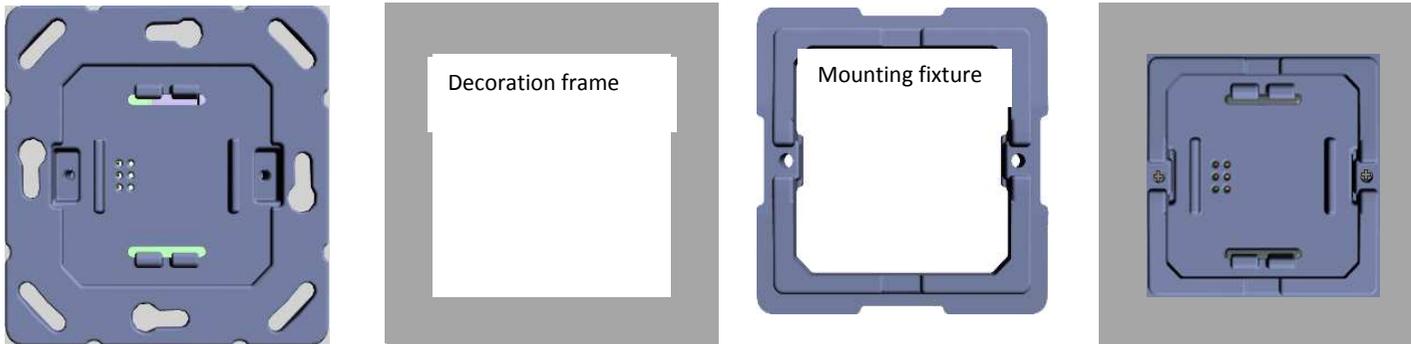
ATTENTION: For electrical connection of the exhaust fan please use the wiring diagram and installation instructions for this exhaust fan!

INSTALLATION AND PUTTING INTO OPERATION

STEP 1: Connect wires to Power Cube and mount it into the flush mounted box.



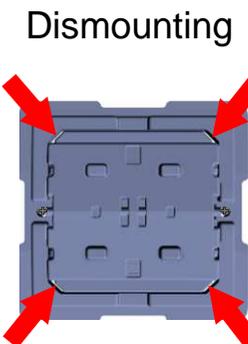
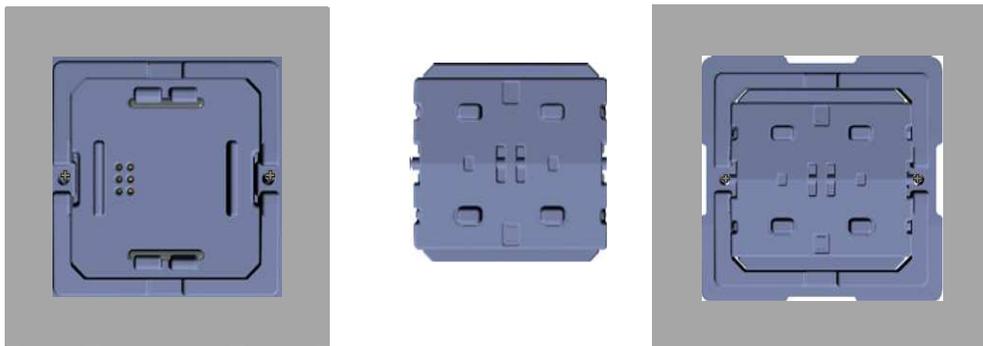
STEP 2: Put decoration frame and mounting fixture on Power Cube and secure it with 2 screws.



ATTENTION – screws mounting fixture !

Only use the supplied self-cutting screws to secure the switch and the mounting fixture.
Tighten screws with a maximum torque of 0,7 Nm. If you exceed this, you may damage the plastic parts.

STEP 3: Plug on radio controller on the power cube.



ATTENTION – Removal of Radio Controller !

To remove the Radio Controller use a screwdriver on all 4 edges and lift the Radio Controller slowly and equally.

Do not bend or damage the connector pins!

Optional: Add additional EnOcean devices to the PP45 Act and configure it individually:

Page 8: TEACH-IN OF THE PP45 ACT ON THE PP45 RC DEVICE (Master)

Page 9: TEACH-IN OF WIRELESS SWITCHES AND SENSORS

Page 10: SELECT MODE OF OPERATION, TIMER VALUE, BRIGHTNESS LEVEL

STEP 4: Plug on the suitable rockers according to the local control unit:

Left rocker

→ wireless switch

Right rocker

→ Output (Communication with PP45 RC)

Single rocker

→ Output (Communication with PP45 RC)

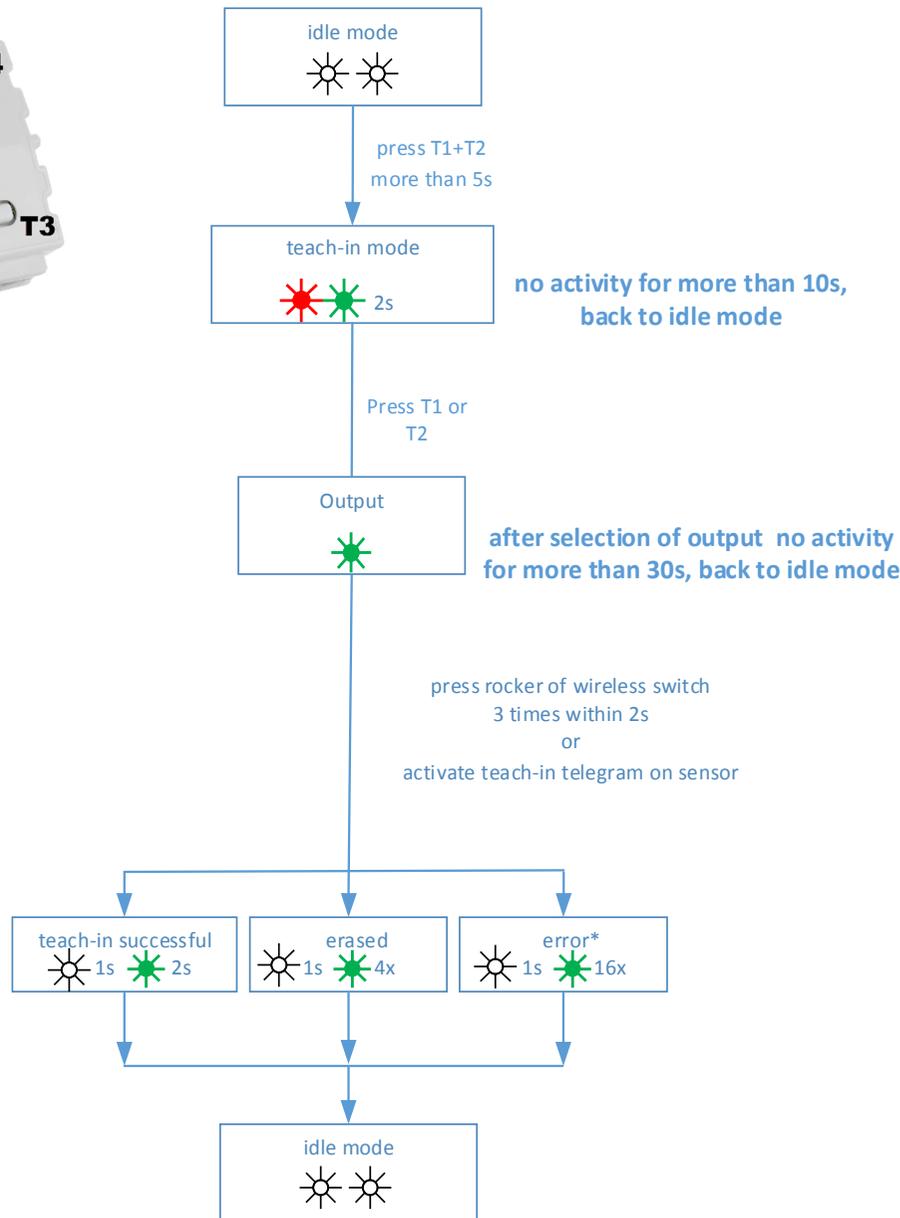
TECH-IN OF THE PP45 ACT ON THE PP45 RC DEVICE (Master)

1. PP45 Act should be electrically connected according to the wiring diagram mentioned above.
2. Outputs (1 and N) should be connected with the exhaust fan. Please use the wiring diagram and installation instructions for this exhaust fan.
3. Mains power has to be connected.
4. Exhaust fan switching activity has to be checked. That means with each short press of the PP45 Act rocker the status of the exhaust fan should change -> On -> Off -> On -> Off
5. For the next step the exhaust fan must be switched off through PP45 Act (see step 4).
6. Set the PP45 RC (Master) device into the learn-mode. Please use for that the user- and installation manual of the PP45 RC.
7. Button T4 on PP45 Act should be pressed one time (short duration). The devices (PP45 Act and PP45 RC (Master)) are teached-in!



After step 7 the exhaust fan should switch on automatically.

TEACH-IN OF WIRELESS SWITCHES AND SENSORS



NOTES

Teached-in wireless switches and sensors will be stored in the EnOcean link table permanently.

Teach-in follows a standardized procedure:

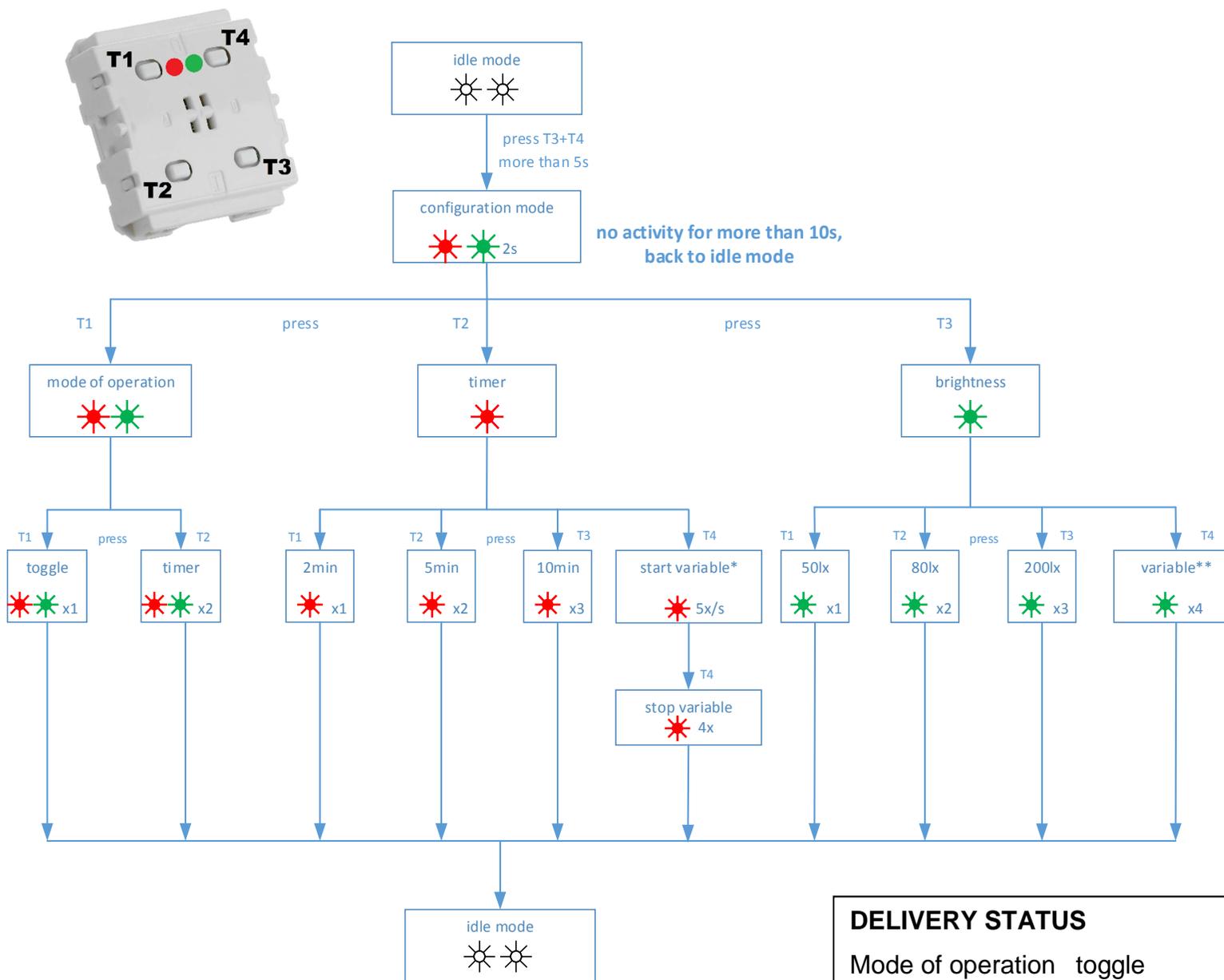
- The first teach-in of a device establishes the relation to this device
→ One position of the EnOcean link table will be occupied.
- A second teach-in of the same device deletes the relation to this device.
→ One position of the EnOcean link table is cleared.

The EnOcean link table offers totally 14 positions to teach-in devices. Teach-in is related to the rocker, not to the whole wireless switch.

The following problems during teach-in are signaled as error (*):

- The selected output of the PP45 Act does not support the EnOcean profile of the device
→ see table on page 12.
- The sensor does not identify his own EnOcean profile (Teach-in version 1, old procedure)
→ Use a newer sensor
- The EnOcean link table is full
→ Delete devices not used any more or reset PP45 Act to delivery status

SELECT MODE OF OPERATION, TIMER VALUE, BRIGHTNESS LEVEL



NOTES

Selections for timer and brightness are only valid if the mode of operation is timer mode.

Both predefined and variable values can be selected for timer and brightness levels. The following has to be kept in mind:

Timer value variable

- Start measuring of variable timer value by pressing T4 (*).
- Wait the desired time.
- Stop measuring of variable timer and store the value permanently by pressing T4 again.

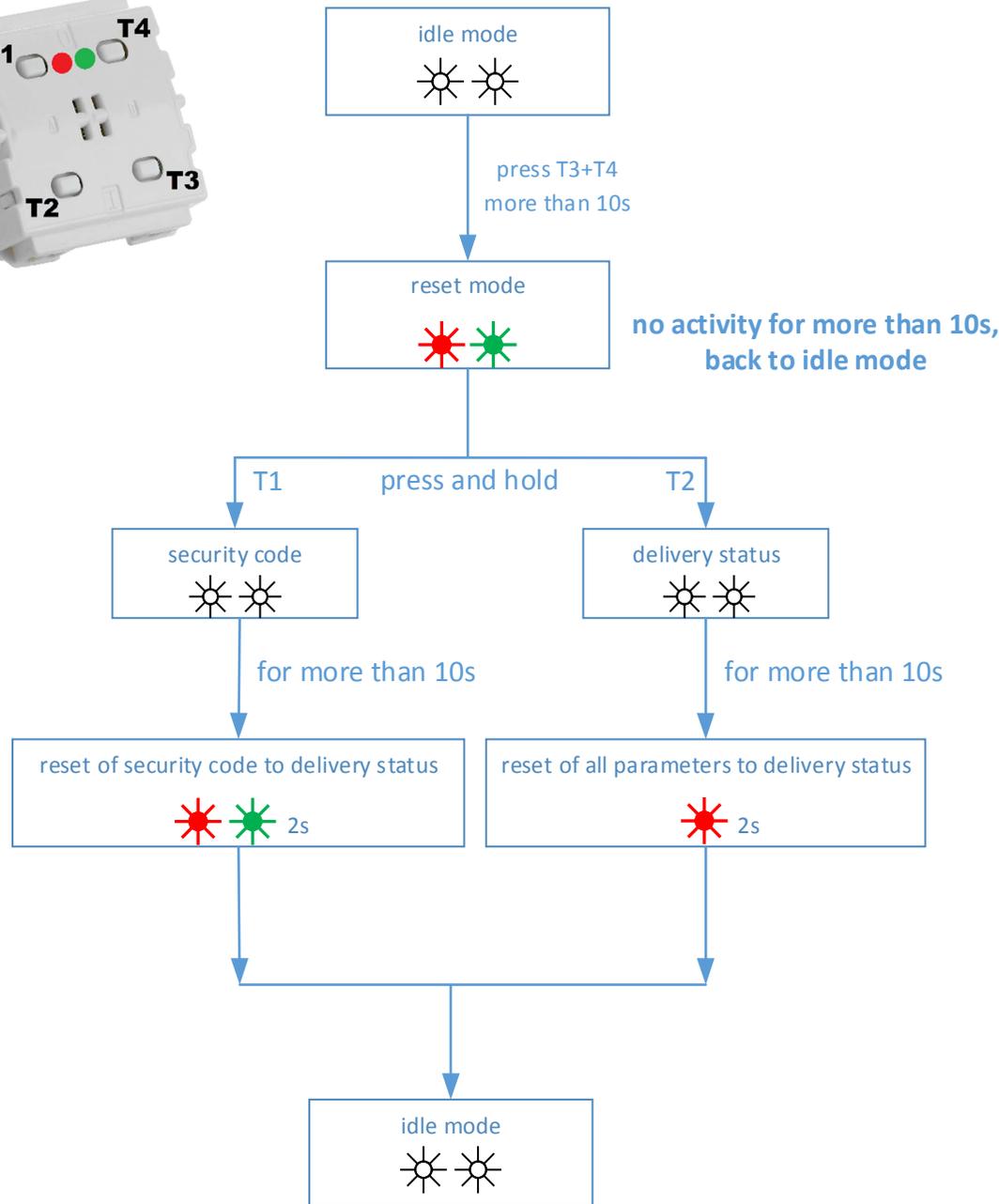
Brightness level variable

- Select brightness level 50lx → output 2 switches on at very low brightness levels
- Make the desired brightness (>50lx), where output 2 shall switch on.
- Wait at least for the measuring/transmitting cycle of the sensor → the sensor had to transmit the measured value at least once.
- Store the variable brightness level permanently by pressing T4 (**).

ATTENTION:
Measuring/Transmitting cycles of different sensors may vary very much, please refer to the manual of the sensor manufacturer!

DELIVERY STATUS	
Mode of operation	toggle
Timer value	5 minutes
Brightness level	80 lux

RESET



NOTES

A partial or complete reset should only be done in exceptional cases if absolutely necessary!

Reset security code:

- A specific security code e. g. used for installation of a building or a floor will be deleted.
- After reset the only valid security code of the device is the one printed on the label within the QR-code.

Reset to delivery status:

- All entries within the EnOcean link table will be deleted.
- All adjustable parameters of the PP45 Act will be reset to delivery status – this includes operating mode, timer values, brightness levels.
- In order to integrate the PP45 Act into the existing EnOcean system, it has to be completely reconfigured.

SUPPORTED PROFILES (EEP)

Wireless switches and sensors supporting the following EnOcean profiles can be taught-in to the PP45 Act:

EEP	Description EnOcean Equipment Profile (EEP)
F6-02-01	Rocker Switch, 2 Rocker Light and Blind Control – Application Style 1 unidirectional
F6-03-01	Rocker Switch, 4 Rocker Light and Blind Control – Application Style1 unidirectional
A5-07-01	Occupancy Sensor with Supply Voltage monitor (PIR Type 1) unidirectional
A5-07-02	Occupancy Sensor with Supply Voltage monitor (PIR Type 2) unidirectional
A5-07-03	Occupancy Sensor with Supply Voltage monitor and Illumination 0 ... 1.000lx (10bit) unidirectional
A5-08-01	Light, Temperature and Occupancy Sensor Illumination 0 ... 510lx (8bit) unidirectional
A5-08-02	Light, Temperature and Occupancy Sensor Illumination 0 ... 1.020lx (8bit) unidirectional
A5-08-03	Light, Temperature and Occupancy Sensor Illumination 0 ... 1.530lx (8bit) unidirectional

CONFORMITY

WEEE-directive 2012/19/EU on waste electrical and electronic equipment

Waste electric and electronic equipment requires professional recycling and by no means may be disposed to non-recyclable waste. Buyers have to take care for a professional recycling compliant to applicable laws.



CE Conformity

Radio type approval and EMC according to R&TTE Directive 1999/5/EC.
Electronics compliant to RoHS Directive 2011/65/EU.



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