

### FEATURES

- Indoor temperature and relative humidity measurement
- Temperature, relative humidity and condensation alarms
- Dew point temperature measurement
- Relative humidity notification through color LED
- Logic functions
- 2 inputs configurable as binary input, temperature probe or motion detector
- Total data saving on KNX bus failure
- Integrated KNX BCU (TP1-256)
- Available in the following colors: silver (RAL 9006), anthracite black (RAL 9004), white (RAL 9016) and gloss white (RAL 9003)
- Dimensions 82 x 82 x 33.2 mm
- Flush mount on back box
- Conformity with the CE, UKCA, RCM directives (marks on the back side)

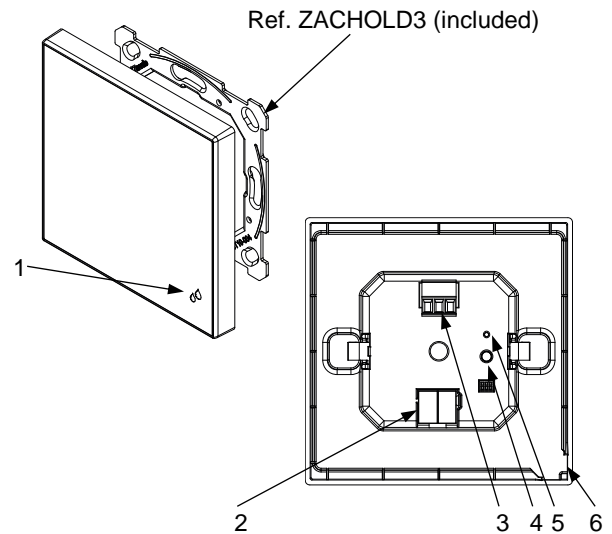


Figure 1: Flat Sensato v2

|                              |                                                             |                     |                       |
|------------------------------|-------------------------------------------------------------|---------------------|-----------------------|
| 1. Humidity notification LED | 2. KNX connector                                            | 3. Inputs connector | 4. Programming Button |
| 5. Programming LED           | 6. Temperature and humidity sensor with protection membrane |                     |                       |

Programming button: short press to set programming mode. If this button is held while plugging the device into the KNX bus, it enters the safe mode.

Programming LED: programming mode indicator (red). When the device enters the safe mode, it blinks (red) every half second. During the start-up (reset or after KNX bus failure) and if the device is not in safe mode, it emits a red flash.

### GENERAL SPECIFICATIONS

| CONCEPT                       |                     | DESCRIPTION                                                                                                                                                                                                                                             |     |       |
|-------------------------------|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| Type of device                |                     | Electric operation control device                                                                                                                                                                                                                       |     |       |
| KNX supply                    | Voltage (typical)   | 29 VDC SELV                                                                                                                                                                                                                                             |     |       |
|                               | Voltage range       | 21-31 VDC                                                                                                                                                                                                                                               |     |       |
|                               | Maximum consumption | Voltage                                                                                                                                                                                                                                                 | mA  | mW    |
|                               |                     | 29 VDC (typical)                                                                                                                                                                                                                                        | 4.1 | 118.9 |
| 24 VDC <sup>1</sup>           | 10                  | 240                                                                                                                                                                                                                                                     |     |       |
| Connection type               |                     | Typical TP1 bus connector for 0.8 mm Ø rigid cable                                                                                                                                                                                                      |     |       |
| External power supply         |                     | Not required                                                                                                                                                                                                                                            |     |       |
| Operation temperature         |                     | 0 .. +55 °C                                                                                                                                                                                                                                             |     |       |
| Storage temperature           |                     | -20 .. +55 °C                                                                                                                                                                                                                                           |     |       |
| Operation humidity            |                     | 5 .. 95%                                                                                                                                                                                                                                                |     |       |
| Storage humidity              |                     | 5 .. 95%                                                                                                                                                                                                                                                |     |       |
| Complementary characteristics |                     | Class B                                                                                                                                                                                                                                                 |     |       |
| Protection class              |                     | III                                                                                                                                                                                                                                                     |     |       |
| Operation type                |                     | Continuous operation                                                                                                                                                                                                                                    |     |       |
| Device action type            |                     | Type 1                                                                                                                                                                                                                                                  |     |       |
| Electrical stress period      |                     | Long                                                                                                                                                                                                                                                    |     |       |
| Degree of protection          |                     | IP20, clean environment                                                                                                                                                                                                                                 |     |       |
| Installation                  |                     | Flush mount on back box                                                                                                                                                                                                                                 |     |       |
| Minimum clearances            |                     | Not required                                                                                                                                                                                                                                            |     |       |
| Response on KNX bus failure   |                     | Data saving according to parameterization                                                                                                                                                                                                               |     |       |
| Response on KNX bus restart   |                     | Data recovery according to parameterization                                                                                                                                                                                                             |     |       |
| Operation indicator           |                     | The programming LED indicates programming mode (red). The humidity notification LED can be parameterized to notify the measurement of comfort, extreme or very extreme relative humidity levels by means of a green, yellow or red light, respectively. |     |       |
| Weight                        |                     | 78 g                                                                                                                                                                                                                                                    |     |       |
| Housing material              |                     | PC+ABS FR V0 halogen free                                                                                                                                                                                                                               |     |       |

<sup>1</sup> Maximum consumption in the worst-case scenario (KNX Fan-In model).

| INTEGRATED HUMIDITY AND TEMPERATURE SENSOR SPECIFICATIONS |                                  |
|-----------------------------------------------------------|----------------------------------|
| CONCEPT                                                   | DESCRIPTION                      |
| Temperature measurement range                             | 0 .. 90 °C                       |
| Temperature resolution / accuracy                         | 0.1 °C / ±0.5 °C (@ 25 °C)       |
| Humidity measurement range                                | 0 .. 100% RH                     |
| Humidity response time                                    | 1 s                              |
| Humidity resolution / accuracy                            | 1% / ±3% RH                      |
| Humidity drift                                            | ±0.25% RH per year in normal air |

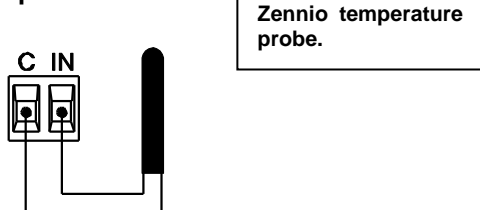
| INPUTS SPECIFICATIONS AND CONNECTIONS |                                                |
|---------------------------------------|------------------------------------------------|
| CONCEPT                               | DESCRIPTION                                    |
| Number of inputs                      | 2                                              |
| Inputs per common                     | 2                                              |
| Operation voltage                     | +3.3 VDC in the common                         |
| Operation current                     | 1 mA @ 3.3 VDC (per input)                     |
| Switching type                        | Dry voltage contacts between input and common  |
| Connection method                     | Pluggable screw terminal block (0.2 Nm max.)   |
| Cable cross-section                   | 0.2-1.5 mm <sup>2</sup> (IEC) / 28-14 AWG (UL) |
| Maximum cable length                  | 30 m                                           |
| NTC accuracy (@ 25 °C) <sup>2</sup>   | ±0.5 °C                                        |
| Temperature resolution                | 0.1 °C                                         |
| Maximum response time                 | 10 ms                                          |

<sup>2</sup> For Zennio temperature probes.

## INPUTS CONNECTION

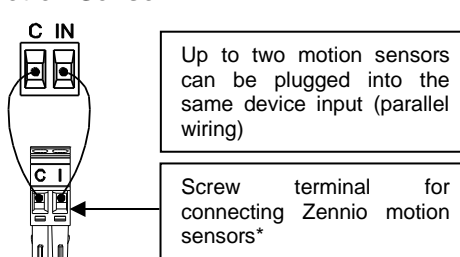
Any combination of the following accessories is allowed in the inputs:

### Temperature Probe\*\*



Zennio temperature probe.

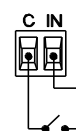
### Motion Sensor



Up to two motion sensors can be plugged into the same device input (parallel wiring)

Screw terminal for connecting Zennio motion sensors\*

### Switch/Sensor/ Push button



△ Commons of different devices must not be connected together.

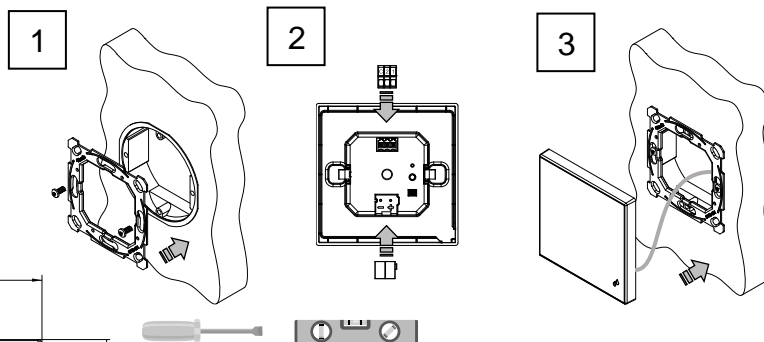
\* In case of using ZN1IO-DETEC-P sensor, its micro switch number 2 must be in **Type B position**.

\*\* Zennio temperature probe or any NTC with known resistance values at three points in the range [-55, 150 °C].

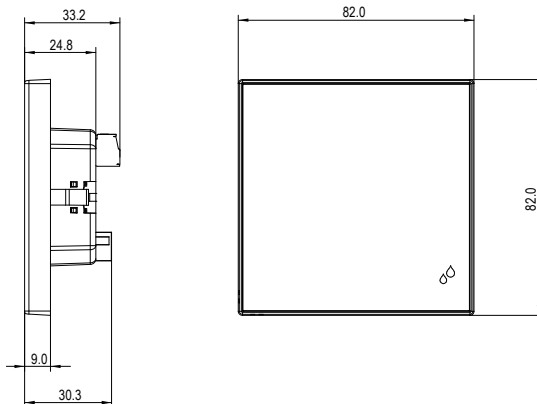
## INSTALLATION INSTRUCTIONS

### △ IMPORTANT:

1. The flush-mounted box must be completely sealed once the cables are inside. Airtight boxes, polyurethane foam, silicone rubber or similar non-breathable construction materials can be used.
2. The mounting location must not be exposed to airflows or direct sun radiation.



### DIMENSIONS (mm)



## SAFETY INSTRUCTIONS AND ADDITIONAL NOTES

- Installation should only be performed by qualified professionals according to the laws and regulations applicable in each country.
- Do not connect the mains voltage nor any other external voltage to any point of the KNX bus; it would represent a risk for the entire KNX system. The facility must have enough insulation between the mains (or auxiliary) voltage and the KNX bus or the wires of other accessories, in case of being installed.
- Keep the device away from water (condensation over the device included) and do not cover it with clothes, paper or any other material while in use.
- The WEEE logo means that this device contains electronic parts and it must be properly disposed of by following the instructions at <https://www.zennio.com/en/legal/wEEE-regulation>.
- This device contains software subject to specific licences. For details, please refer to <https://zennio.com/licenses>.