PRODUCT INFO

Technical product specifactions

Presence detection and light measurement (SENMoLi)

Figure 1 SENMoLi/RB and SENMoLi/RW (black and white flush mounted versions)

Figure 2 SENMoLi/TW (white surface mounted version)

1. Product description

The SENMoLi is a discrete, flat, white, round motion sensor equipped with 2 sensors. SENMoLi detects motion and light intensity (lux). Additionally, you can utilize a night function where the dimmed light ring switches on at a lower intensity. This day clock function can be activated via clock times, logic, or regular operation.
The product is suitable for indoor ceiling mounting. This sensor can be directly connected to the two-wire bus of Qbus via the included flexible connection cable. Configuration is done through System Manager III..

Like every Qbus module, the SENMoLi has a unique serial number that is entered during configuration in the System Manager III configuration software. The programmed data remains stored internally in permanent memory. This module can receive firmware updates via the Qbus bus.

The sensor can directly control various I/Os based on these sensor values:

- Motion: Sensitivity has two levels. There is an adjustable threshold for motion size to activate the I/O via a "First trigger," and to maintain the I/O, a lower volume of motion can be set with a "Hold trigger." The time after which motion has ceased and the I/O should be turned off is adjustable between 2 seconds and 127 minutes. You can visually test the current motion detection via a scan function. Once motion detection falls below the yellow line (hold), the countdown timer starts.
- Lux: Threshold >= or <= adjustable between 0 and 3000lux

The I/O to be controlled can be bistable or dimmer type. Thus, the sensor can directly control a dimmer based on lux measurement and motion detection.

A blue indicator LED is provided for displaying motion detection and/or darkness.

2. Safety rules

Read the entire manual before installing and activating the module.

ATTENTION

- The module must be installed, commissioned and maintained by a qualified electrician in accordance with applicable national legislation.
- The power must be switched off before working on the SENMoLi.
- Never connect external voltages (e.g. 230 VAC) to the Qbus bus! This will cause irreparable damage to the modules.
- Keep out of reach of children.
- Do not open the module. Opening the module voids the warranty!

3. Installation and cables

Installation:
Provide a round opening of at least 40mm and a maximum of 45mm. Connect the supplied cable to the bus cable. Then push the connections deep enough so that the sensor has enough clearance. Next, without applying excessive force, insert the sensor into a 40mm opening. Do not push on the sensor surface. Take into account the direction of the barbs to place the detection field in the desired position.

Power supply: The module is powered by the bus.

LED indicator on module:
The blue LED can be set via SMIII to briefly light up upon motion detection. The frequency can be set to 2 seconds or 5 seconds (default). For safety reasons, the LED can also blink when the light level drops below 40 lux. Also, when the search function is active, the blue LED will blink slowly until the sensor is registered or the search function stops.

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4. Commissioning

SENMoLi configuration in SMIII:
By entering the unique serial number, the configuration software System Manager III recognizes the module. The serial number of the SENMoLi always starts with 0046 followed by 6 hexadecimal numbers (0 to 9 & A to F). For example, 0046B02EA5.

If the sensor has been installed and the number is not known, the module can be registered via the "Search for modules" button by quickly changing the lux value. Once the sensor has been registered in System Manager III, the blue LED will stop flashing.

The following "Modes" apply

- Bistable (with On/Off delay)
- Dimmer 1T
- Dimmer 2T

Presence detection functionality:
The built-in PIR sensor detects passive infrared radiation. For SENMoLi/Rx, the detection angle from the detection plane is 106° x 96.8°. At a height of 2.5m, the detection field measures 6.65m by 5.65m. For SENMoLi/Tx, the detection angle from the detection plane is 91° x 76.7°. At an installation height of 2.5m, the detection field is 5m by 4m. It is best to place the sensor with the pressure springs facing the walls with the smallest distance between them to obtain an ideal detection range. You can determine the detection field during installation using Figure 2.

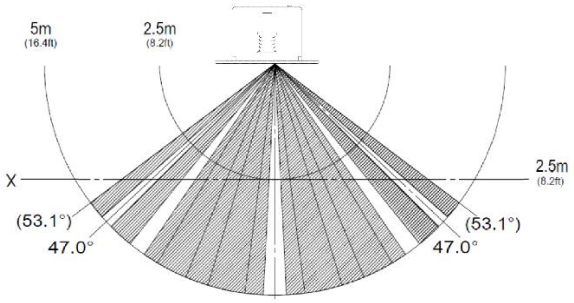
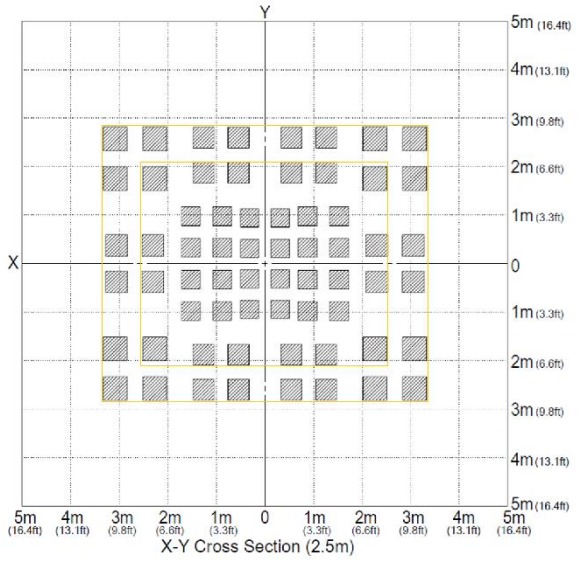


Figure 3 PIR-sensor detection range for SENMoLi/SENMax

The most sensitive detection zone at floor level is centrally located in an area of 2.2m x 3m at a height of 2.5m..



Operation of LDR
The LDR (Light Dependent Resistor) is used for lux measurement. By default, it measures the lux value without the need to create an I/O for it. If you wish to use the lux measurement itself as a variable in analog logic, you can create an I/O with the "Universal" mode.

When multiple motion sensors of the SEN04xx, SENMax, or SENMoLi type need to send the same I/O, you use logic for this purpose. You can add the I/O sent by the logic to the "Overrule LDR" function. This way, you can ensure that the sensors only use the motion condition when this I/O is active.

Once an I/O is assigned to "Overrule LDR," an additional column appears in the triggers.

You can assign a bistable or dimmer type I/O to "Overrule LDR.

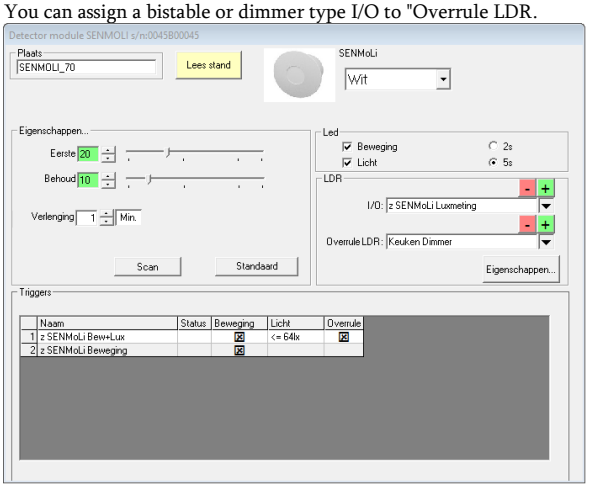


Figure 4 Example configuration motion + Lux + Overrule

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In the example of Figure 4, the first I/O is activated when "Motion" AND when it is darker than 64 lux. Once the I/O is enabled in Overrule LDR, the sensor only looks at "Motion" as a condition to send this I/O until the delay time elapses and the I/O is turned off.
The current lux measurement is displayed next to the text LDR in parentheses under "Reading Status".

5. Technical specifications

General specifications SENMoLi

- Ambient temperature:
- Operating temperature: -10°C to 50°C
- Storage temperature: -10°C to 60°C
- Maximum humidity: 95%, no moisture condensation
- Power supply: Bus
- Peak load Qbus bus: 15mA
- Max. mounting height: 2,000 meters above sea level

Elektriscal safety:

- Qbus bus: 13.8Vdc - 18Vdc very low safety voltage
- Non-toxic, in accordance with WEEE/RoHS
- Overvoltage CAT. I (CAT.1)

CE:

- Qbus declares that this product satisfies all applicable European directives and regulations.
- An EU declaration of conformity is available on request.

Physical specifications:

- White housing variant: ASA plastic, UV-resistant, black variant: ABS plastic, self-extinguishing according to UL94-V0
- · Degree of protection: IP20, EN 60529
- · Dimensions of housing (h x d): 28mm x 36mm
- · Dimensions of housing with connection wire / plug (h x d): 35mm x 36mm / bore diameter 40mm
- · Size of cover plate / sensor area: (h x d) 1.5mm x 52mm
- · Surface-mount version dimensions: (h x d) 40mm x 60mm
- · Weight: approximately 30g (recessed) – 100g (surface-mounted)
- · Direct light intensity measurement: 0-1200lux

6. Explanation of symbols

Equipment which protection against the risk of electrical contact is based not only on basic insulation but also on additional protection such as double insulation or reinforced insulation. There is no option to earth the equipment.

The operating instructions of the product in question must be read before the device is connected. ISO 7000-0434

CE conformity. All declarations of conformity are available upon request.

7. Warranty provisions

Warranty period: 2 years from the date of delivery. The warranty will no longer be valid if the module has been opened! The warranty is subject to a two-year extension if the module was installed by an authorised Qbus installer.
In case of defects, Qbus support should be contacted first. In the event of a defect, modules are sent to our service department without stamp duties:

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