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Zennio Proximity and Luminosity Sensor User Manual

Proximity and Luminosity Sensor
User manual edition: [5.0]_a
www.zennio.com

DOCUMENT UPDATES

Version	Changes	Page(s)
[5.0]_a	•Change of DPT of the objects "[General] External Proximity Detection" and "[General] Proximity Detection".	
	•Minor corrections	7
[4.0La	•Internal optimization.	
[2.0La	•Internal optimization.	

Contents

INTRODUCTION

A variety of Zennio devices feature a module for proximity and/or luminosity sensor management, which allows

the receiver and monitor proximity and ambient light, as well as send those values to the bus and of reporting proximity and high/low luminosity events.

This module does not require connecting any accessories to the device inputs as it is based on the measurement of an internal sensor.

Important: to confirm whether a particular device or application program incorporates the proximity and/or luminosity sensor function, please refer to the device user manual, as there may be significant differences between the functionality of each Zennio device. Moreover, to access the proper proximity and luminosity sensor user manual, it is always recommended to make use of the specific download links provided at the Zennio website (**www.zennio.com**) within the section of the specific device being parameterized.

START-UP AND POWER LOSS

After download or device reset, the proximity and luminosity sensors require time for calibration. During this time no action should be carried out. Please refer to the device user manual to check the time required.

For a correct calibration of the sensors, it is recommended not to get too close to the devices during this time and to avoid the light strikes directly.

CONFIGURATION

Please note that the screenshots and object names shown next may be slightly different depending on the device and on the application program.

CONFIGURATION

In the "Configuration" tab the functionalities related to the Proximity Sensor and the Ambient Luminosity Sensor can be enabled. In addition, a time to consider inactivity can be set, so that after this time without the user interaction, the device goes into an inactivity state.

Note: the inactivity state usually means that the LED and/or display illumination of the device is attenuated (see the specific device manual for more information).

When the device is in an inactive state when it detects a presence, the proximity sensor notifies a new proximity detection, and the time to consider inactivity is reset.
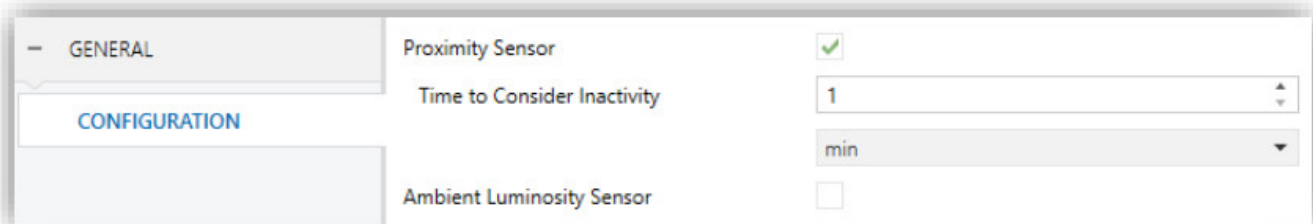
ETS PARAMETERISATION

Figure 1. Main configuration

The following parameters are shown:

Proximity sensor: [Enabled/Disabled]1: enables the proximity sensor functionality. This functionality permits "waking up" the device when detecting presence through the proximity sensor. This means that:

1 The default values of each parameter will be highlighted in blue in this document, as follows: [default/rest of options]; however, depending on the device.

- Whether the device is in an inactivity state, a '1' will be sent through the object "[General] Proximity Detection" when detecting proximity. This object is always available, even if the proximity sensor is not enabled.

  It is also possible to enable or disable the sensor at runtime using the object "[General] Proximity Sensor".

  ➢ On the other hand, the object "[General] External Proximity Detection" is always available and allows simulating a proximity detection equivalent to detecting proximity by the internal sensor. In this way it would be

possible to delegate proximity detection to another device.

➢ Time to Consider Inactivity [0…20…65535] [s/min/h]: time after which, if no proximity detection has occurred, the device goes into an inactivity state.

Ambient luminosity sensor [enabled/disabled]: enables or disables the ambient luminosity sensor. When enabled, a new tab is added in the tree on the left (see section 2.1.1).

2.1.1 AMBIENT LUMINOSITY SENSOR

It is a sensor for measuring the ambient luminosity level so that the brightness of the display can be adjusted according to the current luminosity of the room for optimal visualization.

To this end, it is possible to set a luminosity threshold and send a binary object or a scene object when the luminosity value is higher or lower than the threshold. In this way, if this object is linked with the one to control the backlight mode (please refer to the brightness user manual of the device available at the Zennio website), the normal mode could be activated if the brightness exceeds the threshold and the night mode if the brightness is below the threshold (taking into account the hysteresis in both cases).

Ejemplo:
1) **'Backlight' is parameterized as follow:**
➢ Control Object (1-Bit) → Normal Mode = "0"; Night Mode = "1"
➢ Control Object (Scene) → Normal Mode = "1"; Night Mode = "64"
2) **'Ambient Luminosity Sensor'' is parameterized as follow:**
➢ Threshold: Ambient Luminosity Level = 25%
➢ Threshold: Hysteresis = 10%
➢ Control Object (1-Bit) → Normal Mode = "0"; Night Mode = "1"
➢ Control Object (Scene) → Normal Mode = "1"; Night Mode = "64"
Associating [General] Luminosity Object (1-bit) with [General] Backlight Mode:
➢ Luminosity > 35% →Normal Mode
➢ 35% >= Luminosity >= 15% → No mode change
➢ Luminosity < 15% → Night Mode

ETS PARAMETERISATION

After enabling Ambient Luminosity Sensor from the general configuration screen (see section 2.1), a new tab will be incorporated into the tree on the left. In addition, an object to read the measured luminosity appears. This object will be "[General] Luminosity (Percentage)" or "[General] Luminosity (Lux)" depending on the units of the sensor incorporated in the device.

Figure 2. Ambient Luminosity Sensor.

Threshold: luminosity percentage or lux (depending on the device) of the threshold value.

Hysteresis: luminosity percentage or lux (depending on the device) for the hysteresis, i.e., margin around the threshold value.

Binary object [disabled/enabled]: enables the binary object "[General] Luminosity (1-bit)" that will be sent to the bus with the corresponding value when the luminosity is over or under the threshold.

➢ Value [0 = Over Threshold, 1 = Under Threshold/0 = Under Threshold, 1 = Over Threshold]: sets which value is sent when the luminosity is over or under the threshold.

Scene object [disabled/enabled]: when enabled a scene value will be sent through the object "[General] Scene: send", when the luminosity is over or under the threshold.

➢ Over Threshold: Scene Number (0 = Disabled) [0/1…64]: scene number that is sent when a luminosity level higher than the threshold is reached.

➢ Under Threshold: Scene Number (0 = Disabled) [0/1…64]: scene number that is sent when a luminosity level lower than the threshold is reached.
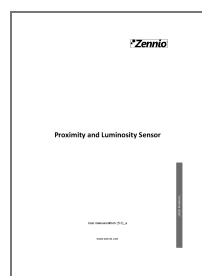
Hysteresis must be considered.

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Documents / Resources

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