LM00B01KNX	Surveillance module KNX

USER MANUAL

Translation of the original instructions

Version: **1.0**

Date: **18/04/2023**

Index

VERSION	DATE	CHANGES
1.0	18/04/2023	-

Any information inside this manual can be changed without advice.

This handbook can be download freely from the website:
www.eelectron.com

Exclusion of liability:
Despite checking that the contents of this document match the hardware and software, deviations cannot be completely excluded. We therefore cannot accept any liability for this.
Any necessary corrections will be incorporated into newer versions of this manual.

1. Introduction to the user manual

This manual is intended for use by KNX® installers and describes the functions and parameters of the product **LM00B01KNX**: Surveillance module KNX.

For the technical data of the device and the compatible accessories, please refer to the datasheet of the device itself.

Meaning of the symbols used

WARNING - The operation or phase described must be carried out in compliance with the instructions provided and with the safety standards.

IMPORTANT NOTE - Details and specifications to be respected for the correct functioning of the device.

2. Products overview

The **LM00B01KNX** logic module permits to monitor the status of the devices connected to a BUS line.

It is possible to enable the notification mode of the correct functionality of the device via a communication object.

256 surveillance blocks are available through which 3 basic functions can be activated individually or in different combinations: **Alive**, **Alarm** and **Warning.**

- The "On line" function sends a message on the bus as long as the monitored device is active on the bus.
- The "Alarm" function sends an alarm message when the monitored device does not send any message for a time exceeding the surveillance time.
- The "Warning" function can be used to prompt the monitored device. A little before the alarm is sent, a reading value is generated on the communication object that must be connected to a readable group object of the monitored device (for ex. temperature, a status).

Moreover, 16 logic blocks are available to implement simple expressions with logical or threshold operator or complex expressions with algebraic and conditional operators; It is possible to use predefined algorithms as proportional controls of temperature and humidity or dew point calculation.

The device also integrates the **"Virtual Holder Logic"**; the field of application is the hotel room: through a magnetic sensor installed on the door and connected to a digital input (also to the sensor itself), accurate presence information is managed. The presence detection solution can deduce the presence of people in the room using one or more dedicated sensors. It also detects an unexpected presence and is able to differentiate more behaviors.

For greater security, it is possible to install two **LM00B01KNX** logic modules on the same BUS line, configuring them as primary and secondary. When the primary device goes out of service, the secondary takes over control of the line; when the operation of the primary device resumes, the secondary returns to the control status of the primary device only.

Device is equipped with KNX communication interface and is intended for installation on DIN rail in LV distribution switchboards.

3. Installation instructions

The device can be used for permanent internal installations in dry places.

WARNING

- Device must be installed at a minimum distance of 4 mm between electrical power line (mains) and input cables or red / black bus cable.
- The device must be mounted and commissioned by an authorized installer.
- The applicable safety and accident prevention regulations must be observed
- The device must not be opened. Any faulty devices should be returned to manufacturer
- For planning and construction of electric installations, the relevant guidelines, regulations and standards of the respective country are to be considered.
- KNX bus allows you to remotely send commands to the system actuators. Do not lead to hazardous situations, and that the user always has a warning about which commands can be activated remotely.

For information visit: www.eelectron.com.

4. Configuration and commissioning

The configuration and commissioning of the device is made with the ETS® (Engineering Tool Software). For the configuration of the device parameters the corresponding application program or the whole eelectron® product database must be loaded in the ETS® program.

The commissioning of the device requires the following steps:
- connect the bus KNX (1)
- turn on the bus power supply
- press the programming button (2); the red programming LED (visible through the device lens) turns ON
- download into the device the physical address and the configuration with the ETS® program
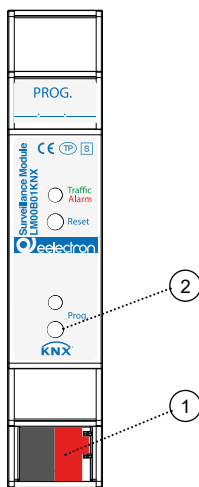
5. General parameters

Communication objects involved:

"<General> Heartbeat"	1 Bit	CRT
"<General> Primary Heartbeat"	1 Bit	CW
"<General> Primary Alarm"	1 Bit	CRT
"<General> Alarms x - y"	4 Bytes	CRT

KNX PARAMETER	SETTINGS
Delay in sending telegrams on power-up	5 ÷ 15 seconds

Through this parameter it is possible to set the telegram transmission delay after switch-on by selecting the time beyond which the device is authorized to send telegrams.
In large systems after a power outage or shutdown, this delay avoids generating excessive traffic on the bus, causing slow performance or a transmission crash.
If there are several devices that require telegrams to be sent on the bus after a reset, these delays must be programmed to prevent traffic congestion during the initialization phase.
Input detection and object values are updated at the end of the transmission delay time
At the end of ETS programming, the device behaves as it did after it was switched on.

Heartbeat (periodic alive notification)	nothing periodic on request

Through this parameter you can enable the object "<General> Heartbeat" for notification of the correct operation of the device:
- nothing: heartbeat function disabled;
- periodic: you can define the interval and the message sent on the bus for the notification of the status;
- on request: no message is sent but the object can be read through the object "<General> Heartbeat".

Telegram value	off / on / toggle

This parameter defines the telegram sent by the object "<General> Heartbeat". The value "toggle" is only available in case of periodic sending.

Period - time unit	seconds / minutes / hours

This parameter defines the unit of measures of the Heartbeat period.

Period - time value	1 ... 255

This parameter defines the time interval for sending the "<General> Heartbeat" object.

Physical address main line	0 ... 15

This parameter defines the physical main address of the surveilled devices (e.g. 10.13.x --> 10).

Physical address sub line	0 ... 15

This parameter defines the physical sub address of the surveilled devices (e.g. 10.13.x --> 13).

Alarm time - hours	0 ... 23

This parameter defines the surveillance time (hours) before sending the alarm. Used by the surveillance modules when the alarm function is enabled.

Alarm time - minutes	0 ... 59

This parameter defines the surveillance time (minutes) before sending the alarm. Used by the surveillance modules when the alarm function is enabled.

Warning time - seconds	20 ... 255

This parameter defines the warning time (seconds). This time indicates how much before the end of the surveillance time a group value read is sent on the bus through the "Warning Read Request" object. Used by the surveillance modules when the warning function is enabled.

Surveillance priority	primary / secondary

This parameter defines if the device is the primary surveillance device or if it is the secondary one. If secondary is selected, the heartbeat period of the primary device must be aligned to the one of the primary device itself. If no message is received in the period an alarm message is sent on the object "<General> Primary Alarm" and the secondary device starts to surveil the plant.

Primary period - time unit	seconds / minutes / hours

This parameter defines the unit of measures of the Primary Heartbeat period.

Primary period - time value	1 ... 255

This parameter defines the time interval for sending the "<General> Primary Heartbeat" object.

Number of surveillances	

This parameter defines the number of surveillance modules.

Button function	none reset alarms and start surveillance

Defines whether to use the

Green Led function	none / BUS traffic

This parameter defines if the green LED indicates the traffic on the BUS:
  • led always off: no traffic
  • led always on: traffic 100%	

Red Led function	none / alarm active
This parameter defines if the red LED indicates the presence of an active alarm (at least one device is offline).	
Virtual holder X	disabled / enabled
By setting this parameter, it is possible to enable a "virtual holder", that is a logical function that automatically recognizes the presence of a person in a room. This function can be used in hotels or similar installations and requires connection to other devices (see "Virtual Holder")	

6. Surveillance

Please refer to the "Surveillance" user manual.

7. Logics

Please refer to the "Logics" user manual.

In the devices described, the logical expression can have a maximum of 16 characters.

8. Virtual Holder

Please refer to the "Virtual Holder" user manual.

9. Behaviour on bus failure, recovery and download

Behaviour on bus voltage failure

On failure of bus voltage no actions are executed by the device; behaviour of controlled actuators must be set using their own parameters.

Behaviour on bus voltage recovery

On bus voltage recovery all the communication objects are set to 0 except for objects for which a parameter is defined for the initial value. The internal clock function has an autonomy of 24 hours from the voltage drop; once this time has passed, it will be necessary to send the telegrams by date and time.

Wrong application download

If the wrong ETS application is downloaded then KNX/EIB led starts blinking and device is not operative on the bus. A power reset must be done or the correct ETS application must be downloaded.