Technical Manual

State 01/2023 - Version 1.0

MDT
TECHNOLOGIES

Leakage Sensor KNX

SCN-LSEN1.01

Further Documents:

Data sheet:

https://www.mdt.de/EN_Downloads_Datasheets.html

Assembly and Operation Instructions:

https://www.mdt.de/EN_Downloads_Instructions.html

Solution Proposals for MDT products:

https://www.mdt.de/EN_Downloads_Solutions.html

MDT technologies GmbH · Papiermühle 1 · 51766 Engelskirchen · Germany
Phone +49 (0) 2263 880 · knx@mdt.de · www.mdt.de

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2 Overview

2.1 Overview devices

The description refers to the following devices (order number in bold):

- **SCN-LSEN1.01** Leakage Sensor, for detecting water leakage
    - Floor sensor for detecting water leakage and seepage
    - Reliable detection of conductive liquids by means of electrolytic AC voltage measurement
    - Alarm channel and visual alert

2.2 Functions

The MDT Leakage Sensor uses electrolytic measurement to detect conductive liquids on the floor.
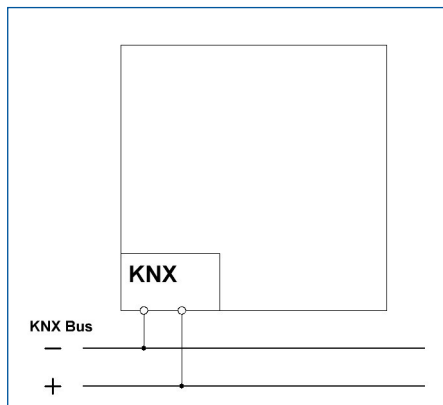
2.3 Exemplary Circuit Diagram

Figure 1: Exemplary Circuit Diagram

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2.4 Structure & Handling

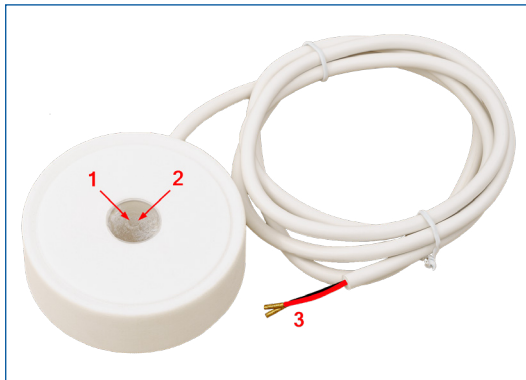The following picture shows the structure of the device:

Figure 2: Structure & Handling

1 = Programming button (Reed contact, triggered by supplied magnet)
2 = Programming LED
3 = Bus connection cable (red = +, black = -)

2.5 Commissioning

After wiring the unit, the physical address is assigned, and the application is programmed:

1. Connect the programming interface with the bus, e.g. with MDT USB Interface.

2. Switch-on bus voltage.

3. Activate programming mode on the unit by closing the reed contact (using the magnet supplied) (red programming LED lights up).

4. Loading the physical address from the ETS software via the interface (red LED goes out as soon as this has been successfully completed).

5. Loading the application, with desired configuration.

6. If the device is enabled, you can test the requested functions (also possible by using the ETS-Software).

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3 Communication objects

3.1 Standard settings of the communication objects

Standard settings								
No.	Name	Object function	Length	C	R	W	T	U
0	Alarm On/OFF	Send status	1 Bit	■	■		■	
1	In Operation	Send status	1 Bit	■			■	
2	Alarm	Reset	1 Bit	■		■		

Table 1: Communication objects – Standard settings

The table above shows the default settings. The priority of the individual communications objects and the flags can be adjusted by the user as required. The flags assign the communication objects their respective tasks in programming, where C stands for communication, R for read, W for write, T for transmit and U for update.

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4 ETS-Parameter

The following figure shows the available settings:

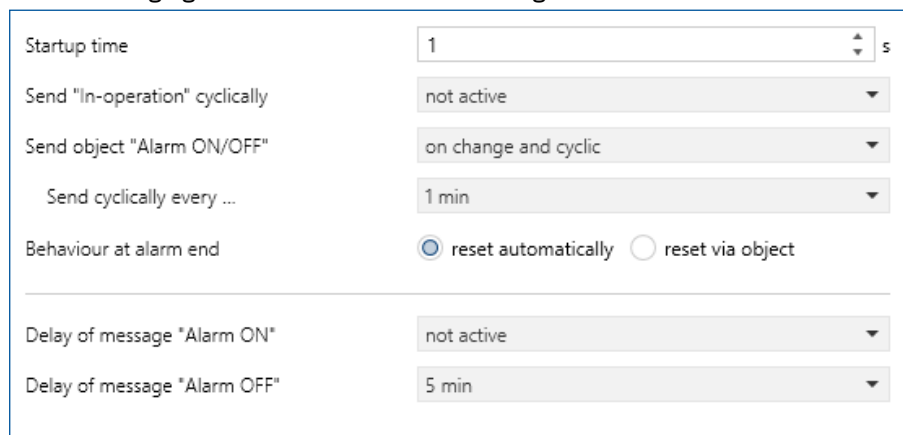| Startup time	1	s
Send "In-operation" cyclically	not active	
Send object "Alarm ON/OFF"	on change and cyclic	
Send cyclically every ...	1 min	
Behaviour at alarm end	⦿ reset automatically ○ reset via object	
Delay of message "Alarm ON"	not active	
Delay of message "Alarm OFF"	5 min	

Figure 3: Settings – Leakage sensor

The following table shows the possible settings:

ETS-Text	Dynamic range [Default]	Comment
Startup time	0 ... 240 s **[1 s]**	Sets the time between restart and functional start-up of the device.
Send „In-operation" cyclically	**not active** 10 min – 24 h	Activation of a cyclic "in operation" telegram.
Send object „Alarm ON/OFF"	▪ not active, only request ▪ **on change** ▪ cyclic ▪ on change and cyclic	Setting of the sending condition for the alarm object.
Send cyclically every ...	10 s – 60 min **[1 min]**	Setting at which interval the object is to be sent cyclically.
Behaviour at alarm end	▪ **reset automatically** ▪ reset via object	Specify how an alarm is to be reset.
Delay of message „Alarm ON"	**not active** 10 – 60 s	Setting whether and with what delay the message is to be sent.
Delay of message „Alarm OFF"	10 s – 20 min **[5 min]**	Setting of the delay time for the message. **Only visible if "Behaviour at alarm end" is set to "reset automatically".**

Table 2: Settings – Leakage sensor

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Startup time

This time defines when the unit "boots up" after a restart (reset, reprogramming, bus voltage recovery). This can be important if, for example, a bus reset is carried out. If there are many units on a line, all units would start at the same time and load the bus. With a variable time, the units can thus start differently.

„Operation"

"In operation" is used to show on the bus that the unit is "alive". If activated, an ON telegram is sent cyclically.

Send object "Alarm ON/OFF"

The setting **"not active, only request"** means that the alarm is not actively sent but can be requested externally via the object.

"On change" means that the alarm is actively sent on the bus whenever there is a change from ON to OFF or vice versa.

The **"cyclic"** setting can be used to set the intervals at which the current alarm status is to be sent. It is also sent if the status has not changed.

With the selection **"on change and cyclic"**, both settings are reacted to accordingly.

Behaviour at alarm end

This parameter can be used to set whether a triggered alarm is either reset automatically (if "Alarm OFF") or whether it can only be reset via an object - regardless of whether the alarm has already ended. Only if "Reset via object" is selected an appropriate object becomes visible. The alarm is reset by sending a "1".

Delay of message „Alarm ON" / „Alarm OFF"

An individual delay time for the messages can be set here. A delay for "Alarm OFF" can only be set with the setting "reset automatically". With "reset via object", the reset takes place directly via object and without delay.

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5.2 List of tables

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6 Appendix

6.1 Statutory requirements

The devices described above must not be used in conjunction with devices which directly or indirectly serve human, health, or life-safety purposes. Furthermore, the devices described must not be used if their use may cause danger to people, animals, or property.

Do not leave the packaging material carelessly lying around. Plastic foils/ bags etc. can become a dangerous toy for children.

6.2 Disposal

Do not dispose of the old devices in the household waste. The device contains electrical components that must be disposed of as electronic waste. The housing is made of recyclable plastic.

6.3 Assembly

⚠ Danger to life from electric current!

The device may only be installed and connected by qualified electricians. Observe the country-specific regulations and the applicable KNX guidelines

The units are approved for operation in the EU and bear the CE mark. Use in the USA and Canada is not permitted!

6.4 History

V1.0   First Version of Technical Manual   DB V1.0   12/2022

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