TR00C01KNX	**Transponder reader KNX with 3 control buttons**
TR00C01KNX-3M	**Transponder reader KNX with 3 control buttons - 3 Modules**
TH00C01KNX	**Transponder holder KNX with 3 control buttons**
TH00C01KNX-3M	**Transponder holder KNX with 3 control buttons - 3 Modules**

USER MANUAL

Translation of the original instructions

Version: **1.0**

Date: **13/01/2023**

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VERSION	DATE	CHANGES
1.0	**13/01/2023**	-

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.

Symbol for relevant information

Symbol for warning

DISPOSAL : The crossed-out bin symbol on the equipment or packaging means the product must not be included with other general waste at the end of its working life. The user must take the worn product to a sorted waste centre, or return it to the retailer when purchasing a new one. An efficient sorted waste collection for the environmentally friendly disposal of the used device, or its subsequent recycling, helps avoid the potential negative effects on the environment and people's health, and encourages the re-use and/or recycling of the construction materials.

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1. Purpose of the manual

This manual is intended for use by KNX® installers and describes the functions and parameters of the products **TR00C01KNX – KNX transponder reader and TH00C01KNX – KNX transponder holder** and how to change the settings and configurations using the ETS software tool.
For the technical characteristics of the device, please refer to the datasheet of the device itself.

2. Products overview

The **TR00C01KNX** and **TH00C01KNX** devices use **Mifare RFID technology** and can be wall-mounted in 2 or 3-module flush-mounting boxes compatible with the main standards (Italian, German, English, etc.).
Reader and transponder pocket must be powered with an auxiliary voltage of 12-24V AC or 12-30V DC and must be connected to the KNX bus.

The products can be installed with the supplied glass covers which can be customized upon request.
The upper part of the glass can be backlit (to be able to illuminate the room number or a logo – both customizations upon request); in the lower part there are instead freely configurable backlit capacitive buttons.
For TR00C01KNX: 1 button (typically with bell function) and 2 LEDs for displaying MUR and DND status.
For TH00C01KNX: 1 button (typically with ROOM LIGHTS function) and 2 buttons for MUR and DND setting.
The transponder is read by positioning it in front of the reader, at a maximum distance of 20 mm; in the case of the transponder pocket, the card is inserted into a compartment from the top of the device.
The color of the RGB bar of the reader indicates that the card has been recognized and shows different colors (configurable) for signaling states or anomalies such as:

ACTION	DEFAULT COLOR
Recognized card (welcome)	green
Wrong plant code	orange
Card ID not recognized	red
Incorrect date (expired validity)	yellow
Wrong time of day (Time of entry prohibited)	magenta
Incorrect day of the week (Day of entry forbidden)	blue-cyan

The devices also integrate a buzzer (which can be activated with the ETS parameter) for the acoustic signaling of anomalies.

It is also possible to differentiate seven access levels with different associable actions, the levels are:

- Customer
- Service
- Maintenance
- Installer
- Safety
- Support
- Administrator

Both Holder and Reader have a central RGB signaling bar to which it is possible to associate temporary colors based on events, alarms, status.

In the TH00C01KNX device (transponder holder), once the card has been inserted, the central RGB bar is no longer visible.

3. Installation instructions

The device can be used for permanent internal installations in dry places and is intended for DIN rail mounting in LV distribution cabinets.

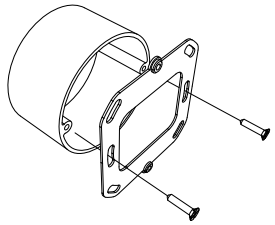
WARNING

- 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.
- Glass covers must be handled with care to prevent the glass from being damaged or broken.
- If the glass cover is applied with the device switched on, you need to wait about 2 minutes to allow the device to adapt to the presence of the cover; meanwhile it is possible that the button does not react to being pressed; wait 2 minutes.

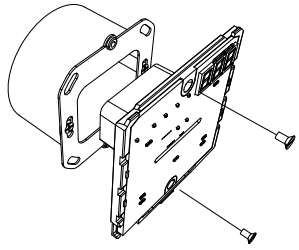
For information visit: www.eelectron.com.

Sequence for wall mounting

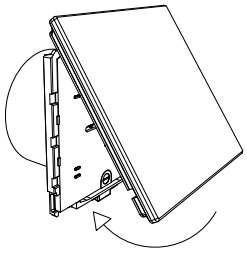
1. Fix the metal frame to the wall box using the included screws.



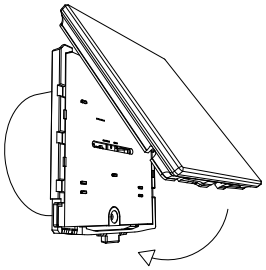
2. Connect the KNX cable to the device and fix it to the metal frame with the appropriate screws included.



3. Apply the glass cover starting from the top side and then pushing the bottom, you need to hear the click! to verify correct entry.



4. To remove the cover, push the pin on the bottom of the plastic cover, then remove first the bottom and then the top.



4. General parameters

Communication objects involved:

“<General> Heartbeat”	1 Bit	CRT
“<General> Input”	8 Bytes	CWTU / CW
“<General> Input Date”	3 Bytes	CWTU / CW
“<General> Input Time”	3 Bytes	CWTU / CW
“<General> Cleaning”	1 Bit	CW
“<General> Brightness”	1 Byte	CW
“<General> Brightness Day”	1 Byte	CW
“<General> Brightness Night”	1 Byte	CW

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
The parameter allows you to notify a hierarchically superior control or supervision system of your existence / correct online activity. The notification can take place spontaneously (periodically - settable period value) or following a query (upon request). The value of the 1-bit notification telegram can be set.	
Telegram value	off / on / toggle
Defines the value of the 1 bit notification telegram. The toggle value is not available for “on demand” configuration.	
Period - time unit	seconds / minutes / hours
Definisce l’unità di musura dell’intervallo di tempo di notifica. Questo parametro non è disponibile per la configurazione “su richiesta”.	
Period - time value	1 ... 255
Defines the notification interval time. This parameter is not available for the “on demand” configuration.	
Date time format	Date and Time / DateTime
The Date and Time format corresponds to 2 distinct 3 Byte objects / the DateTime format corresponds to 1 8 byte object.	
Request time at power ON	no / yes
By selecting “yes”, the device will send the date and time update request to the connected group address on the bus.	
Temperature function	disabled temperature senso thermostat
Temperature function disabled: no temperature function is active. temperature probe: the device can be used to measure the temperature with its internal probe, mix it with the values coming from the KNX bus, switch on and off other equipment using 1 bit objects). Thermostat: Selecting this option enables a full thermostat).	

Enable temperature alarm object	disabled / enabled
By setting this parameter, a 1-bit communication object is displayed which is used to signal a malfunction relating to the temperature sensor.	
Virtual holder	disabled / enabled
By setting this parameter, it is possible to enable a “virtual holder”, i.e. a logical function that automatically recognizes the presence of a person in a room. This feature can be used in hotels or similar installations and requires connection to other devices (see “Virtual Holder”).	
Enable cleaning object	disabled / enabled
By setting this parameter, a 1 bit communication object is shown; when the device receives a value on that object (0 or 1 set by parameter), the capacitive function is disabled and the device does not react when the keys are pressed. The device returns to normal operating conditions after a configurable time or when it receives a telegram on this object with a bit value opposite to the previous one. This function is used to allow cleaning of the device without sending unwanted commands.	
Night mode	disabled / enabled
By enabling the night mode, it is possible to set a different brightness value for the backlighting LEDs of the upper part of the cover between day (day mode) and night (night mode). In addition to the brightness value, it is possible to set the start and end times of the night mode.	
Brightness	0% … 100%
Sets the brightness value of the backlight, if the previous parameter (Night Mode) has been disabled; otherwise the parameter is replaced by two different parameters, one for day mode and one for night mode.	
Enable brightness objects	disabled / enabled
By enabling this parameter, a 1 byte communication object is available with which it is possible to set the brightness percentage of the LEDs.	

Front panel

KNX PARAMETER	SETTINGS
Button press-release sensitivity	10% to 100%
This parameter allows you to adjust the sensitivity of the capacitive keys, the higher the threshold, the higher the sensitivity of the device. Setting the threshold to 100% you will get a very sensitive device while a threshold of 10% will correspond to the minimum sensitivity. Under normal environmental conditions, leave the parameter at the default value (70%).	
Beep duration	short / normal / long
Beep tone	high pitched / normal / low pitched
Parameters to define the duration and tone of the acoustic signal.	
Button <x> beep on press	disabled / enabled
For the <left>, and <right> buttons it is possible to enable or disable the acoustic pressure signal.	

General alarms

Communication objects involved:

“<General> Glass removed alarm”	1 Bit	CRT
“<General> Unsupported Card Alarm”	1 Bit	CRT
“<General> Internal Clock Alarm”	1 Bit	CRT
“<General> Alarm Reset”	1 Bit	CW

In this page it is possible to configure the behavior of the device in the event of three different alarms. For the glass removed and paper not supported alarms, it is possible to set the activation of the buzzer.
Three independent objects are available for sending a 1-bit telegram with the possibility of cyclical sending, and a common alarm reset object.

KNX PARAMETER	SETTINGS
Glass removed alarm	disabled / enabled
Enables the alarm if the front glass is removed from its seat.	
Glass removed telegram	telegram “0” telegram “1”
Establishes the one-bit telegram sent on the "<General>Glass Removed Alarm" object in case of an alarm.	
Glass removed cyclic sending	never /1,5,10,30 min / 1,2,6,12 h
Defines the cyclical sending time interval of the “<General>Removed Glass Alarm” object.	
Buzzer action	no / yes
Defines whether to activate the buzzer signal in the event of an alarm.	
Unsupported card alarm	disabled / enabled
Generates an alarm if a card not encoded with the 9025 RFID Mifare system approaches.	
Unsupported card telegram	telegram “0” telegram “1”
Establishes the one-bit telegram sent on the “<General>Not Supported Card Alarm” object in the event of an alarm.	
Unsupported card cyclic sending	never / 1,5,10,30 min / 1,2,6,12 h
Defines the time interval for cyclical sending of the “<General>Not Supported Card Alarm” object.	
Buzzer action	no / yes
Defines whether to activate the buzzer signal in case of an alarm.	
Internal clock alarm	disabled / enabled
Enables the alarm for signaling a malfunction of the internal clock.	
Internal clock alarm	telegram “0” telegram “1”
Defines the one-bit telegram sent to the <General> Internal Clock Alarm” object in the event of an alarm.	
Internal clock cyclic sending	never / 1,5,10,30 min / 1,2,6,12 h
Defines the time interval for cyclical sending of the <General> Internal Clock Alarm” object.	
Reset alarm telegram	telegram “0” telegram “1”
Establishes the one-bit telegram sent on the “<General>Reset Alarm” object to reset the enabled general alarms.	

Buzzer

Communication objects involved:

“<Buzzer> Enable”	1 Bit	CW
“<Buzzer> Command”	1 Bit	CW
“<Buzzer> Test tone”	1 Byte	CW

In this page it is possible to set the behavior of the buzzer.

KNX PARAMETER	SETTINGS
Speed	fast normal slow
Defines the speed of the buzzer.	
Object enable	disabled / enabled
Allows you to enable the “<Buzzer> Enable” object.	
Enable state after download	disabled / enabled
It establishes if after a download the mode selected in the previous parameter is enabled or disabled.	
Activation telegram	telegram “0” telegram “1”
Establishes the telegram to be sent on the “<Buzzer> Command” object to activate the buzzer.	
Tone	tone 1 ... tone 16
Defines the tone of the buzzer.	
Test tone	disabled / enabled
Enables the “<Buzzer> Test Tone” object to be enabled.	
Number of repetitions (0 = no limit)	0 ... 15
Defines the number of repetitions of the acoustic signal. You can set two distinct values for the objects: “<Buzzer> Command” and “<Buzzer> Test Tone”.	
Repetition delay [s]	0 ... 30
Defines the delay time between two repetitions.	
Turn off after time	disabled / enabled
Allows you to enable the automatic switch-off function of the acoustic signal after a time defined by parameters.	

5. Access Control

Please refer to the “Access control” user manual.

6. Button

Please refer to the o “Button” user manual.

7. LEDs-RGB Led

Please refer to the “LEDs-RGB Led” user manual.

In the devices described, the “access control” function is not available.

8. Thermostat

Please refer to the “Thermostat and additional probe” user manual.

9. Logics

Please refer to the “Logics” user manual.

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

10. Virtual Holder

Please refer to the “Virtual Holder” user manual.

11. 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.