eelectron

Transponder Reader

TR22A01KNX– Varnished Light Grey
TR22A11KNX– Dark Grey
TR22A21KNX – White

Product and Applications description

The Transponder Reader TR22A01KNX is an EIB/KNX wall mounting device suitable to access control application.

This device can be used in any kind of building (Hotel, Hospital, Offices, Parking, etc..) where the access control application is required.

The device is equipped with two binary inputs (potential free contacts) that can be used, for instance, to control whether the door lock has been opened or closed or other signals coming from external switches/contacts (i.e. windows, bathroom emergency alarms, etc..).

The transponder reader is equipped also with two output relays which can be used for any purposes, typically to open the door or turning on the courtesy light inside the room.

The product provides on the front side four LEDs in order to enlighten 4 icons to display the following states (e.g. in case of Hotel management):

- Access Allowed/Not Allowed
- SOS request
- Service Call (clean room, etc..)
- Client status ("Busy room" or "Do not Disturb")

The LEDs and icons can be configured in associaton with other alarms or events.

The transponder reader can reads cards or keys at a maximum distance of 30mm from the front side.

The access control follows a sequence where the "build number" has been checked at first, then the "data" to check if it has been elapsed or not, next the password ID for client/guest/service identification, then the enabled entrance timing window. In case card reading pass all checks the door is opened and, if set, the courtesy light inside is switched on. At the same time the Transponder Holder can send the reading response to the bus.

The device configuration for commissioning in terms of physical address, group addresses and parameters is done with ETS (Engineering Tool Software) through a download of the Application Program.

Application Program

See Eelectron product Database: "Eel_db01.VD2".

Technical Specifications

Power Supply
- External Auxiliary Voltage : 12 (24) V AC/DC ± 10%
- Maximum current : 150mA

Inputs
- Number: 2 potential free contacts
- Input signal voltage U_n = 24V
- Input signal current at close contact = 1mA per channel

Outputs
- Number: 2 relays NO 24 V AC, 2 A (AC1), 1A (AC3)
- Relay 1 (OUT1)   door lock or general purpose
- Relay 2 (OUT2)   courtesy light or general purpose

Transponder Reader features
- IC for transponder reading Atmel/Temic.
- Internal Power Supply 5V DC
- Operating Frequency 125 KHz

Control Elements
- 1 programming push button (back)

Display Elements
- 1 LED red (back) for ETS programming
- 1 LED bicolour (front):
    - Red: "Access Not Allowed"
    - Green: "Access Allowed"
    - Red Blinking: "Grant Date not valid"
    - Orange: "Build Number not valid"
    - Orange Blinking: "Day of week not valid"
    - Green Blinking: "Hour Renge not valid"
- 1 LED red (front): free signalling
- 1 LED amber (front): free signalling
- 1 LED verde (front): free signalling

Connections

Mounting instructions
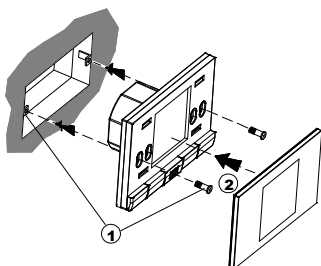
- Bus line:
    bus terminal connector block, single core max 0,8mm Ø
- External Power Supply 12/24 VAC/DC:
    Screw terminal block
    Conductor cross section max.1.5 mm^2
- Output relays
    Screw terminal block
    Conductor cross section max.1.5 mm^2
- Inputs signals (potential free)
    Screw terminal block
    Conductor cross section max.1.5 mm^2

Wiring Diagram
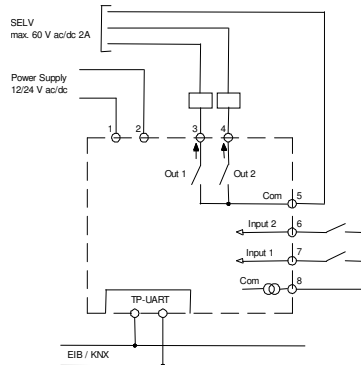
Physical specifications and Dimensions

- Housing: plastic
- Colours: Light Grey Varnished (TR22A01KNX),
             Dark Grey (TR22A11KNX)
- Dimensions: (W x H x D): 110 x 78 x 37.1 mm
- Weight: approx. 120 g.
- Installation: Flash mounting in 2 or 3 modules or wall round box Ø60mm, 40mm deep
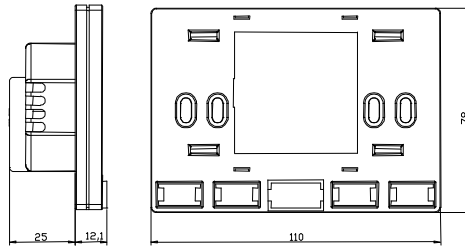
Electrical Safety

- Pollution degree : 2 (according to EN 60664-1)
- Protection class IP20 (according to EN 60529)
- Safety class: II (according to EN 61140)
- Overvoltage category: II (according to EN 60 664-1)
- Bus: safety extra low voltage SELV DC 24 V
- Device complies with EN 50090 and EN 60664-1

Electromagnetic compatibilità

Complies with EN 50081-1, EN 50082-2 e EN 50090-2.2

Environmental specifications

- Climatic conditions: complies with EN 50090-2.2
- Ambient operating temperature: 0℃ + 45℃
- Storage temperature: - 20 + 55 °C
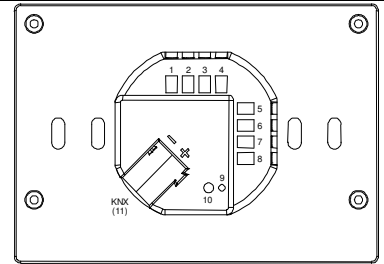- Relative humidity: max 90 % without condensation
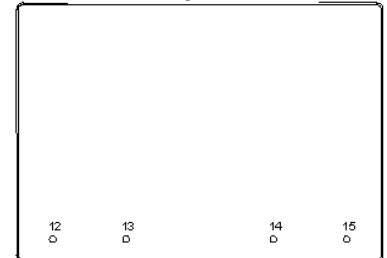
Certification

KNX/EIB certificate

CE Mark

In accordance with the EMC guideline and low voltage guideline

---

Location and Function operating and display elements

Front Side with glass frame cover

Terminals and Operatine Elements:

1 Power Supply 12/24 Vcc/ac
2 Power Supply 12/24 Vcc/ac
3 OUT 1 terminal relay 1 (NO)
4 OUT2 terminal relay2 (NO)
5 COM Outputs
6 IN 2 (potential free)
7 IN 1 (potential free)
8 COM Inputs
9 Programming LED
10 Programming push button
11 Bus Connection Terminal:
        Black = bus polarity (-)
        Red = bus polarity (+)
12 Led 4
13 Led 3
14 Led 2
15 Led bicolour

Installation Instructions

The device may be used for permanent indoor installations in dry locations within wall boxes.

WARNING

- The device must not be connected to 230V cables.
- The prevailing safety rules must be heeded.
- The device must be mounted and commissioned by an authorised 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.

Mounting and Wiring hints

WARNING

The device must be mounted in horizontal position.

General Description

The device configuration (KNX physical address assignment) is done by pressing the programming push button (10) located in the back side of the housing. Please take care during installation to leave connection wires long enough in order to remove the device easily from the wall box for commissioning.

Connecting bus cables

- Connect each single KNX/EIB bus core inside the terminal block (11) observing bus polarity .
- Slip the bus connection block (11) into the guide slot placed on the back side of this device and press the block down to the stop.

Wall box mounting

- Use for mounting only screws included.