

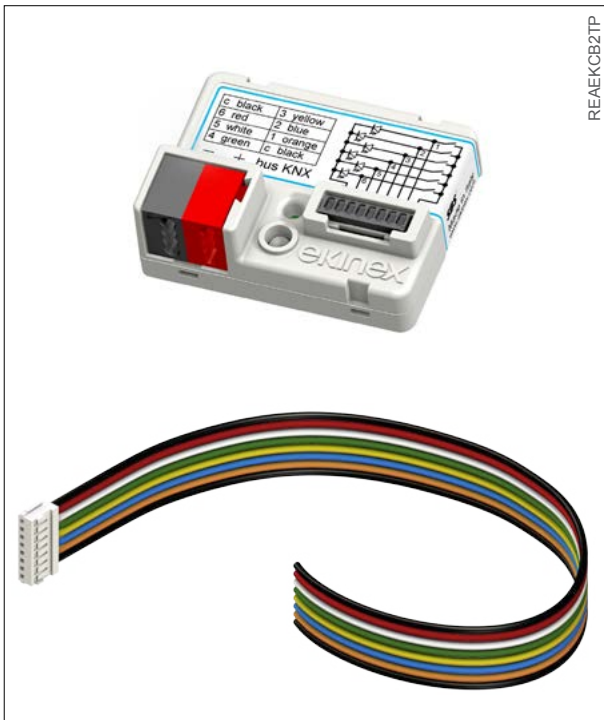
Pushbutton interface 6-fold

Product code: EK-CB2-TP



Datasheet STEKCB2TP_EN

KNX bus device for connecting conventional (not KNX) switches / sensors (as inputs) or low-consumption LEDs (as output). It has to be used in KNX installations for control of homes and buildings.



Description

The ekinex® universal interface EK-CB2-TP is a S-mode KNX device used as binary input and / or binary output. The device has six independent channels, an integrated bus communication module and is manufactured in a compact design for installation in flush mounting wall box. Each of the six channels can be used alternatively as:

- input to connect to the KNX bus switches, pushbuttons or sensors not communicating natively on the KNX bus or binary signals made available by other devices in order to switch and control KNX actuators;
- output to control low-consumption LEDs (Light Emitting Diode).

When operating as an input, the universal interface receives from the device connected to the channel a signal and translates it into a corresponding telegram to be sent on the bus. The telegram is received and executed by one or more KNX actuators. When operating as an output, the universal interface receives a telegram from the bus which translates into a command to turn on or off the LED connected to the channel. The device is powered by the KNX bus line with a SELV voltage 30 Vdc and requires no auxiliary power supply. The scanning voltage for the input

channels is produced inside the device.

Main characteristics

A single channel of the device can be programmed as input to carry out the function of:

- on/off switching of single loads or group of loads;
- detecting the state of signaling contacts (from safety devices, alarms, etc.);
- recalling and saving of scenes;
- sending values on the bus (temperature, brightness, etc.);
- switching to forced operating mode (lock);
- counting of impulses and switching cycles.

A couple of channels can be programmed as input to carry out the function of:

- dimming of lighting devices;
- controlling drives for shading devices (such as shutters, blinds, curtains, etc.).

Each channel can be alternatively programmed as output to carry out the function of:

- controlling low-consumption LED as status feedback, orientation nightlights, etc.

Other characteristics

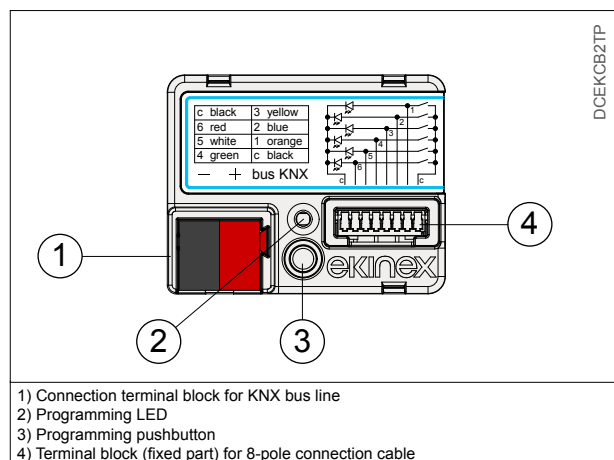
- Housing in plastic material
- 8-pole connection cable (length 250 mm)
- Installation in flush mounting wall box
- Protection degree IP20 (according to EN 60529)
- Classification climatic 3K5 and mechanical 3M2 (according to EN 50491-2)
- Pollution degree 2 (according to IEC 60664-1)
- Weight 10 g
- Dimensions 38 x 30 x 12 mm (WxHxD)

Technical data

- Power supply 30 Vdc from bus KNX bus line
- Current consumption < 15 mA
- Scanning voltage inputs > 11 V
- Power supply outputs > 11 V
- Current max outputs 5 mA

Environmental conditions

- Operating temperature: - 5 ... + 45°C
- Storage temperature: - 25 ... + 55°C
- Transport temperature: - 25 ... + 70°C
- Relative humidity: 95% not condensing



- 1) Connection terminal block for KNX bus line
- 2) Programming LED
- 3) Programming pushbutton
- 4) Terminal block (fixed part) for 8-pole connection cable

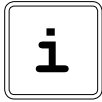
Switching, display and connection elements

The device is equipped with a programming pushbutton, a programming LED, a terminal for connecting the KNX

bus line and a connector for connecting the inputs with fixed part (on the housing) and mobile part (cable with free ends).

Switching and display elements

- Pushbutton (3) for switching between the normal and programming operating mode
- LED red (2) for indication of the active operating mode (on = programming, off = normal operation)



Note. In the absence of bus voltage, the control of the loads is not possible by the devices connected to the universal interface. It is still possible if the coordinated KNX actuators are equipped with pushbuttons or other control manual devices and is present the mains voltage 230 Vac.

Mounting

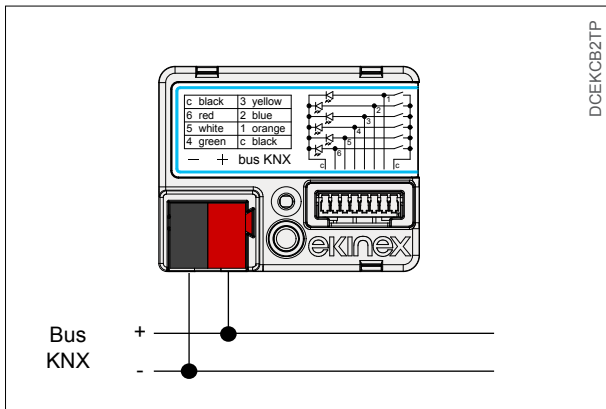
The device has degree of protection IP20, and is therefore suitable for use in dry interior rooms. The compact size of the device allow its installation in a wall flush mounting box.

Connection of the KNX bus line

The connection of the KNX bus line is made with the terminal block (black/red) included in delivery and inserted into the slot of the housing.

Characteristics of the KNX terminal block

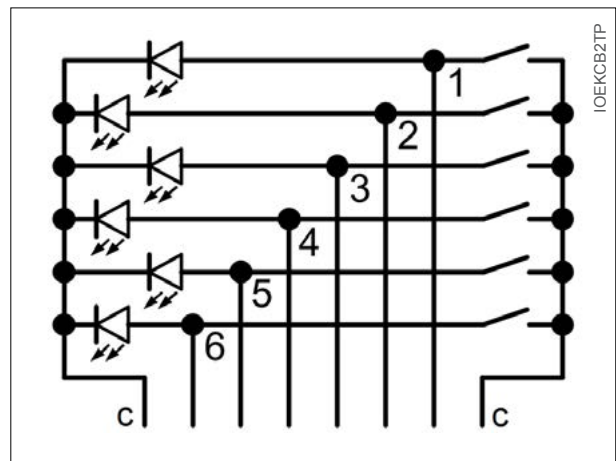
- spring clamping of conductors
- 4 seats for conductors for each polarity
- terminal suitable for KNX bus cable with single-wire conductors and diameter between 0.6 and 0.8 mm
- recommended wire stripping approx. 5 mm
- color codification: red = + (positive) bus conductor, black = - (negative) bus conductor



Warning! In order to supply the KNX bus lines use only KNX bus power supplies (e.g. ekinex EK-AB1-TP or EK-AG1-TP). The use of other power supplies can compromise the communication and damage the devices connected to the bus.

Connection of inputs and outputs

The connection of the 6 channels, each of which can be alternatively used as input or output, is made with the connection cable supplied that has 8 chromatically-coded conductors of 25 cm length connected with a connector removable from the housing. In order to connect devices to the universal interface an extension of the connection cable up to 10 m is allowed. The conductors which are not used have to be isolated. The scanning voltage for the inputs and the power supply for the outputs is provided by the device. If the channel is used as an input, the contact must be connected between a colored conductor and one



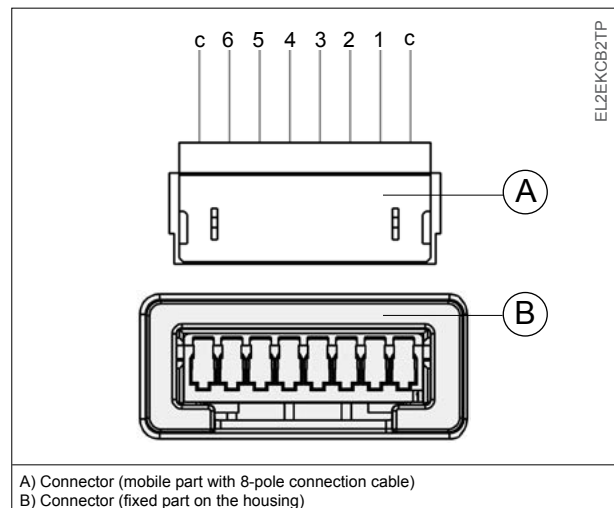
Warning! The connection of a channel as input or output is mutually exclusive: a channel cannot be used at the same time as input and output. The connection to the inputs of the interface of signals at a voltage of 230 Vac or other external voltage is not allowed.

of the two black conductors (common). If the channel is used as an output, the load (low-consumption LED) must be connected between a colored conductor and one of the two black conductors (common); the colored conductor represents the positive output voltage.

N.	Colour conductor	Used as input	Used as output
c	black	-	Negative reference potential
6	red	Scanning voltage (for contact status reading)	Output voltage (for power supply of the LED)
5	white		
4	green		
3	yellow		
2	blue		
1	orange		
c	black	-	Negative reference potential



Warning! The inputs and outputs of the device do not have galvanic isolation to the KNX bus voltage. It is only permitted to connect potential-free contacts that have a safe galvanic separation.



A) Connector (mobile part with 8-pole connection cable)
B) Connector (fixed part on the housing)



Warning! The electrical connection of the device can be carried out only by qualified personnel. The incorrect installation may result in electric shock or fire. Before making the electrical connections, make sure the power supply has been turned off.

Configuration and commissioning

Configuration and commissioning of the device require the use of the ETS® (Engineering Tool Software) program V4 or later releases. These activities must be carried out according to the design of the building automation system done by a qualified planner.

Configuration

For the configuration of the device parameters the corresponding application program or the whole ekinex® product database must be loaded in the ETS program. For detailed information on configuration options, refer to the application manual of the device available on the website www.ekinex.com.

Code	Application program (## = release)	Communication objects (max nr.)	Group addresses (max nr.)
EK-CB2-TP	APEKCB2TP##.knxprod	118	254



Note. The configuration and commissioning of KNX devices require specialized skills. To acquire these skills, you should attend the workshops at KNX certified training centers.

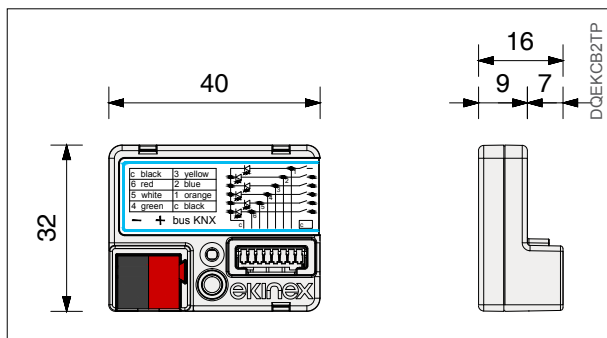
Commissioning

For commissioning the device the following activities are required:

- make the electrical connections as described above;
- turn on the bus power supply;
- switch the device operation to the programming mode by pressing the programming pushbutton located on the housing. In this mode of operation, the programming LED is turned on;
- download into the device the physical address and the configuration with the ETS® program.

At the end of the download the operation of the device automatically returns to normal mode; in this mode the programming LED is turned off. Now the bus device is programmed and ready for use.

Dimensions [mm]



Marks

- KNX
- CE: the device complies with the Low Voltage Directive (2006/95/EC) and the Electromagnetic Compatibility Directive (2004/108/EC). Tests carried out according to EN 50491-5-1:2010, EN 50491-5-2:2010

Maintenance

The device is maintenance-free. To clean use a dry cloth. It must be avoided the use of solvents or other aggressive substances.

Disposal



At the end of its useful life the product described in this datasheet is classified as waste from electronic equipment in accordance with the European Directive 2002/96/EC (WEEE), and cannot be disposed together with the municipal undifferentiated solid waste.



Warning! Incorrect disposal of this product may cause serious damage to the environment and human health. Please be informed about the correct disposal procedures for waste collecting and processing provided by local authorities.

Documentation

This datasheet refers to the release A1.0 of the ekinex® device EK-CB2-TP, and is available for download at www.ekinex.com as a PDF (Portable Data Format) file.

File name	Device release	Updating
STEKCB2TP_EN.pdf	A1.0	03 / 2014

Warnings

- Installation, electrical connection, configuration and commissioning of the device can only be carried out by qualified personnel in compliance with the applicable technical standards and laws of the respective countries
- The use of the device in security applications is not allowed. The device may however be used for auxiliary signaling functions
- Opening the housing of the device causes the immediate end of the warranty period
- In case of tampering, the compliance with the essential requirements of the applicable directives, for which the device has been certified, is no longer guaranteed
- ekinex® KNX defective devices must be returned to the manufacturer at the following address: SBS S.p.A. Via Circonvallazione s/n, I-28010 Miasino (NO) Italy

Other information

- This datasheet is aimed at installers, system integrators and planners
- For further information on the product, please contact the ekinex® technical support at the e-mail address: support@ekinex.com or visit the website www.ekinex.com
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