ekinex
CONTROL YOUR LIVING SPACE

Touch & See control and visualisation unit with 2-fold pushbutton

Code: EK-EF2-TP-...

KNX CE S TP1   Scheda tecnica STEKEF2TP_EN

KNX device for switching, controlling and visualising functions of a home or building automation system through a 3,5" touch-screen and a 2-fold pushbutton. It may be used in KNX installations for control of homes and buildings.

RFLEKEF2TP

Description

ekinex® *Touch&See* is a KNX S-Mode device for switching, controlling and displaying bus functions. It is equipped with an integrated KNX bus communication module and is designed for wall installation on a flush-mounting box. Through a 3,5" touch-screen and a user interface organized in a sequence of graphical pages, it is possible to control and monitor KNX actuators and display information received from KNX actuators and sensors in a simple and intuitive way. The device can also operate as a room temperature controller receiving values for up to eight independent zones thanks to the temperature value measured by the integrated sensor and/or by temperature values received by KNX temperature sensors. The integrated 2-fold pushbutton (max. 4 functions) allows on/off switching of loads, dimming of lighting devices, controlling of motor drives or other programmable switching and control functions. The device is powered by the KNX bus line and requires an auxiliary power supply 30 Vdc SELV.

Versions

The device is available in two versions that differ for the LED colours.

Code	LED colour	Mounting
EK-EF2-TP	blue / green	with rectangular frame of form (EK-FOR-...) or flank (EK-FLR-...) series
EK-EF2-TP-RW	red / white	

Completion of the device

For installation and operation the device must be completed with a separate order of:

• operation surfaces consisting of two square rockers;
• a rectangular frame of the ekinex® form or flank series.

Rockers and frames are available in plastic material or metal. A metallic support, the fixing screws and the terminals for connection of the KNX bus line and the auxiliary power supply are delivered with the device.

Rockers

Three-positions rockers with central neutral position have to be mounted on the pushbutton. Pushing one side of a rocker (for example the upper one), the pushbutton sends on the bus a telegram for switching on, increasing the brightness of luminaires or raising the blinds, while pushing the other side (for example the lower one), it sends a telegram for switching off, reducing the brightness of luminaires or lowering the blinds. Each channel is equipped with LEDs which can be freely programmed as status feedbacks of the loads and as orientation nightlight.

Code *	Material	Package		Modularity [mm]
EK-TSR-GAx	plastic		4 square pcs.	40 x 40
EK-TSR-GBx	metal			

(*) It has to be completed with the extension for the colour (x)

Customization of rockers

The rockers can be customized with symbols and texts, for more information see the standard library on the ekinex® catalog or the website www.ekinex.com. On request it is also possible a customization with symbols and texts chosen by the customer.

Frame

The device is completed with a rectangular frame of the form (EK-FOR-...) or flank (EK-FLR-...) series.

Code *	Material	Package		Dimens. [mm]
EK-FOR-GAx	plastic		1 pcs.	126 x 86
EK-FOR-GBx	metal			
EK-FLR-GAx	plastic		1 pcs.	135 x 80
EK-FLR-GBx	metal			

(*) It has to be completed with the extension for the colour (x)

Touch&See unit with rockers and rectangular frame of form series

Touch&See unit with rockers and rectangular frame of flank series

## Functional characteristics (touch-screen)

The device (touch-screen) can be programmed to carry out several functions as:

- room chronothermostat for 8 independent zones;
- ON/OFF switching of single loads or groups of loads;
- dimming of lighting devices;
- control of motor drives (for roller shutters, blinds, curtains, etc.);
- displaying of the status of auxiliary contacts (from safety/security devices, etc.);
- displaying of time and date of the internal clock or sent by a KNX timer;
- displaying of values received by a KNX wheather station such as temperature, wind speed, rain presence, brightness, etc.
- displaying of alarm messages;
- recalling and saving of scenes;
- sending on the bus of values (temperature, brightness, etc.);
- locking of the functions through password;
- temporary block for screen cleaning.

Graphical pages

The *Touch&See* unit offers a series of main graphical pages that can be accessed in sequence for switching, controlling, monitoring or displaying bus functions of the room in which it is installed or other rooms controlled by the same KNX installation. The following graphical pages can be enabled:

- home (direct access to the other pages)
- room temperature controller (8 independent zones);
- switching and control (8);
- calendar;
- meteo information;
- multimedia;
- service functions (presence simulation, timer, alarms).

Icon for recalling the home page from the other main pages

home page

room temperature controller

switching and control

calendar

meteo information

multimedia

service functions
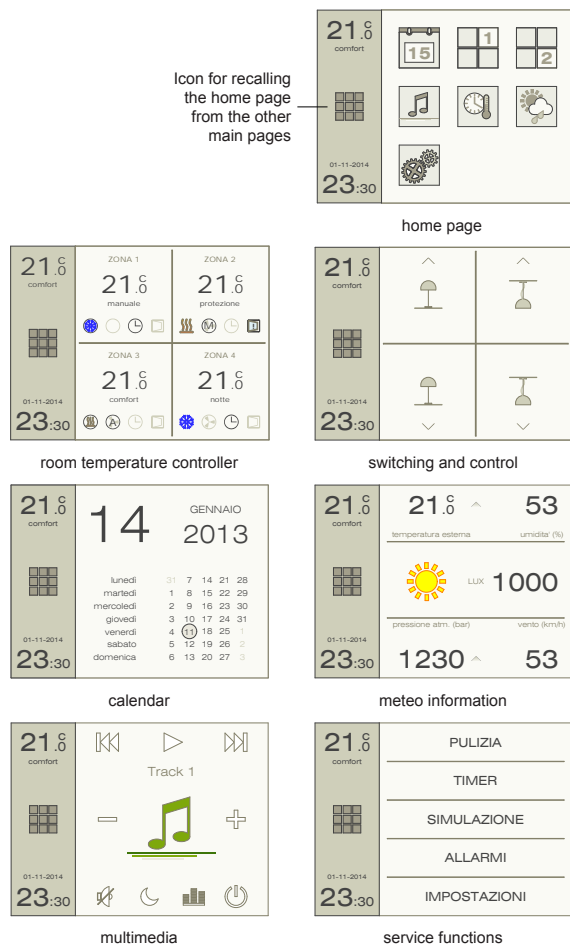
Direct access

Each graphical page may be directly accessed through the home page whose icon is present in the vertical left stripe.

Languages

Text and labels of the graphical pages are available in four languages: English, German, French and Italian. The language can be selected configuring the device with ETS.
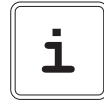
Note. The set of functions that may be controlled as well as the information that may be visualized by the device depend on the KNX bus devices connected to the bus installation and the configuration carried out with the ETS software tool. The graphical pages not enabled are not visible while scrolling.

Note. The screws for the metal support must be tightened with a max. torque of 1.0 Nm.

Functional characteristics (pushbutton)

The device (2-fold pushbutton) can be programmed to carry out several functions as:

- On/off switching of single loads or groups of loads
- Dimming of lighting devices
- Control of motor drives (for roller shutters, blinds, curtains, etc.)
- Recalling and saving of scenes
- Sending on the bus of values (temperature, brightness, etc.)
- Switching to forced functioning (lock)
- Measuring of room temperature through the integrated sensors
- Different functions programmable for short pressure / long pressure of a rocker
- Status feedback or orientation nightlight through 2-color programmable LEDs

Other characteristics

- 3,5" (320 x 240 pixel) TFT touch display, backlit, 65.536 colours
- Integrated temperature sensor
- Housing in plastic material
- Wall installation in flush mounting box round or square (60 mm distance between fixing holes) or rectangular 3-modules (83,5 mm distance between fixing holes)
- 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 100 g
- Dimensions 122 x 80 x 35 mm (WxHxD)

Technical data

- Power supply 30 Vdc from KNX bus line
- Current consumption 18 mA
- Auxiliary power supply SELV 30 Vdc

Environmental conditions

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

Switching, displaying and connection elements

The device is equipped with a programming LED, a programming pushbutton, a 2-fold pushbutton, a 3,5" touch-screen operating surface and two terminal blocks for the connection of the bus line and the auxiliary power supply.
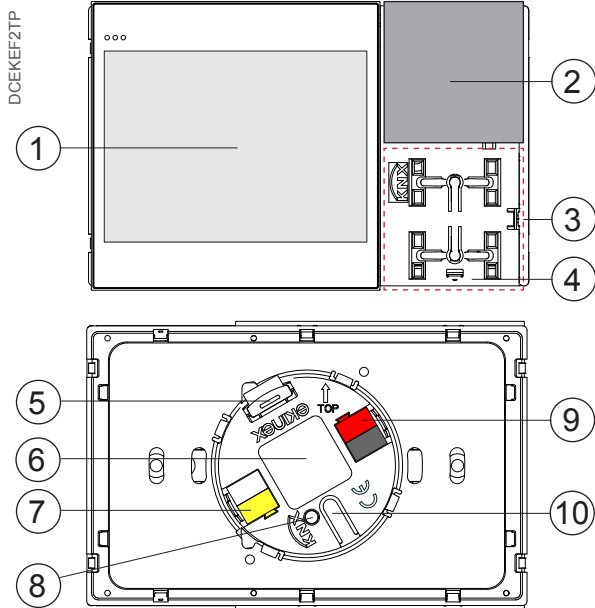
1) 3,5" active touch-screen area
2) Rocker
3) Lightguide for LED
4) Position of temperature sensor
5) Seat for micro SD card
6) Label (with field for physical address)
7) Terminal block for 30 Vdc auxiliary power supply
8) Programming LED
9) Terminal block for KNX bus line
10) Programming pushbutton

Switching and displaying elements

- Touch-screen area (1) with graphical pages programmable for switching, controlling and displaying bus functions
- Square rocker (2) for switching of single or group of loads
- Pushbutton (10) for switching between the normal and programming operating modes
- Red LED (8) for indication of the active operating mode (on = programming, off = normal operation)

Note. Programming pushbutton and LED are only accessible from the rear side of the device. It is better addressing the device before the final assembly of the frame. Once the addressing has been done, the device configuration can be later downloaded without pressing the programming pushbutton.

Mounting

The device has degree of protection IP20, and is therefore suitable for use in dry interior rooms. The installation of the device requires the following steps:

a) fix the metallic support (3) with the screws supplied (6) on the wall box (7) provided with suitable fixing holes;

b) snap a square frame (2) of the form or flank series, inserting it from the rear of the device (1);

c) enter the bus terminal, previously connected to the bus cable in its slot on the rear side (see also: "Connection of the KNX bus line");

d) enter the auxiliary power supply terminal, previously connected to the corresponding cable, in its slot on the rear side (see also: "Connection of the auxiliary power supply"). At this point it is recommended to carry out the commissioning of the device (see also "Configuration and commissioning") or at least the download of the physical address;
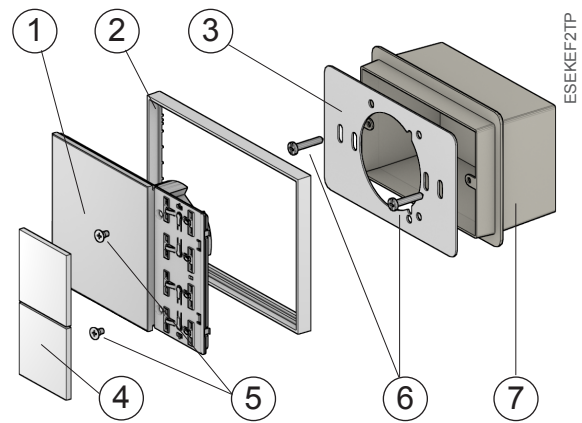
Composizione di un punto di controllo e visualizzazione
1) *Touch&See* unit
2) Rectangular frame of the series form or flank (to be ordered separately)
3) Metallic support for flush-mounting box
4) Square rockers (to be ordered separately) for 2-fold pushbutton
5) Screws for fixing the support on the flush-mounting box
6) Screws for fixing the device on the support
7) Flush-mounting box

e) mount the device (1) on the metallic support supplied (3) with the screws (5). For a correct mounting of the device follow the indication TOP (arrow tip pointing up) on the rear side of the device;

e) snap the two rockers (4) for the operation of the device.

If the TOP indication is respected, the correct mounting of the device is confirmed by the position of the terminal blocks: bus terminal (red / black) on top right, auxiliary power supply terminal on bottom left.

The device can be installed on a round or square (distance between fixing holes: 60 mm) or rectangular or rectangular 3-module (distance between fixing holes: 83,5 mm) flush-mounting box. If necessary, the metallic support for mounting on the wall box can also be ordered separately using the code EK-SMR.

Mounting of rockers

For the mounting of the two rockers on the dedicated seats, the fixing elements have to be aligned vertically. On the device can be mounted only square 40 x 40 mm rockers (EK-TSQ-...).
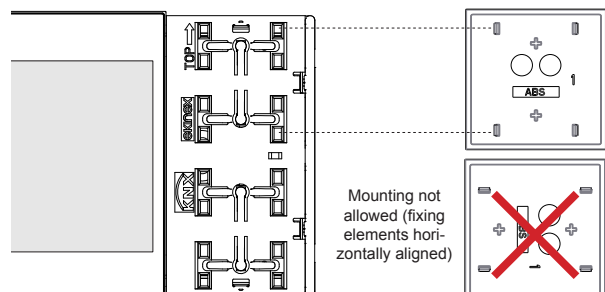
Mounting not allowed (fixing elements horizontally aligned)

KNX bus

AUX 30 Vdc

DCEKEC2TP
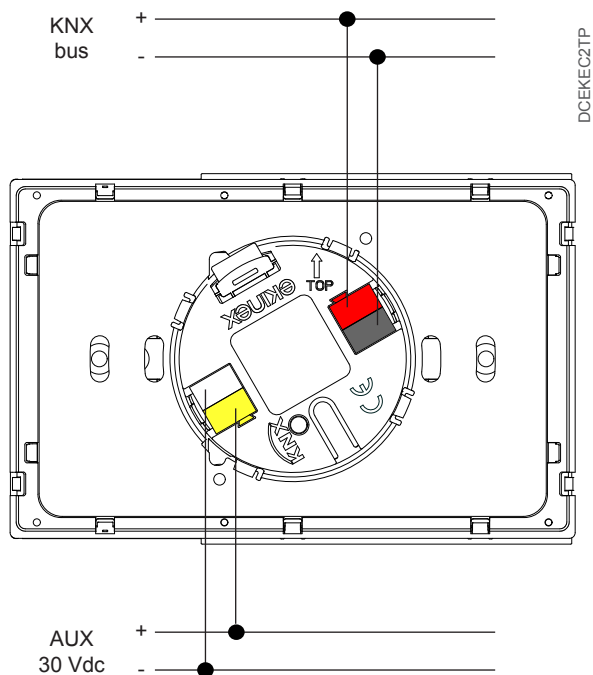
Warning! *The electrical connection of the device can be carried out only by qualified personnel. The incorrect installation may result in electric shock or fire. Before making the electrical connections, make sure the power supply has been turned off.*

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 (7).

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

Connection of the auxiliary power supply

The connection of the auxiliary power supply 30 Vdc is made with the terminal block (yellow / white) included in delivery and inserted into the slot of the housing (3).

Characteristics of the 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: yellow = + (positive) bus conductor, white = − (negative) bus conductor

Warning! *The connection to the device of an auxiliary power supply with voltage different than 30 Vdc is not allowed. 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.*

For the connection of the auxiliary power supply to the *Touch&See* unit use preferably a cable with a sheath in different color than the cable connecting the KNX bus line and label the two cables to allow a clear identification after the first installation. For the auxiliary power of the device it is recommended the use of the ekinex® bus power supply EK-AG1-TP that is provided with a dedicated output

Device used as room temperature controller

Through a dedicated graphical page, an EK-EF2-TP *Touch&See* unit can also be used as a room temperature controller for up to 8 independent zones. For the regulation process the temperature value can be measured by the integrated sensor and/or received via the bus by up to four KNX devices provided with a temperature sensor. If the temperature measured by the integrated sensor is used, for an optimal regulation the device must be installed preferably on an internal wall at a height of 1.5 m from the floor. The device has not to be installed close to heat sources such as domestic appliances or radiators; positions where the device may be subject to direct sunlight through glass surfaces have to be avoided.

min 0,3 m

1,50 m
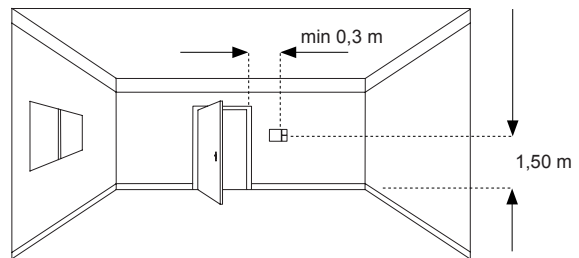
Configuration and commissioning

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.

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.*

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.

Product code	Application program (## = release)	Communication objects (nr. max)	Group adresses (nr. max)
EK-EF2-TP	APEKEF2TP##.knxprod	1088	1088

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 rear side of 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.

Protection password

With a password the device can be protected - totally or partially - from unauthorized use. The password is set while commissioning the device.

i	**Nota.** *Si consiglia di conservare la password in un posto sicuro. In caso di dimenticanza della password impostata, contattare la società che ha effettuato la messa in servizio dell'impianto bus.*

Maintenance

The device is maintenance-free. In order to avoid the unintentionally activation of functions while cleaning the screen, the device provides a special function block for cleaning. To activate the lock function:

- recall the service page;
- select the function "Cleaning".

For a time interval of 30 seconds the device ignores any contact with the touch-screen. The display indicates the remaining time for cleaning. At the end of the time interval, the device automatically returns to the service page.

⚠	**Warning!** *For the activation of the screen you can use your fingers or a special pointer for touch-screens. Do not use sharp objects, for this can damage the screen and compromising permanently its functionality.*

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 3.0 of the ekinex® device EK-EF2-TP, and is available for download at www.ekinex.com as a PDF (Portable Data Format) file.

File name	Device release	Updating
STEKEF2TP_IT_2.0.pdf	3.0	12 / 2018

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

Dimensions [mm]
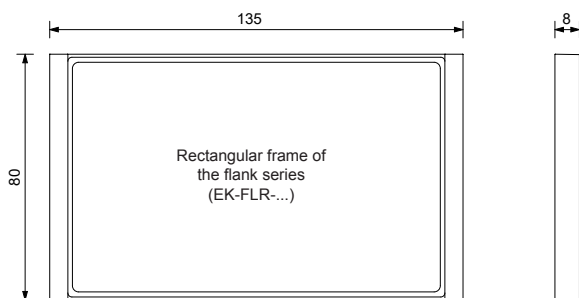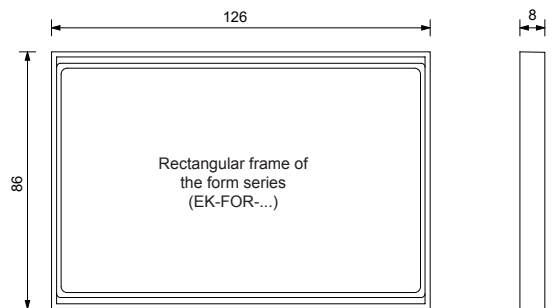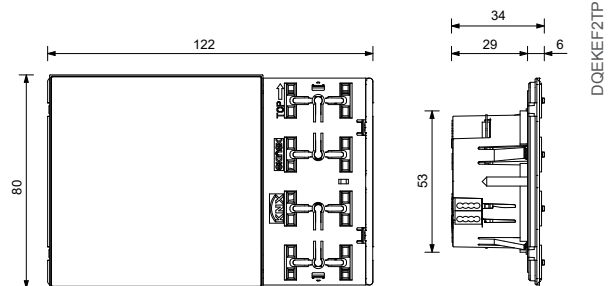
Warnings

- 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
- 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: EKINEX S.p.A. Via Novara 37, I-28010 Vaprio d'Agogna (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
- Each ekinex® device has a unique serial number on the label. The serial number can be used by installers or system integrators for documentation purposes and has to be added in each communication addressed to the EKINEX technical support in case of malfunctioning of the device
- KNX® and ETS® are registered trademarks of KNX Association cvba, Brussels