ekinex
CONTROL YOUR LIVING SPACE

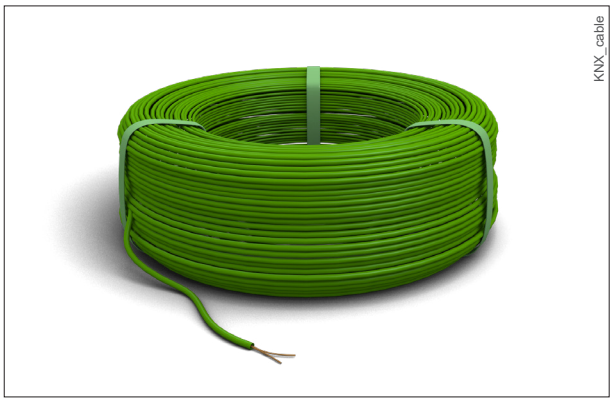
KNX bus cable (LSZH version)

Codes: EK-112-TP (1 pair)
EK-114-TP (2 pairs)

KNX CE TP1

Datasheet STEK112-114TP_EN

Bus signal cable with one or two pairs of conductors. To be use in KNX standard home and building automation systems.



Description

The ekinex® bus cable, available with one pair (EK-112-TP) or two pairs (EK-114-TP) of twisted conductors, is used as a transmissione medium for KNX TP1 bus devices in an installation for home and building control. The cable is suitable for the signal transmission of the KNX system and for the 30 Vdc power supply of the electronic part of KNX devices. L'impiego del cavo bus realizzato conformemente alle specifiche KNX TP1 di KNX Association garantisce la correttezza della comunicazione del sistema bus KNX.

Main characteristics

- One or two twisted pairs
- Composition (mmq): 1x2x0,80+T+S (2x2x0,80+T+S for EK-114-TP)
- Black/red pair: KNX bus line
- White/yellow pair: reserve (only for EK-114-TP)
- Twist rate: 20/m
- Screen: in foglio di alluminio/poliestere con filo di rame stagnato
- Earthing: not necessary
- Use: dry indoor environments
- Temperature range: -40°C...+70°
- Weight (nominal): 40 (61) kg/km
- CPR classification: Eca

Outer sheath

- Duraflam LSZH (Low Smoke Zero Halogen) material
- Diameter (nominale): 5.10 (7.40) mm
- Colour: green (like RAL 6018)
- Mark: KNX

Conductors

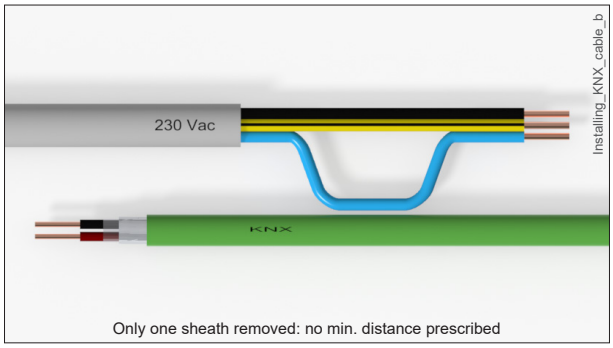
- Material: copper
- Diameter (nominale): 0,8 mm
- Insulation: polyethylene
- Pair 1: red/black
- Pair 2: white/yellow (only for EK-114-TP)

Technical data

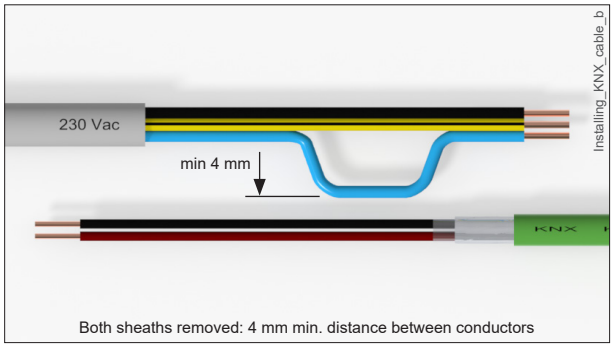
- Nominal voltage: U_0/U 250/250 V (eff.)
- Insulation resistance (@ 20°C): 200 MΩ/km
- Conductors resistance (@ 20°C): 37,7 Ω/km
- Mutual capacitance: 90 pF/m

Installation

It is allowed to lay the KNX bus cable together with the 230 Vac mains power cable in the same concealed conduit, as long as the insulation is maintained. If the insulation of the cables is removed, a distance of at least 4 mm must be observed between the conductors of different cables.



Only one sheath removed: no min. distance prescribed



Both sheaths removed: 4 mm min. distance between conductors

Connection of KNX devices

KNX devices are connected to the bus cable via the KNX bus terminal; conventionally, the color-coded pair of black / red conductors is used for this purpose. The clamp and the cable are part of a practical quick connection system aimed at eliminating errors: the cable has rigid conductors and the clamp with sealing springs (instead of screws); moreover, the terminal consists of two elements with the same color coding (black / red) of the conductors to be connected.

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

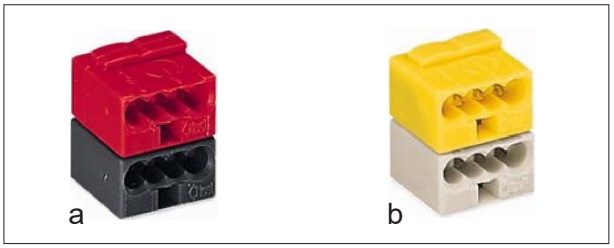
Use of the second pair of conductors

The second pair of conductors (only for EK-114-TP) is color coded white / yellow and is officially defined as reserve. It may be used for the auxiliary SELV power supply of KNX devices. To this purpose a terminal similar in construction to the KNX one is used, but with a different color coding (white / yellow).

Characteristics of the SELV 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

Terminal block code	Suggested use	Color codification
EK-MNR-TP	KNX bus line	black/red
EK-MGB-TP	SELV auxiliary power supply	white/yellow

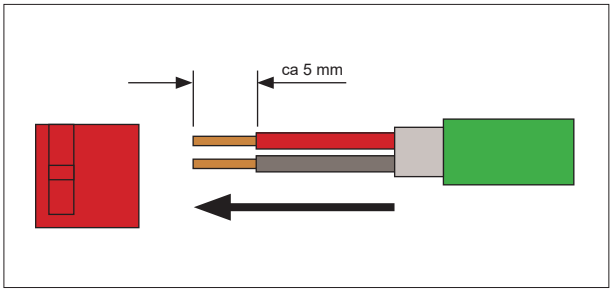


a) Terminal block for conductor pair 1 (black/red)
b) Terminal block for conductor pair 1 (white/yellow)

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.*

Preparing the cable

For insertion into the bus terminal, remove the insulation of the individual conductors for a length of approx. 5 mm.



Marks

- KNX
- CE: the device complies with the Low Voltage Directive (2006/95/EC) and the Electromagnetic Compatibility Directive (2004/108/EC).

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.*

Document

This technical data sheet refers to ekinex® products cod. EK-112-TP and EK-114-TP and is available for download at www.ekinex.com in PDF (Portable Data Format).

Filename	Product release	Updating
STEK112-114TP_EN.pdf	A1.0	01 / 2022

Standards

- Flame retardant according to IEC 60332-1
- Low smoke emission according to IEC 61034-1, 61034-2
- Halogen-free according to IEC 60754-1, 60754-2
- Coexistence of signal cables and power cables according to CEI UNEL 36762
- Tests designed to verify the characteristics of the gases emitted by combustion carried out according to CEI 20-37
- CPR classification according to EN 50575.

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
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