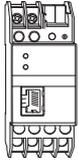


KNX/IP router REG-K

Operating instructions



Art. no. MTN680329

For your safety

DANGER
Risk of serious damage to property and personal injury, e.g. from fire or electric shock, due to incorrect electrical installation.

Safe electrical installation can only be ensured if the person in question can prove basic knowledge in the following areas:

- Connecting to installation networks
- Connecting several electrical devices
- Laying electric cables
- Connecting and establishing KNX networks

These skills and experience are normally only possessed by skilled professionals who are trained in the field of electrical installation technology. If these minimum requirements are not met or are disregarded in any way, you will be solely liable for any damage to property or personal injury.

Getting to know the KNX/IP router

Function overview

The KNX/IP router REG-K (referred to below as KNX/IP router) enables KNX telegrams of a TP line to be forwarded to a LAN (IP) as a rapid backbone. The KNX telegrams are forwarded in both directions. In a KNX system, you can use KNX/IP routers, couplers or both devices in mixed operation.

The KNX/IP router can also be used as an interface for bus access via IP (e.g. for ETS programming).

With version 0C and higher (see the back of the device), a total of up to 5 simultaneous connections is supported.

The KNX/IP router supports the DHCP Internet protocol. The IP address can be automatically assigned via a DHCP server or manually via the ETS setting.

Other supported Internet protocols are ARP, ICMP, IGMP and UDP/IP. The KNX/IP router operates in accordance with the KNXnet/IP specification using core, device management and tunnelling.

An external power supply powers the KNX/IP router. If available in your network, you can alternatively use power over Ethernet (IEEE 802.3af).

Coupler function (KNXnet/IP routing)

The KNX/IP router can work as a line coupler or area coupler. In both cases the LAN (IP) is used as a backbone.

The assignment of the physical address of the KNX/IP router determines if the device works as a line coupler or an area coupler.

If the physical address has the form (X.Y.0), the router functions as a **line coupler**.

X = 1 to 15 = area

Y = 1 to 15 = line

0 = line coupler

If the physical address has the form (X.0.0), the router functions as an **area coupler**.

X = 1 to 15 = area

0.0 = area coupler

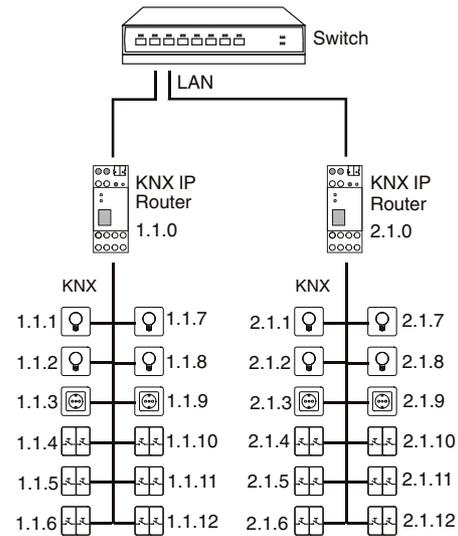
i Note: If the KNX/IP router is used as an area coupler (X.0.0), no KNX/IP router may be located topologically below it. For example, if a KNX/IP router has the physical address 1.0.0, a KNX/IP router with the address 1.1.0 is not permitted.

i Note: If the KNX/IP router is used as a line coupler (X.Y.0), no KNX/IP router may be located topologically above it. For example, if a KNX/IP router has the physical address 1.1.0, a KNX/IP router with the address 1.0.0 is not permitted.

The KNX/IP router has a filter table and thus helps reduce the bus load. The filter table is automatically generated by the ETS in the preconfiguration.

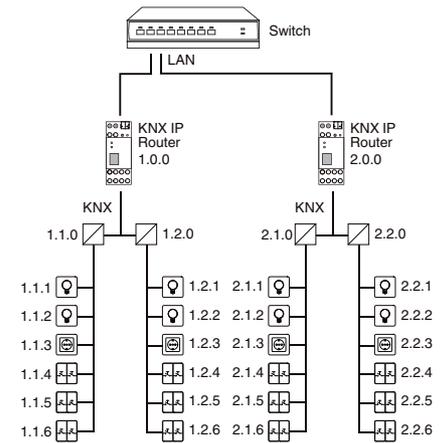
Because of the speed difference between Ethernet (10 Mbit/s) and KNX (9.6 kbit/s), far more telegrams can be transmitted on IP. If there are several telegrams in quick succession for the same line, they must be buffered in the router in order to avoid telegram losses. For this purpose, the KNX/IP router has memory for 150 telegrams (from IP to KNX).

KNX/IP router as a line coupler



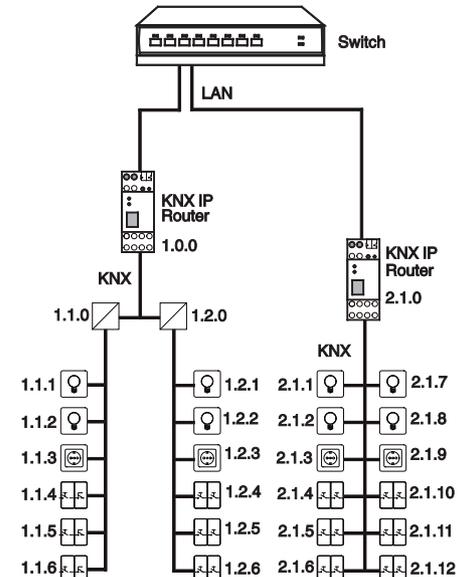
Example with lines 1.1 and 2.1

KNX/IP router as an area coupler



Example with areas 1 and 2

KNX/IP router as a area coupler and line coupler



Example with area 1 and line 2.1

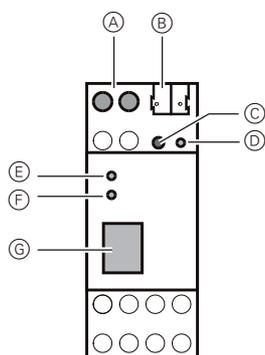
Interface function (KNXnet/IP tunnelling)

The KNX/IP router can be used as an interface to the KNX. The KNX can be accessed from any point in the LAN. A second physical address must be assigned for this purpose.

With version 0C and higher (see the back of the device), a total of up to 5 simultaneous connections is supported.

Further information can be found in the application description.

Connections, displays and operating elements



- A Connecting terminals for external power supply
- B Bus connecting terminal
- C Programming button
- D Programming LED (red)
 - LED lights up: bus voltage present
 - LED blinking: telegram traffic
- E Operating LED KNX (green)
 - LED lights up: bus voltage present
 - LED blinking: telegram traffic
- F Operating LED Ethernet (green)
 - LED lights up: Ethernet connection present
 - LED blinking: telegram traffic
- G RJ45 socket for Ethernet connection

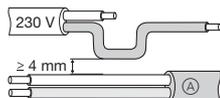
Installing the KNX/IP router



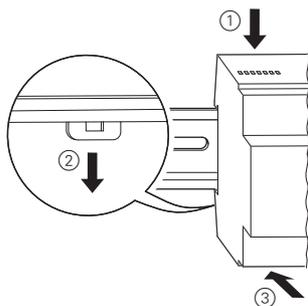
WARNING

Risk of death from electric shock. The device can be damaged.

Safety clearance must be guaranteed in accordance with IEC 60664-1. There must be at least 4 mm between the individual cores of the 230 V supply cable and the KNX line **A**.



Mounting the device on the DIN rail



Connecting the device

- 1 Connect KNX.
- 2 Connect the Ethernet cable.
- 3 Connect the external power supply (only necessary when power over Ethernet is not available).

Putting the KNX/IP router into operation

- 1 Press the programming button.

The programming LED lights up.

- 2 Load the physical address and application into the device from the ETS.

The programming LED goes out.

The operational LED lights up: the application has been loaded successfully and the device is operative.

With version 0C and higher (see the back of the device), you can assign other physical addresses directly on the device. To do so, press the programming button for more than 1 second.

Further information can be found in the application description.

Technical data

Supply voltage

External power supply AC 12-24 V
via connecting terminals: DC 12-30 V (SELV),
10 mA

Alternative power supply via RJ 45 socket: Power over Ethernet (IEEE 802.3af)

Power consumption: max. 800 mW

Operating elements: 1x programming button

Display elements: 1x LED (red): programming
1x LED (green): KNX
1x LED (green): Ethernet

Connections

KNX: Bus connecting terminal

Ethernet: RJ45 socket

External power supply: Screw terminals for cross-sections up to max. 2x 1.5 mm²

Ambient temperature:

Operation: -5 °C to +45 °C

Environment: Can be used at elevations up to 2000 m above sea level (MSL)

Max. humidity: 93%, no condensation

Dimensions (HxWxD): 90x36x60 mm

Device width: 2 modules = 36 mm

Schneider Electric Industries SAS

If you have technical questions, please contact the Customer Care Centre in your country.

www.schneider-electric.com