KNX-20E-640 Installation Manual

SELV

Introduction

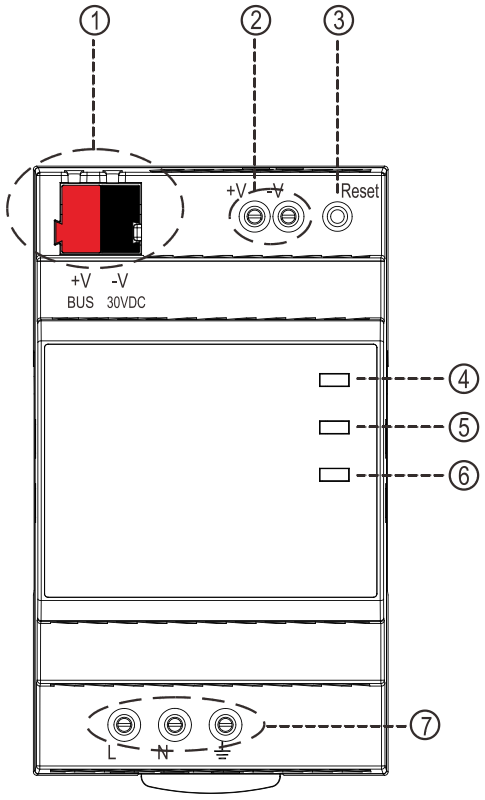
The KNX Power Supply KNX-20E-640 is a 640mA power supply with high efficiency and a small footprint of only 3SU (52.5mm). The device has a KNX bus choke output and an additional output for ancillary power. The -5℃ ~ +50℃ wide temperature operating range can meet all kinds of applications. LED indicators are used in case of normal operation, overload conditions and RESET operation. It is perfectly suitable to power up any products labeled with the KNX trademark.

Features

- EIB/ KNX power supply with integrated choke
- Compact size with 3US (52.5mm) width
- Safety extra low voltage (SELV)
- 180 ~ 264Vac input
- No load power consumption < 0.5W
- 200ms mains failure back-up time
- Protections: Short circuit/ Overload (short-circuit-proof)/ Over voltage
- Cooling by free air convection
- Isolation class I
- LED indicator for normal operation, bus reset and bus overload
- Installed on DIN TS-35/7.5 or 15
- 3 years warranty

Display

The device is equipped with a reset push button, three LEDs and terminal blocks for the AC, KNX bus line and ancillary output.



1	KNX bus terminal (Red : BUS +V, Black : BUS -V)
2	Ancillary power terminal
3	RESET button
4	Power ON (Green)
5	Reset (Red)
6	I > I max (Red)
7	AC terminal (L,N, ⏚)

Installation

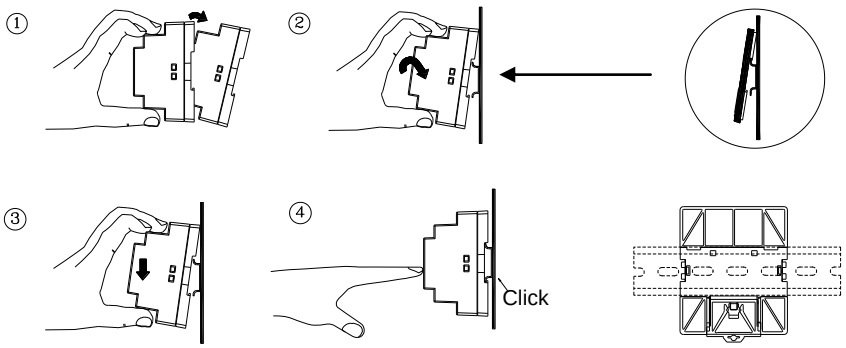
1. Wiring

- Use wires with an adequate cross-section
- Use suitable mounting tools to do the wiring and mounting
- The maximum number of bus devices connected is 64
- The maximum length of a line segment is 350 m, measured along the line between the power supply and the furthest bus device
- The maximum distance between two bus devices cannot exceed 700 m
- The maximum length of a bus line is 1000 m, keeping into account all segments

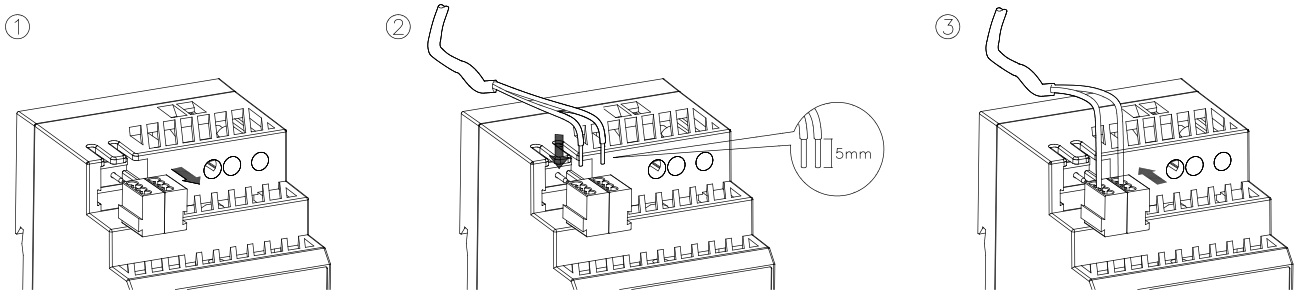
Type	AC and ancillary power terminals (L, N, ⏚, +V, -V)	KNX bus terminal (BUS +V, BUS -V)
Solid wire	0.5 ~ 4.0mm	0.6 ~ 0.8Φ
Stranded wire	0.5 ~ 2.5mm²	------
American wire gauge	12 ~ 26AWG	20 ~ 22AWG
Wire stripping length	6.5mm (0.255")	5mm (0.196″)
Screwdriver	3mm Slotted	-----
Recommended tightening torque	8 kgf-cm (7 lb-in)	-----

2. Mounting and Connection

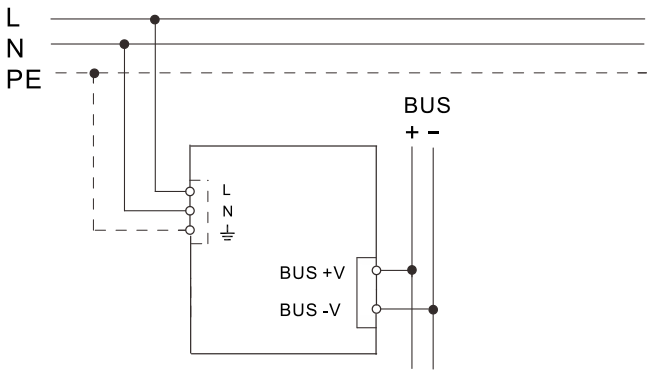
a. Insert the power supply onto the DIN rail (TS35/7.5 or TS35/15).



b. Connect the KNX, the connection to the KNX bus line is made with the terminal block (red: BUS +V/ black: BUS -V) located on the left upper part of the front.



c. Connect the mains voltage, the connection to the AC is made with the terminal (L, N, ⏚) located on the bottom.



3. MCB

Use a MCB (miniature circuit breaker) with an adequate current rating to protect the KNK device.

Model	B10	B16	C10	C16
KNX-20E-640	1	2	2	4

Note: These calculated values are based on MCB S201 series manufactured by ABB.

Function and Operation

The device does not require any configuration with ETS® (Engineering Tool Software) tool. Once the wiring is proper done, the “Power on” LED will light up and the rest of the LEDs remain off to indicate that the unit is in operation condition.

Reset : To carry out a reset, press the RESET button for at least 20 seconds to reset the KNX power supply.

Fault : If the red LED (I > Imax) lights up with applied mains voltage, a fault is present. This means that the KNX output is overloaded or shot-circuited. The problem can be solved by removing the cause of the short circuit or by reducing the number of KNX devices connected to the line. Once the fault has been rectified, carry out a reset by pressing the RESET button for approx. 20 seconds.

Meaning of the LEDs

Power ON (GREEN)	Reset (RED)	I > Imax (RED)	Status
ON	OFF	OFF	Ready for operation or working normally
OFF	ON	OFF	Resetting
ON	OFF	ON	Output current too high
OFF	OFF	ON	Short-circuit or bus reverse polarity
OFF	OFF	OFF	No mains voltage

Environmental Limitations

- Maximum ambient temperature must not exceed 50℃
- Always allow adequate ventilation clearances, 5mm left and right, 40mm above and 20mm below, around the unit in use to prevent it from overheating
- Only install the unit in indoor environments

Cautions

- This unit must be installed by a qualified electrician
- It should be ensured that the supply can be isolated when connecting the unit.