KNX Gateway DMX-Web K.DMXGW.01
Art. no.: 135 16 112

Operating instructions

1 Safety instructions

Electrical devices may only be mounted and connected by electrically skilled persons.

Serious injuries, fire or property damage possible. Please read and follow manual fully.
These instructions are an integral part of the product, and must remain with the end customer.
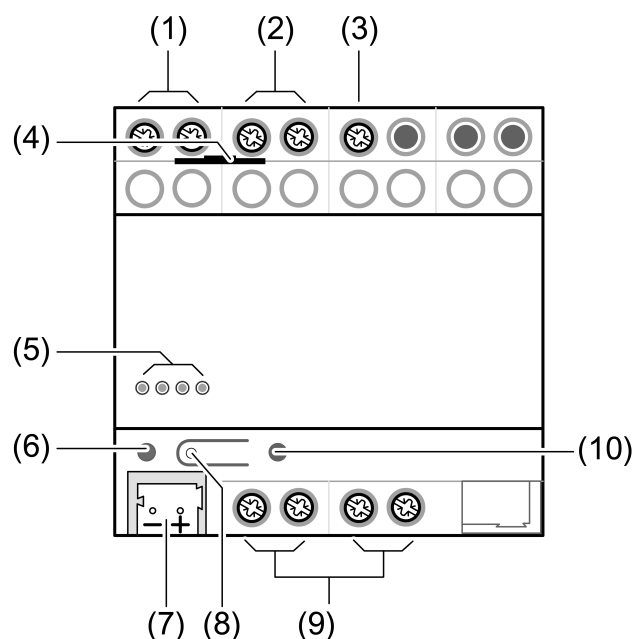
2 Device components

Figure 1

(1)   DMX input (DMX IN – / DINX IN +)
(2)   DMX output (DMX Out – / DMX Out +)
(3)   DMX earth (GND)
(4)   IP connection
(5)   Status LEDs
(6)   Programming LED
(7)   KNX connection
(8)   Programming button
(9)   Connection for external supply
(10)   Reset button

3 Function

System information

This device is a product of the KNX system and complies with the KNX directives. Detailed technical knowledge obtained in KNX training courses is a prerequisite to proper understanding.

Intended use

– Unidirectional data exchange between KNX and a DMX system
– Mounting on DIN rail to EN 60715

Product characteristics

The Gateway has two operating modes:

Operating mode "DMX master"

– Translation of KNX values into DMX data bytes
– Cyclic transmission of KNX values to the assigned DMX channels in the DMX bus with 250 kBit/s
– Control of RGB or RGBW luminaires via special logic modules
– Mapping of the functions switching (1-bit), relative dimming (4-bit) and absolute dimming (1-byte)
– Master dimming object (1-byte) for channel groups

Operating mode "DMX slave"

– Reception of data bytes from the DMX bus
– Translation of the DMX data bytes into KNX values

ℹ️ Assignment between DMX channels and KNX group addresses is performed using a table stored in the gateway. Assignment of the KNX group addresses and configuration of the operating mode are performed using the Windows software **DMX-Gate4** (or higher). The current software as well as a detailed description of the commissioning can always be found in the Internet.
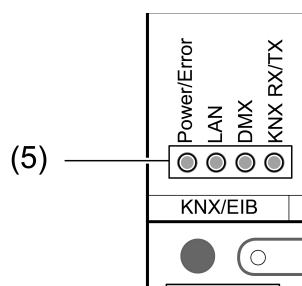
Status LED (5)

Figure 2

Power/Error	Lit up green: Normal operation. Orange flashing: Invalid project or no project. Red flashing: Invalid firmware.
LAN	Lit up yellow: Reception via the IP interface.
DMX	Flashing green: Receiving/transmitting via the DMX interface. Lit up red: No receiving/transmitting of valid DMX telegrams for one second.
KNX RX/TX	Flashing green: Reception from the KNX bus. Flashing red: Transmitting to the KNX bus. Flashing red/green: No KNX bus detected.

Reset button (10)

The gateway is restarted by pressing the reset button (10). All stored configurations remain unchanged.

4 Information for electrically skilled persons

4.1 Fitting and electrical connection

⚠️ **DANGER!**

Electrical shock on contact with live parts in the installation environment.

Electrical shocks can be fatal.

Before working on the device, disconnect the power supply and cover up live parts in the working environment.

General notes

Use data cable with 120 ohm characteristic impedance (e.g. CAT 5, 6, 7 network cable) for the DMX bus.

Use a common wire pair each for the signals **DMX In + / -** and **DMX Out + / -**.

Do not use the terminal pairs **DMX In** and **DMX Out** to loop through a DMX signal. The terminal pairs are only used individually depending on the operating mode.

Do not wire DMX bus in a star configuration.

Only use power supply units that supply secure extra low voltage SELV for power supply.

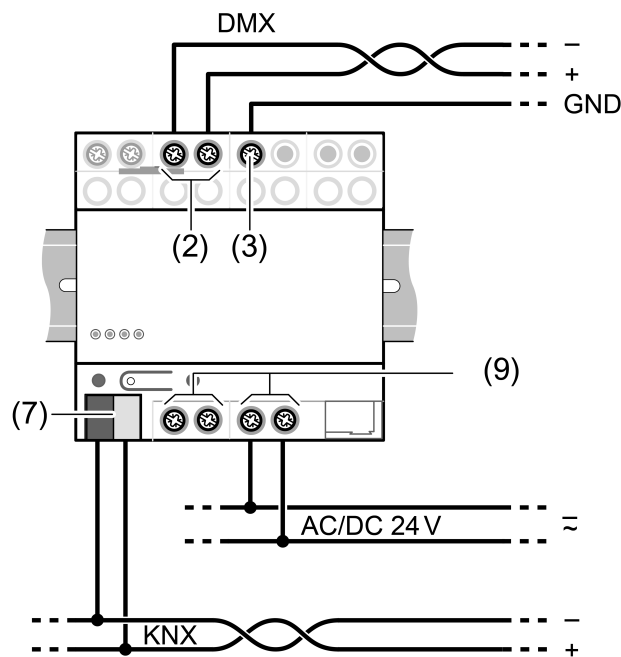### Connecting the device – operating mode "DMX master"

Figure 3

In the operating mode "DMX master" the gateway functions as a DMX data generator. The terminals **DMX Out** and **GND** are used for connection to the DMX bus.

Connect a maximum of 32 devices per gateway.

ℹ️ Only a single data generator is permitted in a DMX system. In order to combine the gateway with an additional DMX data generator (e.g. a DMX lighting console), a so-called "DMX merger" is required.

- ■ Connect DMX bus to the terminals **DMX Out +** and **DMX Out -** (2) and **GND** (3).
- ■ Connect KNX bus to the KNX terminals (7).

■   Connect external power supply to one of the two terminal pairs **AC/DC 24 V** (11).

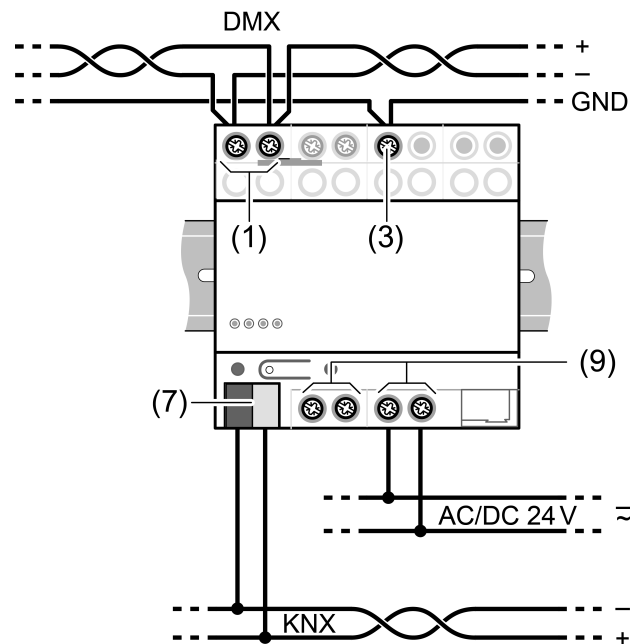### Connecting the device – operating mode "DMX slave"

Figure 4

In the operating mode "DMX slave" the gateway functions as a DMX receiver. The terminals **DMX In** and **GND** are used for connection to the DMX bus. When additional receivers are connected to the DMX bus the DMX cable has to be continued over terminals **DMX In** and **GND** (Figure 4). Do not use **DMX Out** terminals.

■   Connect DMX bus to the terminals **DMX In +** and **DMX In -** (2) and **GND** (3).
■   Connect KNX bus to the KNX terminals (7).
■   Connect external power supply to one of the two terminal pairs **AC/DC 24 V** (11).

Connecting the terminating resistor
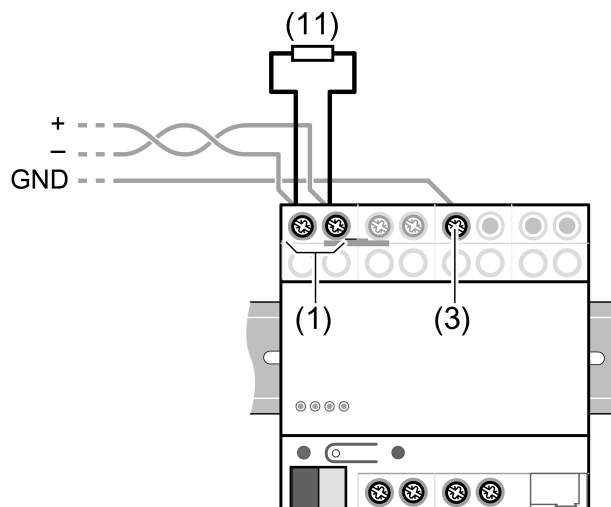### (operating mode "DMX slave" only)

Figure 5

A DMX bus should be provided with a terminating resistor at its last device. Otherwise, reflexions at the end of the cable can lead to signal distortions.

Terminate cables only with the supplied terminating resistor (11).

[i]   Only provide a DMX bus with a terminating resistor if the gateway is the last device in the DMX bus line.

[i]   There may never be more than one terminating resistor on a DMX bus.

■   Connect terminating resistor (11) to terminals **DMX In +** und **DMX In -** parallel to the DMX bus line.

Looping through external power supply

Both terminal pairs (9) can be used for looping through the external power supply (Figure 6).

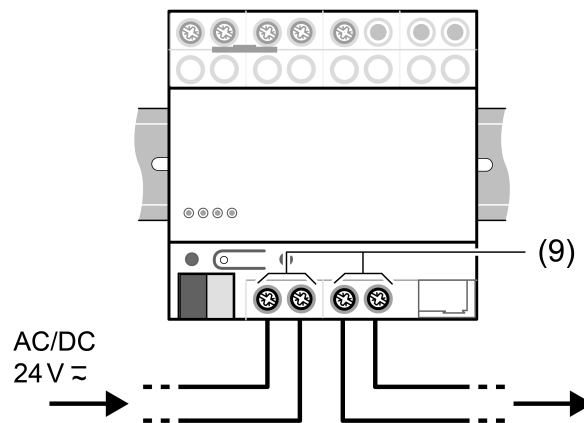The total power consumption of all looped-through loads must not exceed 1.5 A.

AC/DC
24 V ⎓

Figure 6

4.2 Commissioning

Commissioning

The gateway is commissioned via a Windows PC and the **DMX-Gate4** software (or higher). The current software including the related documentation can always be found in the Internet at **www.insta.de**.

The IP interface serves to connect the PC to the gateway. A crosslink-network cable might have to be used for the direct connection.

■   Connect PC to the gateway via IP connection.

■   Switch on PC.

■   Switch on external power supply.

■   Wait until the status LED **Power/Error** flashes orange.

■   Start **DMX-Gate4** software and follow the instructions on the screen.

Load physical address

The physical address is loaded with ETS or with **DMX-Gate4**.

When assigning the physical address with ETS, proceed as follows:

■   Switch on the KNX bus voltage.

■   Press the programming button (8) (Figure 1).

■   Download physical address to the device with the ETS.

[i]   The KNX group addresses are assigned by means of the software **DMX-Gate4**. A plug-in ensures the synchronisation of the group addresses with the associated ETS project (from ETS4 onwards). Alternatively, use a dummy application for creating the filter tables correctly.

[i]   The assignment of the physical address with **DMX-Gate4** is described in the software documentation.

INTA

5 Technical data

External supply	
Rated voltage	AC/DC 24 V SELV (± 10%)
Mains frequency	50 / 60 Hz
Power consumption	max. 2.0 VA

Ambient conditions	
Ambient temperature	-5 ... +45 °C
Storage/transport temperature	-25 ... +70 °C
Protection class	III
Fitting width	72 mm / 4 module
Weight	approx. 175 g

Network communication	
IP transmission rate	10 / 100 Mbit/s
IP connection mode	RJ45 socket

KNX	
KNX medium	TP
Commissioning mode	S-mode
Rated voltage KNX	DC 21 ... 32 V SELV
Connection mode KNX	Standard KNX/EIB connection terminals
Current consumption KNX	max. 5 mA

DMX	
Input interface	USITT DMX512-A
Output interface	USITT DMX512-A

Connection of power supply and DMX	
Connection mode	Screw terminal
single stranded	0.5 ... 4 mm²
Finely stranded without conductor sleeve	0.34 ... 4 mm²
Finely stranded with conductor sleeve	0.14 ... 2.5 mm²

6 Warranty

We reserve the right to make technical and formal changes to the product in the interest of technical progress.

We provide a warranty as provided for by law.

Please send the unit postage-free with a description of the defect to our central customer service office:

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58509 Lüdenscheid
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