KNX
Product documentation

GIRA

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Gira RF Multi/TP media coupler for KNX

Order No. 5114 00

Gira RF Multi/TP media coupler for KNX (Abb. 1:1)

GIRA

Contents

1. About this Documentation

This documentation will accompany you through all phases of the product life cycle of Gira RF Multi/TP media coupler for KNX. You will learn for example how to assemble, install, commission and configure the device.

All descriptions in this documentation on configuration in the ETS (Engineering Tool Software) refer to the ETS Professional version. The ETS version depends on the application used.

Explanations of KNX concepts do not form part of this documentation.

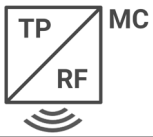
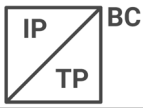
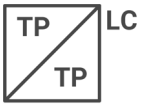
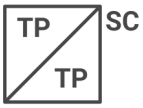
1.1. Target group

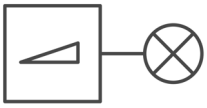
This documentation is aimed at qualified electricians and KNX processors.

Only qualified electricians may assemble and install the Gira RF Multi/TP media coupler for KNX. Specialist knowledge of KNX is a prerequisite.

Anyone may configure the Gira RF Multi/TP media coupler for KNX. We recommend that configuration is done by a system integrator with sound specialist knowledge of KNX and using the ETS.

Symbols and typographical conventions

Symbol / lable	Meaning
	Note or important additional information
	Safety note qualified electrician
	Danger note
	Power supply
	RF/TP media coupler
	Backbone coupler
	Line coupler
	Segment coupler
	RF-USB interface
	TP-USB interface

Symbol / lable	Meaning
	RF repeater
	RF button
	Dimmer

2. About Gira RF Multi/TP media coupler for KNX

2.1. Proper use

The Gira RF Multi/TP media coupler for KNX acts as an interface between a wired KNX TP installation and a KNX RF environment. The device can also be used as a repeater in an RF domain.

The routing properties of the media coupler enable its used as an area and line coupler, and as a segment coupler from ETS6.

The Gira RF Multi/TP media coupler for KNX repeater is a KNX system device and complies with the KNX guidelines.

Note

Gira Giersiepen GmbH & Co. KG assumes no liability for damage caused by improper use or use for purposes other than or contrary to the intended purpose.

Configuration: compatible ETS version

Simple integration into the KNX system (completely programmable via ETS):

- ETS from v5.7.5 as a KNX RF Ready device
- ETS from v6.3.1 as a KNX RF Ready device or as a KNX RF Multi device
- Product database entry: Download the corresponding product database entry from our website www.gira.de or from the ETS online catalogue free of charge.

KNX Secure

The Gira RF Multi/TP media coupler for KNX is KNX Secure.
The device is compatible with KNX Secure. KNX Secure offers protection against manipulation in building automation and can be configured in the ETS project.

- The required KNX Secure certificate or the FDSK (Factory Default Setup Key) that it contains can be found on a sticker on the side of the device and is also enclosed with the device.
- For maximum security, we recommend removing the sticker from the device.
- Keep the certificate in a safe place.
- You cannot restore the certificate yourself.
- Please contact our support team if you lose the certificate despite utmost care.
- Only use KNX Secure for a safe communication. The BCU key has no function.

2.2. How it works

The Gira RF Multi/TP media coupler for KNX is connected to the KNX installation via KNX/TP. By supporting KNX RF Multi and KNX RF Ready, both radio standards can be operated in one KNX installation. Due to the configured filter properties, only necessary telegrams pass through the media coupler in the direction of the RF domain and the TP installation.

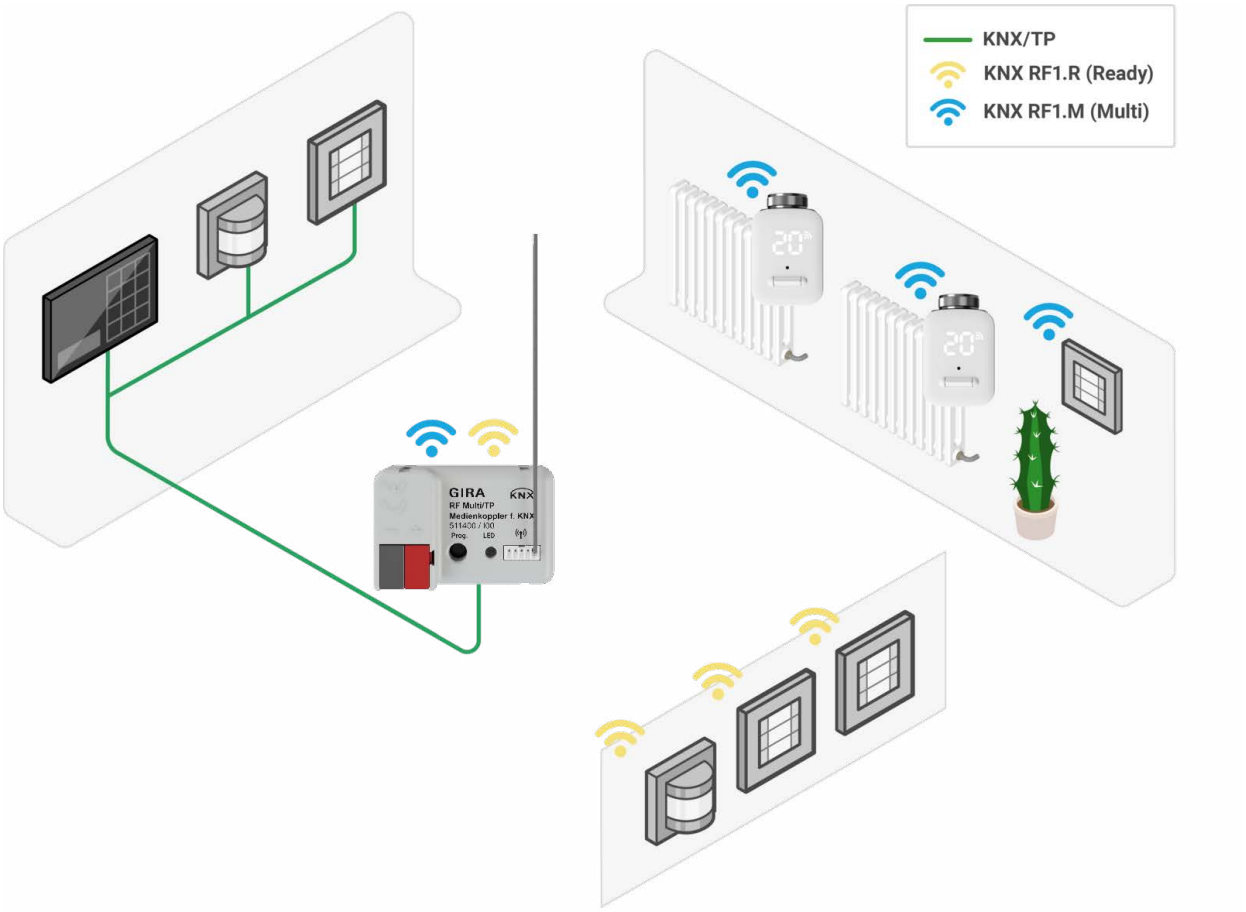


Figure 1: System Gira RF Multi/TP media coupler for KNX

2.3. Overview of functions

Ready to Slow Proxy (from ETS6)

The Ready to Slow Proxy enables the use of KNX RF Ready and KNX RF Multi devices in one installation.

KNX Security Proxy (from ETS6)

The Security Proxy enables the connection of devices with and without KNX Secure in one installation. This means, for example, that an existing TP installation without KNX Secure can be extended with an RF line with KNX Secure.

Repeater (retransmitter)

The RF repeater repeats radio telegrams to extend the range of the RF installation. The enables RF devices to be positioned as required, even under difficult transmitting and receiving conditions.
In repeater mode, power is supplied via the TP line or a suitable external DC power supply unit.

Use as an area coupler/line coupler/segment coupler

Depending on its location in the topology, the media coupler can be used as an area, line or segment coupler to filter telegrams.

- Use as an area coupler is possible up to ETS5.
- The integration of segments is possible from ETS6.

Forwarding/blocking/filtering telegrams

The forwarding, blocking or filtering of physically addressed telegrams, group telegrams and broadcast telegrams can be configured in the parameter settings of the product database entry for KNX RF Ready.
In a KNX RF Multi domain, the filter settings are automatically set by the location of the media coupler in the topology of the ETS project.

RF programming lock

The RF programming lock (programming via TP only) enables secure operation, for instance in hotels and other publicly accessible areas. However, we recommend using KNX Secure to prevent unauthorised programming via RF.

Support of long frames

Telegrams with an APDU length of up to 238 bytes can be forwarded.

Functional enhancements through firmware updates

You can obtain functional enhancements for the Gira RF Multi/TP media coupler for KNX with a new version of the firmware. Use the ise service app to load the current firmware to the device.
The service app can be downloaded via the ETS „Settings“ → „ETS apps“ → „ETS App Store“.

3. Important notes

3.1. General safety instructions

Danger from incorrect use

Incorrect use can result in damage to the device, fire or other dangers.

- Only qualified electricians may install and mount electrical devices.
- The frequency band is not exclusively available to KNX RF Multi and is not suitable for safety-related applications (e.g. emergency calls).
- Follow the instructions in this product manual.
- This product manual is part of the product and must remain with the customer.

3.2. Storage and transport

Store the device in its original packaging. The original packaging provides optimum protection during transport. Store the device in a temperature range of -5 °C to +45 °C.

3.3. Cleaning and maintenance

The Gira RF Multi/TP media coupler for KNX is maintenance-free.

If necessary, clean the device with a dry cloth.

Device damage due to improper opening

- Never open the housing.
- If you suspect that the device is damaged, contact our Support.
- We provide a warranty in accordance with statutory requirements.
- Send the device back to us postage free with a detailed error description only if our support team asks you to.

4. Technical data

Power supply and connections	
Rated voltage:	Supply from KNX bus or 24 V SELV
Rated voltage (repeater mode):	DC 24 V
KNX current consumption:	8 mA
Connections:	KNX: Bus connection terminal (black/red)

Ambient conditions/approvals	
Installation environment temperature:	-5 °C to +45 °C
Relative humidity:	10…100 % (no condensation)
Protection type:	IP 20 (according to DIN EN 60529)
Protection class:	III (compliant with IEC 61140)
Receiver category	2 (according to DIN EN 300220)

Device dimensions	
Installation length:	43 mm
Installation width:	29 mm
Installation height:	16 mm
Antenna length:	80 mm

KNX	
Communication:	KNX TP; KNX RF
Antenna length:	S-Mode
Medium:	TP1-256; KNX RF Multi; KNX RF Ready
Radio frequency (KNX RF Ready):	868,3 MHz
Radio frequencies (KNX RF Multi):	868,3 MHz 868,950 MHz 869,525 MHz 869,850 MHz
Transmission power:	max. 25 mW
Transmission range in free field:	approx. 100 m
Supported telegram length:	up to 238 bytes

Power supply unit (not included in scope of supply)	
Secondary rated voltage:	DC 24…30 V
Secondary rated current:	max. 0,3 A

5. Device Design

5.1. Front

1. KNX/TP bus connection
2. Programming button
3. Status LED
4. Antenna

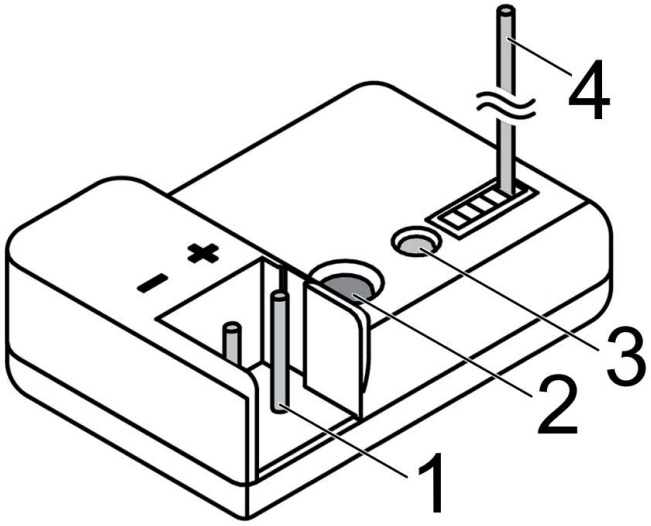


Figure 2: Front

5.2. Data on device sticker (front)

1. Product name
2. KNX certification
3. Index status
4. Order number

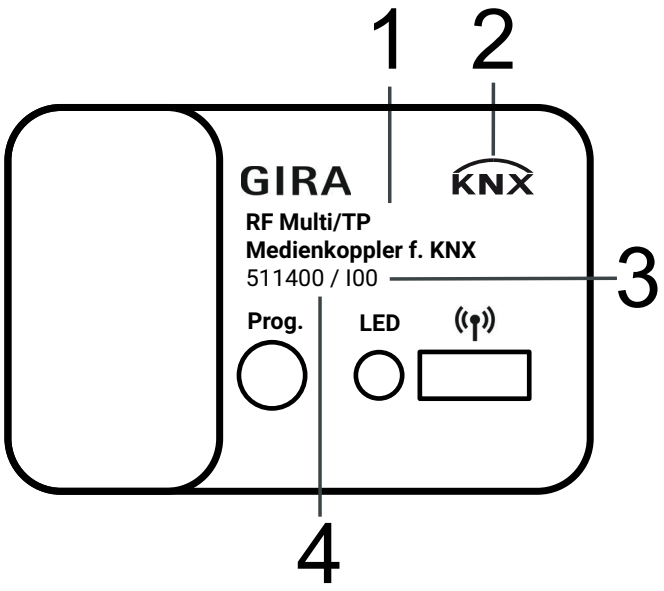


Figure 3: Device sticker front

5.3. Data on device sticker (back)

1. KNX medium „RF Multi“
2. KNX medium „RF Ready“
3. KNX medium „TP“
4. Installation method, here „S mode“
5. KNX Secure
6. Individual address: Enter the assigned individual address in the field with a permanent marker.
7. Batch number
8. WEEE symbol

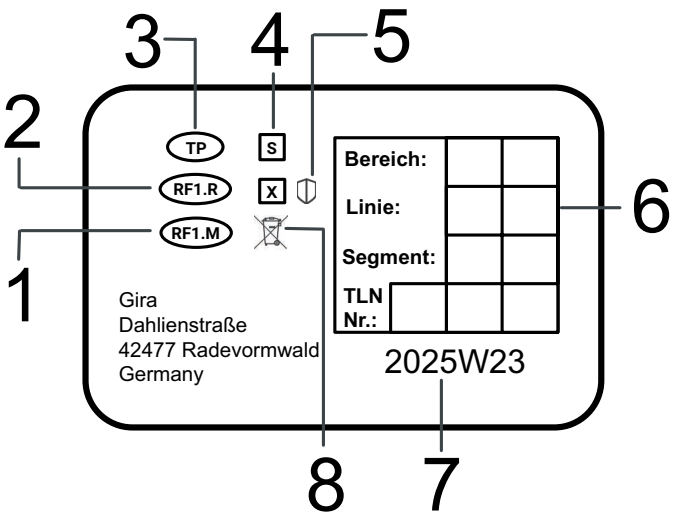


Figure 4: Device sticker back

6. Installation

6.1. Scope of supply

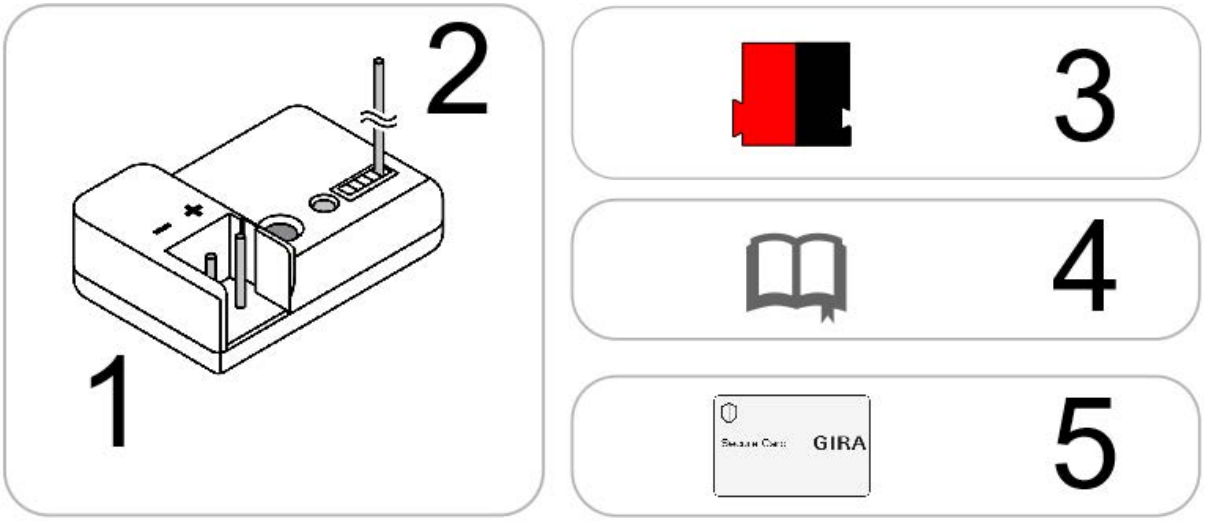


Figure 5: Lieferumfang

No.	Objects supplied	Explanation
1	Device	Gira RF Multi/TP media coupler for KNX
2	Antenna	To receive/send RF frequencies.
3	Bus connection terminal	To connect the KNX/TP bus lines.
4	Installation instructions	This product manual also provides you with the information from the installation instructions but with additional details, application examples and configuration instructions.
5	Sticker set	Additional set of stickers with data for KNX Secure. The same stickers are attached to the side of the device.

6.2. Checking the installation conditions

Before starting the installation process, check that the requirements for the planned installation environment have been met.

Device functional fault due to incorrect ambient temperature in the installation environment

- Pay attention to the temperature of the installation environment: min. -5°C to max. 45°C
- Mount the in a non-metallic flush-mounted or surface-mounted device socket.
- No conductors or sheathed cables from other circuits may be routed through the device socket.
- Use an IP55 socket in outdoor areas.
- Choose as central a position as possible in the RF installation in order to enable low-loss communication with the RF devices.
- Maintain a sufficient distance from potential sources of interference, such as metallic surfaces, microwave ovens, Hi-Fi and TV systems, ballasts and transformers.

6.3. Choosing the installation location

The media coupler can be used as a line, area or segment coupler.
In addition, up to two more Gira RF Multi/TP media coupler for KNX can be used as repeaters per radio type (2x RF Ready/Fast and 2x Slow) in order to increase the range of the RF installation.
Depending on the type of use, there are different installation locations:

- Area couplers are connected to the TP area line (backbone).
- Line couplers are connected to the TP main line of an area.
- Segment couplers are connected to the main segment line.
- Repeaters are connected to a separate DC power supply,
  see“Power supply unit (not included in scope of supply)” on page 10.
  Alternatively the TP line of the corresponding media coupler can be used.

Note

Install the repeater within radio range of the media coupler.
Execute a complete programming in the ETS via <<Download>> → <<Download all>>.

6.4. Connecting the device

Only qualified electricians may assemble and install the Gira RF Multi/TP media coupler for KNX. Specialist knowledge of the installation regulations is a prerequisite.

Safety note:

Incorrect use can result in damage to the device, fire or other dangers.

- Only qualified electricians may install and mount electrical devices.
- Follow the instructions in this product manual.
- This product manual is part of the product and must remain with the customer.

Danger

You are at risk of electric shock if you touch live parts in the installation environment.
Electric shock can cause death.
Pay attention to the installation regulations:

- Install bus line leads without sheathing (SELV) reliably disconnected from all non-safety low-voltage cables (SELV/PELV).
- Maintain the specified clearance.
- For more information, see also the VDE regulations governing SELV (DIN VDE 0100-410 / "Safe separation", KNX installation regulation).

Work steps

1. Connect the KNX/TP bus line (referred to below as the bus line) to the KNX connection of the device by means of the supplied bus connection terminal. Polarity: left/red: “+”, right/black “-”.
   a. Attach the bus connection terminal.
   b. Route the bus line with the sheathing intact until it is close to the bus connection terminal.
   c. Firmly press the bus line into the bus connection terminal as far as possible.
2. Insert the device into the socket.
3. Stretch the antenna out as far as possible, or wind in a circle behind the device. Ensure that the antenna is not bent or guided along sharp edges.

7. Commissioning and configuration

After installing the device and connecting the bus line, the device can be commissioned.

7.1. Reading device status using the LED

The Gira RF Multi/TP media coupler for KNX has a two-tone status LED on the front of the device.

Priority	Colour	Description
1	● (red)	Programming mode is active. Activated by pressing the programming button or in the ETS.
2	○ . ● . ○ . ● . ○ . ● (off).(red).(off).(red).(off).(red) Rapid flashing	The filter table has no function. Telegrams are forwarded unfiltered (only in media coupler mode).
3	● ... ● (red)...(yellow) Brief change	Display test after • Device restart • Voltage recovery • ETS programming process
4	○ ... ● ... ○ ... (off)...(yellow)...(off)... Brief flashing	Telegram forwarding between TP and RF (only in media coupler mode).

Table 1: Device status based on priority

7.2. Configuration

The device is configured in the ETS (Engineering Tool Software) regardless of operation mode. The ETS is available with various ranges of functions from the KNX Association (www.knx.org).

All descriptions in this documentation on configuration in the ETS refer to the ETS Professional version.

Note

Help on the ETS is available in the integrated ETS Online Help.
Press the [F1] button in the ETS.

Requirement for the commissioning as a KNX RF Multi device

In the project details of the ETS under „Compatibility“, the parameter „Use low bus communication rate“ must be disabled.

Work steps

1. Select the product database entry depending on the ETS version used. Please note that KNX RF Multi devices can only be used with the ETS6 product database entry.
2. Create the repeater as a device in the ETS.
   ► see “Creating the device in the ETS” on page 18.
3. Select and configure a data interface,
   ► see “Data interface configuration” on page 20.
4. Select the operation mode,
   ► see “Selecting the operation mode” on page 21.
5. In the ETS, assign the device and its individual address according to the KNX topology,
   ► see “Programming an individual address” on page 22.
6. Set the general parameters,
   ► see “Parametrisation” on page 27.
7. The Gira RF Multi/TP media coupler for KNX is now ready for commissioning using „Program ETS“.

7.2.1. Creating the device in the ETS

Depending on whether the product database entry already exists in the ETS catalogue or whether the device is already being used in your existing project, different work steps are required in order to use the current version.

Work steps	
Device already exists in the ETS catalogue?	
Yes	No
Update product database. During an update, the old product database entry is replaced by the new one.	Importing product database entry. There are numerous possibilities for importing a new product database entry. Below we will assume that you have downloaded the product database entry yourself. ► see “Importing a new product database entry” on page 18
Device in existing project should be updated?	
Yes	No
You must update the device properly so that the existing links to group addresses are maintained. ► Siehe “Updating a product in the existing project” auf Seite 19.	Add the device to your topology in the usual way.

Table 2: Work steps – creating the device in the ETS

Importing a new product database entry

Requirement: You have downloaded the product database entry (product file) from our product website.

1. Start the ETS and select the „Catalogue“ tab in your ETS project.
2. Select the „Import“ button in the toolbar.
3. In the „Open product file“ window, open the product file and press on the „Open“ button to confirm your selection.
4. Follow the further instructions in the ETS. If necessary, call up the Online Help with the [F1] button.

Updating a product in the existing project

Requirement: New product database entry exists in the catalogue.

1. In the ETS, open the project for which the device is to be updated.
2. Search for the new product database entry in the catalogue and add the new version of the device to the devices in your project.
3. Select the old version of the device in your topology.
4. Under „Properties“, select the „Information“ → „Application program“ tab.
5. Select the „Update“ button under the item „Update application program version“ (see figure 6, Pos. 2).

Note

If you change the value under „Change application program“ (see figure 6, Pos. 1), user-defined settings will be lost.

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6. Select the newly added device and delete it again from your topology.

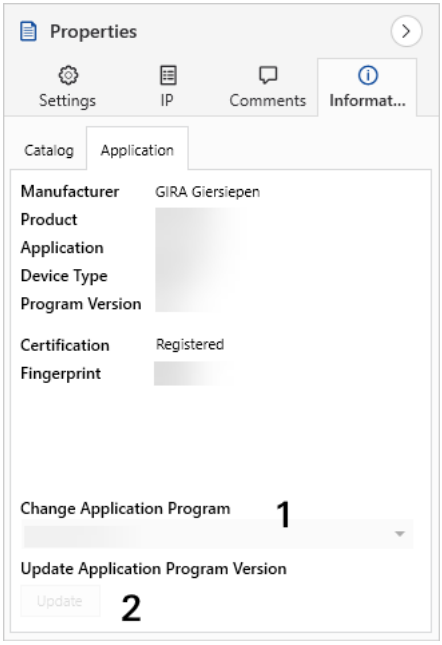

Figure 6: Updating the application program

7.2.2. Data interface configuration

The choice of data interface depends on the KNX medium.

Commissioning from TP

Connect your PC to the KNX installation using a USB or IP data interface.

Commissioning from RF (using example of a line coupler)

1. Connect your PC to the KNX installation using a KNX RF USB data interface.
2. Establish the topology of the KNX installation in the ETS project and assign a domain address for the RF line.
3. Assign an individual address for the KNX RF USB data interface. This must match the RF line address and may not be assigned elsewhere.
4. Assign the same domain address to the KNX RF USB data interface.

Note

The RF line domain address and the KNX RF USB data interface must be the same!

Several RF domains in one KNX installation

If several RF lines are required, for example due to structural requirements, each RF line must be assigned its own domain address in the ETS topology. For cross-line communication, such as for commissioning, a separate media coupler is required for each RF line.

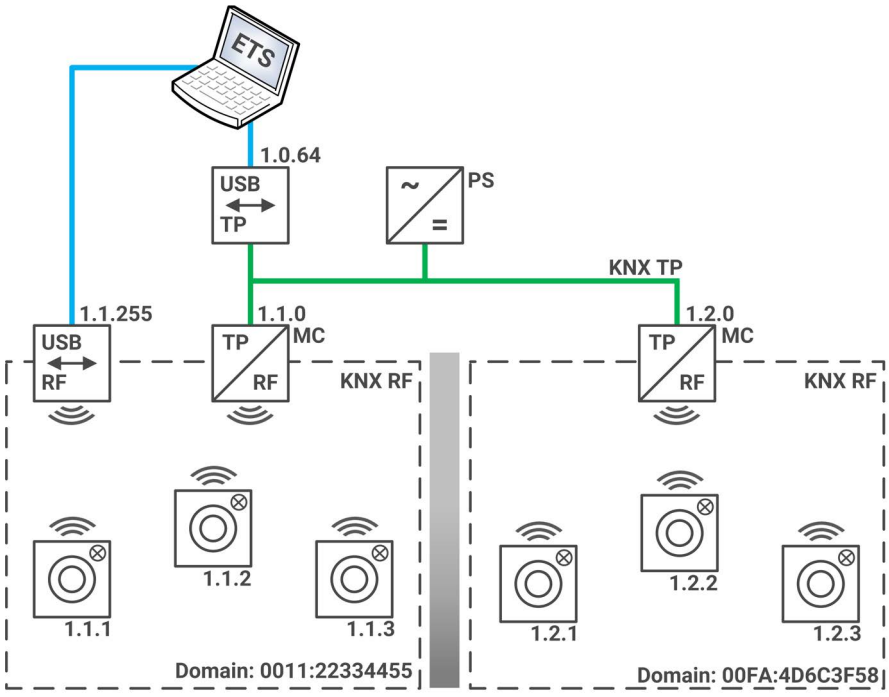

Figure 7: Coupling two RF lines via one TP line

7.2.3. Selecting the operation mode

ETS5 product database entry

Select the operation mode in the device parameters:

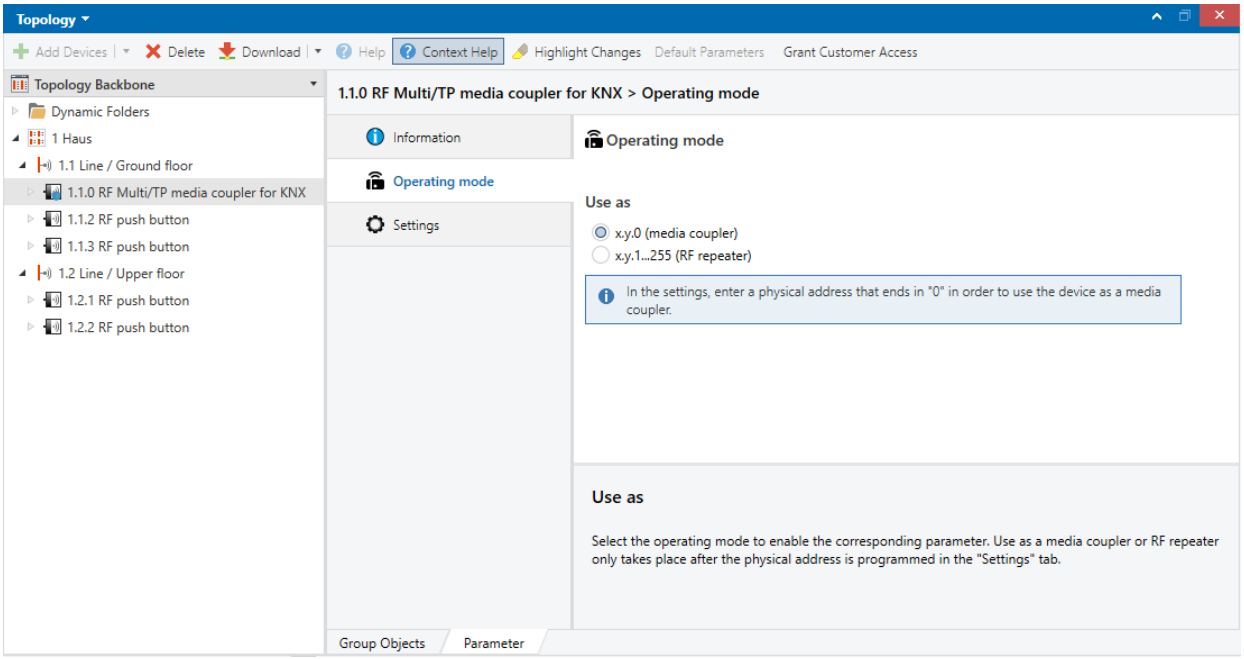

Figure 8: Select operation mode

ETS6 product database entry

Select the desired use in the catalogue:

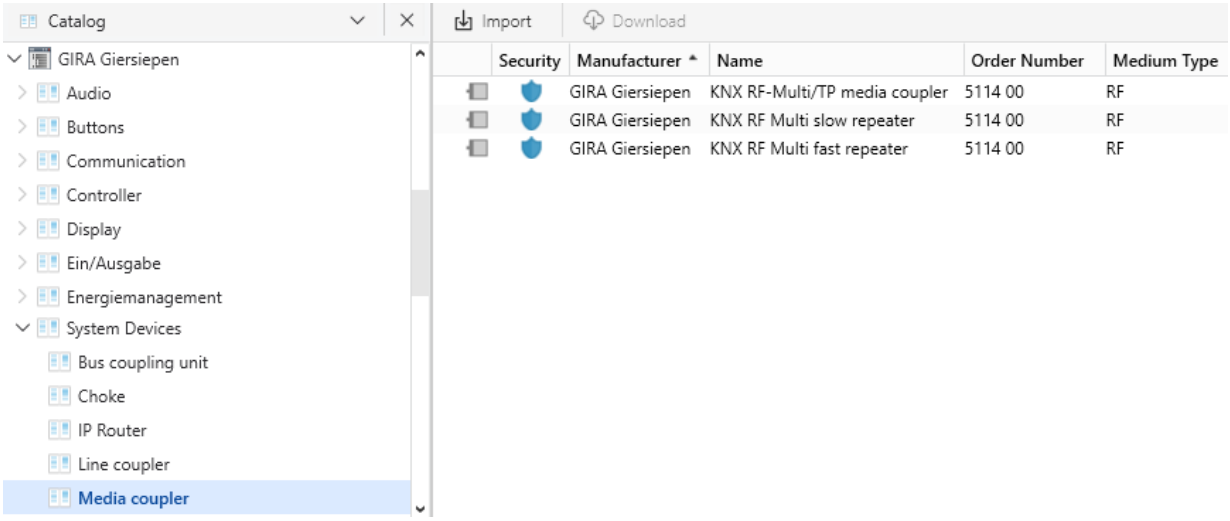

Figure 9: Select application

7.2.4. Programming an individual address

The individual address defines the position within the KNX topology and thus also the intended use of the device.

Use as a backbone coupler (up to ETS5)

Assign an individual address in the range x0.0 (x = backbone address, e.g. 1.0.0).

- The backbone must be of the media type TP.
- There can be a maximum of 255 participants per backbone or line in the ETS. You can divide the EF devices into max. 15 subordinate lines.
- Only one media coupler is permitted per RF backbone.
- The RF backbone and subordinate RF lines have the same domain address.

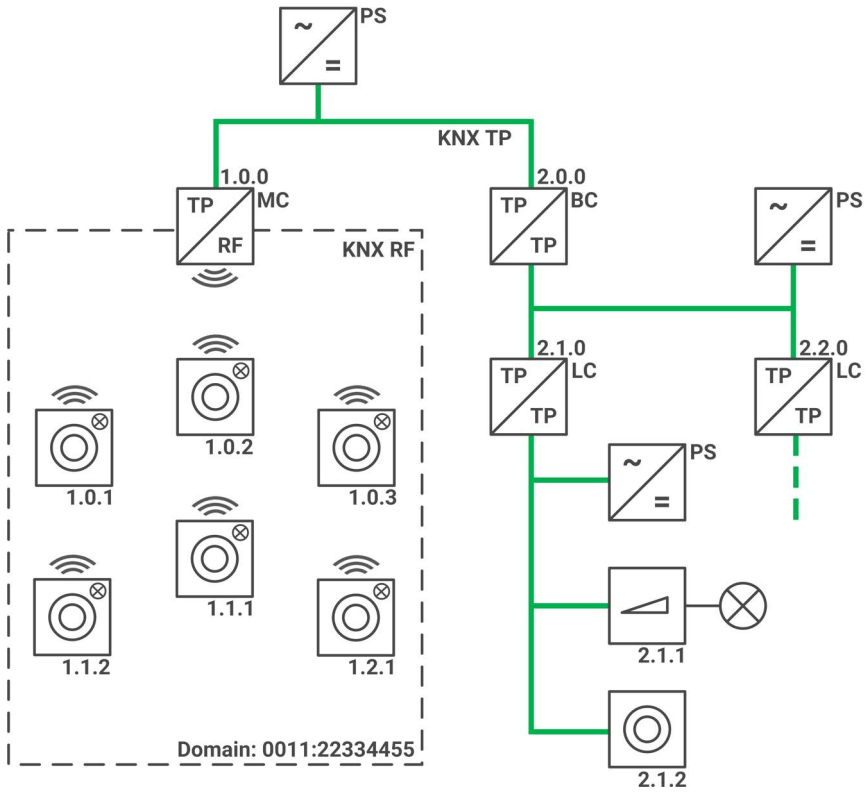

Figure 10: Use as a backbone coupler

Use as a line coupler

Assign an individual address in the range x.y.0 (x = backbone address, y = line address, e.g. 1.1.0).

- The Gira RF Multi/TP media coupler for KNX is connected to the TP main line of an area.
- A KNX RF line can contain up to 255 RF devices.

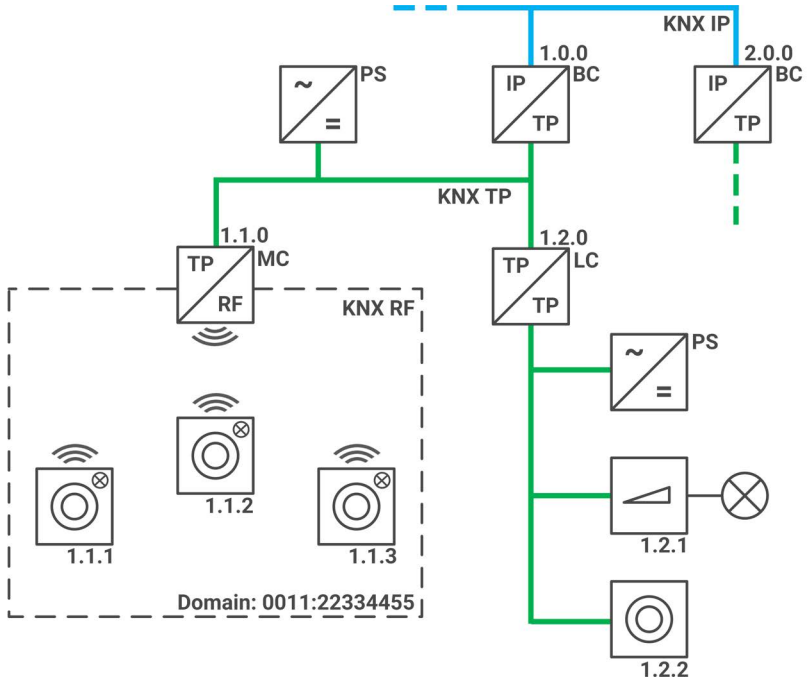

Figure 11: Use as a line coupler

Use as a segment coupler (only ETS6)
Assign an individual address in the range x.y.z (x = backbone address, y = line address, z = segment address, e.g. 1.3.1).

The Gira RF Multi/TP media coupler for KNX is connected to a TP line of an area.

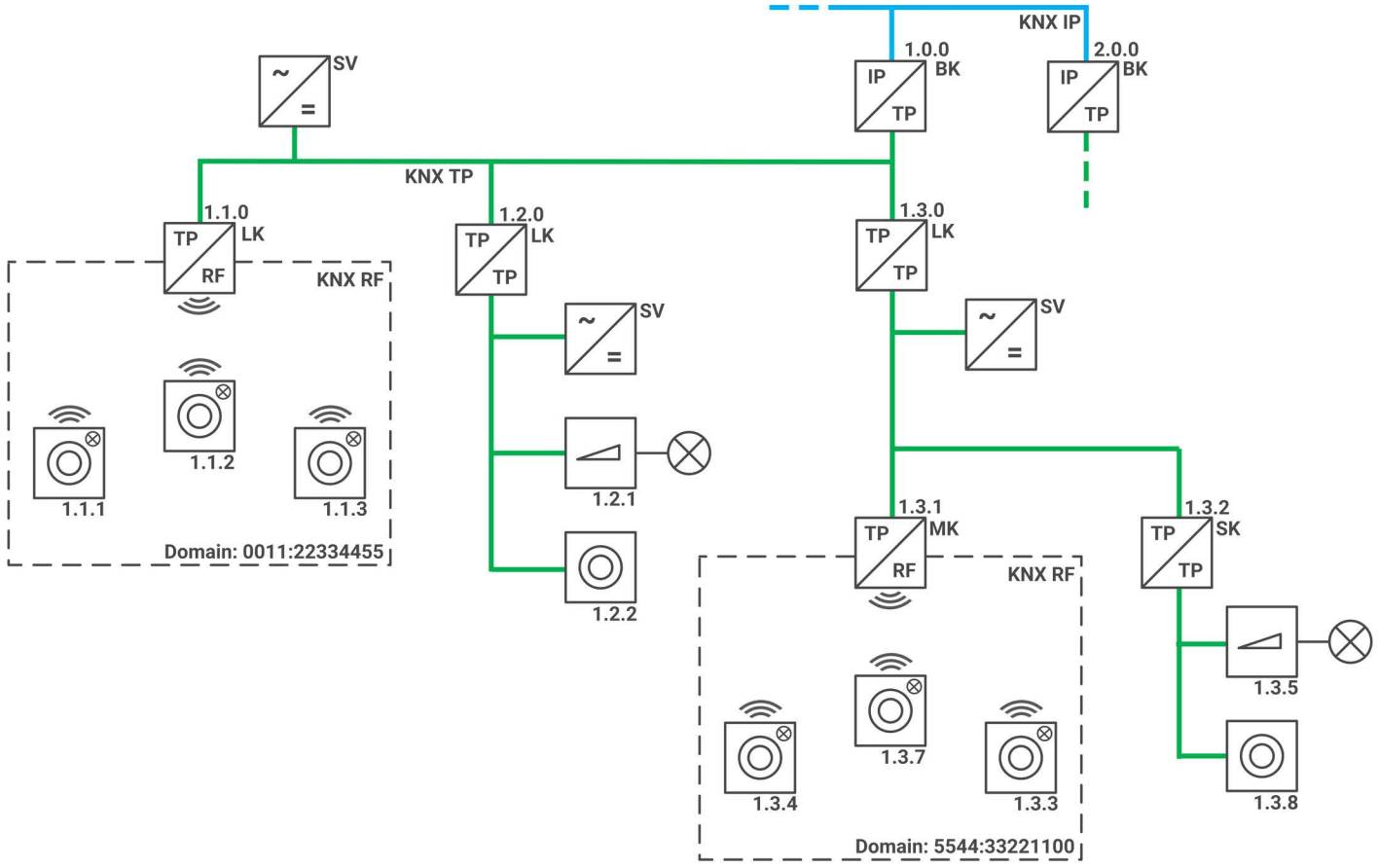

Figure 12: Use as a segment coupler

Use as an RF repeater

Requirement:
You already have a media coupler in operation and have programmed its individual address.

ETS5:
Assign an individual address in the range x.y.1…255 (x = backbone address, y = line address).
After download, the media coupler function is now fully switched off.

ETS6:
Select either the KNX RF Multi Fast Repeater or the KNX RF Multi Slow Repeater and assign an individual address in the range x.y.1…255 (x = area address, y = line address). The KNX RF Multi slow repeater is suitable for the connection with battery-operated devices.

Note

The RF repeater can no longer be reached from the TP after programming its individual address. Access to the device is possible through the previously programmed media coupler, a KNX RF USB data interface or after a factory reset. If you want to change an already programmed KNX RF Multi slow repeater to a fast repeater or a media coupler, also perform a factory reset first. As an alternative, use the ETS function „Unload“ → „Application“ before changing the physical address of the slow repeater or remove the slow repeater from the project.

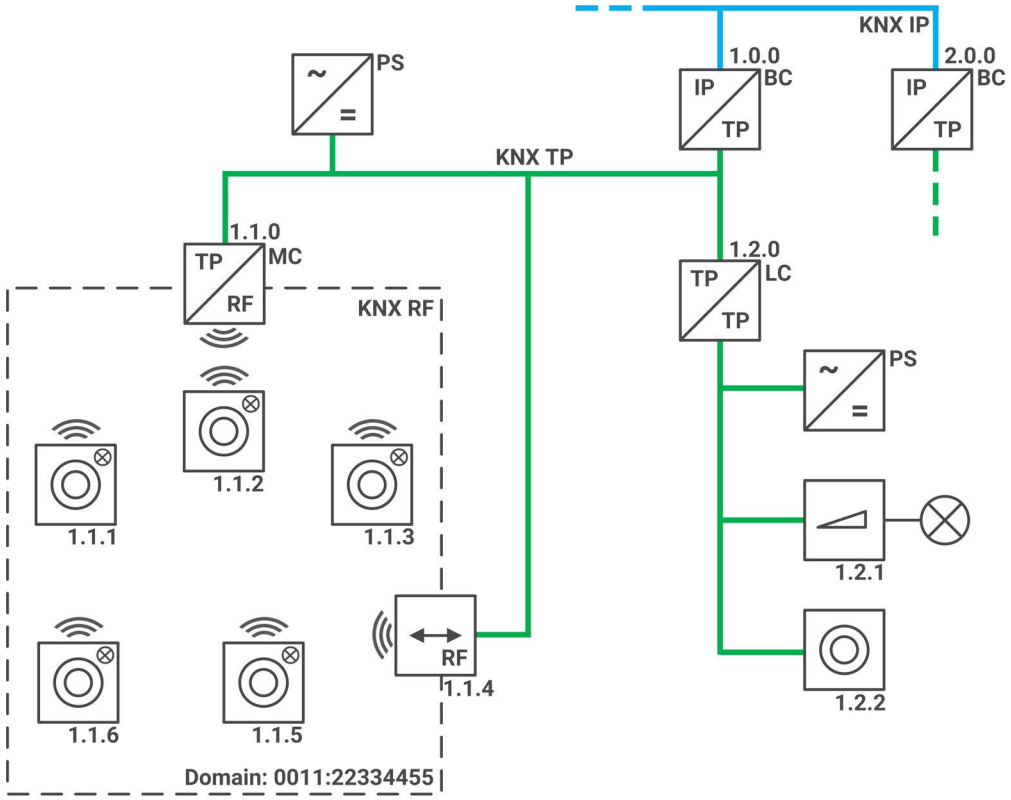

Figure 13: Use as an RF repeater with TP connection

Assigning an individual address

The individual address that you issued in the ETS must be assigned to the device.

Requirements: Device and bus voltage switched on. The status LED is off.

1. Briefly press the programming button (see figure 14, Pos. 1).
   The status LED (see figure 14, Pos. 2) lights up red..
2. In the ETS, assign the individual address to the device in accordance with the KNX topology and execute programming in the ETS. For this, use „Download“ → „Download all“.
3. On the back of the device, enter the selected area, line or segment and the corresponding participant number with a permanent marker.

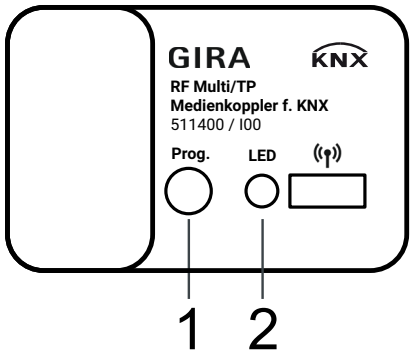

Figure 14: Programming

How to recognise successful assignment of the individual address:

- Device: The status LED on the device is off.
- ETS: The completed transfer is indicated on the „History“ tab by a green marking. Programming flag „Adr“ is set and „Cfg“ is not set. More information about this and other flags is available from the ETS documentation.

7.3. Update firmware

You can obtain functional enhancements for the Gira RF Multi/TP media coupler for KNX with a new version of the firmware. Use the ise service app to load the current firmware to the device.
The service app can be downloaded via the ETS „Settings“ → „ETS apps“ → „ETS App Store“.

So that you can use the new functions, it is necessary for the versions of the firmware being used and the product database entry are compatible.

8. Parametrisation

The scope of media coupler parametrisation depends on the product database entry used.
No parametrisation is provided for repeater operation.
If you require an explanation of a parameter, use the context help in the ETS.

Calling up the context help in the ETS

1. Enable the „Context help“ button in the „Parameter“ tab in the toolbar.
2. Click on the desired parameter. The corresponding explanation appears in the lower area of the parameter dialogue.

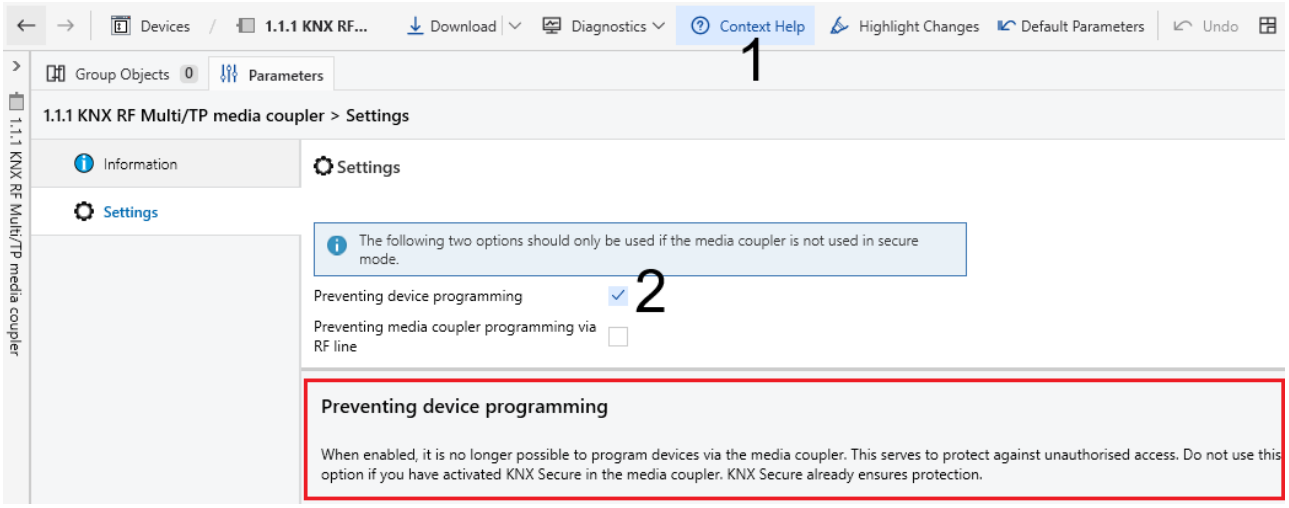

Figure 15: ETS context help

Filter settings (only ETS5)

Parametrisation determines which types of telegrams can pass through the media coupler in which direction. The ETS generates a filter table using this definition and the assignment of individual addresses. The media coupler filter table is automatically loaded onto the device through programming. In repeater mode, the filter table has no function.

Settings for telegram forwarding

Forwarding all telegrams should only be permitted in a KNX installation as part of system commissioning. In the normal operation of a KNX installation, it is recommended to enable the group telegram filter function in both directions of communication. This is done through the parameter settings “filter” (default setting) or “block all”.

In the ETS6 product database entry, the filter setting is configured automatically using the linked group addresses.

The filter table can be subsequently edited in both ETS5 and ETS6.

9. Troubleshooting

9.1. Resetting to factory settings

When you reset the device to the factory settings, it behaves as it does in the state of delivery. The device is then unconfigured:

- The device remains in the existing projects.
- The device keeps the version of the application program in the ETS.
- The entire parametrisation is rejected.
- The individual KNX address of the device returns to: 15.15.0.
- The domain address is reset to FFFF:FFFFFFFF.

Warning

An electric shock can result from touching live parts in the installation environment. Electric shock can cause death.

Pay attention to the installation regulations:

- Route the bus line with the sheathing intact until it is close to the bus connection terminal.
- Firmly press the bus line into the bus connection terminal as far as possible.
- Install bus line leads without sheathing (SELV) reliably disconnected from all non-safety low-voltage cables (SELV/PELV).
- Maintain the specified clearance.

See also the VDE regulations governing SELV (DIN VDE 0100-410 / "Safe separation", KNX installation regulation) for more information.

Manually resetting the device to the factory settings

Requirement: the device must be switch off without voltage.

1. Press and hold the programming button while you attach the bus connection terminal.
2. Hold the programming button down until the status LED briefly flashes red and then turns yellow. The status LED will then flash red slowly.
3. Release the programming button briefly.
4. Press the programming button again for at least 5 seconds (max. 20 seconds).
5. Release the programming button.
6. The status LED will flash quickly 5 times.

The device is reset to the factory settings. You do not have to restart the device.

10. Disassembly and Disposal

If you want to disassemble the device due to a defect, for example, proceed in reverse order to installation.

Disassembling the device

Safety note:

Incorrect use can result in damage to the device, fire or other dangers.

- Only qualified electricians may install and disassemble electrical devices.
- Follow the instructions in this product documentation.

Warning

An electric shock can result from touching live parts in the installation environment.
Electric shock can cause death.

- Enable the device.
- Cover up live parts in the vicinity.

1. Disconnect the device from the socket.
2. Remove the bus connection terminal from the device.

Disposal

Make an active contribution to protecting the environment by disposing of all materials in an environmentally-responsible way.

Packaging and box

Dispose of the packaging material appropriately, in a card, paper or plastic recycling bins.

Device

Old devices must not be disposed of with domestic refuse!

You can dispose of your old device free of charge at designated collection facilities or, if necessary, you can hand it in to your specialist dealer. Contact your local authority for recycling details.

11. Glossary

Backbone coupler

The area coupler filters telegrams between a main line and an backbone line. The function is only available for RF up to ETS5.

Broadcast telegram

Broadcast telegrams are transmitted to all participants in the network.

ETS (Engineering Tool Software)

The device is configured in the ETS software. The ETS is available with various ranges of functions from the KNX Association (www.knx.org).

Fast

The “Fast” channel defines rapid data transmission within the KNX RF Multi standard.

FDSK (Factory Default Setup Key)

The FDSK is used for secure communication between KNX Secure devices.
The combination of FDSK and serial number enables each device to be unambiguously identified. Together, they form the device certificate. Depending on the use case, the FDSK is required for initial authentication in the ETS or for the encryption of communication.
The FDSK is printed on a sticker on the side of the device. A second sticker is enclosed with the product.

Firmware update tool

Software which is embedded on the device hardware and enables operation of the device. Function enhancements for the device are available via a new firmware version.

Filter table

Media couplers have a filter table that is automatically generated in the ETS based on the corresponding parametrisation. In the filter table, individual addresses are created that are allowed to pass through the media coupler when two lines, areas or segments are coupled.

Group telegram

Group telegrams (also called multicast telegrams) are transmitted within the network to several participants of a certain group.

Main segment

Every line has a main segment. This main segment can be subdivided into several sub-segments by segment couplers.

Catalogue

Short for "Online KNX Product Catalogue". The catalogue is a product database. The catalogue contains all KNX-certified devices. The device data is saved as a product database entry.

KNX RF Multi

KNX radio standard that can switch between four frequencies to prevent interference.

KNX RF Ready

KNX radio standard that uses the medium frequency 868.3 MHz.

KNX Security Proxy

The KNX Security Proxy is a communication interface between secure and insecure elements within the KNX installation (from ETS6).

Line coupler

The line coupler filters telegrams between a line and a main line.

Long frames

Devices that can support long frames can send and receive telegrams with APDU length (>15 bytes).

Power supply unit

Stand-alone device for converting the existing mains voltage into the required input voltage of another device.

Physically addressed telegram

A physically addressed telegram (also known as a unicast telegram) is sent to a specific recipient within a network.

Product database entry (also catalogue entry)

Data relating to a device in the "Online KNX Product Catalogue" of the ETS.
The product database entry contains all data to allow the device to be configured in the ETS.
The product database entry is provided in the form of a file by the device manufacturer.
The latest version of product database entries from Gira Giersiepen GmbH & Co. KG can be downloaded free of charge from our website www.gira.de.

The product database entry is often also called the "catalogue entry".

Ready to Slow Proxy

The Ready to Slow Proxy or KNX RF1.R/Multi Proxy enables the use of KNX RF Ready and KNX RF Multi devices in one installation (from ETS6).

Repeater (retransmitter)

The repeater function of the RF repeater amplifies radio waves and thus optimises the range of RF devices within the KNX installation.

RF

Abbreviation for radio frequency.
It covers all frequencies in the high frequency range.

Segment

A segment serves (from ETS6) as a topology level below a line. Every line has at least one main segment. This main segment can be subdivided into several sub-segments by segment couplers.

Segment coupler

The segment coupler filters telegrams between a line segment and a line.

Slow

The “Slow” channel defines slow data transmission within the KNX RF Multi standard.

Sub-segment

Sub-segments are ordered below the main segments on the topology level and are separated from them through segment couplers.

Updates

You will find information on new versions of the firmware in this documentation under the search term "Update".

12. Gira RF Multi/TP media coupler for KNX Licensing Agreement

The terms and conditions for use of the software by you as the "Licensee" are set out below.
By accepting this Agreement and installing the Gira RF Multi/TP media coupler for KNX software or putting the Gira RF Multi/TP media coupler for KNX into operation, you are entering into an agreement with Gira Giersiepen GmbH & Co. KG and agree to be bound by the provisions of that agreement.

12.1. Definitions

Licensor: Gira, Giersiepen GmbH & Co. KG, Radevormwald, Germany

Licensee: The intended recipient of the Gira RF Multi/TP media coupler for KNX software.

Firmware: Software that is integrated into the Gira RF Multi/TP media coupler for KNX hardware and is used to operate.

Gira RF Multi/TP media coupler for KNX: The Gira RF Multi/TP media coupler for KNX software refers to all the software, including the operating data, which is provided for the Gira RF Multi/TP media coupler for KNX product. In particular, this includes the firmware and the product database.

12.2. Subject of the Agreement

The subject of this Agreement is the Gira RF Multi/TP media coupler for KNX software provided on data carriers or via download as well as the associated documentation in written or electronic form.

12.3. Rights to use the software

The Licensor grants the Licensee the non-exclusive, perpetual, non-transferable and non-sublicensable right to use the Gira RF Multi/TP media coupler for KNX software in accordance with the following terms and conditions, for the purposes and areas of application specified in the valid version of the documentation (which is made available in printed form or else as online help or online documentation).
The Licensee undertakes to ensure that anyone using the program does so only under this Licensing Agreement and complies with this Licensing Agreement.
All rights that are not expressly granted to the Licensee under this Agreement shall remain expressly with the Licensor.

12.4. Limitation of the rights of use

12.4.1. Copying, processing or transfer

The Licensee is not entitled to use, copy, process or transfer the Gira RF Multi/TP media coupler for KNX software, in full or in part, in any way other than as described herein.
An exception to this is one (1) copy made by the Licensee exclusively for archiving and backup purposes.

12.4.2. Reverse engineering or conversion technologies

The Licensee is not entitled to apply reverse engineering technologies to the Gira RF Multi/TP media coupler for KNX software or to convert the Gira RF Multi/TP media coupler for KNX software into another form, where such use is not permitted by way of exception on the basis of statutory limiting provisions. Such technologies include, in particular, disassembly (conversion of binary-coded machine commands from an executable program into an assembler language that can be read by humans) or decompilation (conversion of binary-coded machine commands or assembler commands into source code in the form of high-level language commands).

12.4.3. Firmware and hardware

The firmware may only be installed and used on the hardware approved by the Licensor (Gira RF Multi/TP media coupler for KNX).

12.4.4. Transfer to third parties

The Gira RF Multi/TP media coupler for KNX software may not be transferred to third parties or made accessible to third parties. The Licensee may only pass on the Gira RF Multi/TP media coupler for KNX software and all licence keys required to use the software to third parties, with the exception of correspondingly marked software, if and in so far as (i) the Licensee has removed the Gira RF Multi/TP media coupler for KNX software and any backup copies, as well as the licence keys required to use the Gira RF Multi/TP media coupler for KNX software, from its system by deleting or uninstalling it and (ii) the third party undertakes to comply with these licensing conditions vis-à-vis the Licensor before such use or transfer. The Licensee shall expressly inform the third party of these terms of use before transferring the Gira RF Multi/TP media coupler for KNX. In the event of transfer to a third party, the Licensee's right to personal use shall lapse.

12.4.5. Hiring out, leasing or sublicensing

The Licensee is not entitled to hire out or lease the Gira RF Multi/TP media coupler for KNX Software or to issue sublicences to the program.

12.4.6. Software production

The Licensee requires written approval from the Licensor to create and distribute software derived from the Gira RF Multi/TP media coupler for KNX software.

12.4.7. The mechanisms of licence management and copy protection

The licence management and copy protection mechanisms for the Gira RF Multi/TP media coupler for KNX software must not be analysed, published, circumvented or disabled.

12.5. Ownership and confidentiality

12.5.1. Documentation

The Gira RF Multi/TP media coupler for KNX software and documentation (provided in printed form or else as online help or online documentation) are trade secrets of the Licensor and/or subject to copyright and/or other rights and shall continue to belong to the Licensor. The Licensee shall observe these rights.

12.5.2. Transfer to third parties

Neither the software, the data backup copy, nor the documentation (provided in printed form or else as online help or online documentation) may be passed on to third parties at any time - in whole or in part, for a fee or free of charge.

12.6. Changes and subsequent deliveries

12.6.1. Change to the subject of the Licence

The Licensor reserves the right to expand, improve or otherwise modify the subject of the Licence, including documentation, at any time without notice or to have the aforementioned actions performed by third parties, if and in so far as the modifications do not result in a reduction or change in content of the scope of services that the Licensor is obliged to provide to the Licensee. This Licensing Agreement shall continue to apply accordingly to the further developed software.

12.6.2. Change to the Licensing Conditions

In the course of the continual development of our products and services, we occasionally incorporate additional functions and features. As a result of this, or any technical or legal changes, it may be necessary to adapt these Licensing Conditions to reflect these changes. For this reason and where there is just cause, the Licensor is entitled to modify and adapt these Licensing Conditions at any time with future effect. Just cause exists in the following cases:

- for the implementation of amended statutory requirements or case law,
- for the implementation of amended technical requirements, such as a new technical environment or other operational reasons,
- for adaptation to changing market conditions, such as increased number of licensees,
- if the amendments and modifications are made for the benefit of the Licensee, e.g. to improve Licensee experience or security.

If the Licensor makes use of its right to make amendments, it shall notify the Licensee of this in written form at least and notify them of the amendments.

The Licensee has a right to object to the amendment. If the Licensee does not object within 8 weeks from receipt of the notification of the amendment to these Licensing Conditions, the amended Licensing Conditions shall be deemed to have been accepted and shall apply in the further course of the Agreement. In the notification of the amendment to these Licensing Conditions, the Licensor shall once again expressly inform the Licensee separately of its right to object, the objection period and the consequences if no objection is raised.

In the event of an objection by the Licensee to the amended Licensing Conditions within the time limit, the Licensor shall be entitled to terminate the contractual relationship pursuant to Clause 9 para. 2, while safeguarding the legitimate interests of the Licensee.

12.7. Warranty

The Gira RF Multi/TP media coupler for KNX software is supplied together with the third-party software.

The Licensor does not assume any warranty of its own for the TPIP contained in the Gira RF Multi/TP media coupler for KNX software, as listed in Clause 1. This does not affect the warranty for the Gira RF Multi/TP media coupler for KNX software as a whole or the functioning of third-party software within the Gira RF Multi/TP media coupler for KNX software. For more information, ► see “Open-Source-Software” on page 39.

12.7.1. Software and documentation

The currently valid version of the Gira RF Multi/TP media coupler for KNX software and documentation (provided in printed form or else as online help or online documentation) will be made available to the Licensee. The warranty period for the Gira RF Multi/TP media coupler for KNX software is 24 months. During this time, the Licensor warrants as follows:

- The software is free of material and manufacturing defects at the time of handover.
- The software works in accordance with the enclosed documentation in the currently valid version.
- The software can run on the computer workstations specified by the Licensor.

The warranty obligation shall be discharged through the delivery of a replacement.

12.7.2. Limitation of warranty

Otherwise, no warranty is given that the Gira RF Multi/TP media coupler for KNX software and its data structures are free from defects. The warranty does not extend to defects that are attributable to improper use or other causes outside of the Licensor's control either. Further warranty claims are excluded.

12.8. Liability

The Licensor's liability, regardless of the legal grounds, is excluded for slight negligence. This exclusion of liability does not apply to claims for damages that are based on a breach of essential contractual obligations by the infringing party; essential contractual obligations are those obligations that enable the proper fulfilment of the Agreement in the first place and on the fulfilment of which the contractual partner may regularly rely. Furthermore, the exclusion of liability does not apply to losses or damage due to personal injury, loss of life or damage to health, nor does it apply to guarantees assumed by the Licensor (liability under a guarantee). Nor does the exclusion of liability affect claims by the Licensee that are based on the statutory provisions on product liability.

In cases of slightly negligent breach of essential contractual obligations and in cases of gross negligence by ordinary vicarious agents, the claim for damages is limited to the compensation for the typical damage that is foreseeable at the time of conclusion of the Agreement and the amount is limited to the product purchase price.

In so far as the Licensor's liability is excluded or limited, this shall also apply to the personal liability of the Licensor's employees, workers, personnel, representatives and vicarious agents.

12.9. Applicable law

(1) This Agreement shall be governed by German law, to the express exclusion of the conflict of laws provisions. The application of the Uniform Law on the International Sale of Goods and the Uniform Law on the Formation of Contracts for the International Sale of Goods - both dated 17 July 1973 - and the United Nations Convention on Contracts for the International Sale of Goods (CISG) dated 11 April 1980 is excluded. If the user is a consumer within the meaning of Section 13 BGB, mandatory statutory consumer protection provisions under the law of the state in which the consumer has their habitual residence shall remain unaffected.

(2) The place of jurisdiction for all claims arising from and in connection with this Agreement shall be the court having local jurisdiction for the contracting authority's registered office. This does not apply if the Licensee is not a merchant, a legal entity under public law or a special fund under public law or if it has no general place of jurisdiction within the Federal Republic of Germany. In addition, each party shall be entitled to bring an action against the other at its place of residence or business. The right of the parties to bring proceedings before the competent courts in urgent cases remains unaffected.

12.10. Termination

This Agreement and the rights granted therein shall end if the Licensee fails to comply with one or more provisions of this Agreement or terminates this Agreement at least in written form. The transferred Gira RF Multi/TP media coupler for KNX software and documentation (provided in printed form or else as online help or online documentation) including all copies must be returned in full, immediately and without request in this case. In this case, a claim for reimbursement of the price paid is excluded.

Upon termination of the Agreement, the licence to use the Gira RF Multi/TP media coupler for KNX software shall expire. In this case, the Gira RF Multi/TP media coupler for KNX product must be taken out of operation. Continued use of the Gira RF Multi/TP media coupler for KNX without a licence is excluded.

The start-up software and visualisation software must be uninstalled and all copies must be destroyed or returned to the Licensor.

12.11. Subsidiary agreements and amendments to the Agreement

Subsidiary agreements and amendments to the Agreement must be made in writing in order to be valid. This also applies to any amendment of this clause.

This Licensing Agreement is executed in German and English. The English version is for information purposes only. In the event of ambiguities or disputes arising from the Agreement, the German version shall be considered binding.

13. Open-Source-Software

The Gira RF Multi/TP media coupler for KNX device software also contains third-party software components (TPIP).

The Licensee is entitled to use the TPIP in accordance with the relevant licensing conditions of the respective TPIP. The licensing conditions of the respective TPIP take precedence over these licensing conditions with regard to the use of the TPIP.

If the licensing conditions of TPIP require the provision of TPIP source code, the Licensor shall submit to the Licensee and to any third party, upon request and within 36 months of the conclusion of the Agreement, an offer to deliver the corresponding TPIP source code on payment of the shipping costs after invoicing by the Licensor.