

Operating instructions

RF Multi operating top unit, 1-gang
Art. no. 5104 .., 5105 .., 5106 ..

RF Multi operating top unit, 2-gang
Art. no. 5107 .., 5108 ..

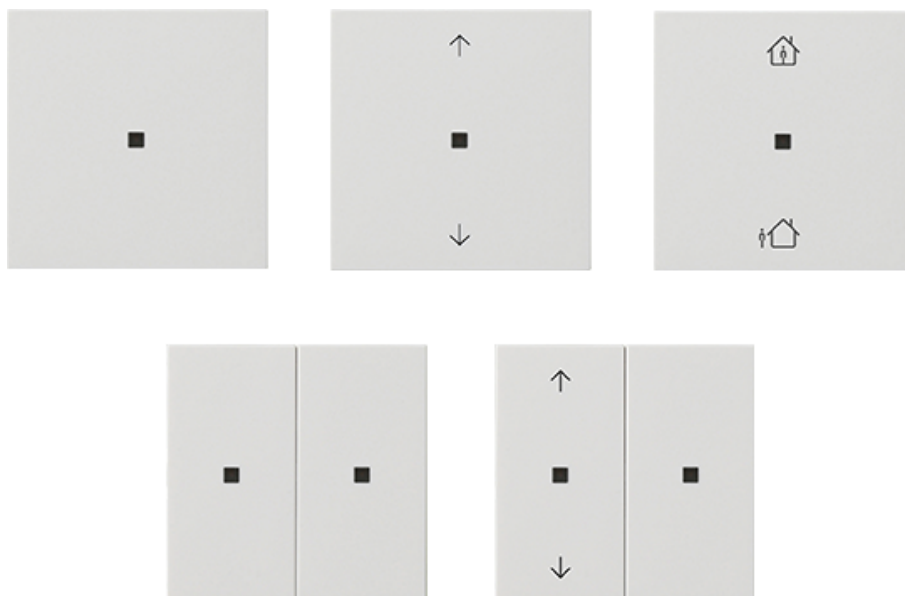


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1 Safety instructions

To avoid potential damage, read and follow the following instructions:



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

Danger of electric shock. Always disconnect before carrying out work on the device or load. In so doing, take all the circuit breakers into account, which support dangerous voltages to the device and or load.

The radio communication takes place via a non-exclusively available transmission path, and is therefore not suitable for safety-related applications, such as emergency stop and emergency call.

Instructions are part of the product. So keep them in a safe place.

2 Device components

Front view 1-gang (see figure 1) and 2-gang (see figure 2)

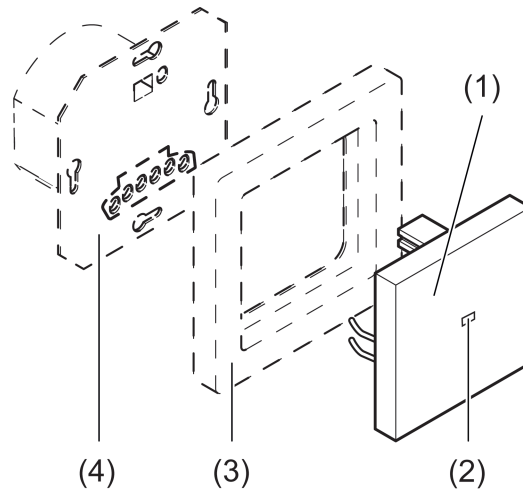


Figure 1: Device components 1-gang

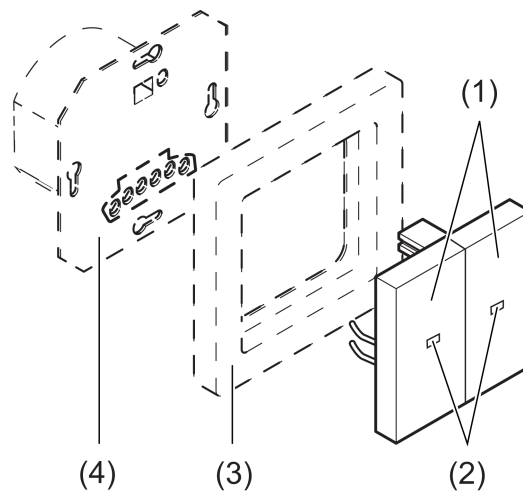


Figure 2: Device components 2-gang

- (1) Rockers
- (2) Status LED
- (3) Cover frame
- (4) System 3000 insert

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 for proper understanding.

The function of the device depends on the software. Detailed information on software versions and the respective scope of functions as well as the software itself can be obtained from the manufacturer's product database.

The device can be updated. The firmware is easy to update with the Gira ETS Service app (additional software).

The device is KNX Data Secure capable. KNX Data Secure offers protection against manipulation in building automation and can be configured in the ETS project. Detailed technical knowledge is a prerequisite. A device certificate, which is attached to the device, is required for safe commissioning. During mounting, the device certificate must be removed from the device and stored securely.

The range of a radio system depends on various external circumstances. The range can be optimised by the choice of installation location. The product documentation and system documentation for this device contains application basics for the KNX RF system.

The device is planned, installed and commissioned with version 6.3.0 or higher of the ETS.

Intended use

- Operation of loads, e.g. light on/off, dimming of brightness and colour temperature, colour control with colour run and brightness adjustment, Venetian blinds up/down, value transmitter 1-byte, 2-bytes, 3-bytes and 6-bytes, brightness values, temperatures, calling up and saving of light scenes
- Operation in cabled KNX systems via media coupler (see chapter Accessories)
- Operation of switching, dimming, Venetian blind or room temperature insert or three-wire extension unit of the System 3000

Product characteristics

- Activation of blind/shutters, with Venetian blind insert
- Switching and dimming of lighting, with switching or dimming insert
- Dimming and colour temperature control of lighting, with DALI insert TW
- Room temperature control, with room temperature control insert
- Push-button sensor functions switching, dimming, colour control, Venetian blind, value transmitter, scene extension unit, 2-channel operation and controller extension adjustable
- Two or four push-buttons for rocker or push-button function

- Controller extension with adjustable operating mode selection, forced operating mode switch over, presence function and setpoint shift
- Status LED – optionally red, green, blue – adjustable per rocker
- LED functions orientation lighting and night reduction can be set separately
- Brightness of LED adjustable and switchable while in operation
- Disable or function switch-over of all or of individual button functions possible with disabling function
- Temperature measurements optionally with device internal sensor and external sensor connected via communication object (only with suitable inserts)

i Temperature measurements are only possible in combination with the following inserts:

- "Relay switching insert"
- "Electronic switching insert"
- "Flush-mounted DALI Power control unit insert"
- "Blind control insert with auxiliary input"
- "Blind control insert without auxiliary input"
- "Room temperature controller insert with sensor connection"
- "Auxiliary insert 3-wire"

i For accurate temperature measurement, make sure that the connected loads do not exceed 40 W for the electronic switch insert.

i To ensure good transmission quality, keep a sufficient distance from any possible sources of interference, e.g. metallic surfaces, microwave ovens, hi-fi and TV systems, ballasts or transformers.

4 Operation

The operation of functions or electrical consumers can be set individual for each device:

Operating concept	Single-area operation	Dual-area operation
Rocker function	-	Each rocker can perform an individual function.
Button function	Two push-buttons above one another perform the same function.	Each button can perform an individual function.

4.1 Operating concept

The operating concept can be configured in the ETS either as a rocker function or alternatively as a button function. With the rocker function, two buttons lying one above the other are combined into one rocker. In the button function, each button is evaluated as single-area operation.

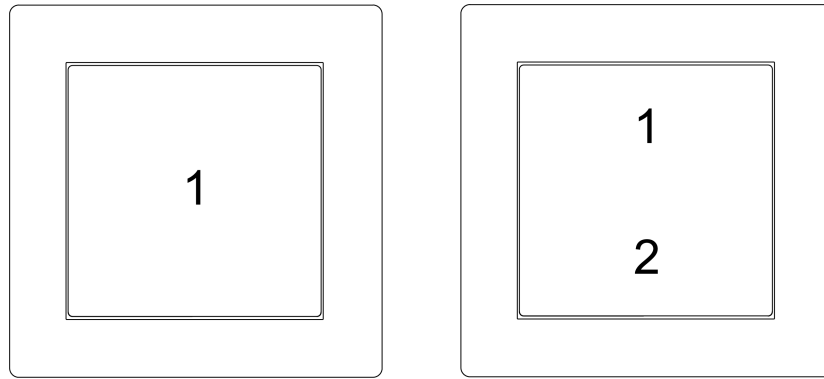


Figure 3: Operating concept 1-gang (left: rocker function, right: button function)

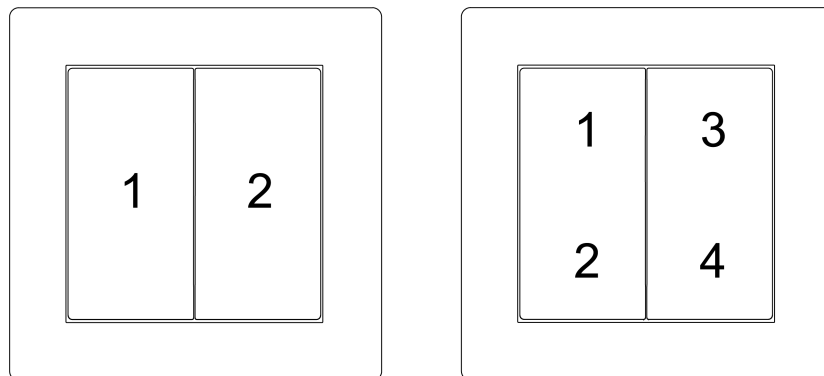


Figure 4: Operating concept 2-gang (left: rocker function, right: button function)

4.2 Examples for operating various standard applications

- Switch: Short press on button.
- Dim: Long press on button. The dimming process ends when the button is released.
- Move Venetian blind: Long press on button.
- Stop or adjust Venetian blind: Short press on button.
- Set value, e.g. brightness or temperature setpoint: Short press on button.
- Open scene: Short press on button.
- Save scene: Long press on button.
- Execute channel 1: Short press on button.
- Execute channel 2: Long press on button.
- Operate controller extension: Short press on button.

5 Insert-cover alignment

The device combination of insert and cover carries out an automatic insert-cover alignment as soon as a cover is placed on an insert and the mains voltage is switched on.

Case 1: Insert and cover are brand new

After the insert-cover alignment, the device combination is functional in a standard configuration.

Case 2: Insert is brand new and cover was already in operation

After the insert-cover alignment, the device combination is functional in a standard configuration.

Case 3: Insert was already in operation and cover is brand new

After the insert-cover alignment, the device combination is functional in a standard configuration.

Case 4: Insert and cover were already in operation in combination

After the insert-cover alignment, the device combination is functional. The device combination performs its function according to its last configuration.

Case 5: Insert and cover were already in operation separately from one another

After the insert-cover alignment, the device combination is not functional. The insert-cover alignment identifies this case as a swapping of the covers, for example after renovating a room. The insert-cover alignment reports an error via the status LED.

i This device combination becomes functional again after programming with the ETS, a master reset or resetting to factory settings.

Case 6: Insert is not supported by the cover

The insert-cover alignment reports an error via the status LED if the cover has been placed on an insert not supported by the cover. The device combination is not functional.

5.1 Error message

The error reported by the insert-cover alignment is indicated by the status LED for 60 seconds. Within these 60 seconds, the status LED flashes 3 times in pulses.

After an error has been detected during insert-cover alignment, the new assignment of a device combination of insert and cover is only possible via the ETS. The device combination remains without function until a new ETS is commissioned.

i The 60-second signalling of the error is restarted each time the button is actuated.

-  The 2-gang device variant indicates the error message via the left status LED.
-  A firmware update is also possible in the event of an error.

6 As-delivered state

The device combination of insert and cover functions in the delivery state after successful insert-cover alignment. The cover is for local use in a standard configuration.

-  The device combination does not transmit RF telegrams.
-  The ETS can reset the device to the delivery state with the "Unload device" command.

Status LED in the delivery state

The status LEDs perform the "Actuation indicator" function in the delivery state. Each push-button or rocker actuation causes the associated green status LED to illuminate for 3 seconds.

7 Information for electrically skilled persons

7.1 Mounting and electrical connection



DANGER!

Electric shock when live parts are touched.

Electric shocks can be fatal.

Always disconnect device before carrying out work on it. To do so, switch off all corresponding circuit breakers, secure them against being switched on again and check that there is no voltage. Cover up any adjacent live parts.

Mounting and connecting the device

In secure operation (prerequisites):

- Secure commissioning has been activated in the ETS.
- Device certificate entered/scanned or added to the ETS project. A high resolution camera should be used to scan the QR code.
- Document all passwords and keep them safe.

- i** The insert must be disconnected from the power supply before plugging in or unplugging the RF Multi operating top unit.
- i** When using a three-wire extension unit in combination with a KNX RF operating cover, wiring the extension unit connections between the main unit and extension unit is not permitted, as this will cause interference.

Switching, dimming, Venetian blind or room temperature controller insert or three-wire extension unit are mounted and connected properly (see instructions of the relevant inserts).

The mains voltage has been switched off.

- Fit the cover with frame on the insert (see figure 1).
- Switch on mains voltage.
- In secure operation: The device certificate must be removed from the device and stored securely.

The device can be commissioned and is ready for operation.

- i** If the status LED flashes red three times at repeated intervals, the cover was previously connected to another insert. To enable operation again, either place the cover on the associated insert or put the device combination into operation with the ETS.
- i** When switching to another application, the device should always be reset to the default setting and then reprogrammed.

7.2 Commissioning

Programming the physical address and application program, 1-gang (see figure 5) and 2-gang (see figure 6)

- i** Project design and commissioning with ETS from version 6.3.0 and above.
- i** The RF Multi operating top unit works with the RF/TP media coupler (order no. 5110 00) from index I01. An update file for older RF/TP media couplers can be found on our website.

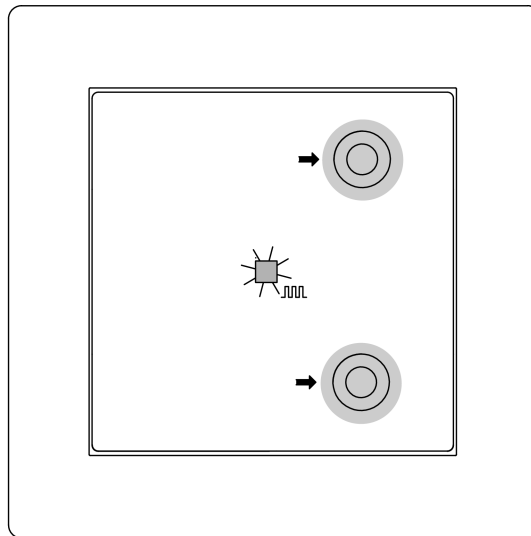


Figure 5: Activating programming mode (1-gang)

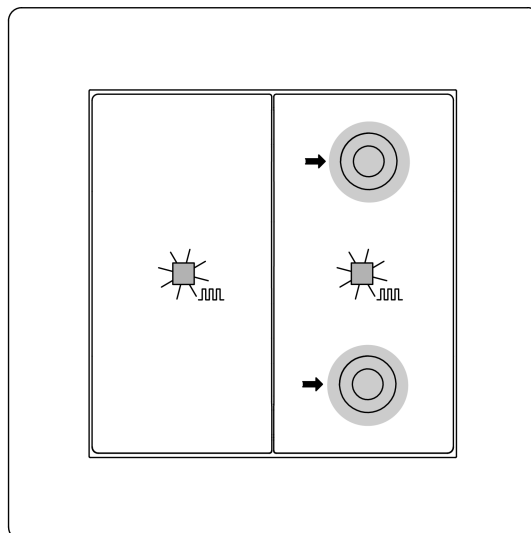


Figure 6: Activating programming mode (2-gang)

Precondition: The device is connected and ready for operation.

- Activate programming mode: Press the top right button and bottom right button simultaneously and hold for longer than 4 seconds with 1-gang (see figure 5) and 2-gang (see figure 6).

The Status LED flashes red. Programming mode is activated.

- i When the programming mode is activated, telegrams can be sent to the bus.

- Programming the physical address.

The status LED returns to its previous state. Physical address is programmed.

Prerequisite for the "Dimming" function: Load is connected to the insert.

- Programming the application program.

- i The status LED is switched off while the application program is programmed. As soon as the programming is successfully completed, the status LED carries out its parameterised function.

- i Relevant for "dimming" and for devices of device generation I00 and I01 (no longer relevant from device generation I02): The load must be connected before ETS commissioning. Without a connected load, the ETS aborts the programming process of the application program.

- i When the application program is unloaded, the status LEDs behave as in the delivery state.

7.2.1 Safe-state mode and master reset

Safe-state mode

The safe-state mode stops the execution of the loaded application program.

If the device does not work properly - for instance as a result of errors in the project design or during commissioning - the execution of the loaded application program can be halted by activating the safe-state mode. The device remains passive in safe-state mode, since the application program is not being executed (state of execution: terminated).

-  Only the system software of the device is still functional. ETS diagnosis functions and programming of the device are possible.

Activating safe-state mode

- Switch off the voltage.
- Wait approx. 15 s.
- Press the top right and bottom right button.
- With the buttons pressed, switch the voltage back on and keep the buttons pressed for more than 10 seconds.

Safe-state mode is activated. The status LED flashes red slowly (approx. 1 Hz).

-  Only release the top right and bottom right buttons when the LED flashes.

Deactivating safe-state mode

- Switch off the voltage (wait approx. 15 s) or carry out ETS programming.

Master reset

The master reset restores the basic device settings (physical address 15.15.255, firmware remains in place). The device must then be recommissioned with the ETS.

-  In secure operation, a master reset will deactivate the device security. The device can then be recommissioned with the device certificate.
-  Devices can be reset to factory settings with the ETS Service App. This function uses the firmware included in the device that was active at the time of delivery (delivery state). Restoring the factory settings causes the devices to lose their physical address and configuration.

If the device - for instance as a result of errors in the project design or during commissioning - does not work properly, the loaded application program can be deleted from the device by performing a master reset. The master reset resets the device to delivery state. Afterwards, the device can be put into operation again by programming the physical address and application program.

Performing a master reset

Prerequisite: safe-state mode is activated.

- Press and hold down the top right and bottom right button for more than 5 seconds until the status LED flashes.
- Release the top right button and bottom right button.

The device performs a master reset. The status LED flashes quickly (approx. 4 Hz).

The device restarts and is in delivery state.

8 Technical data

Ambient conditions

Ambient temperature	-5 ... +45 °C
Storage/transport temperature	-25 ... +70 °C
Relative humidity	max. 93 % (no condensation)

KNX

KNX medium	RF1.M
Safety	KNX Data Secure (X-mode)
Commissioning mode	S mode
Radio frequency	868.3 MHz, 868.95 MHz, 869.85 MHz, 869.525 MHz
Transmission capacity	max. 20 mW
Transmitting range in free field	Typ. 100 m
Receiver category	2

Information according to ErP 2009/125/EC

Electronic room temperature controller	yes
Power consumption	
In idle state	<0.5 W
In standby mode with information and status display	yes
This controller fulfils the following control functions	TE(1/2/3/0/0/0/0/0)

8.1 Product information in accordance with the Ecodesign Directive (ErP 2009/125/EC)

Contact details:			
Gira Giersiepen GmbH & Co. KG, Dahlienstraße, 42477 Radevormwald, Germany			
Model identifier:			
RF Multi operating top unit, 1-gang , 5104 .., 5105 .., 5106 ..			
RF Multi operating top unit, 2-gang , 5107 .., 5108 ..			
Specification	Icon	Value	Unit
Power consumption			
In the off state	P_0	-	W
In standby mode	P_{sm}	-	W
In idle state	P_{idle}	<0.5	W
In networked standby mode	P_{nsm}	-	W
In standby mode with information or status display		yes	
Type			
Single-stage heat output, no room temperature control		no	
Two or more manual levels, no room temperature control		no	
Room thermostat with mechanical thermostat		no	
Electronic room temperature controller		yes	
Electronic room temperature controller with time-of-day control		no	
Electronic room temperature controller with weekday regulation		no	
Other control options			
Presence detection		yes	
Detection of open windows		yes	
Remote control option		yes	
Adaptive control of the start of heating		no	
Operating time limit		no	
Black ball sensor		no	
Self-learning function		no	
Control accuracy		no	

Codes of the control functions

The format of the code is TC (f1/f2/f3/f4/f5/f6/f7/f8), where TC is the code for temperature control and f1 to f8 are the codes for the respective control functions, if available; otherwise "0" must be specified.

		(TC)*	Control functions							
			f1	f2	f3	f4	f5	f6	f7	f8
Type of temperature control	Single-stage heat output, no room temperature control	NC								
	Two or more manual levels, no room temperature control	TX								
	Room thermostat with mechanical thermostat	TM								
	Electronic room temperature controller	HP								
	Electronic room temperature controller with daytime control	TD								
	Electronic room thermostat with weekday control	TW								
Control functions	Presence detection		1							
	Detection of open windows			2						
	Remote control option				3					
	Adaptive control of the start of heating					4				
	Operating time limit						5			
	Black ball sensor							6		
	Self-learning function								7	
	Control accuracy with CA < 2 Kelvin and CSD < 2 Kelvin									8

* Temperature control code

9 Warranty

The warranty is provided by the specialist trade in accordance with statutory requirements. Please submit or send faulty devices postage paid together with a fault description to your responsible salesperson (specialist trade / installation company / electrical specialist trade). They will forward the devices to the Gira Service Center.

Gira
Giersiepen GmbH & Co. KG
Elektro-Installations-
Systeme

Industriegebiet Mermbach
Dahlienstraße
42477 Radevormwald

Postfach 12 20
42461 Radevormwald

Deutschland

Tel +49(0)21 95 - 602-0
Fax +49(0)21 95 - 602-191

www.gira.de
info@gira.de