

**eNet radio switch/push-button actuator 1-gang, for rail mounting**

Art. No. : FMAS16REG

**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.**

**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.**

**Danger of electric shock. During installation and cable routing, comply with the regulations and standards which apply for SELV circuits.**

**Danger of electric shock. Device is not suitable for disconnection from supply voltage.**

**Fire hazard! Operation exclusively with the power supplies listed under accessories**

**These instructions are an integral part of the product, and must remain with the end customer.**

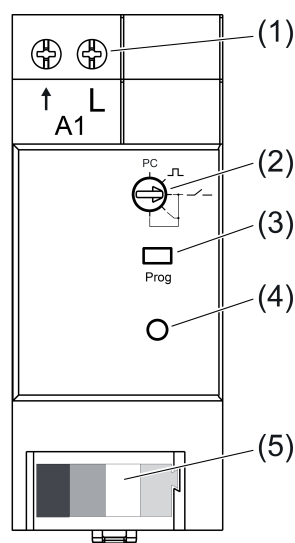
**2 Device components**

Figure 1: Device components

- (1) Load connection
- (2) Operating mode switch
- (3) Button **Prog**
- (4) Status LED
- (5) Bus line connection

**3 Function****Intended use**

- Switching of lighting
- Operation with suitable eNet radio transmitters

- Operation with power supply RMD and receiver module RMD cover or eNet server (see accessories)
- Installation in distribution boxes on DIN rail according to EN 60715

#### Product characteristics

- Operating mode switch for switching/push-button actuator switch-over or parameterisation via eNet server
- Status feedback to radio transmitter
- Scene operation possible
- Switchable output with **Prog** button
- Status indicator via LED

#### Switching operation:

- Switch-on telegram: Device switches on
- Switch-off telegram: Device switches off

#### Push-button operation:

- Relay contact remains closed as long as ON or OFF telegrams are being received
- The maximum switch-on time is 60 seconds

#### Can be set with eNet server:

- Flash function
- Run-on time
- Switch-on delay / switch-off delay
- Operation as NO or NC contacts
- Switch-off warning
- Minimum switching repeat time
- Operation locks
- Continuous on, Continuous off


#### Supplementary functions with eNet Server:

- Fully encrypted radio transmission (AES-CCM) from eNet Server software version 2.0
- Update of the device software
- Reading of error memory

#### Behaviour in case of bus voltage failure and return

If the bus voltage fails, the actuator switches off. The response to bus voltage return can be parameterised with eNet server. Default setting: Off.

## 4 Operation

-  When operating with the eNet Server, operation and signalling could vary from what is described here.

#### Operation with radio transmitters

Operation is with radio transmitters, please observe the radio transmitter instructions.

#### Operation with Prog button

- Press **Prog** button briefly.  
The load switches on or off.  
Status LED lights up: output is switched on.  
Status LED off: output is switched off.

## 5 Information for electrically skilled persons

### 5.1 Fitting and electrical connection

---



#### **DANGER!**

**Electrical shock when live parts are touched.**

**Electrical shocks can be fatal.**

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

---

**Fitting the device**

- Mount device on DIN rail. Output terminals must be at the top.

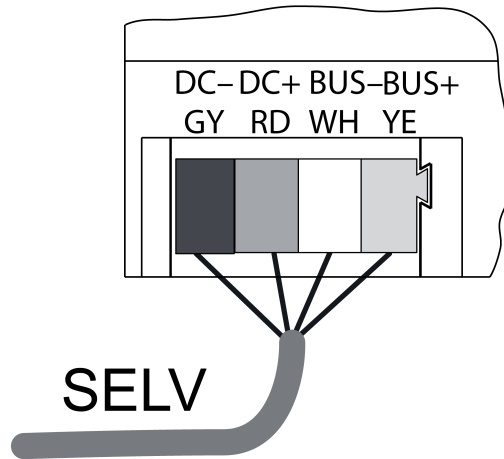
**Connect bus line**

Figure 2: Connection diagram of bus line

Labelling / Colour	Connection
DC- / GY dark grey	Power supply -
DC+ / RD red	Power supply +
Bus- / WH white	Data cable -
Bus+ / YE yellow	Data cable +

As bus line, use e.g. J-Y(St)Y 2x2x0.8

- Connect the device with bus line (figure 2) to the RMD reception module and power supply (see instructions of RMD reception module and power supply).

### Connecting loads

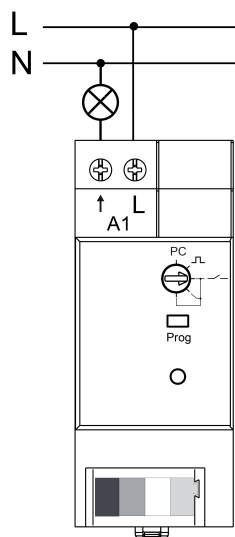


Figure 3: Connection example

- Connect device as shown in the connection example (figure 3).

### Presetting the operating mode

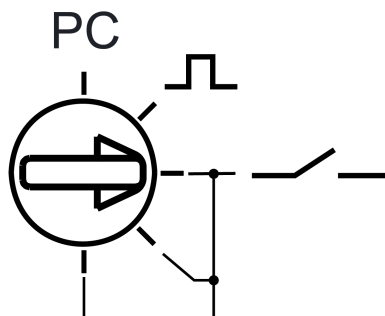


Figure 4: Operating mode switch

Switch position	Function
PC	Operating mode and parameter set with eNet server.*)
□	Push-button operation
—/—	Switching operation

\*) If the operating mode switch is turned from the position **PC** to another operating mode, the parameters are set to the default setting. The settings made with the eNet Server will be lost.

Mains voltage is switched off.

- Set the operating mode switch.

## 5.2 Commissioning



### **DANGER!**

**Electrical shock when live parts are touched.**

**Electrical shocks can be fatal.**

**During commissioning, cover the parts carrying voltage on radio transmitters and actuators and in their surrounding area.**

- i** The actuator can also be commissioned with eNet Server as an alternative to the commissioning described here.

### **Connecting actuator to radio transmitters**

Load is switched off.

- Press the **Prog** button for longer than 4 seconds.  
The load switches on.  
The status LED flashes after 4 seconds and the load switches off. The actuator is in programming mode for approx. 1 minute.
  - Switch radio transmitter to programming mode (see radio transmitter instructions).
  - Trigger telegram on the radio transmitter.  
The status LED of the actuator lights up for 5 seconds.  
The actuator is connected to the radio transmitter. The actuator and radio transmitter exit the programming mode automatically.
- i** If the status LED of the actuator flashes 3 times at 1-second intervals for approx. 5 seconds, then the programming operation was not successful. All the memory locations in the actuator or radio transmitter are occupied.
- i** All On and All Off buttons of a radio transmitter are connected to the actuator automatically as soon as the first connection to the radio transmitter takes place.
- i** Scene buttons must be connected separately.

### **Disconnecting connection to a radio transmitter**

- Carry out the same steps as when connecting (see Connecting actuator to radio transmitters).  
The status LED flashes quickly for 5 seconds. The actuator is disconnected from the radio transmitter. The actuator and radio transmitter exit the programming mode automatically.
- i** If there several connections or scene buttons for a radio transmitter, all connections must be disconnected individually.
- i** All On and All Off buttons of a radio transmitter are disconnected automatically as soon as the last connection of the corresponding output to the radio transmitter is disconnected. Manual disconnection is not possible.

### **Resetting the device to the factory setting**

All connections to radio transmitters are disconnected and parameters are reset to default setting. If the operating mode switch is on **PC**, switching operation is set.

- i** The connections in the radio transmitters are preserved and must be deleted separately.

Load is switched off.

- Press the **Prog** button for at least 20 seconds.  
The load switches on.  
The status LED flashes after 4 seconds and the load switches off. The status LED flashes faster after 20 seconds.
- Release **Prog** button and press briefly once again within 10 seconds.  
The status LED flashes more slowly for approx. 5 seconds.  
The device is reset to default setting.

## 6 Appendix

### 6.1 Technical data

Rated voltage	AC 230 V ~
Mains frequency	50 / 60 Hz
Ambient temperature	-5 ... +45 °C
Switching current for AC 230 V ~ Ohmic	16 A
For switching current >10A connecting cable 2.5mm <sup>2</sup>	
Fluorescent lamps	4 AX
Minimum switching current AC	100 mA
Contact type	μ
Standby power	max. 0.2 W
Connected load	
Incandescent lamps	2300 W
HV halogen lamps	2000 W
Electronic transformers	1500 W
HV-LED lamps	typical 500 W
Compact fl lamp.	typical 500 W
Inductive transformers	1000 VA
Fluorescent lamps, uncompensated	920 VA
Capacitive load	690 VA (560 μF)
Connection of load terminals	
single stranded	1.5 ... 4 mm <sup>2</sup>
Finely stranded without conductor sleeve	0.75 ... 4 mm <sup>2</sup>
Finely stranded with conductor sleeve	0.5 ... 2.5 mm <sup>2</sup>
Fitting width	36 mm / 2 modules
Bus line	
Rated voltage	DC 12 V SELV
Current consumption	max. 20 mA
Connection, Bus	device connection terminal
Cable length	max. 3 m

### 6.2 Parameter list

The device parameters can be changed with the eNet server:

#### Device and channels

Parameters	Setting options, Basic setting	Explanations
Function	Light, switching, unused Basic setting: Light	<p><b>Light</b> The channel is integrated for the "Lighting" central function in the <b>eNet SMART HOME app</b>.</p> <p><b>Switching</b> The channel is not integrated in any central function.</p> <p><b>Unused</b> The channel is not displayed in the <b>eNet SMART HOME app</b> and is disabled for use in the commissioning interface.</p>

<p>Operating mode</p>	<p>Switching operation                  Push-button operation                  Flashing                  Continuous on                  Continuous off                  Basic setting: Switching operation</p>	<p>Switching operation                  After switch-on, the device remains stable in the "On" state, and stable in the "Off" state after switch-off.</p> <p>Push-button operation                  The device switches "On" when any channel button of a radio transmitter is pressed and "Off" when the button is released. It is irrelevant whether the "On" or "Off" channel button is pressed.</p> <p>Flashing                  Switch-on starts flashing and switch-off stops flashing. The default flash frequency is 1 Hz. This frequency is also the maximum flash frequency. The flash frequency can be changed using parameters. The parameter "Switch-off delay" is used for the pulse time and the parameter "Switch-on delay" for the pause time.</p> <p>Continuous on                  The output switches to continuously "On". All operations of radio transmitters and the <b>Prog</b> button are ignored.</p> <p>Continuous off                  The output switches to continuously "Off". All operations of radio transmitters and the <b>Prog</b> button are ignored.</p>
-----------------------	--	---

**Advanced device settings**

Parameters	Setting options, Basic setting	Explanations
Manual commissioning	On, Off Basic setting: On	Disables manual commissioning for all device channels. In the "Off" setting, the device cannot be reset to the factory setting.

**Channel settings**

Parameters	Setting options, Basic setting	Explanations
------------	--------------------------------	--------------

Switch-on delay	0 s ... 24 h Basic setting: 0 s	The load switches on after a delay. Repeated switch-on commands restart the delay time. If the load has not yet been switched on due to the delay when a switch-off command comes, then the load will remain off. In Flashing operating mode, the pause time is set using this parameter. Comment: The set times apply to operation using radio transmitters. The relay is switched immediately when the <b>Prog</b> button is pressed.
Switch-off delay	0 s ... 24 h Basic setting: 0 s	The load switches off after a delay. Repeated switch-off commands restart the delay time. If the load has not yet been switched off due to the delay when a switch-on command comes, then the load will remain on. In Flashing operating mode, the pulse times are set using this parameter. Comment: The set times apply to operation using radio transmitters. The relay is switched immediately when the <b>Prog</b> button is pressed.
Run-on time	0 s ... 24 h Basic setting: 0 s	As soon as a run-on time has been entered, the actuator will no longer remain on permanently, but only for the length of the run-on time. The run-on time is restarted if actuation is repeated. This parameter is directly connected to the "Manual switch-off of run-on time" parameter. Comment: The set times apply to operation using radio transmitters. The relay is switched immediately when the <b>Prog</b> button is pressed.
Manual switch-off of the run-on time	On, Off Basic setting: Off	Allows manual switch-off of a running run-on time. If the parameter is switched off, then a switch-off command will also switch the actuator on. This parameter is directly connected to the "Run-on time" parameter.



Operating hours	0...65535 Basic setting: Current value	The time is counted during which the load is physically switched on (relay contact closed). This parameter can be reset to "0", for example after exchanging the load. The Reset button is used to reset the meter to "0". The device must be programmed to apply the change.
-----------------	---	---

**Extended channel settings**

Parameters	Setting options, Basic setting	Explanations
Operating mode	Switching operation Push-button operation Flashing Continuous on Continuous off Basic setting: Switching operation	See Device and channels.
Manual commissioning	On, Off Basic setting: On	Blocks manual commissioning for the device channel. In the "Off" setting, the device cannot be reset to the factory setting.
Local Operation	On, Off Basic setting: On	Blocks the output for operation using the <b>Prog</b> button.
Behaviour on voltage return	On Off Last value Configured brightness Basic setting: Off	Defines the behaviour of the output after voltage return.
Timer behaviour, voltage return	Off Restart Basic setting: Off	Specifies whether the timers for switch-on delay, switch-off delay and run-on time remain off after voltage return or whether they restart. Directly connected to the parameters "Switch-on delay", "Switch-off delay" and "Run-on time".
Behaviour after the end of the disabling function	On Off no change Last value Basic setting: No change	Behaviour of the output when a block is removed.
Manual saving of the scene values	On, Off Basic setting: On	Disables the saving of the current actuator state (On/Off) as scene value in an actuator for a command via a transmitter.

Switch-off warning	On, Off Basic setting: Off	If the switch-off warning is active, the light is not switched off directly. The light goes off 30, 15 and 6 seconds before permanent switch-off. During the switch-off warning, a switch-on telegram effects direct switch-on. It is not possible to terminate the time using a switch-off telegram.
Priority, lock-out protection	0...4 Basic setting: 1	Specifies the priority for recalling and removing a scene of type Lock-out protection for the channel.
Activate lock-out protection switching state	On, Off Basic setting: Off	Defines the behaviour of the output on activating the lock-out protection.
Deactivate lock-out protection switching state	On, Off Basic setting: Off	Defines the behaviour of the output on deactivating the lock-out protection. Only visible when the priority for the lock-out protection is 0.
Priority, restraint	0...4 Basic setting: 2	Specifies the priority for recalling and removing a scene of type Restraint for the channel.
Activate forced operation switching state	On, Off Basic setting: On	Defines the behaviour of the output on activating the forced operation.
Deactivate forced operation switching state	On, Off Basic setting: Off	Defines the behaviour of the output on deactivating the forced operation. Only visible when the priority for the forced operation is 0.
Priority, wind alarm	0...4 Basic setting: 3	Specifies the priority for recalling and removing a scene of type Wind alarm for the channel.
Activate wind alarm switching state	On, Off Basic setting: Off	Defines the behaviour of the output on activating the wind alarm.
Deactivate wind alarm switching state	On, Off Basic setting: Off	Defines the behaviour of the output on deactivating the wind alarm. Only visible when the priority for the wind alarm is 0.
Priority, sun protection	0...4 Basic setting: 0	Specifies the priority for recalling and removing a scene of type Sun protection for the channel.
Activate sun protection switching state	On, Off Basic setting: On	Defines the behaviour of the output on deactivating the sun protection. Only visible when the priority for the sun protection is 0.

Deactivate sun protection switching state	On, Off Basic setting: Off	Defines the behaviour of the output on deactivating the sun protection. Only visible when the priority for the sun protection is 0.
Priority, twilight	0...4 Basic setting: 0	Specifies the priority for recalling and removing a scene of type Twilight for the channel.
Activate twilight switching state	On, Off Basic setting: On	Defines the behaviour of the output on activating the twilight function.
Deactivate twilight switching state	On, Off Basic setting: Off	Defines the behaviour of the output on deactivating the twilight function. Only visible when the priority for the twilight function is 0.
Switch off brightness overshoot	On, Off Basic setting: On	Allows automatic switch-off according to the brightness. If the parameter is On, then the light controller switches off automatically when the brightness setpoint is greatly exceeded. This parameter is not yet active, as a light controller has not yet been implemented.
Switch on brightness undershoot	On, Off Basic setting: Off	Allows automatic switch-on according to the brightness. If the parameter is On, then the light controller switches on automatically when the brightness setpoint is greatly undershot. We recommend only using the parameter in connection with the parameter "Switch-off on brightness overshoot". This parameter is not yet active, as a light controller has not yet been implemented.
Invert switching output	On, Off Basic setting: Off	Inverts the switching output from NO contact function (factory setting) to NC contact function
Minimum switching repeat time	100 ms ... 10 sec Basic setting: 100 ms	Limits the switching speed of the device by increasing the value, in order to protect the load, for example. Only when the set time has elapsed is switching possible again. The last command during the blocking time is executed after a delay. The switching repeat time starts after each switching operation.

### Information window

During channel selection in the Information window, the following settings can be made or values displayed.

Display value	Explanations
Load state	The load can be switched on or off.
Restraint	Display of forced position status.
Operating hours	Display of the operating hours since the last restart in the Settings window <b>Einstellungen</b> .

### 6.3 Accessories

Power supply 12 V, for rail mounting  
eNet master receiver for rail mounting  
eNet server for rail mounting

Art. No. NT1220REGVDC  
Art. No. FMFK32REG  
Art. No. ENET-SERVER

### 6.4 Warranty

The warranty follows about the specialty store in between the legal framework as provided for by law.

#### ALBRECHT JUNG GMBH & CO. KG

Volmestraße 1  
58579 Schalksmühle  
GERMANY

Telefon: +49 2355 806-0  
Telefax: +49 2355 806-204  
kundencenter@jung.de  
www.jung.de