

**RED114X**  
Switching relay 1gang with input flush-mounted 2wire

**Safety instructions**  
Electrical equipment may only be installed and assembled by qualified electricians.  
Failure to comply with these instructions may result in damage to the device, fire or other hazards.

When installing and laying cables, always comply with the applicable regulations and standards for SELV electrical circuits.

These instructions are an integral component of the product and must be retained by the end user.

**Design and layout of the device**

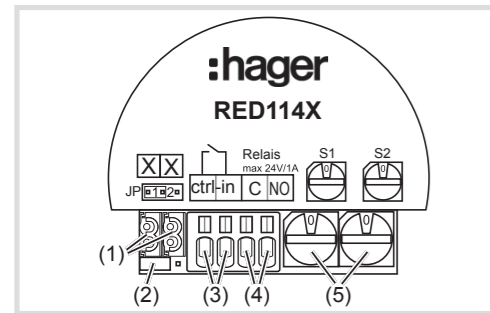


Figure 1: Design and layout of the device

**Design and layout of the device**

- (1) Bus connection 2-wire X/X
- (2) Jumper for function setting
- (3) Connection Control-in input for potential-free contacts (e.g. push-button)
- (4) Connection potential-free switching contact
- (5) Rotary switch S1 and S2 function/address settings

**Functional description**

Depending on the setting, the device executes switching or transmission commands via the 2-wire bus and/or state of the control-in input.

**Correct use**

- Switching of electrical loads 24 V AC/DC with potential-free contact
- Transmission of 2-wire bus commands by closing the contact on the control-in input
- Installation into wall box according to DIN

- 49073 or junction box surface-mounted/flush-mounted
- Not compatible with door communication systems of other manufacturers

**Product characteristics**

- Rotary switch for setting of function and address
- All connections with plug-in terminals.

**Information for electricians**

**Installation and electrical connection**

**DANGER!**  
Touching live parts in the installation environment can result in an electric shock!  
An electric shock can be lethal!  
Before working on the device or load, disconnect all associated circuit breakers. Cover all live parts in the area!

When working on systems with a 230 V AC power connection, comply with the safety requirements of DIN VDE 0100.

- When installing door communication systems, comply with the general safety regulations for telecommunications systems according to VDE 0800:
- Separate routing of power and door communication cables according to VDE 0800.
  - Partitions between power and door communication cables in shared trunkings.
  - Use of standard telecommunications' cables, e.g. J-Y (St) Y with 0.8 mm diameter.

**Bus cables**

- J-Y(ST)Y or A-2Y(L)2Y  
Use wrapped wire pair.  
Recommendation: white/yellow
- CAT  
Use wrapped wire pair.  
Recommendation: orange/white.

**Avoid interference!**

The 13-MHz video carrier frequency used for two-wire video door communication systems can cause reciprocal interference with other devices, such as radios, routers and WLAN devices.

- Only use shielded cables corresponding to the qualities recommended in this manual.
- It is essential to comply with the applicable regulations during planning and installation.
- Route cables, wire the devices, and in particular implement shielding and earthing measures as described below.


**Connecting and installing the device**

- Connect 2-wire bus cable to bus connection (1).
- If the switching relay is connected at the end of the 2-wire bus cable, the 2-wire bus cable must be completed with a terminator (supplied).
- Connect load fed from a power supply of max. 24 V to the potential-free switching contact (4) if required.
- Connect potential-free contact to control-in input if required
- Set function/address setting on rotary switches S1 and S2.
- Place the device in the installation or junction box.

If interference occurs in telecommunications systems, radio services or other systems during the operation of existing video door communication systems, measures for shielding and earthing the cables and for filtering must be implemented.

- For this purpose, connect all of the drain wires of the cables in a star shape using a terminal.
- Connect all drain wires to the PE rail in the distribution box.


**Storey call function**

(Function jumper (2) left inserted )  
A storey call command is transmitted to the 2-wire bus via a "NO contact" push-button connected to the control-in. The address of the indoor station(s) to be called is set on the switching relay rotary switches (5) (S1=group address, S2=intercom device address). If the door release button is pressed on an indoor station, the relay contact closes and e.g. a storey door is unlocked.

The relay contact does not close if the indoor station is in door call or was called from a door station. A not accepted door call exists for 90 s.


Only one switching relay may be used per indoor station address.


**Door release in idle state for sender address**

(Function jumper (2) left inserted )  
Activation of the relay contact by indoor stations and/or with a switching relay (transmit door release command in idle state function) with the group and intercom device address set on the switching relay rotary switches (5).


The relay contact does not close if the indoor station is in door call or was called from a door station. A not accepted door call exists for 90 s.


**Door release relay function**

(function jumper (2) right inserted )  
The switching relay is activated by the door release button of the indoor station and/or by a push-button NO contact on the control-in input.


Jumper  - door release relay function		
Rotary switch setting	S1	S2
0		
3		
5		
1		
4		
6		
2		


**Light relay functions**

(function jumper (2) right inserted )  
The switching relay is activated by the light button of the indoor station and/or by a push-button NO contact on the control-in input.


Jumper  - light button function		
Rotary switch setting	S1	S2
7		
A		
C		
8		
B		
D		
9		


**Door call relay function**

(Function jumper (2) not inserted )  
Certain door calls close the relay contact e.g. for a secondary signal device, vibrating cushion, optical signalling etc.. The control-in input has no function.

Jumper  - door call relay function		
Function selection rotary switch S1		Parameter setting rotary switch S2
3	Relay contact only closes upon audio door call	Not relevant. Activation by all audio door calls
4		Audio door calls with identical indoor station group address setting
5		Not relevant. Activation by all audio and video door calls
6	Relay contact only closes upon audio and video door call	Door calls with identical indoor station group address setting
7		Door calls of door stations with identical door address setting (S2=door address)
8	Relay contact only closes upon video door call	Not relevant. Activation by all video door calls
9		Only of indoor stations with this group address (S2=group address)

**Door opener command send function**


(Function jumper (2) not inserted )  
With the Transmit door release command the door release contacts can be activated by line power supplies, door stations, couplers and additional switching relays (set as door release relay). A push-button NO contact on the control-in input of the switching relay transmits a door release command to the 2-wire bus. The relay contact of the transmitting switching relay is deactivated here.


Jumper  - door opener command send function		
Function selection rotary switch S1		Parameter setting rotary switch S2
A	any time	Door release command with sender address 0/0 to target door address = S2
B		Door release command with sender address F/F to target door address = S2
C	in standby	Door release command with sender address 0/0 (S2 irrelevant)
D		Door release command with sender address F/F (S2 irrelevant)

With the Transmit door release command in idle state, the door release contacts of the line power supply that is set at any time by the couplers and door stations at their door release, are released.


With the Transmit door release in idle state command you can activate a switching relay in the Door release in idle state for sender address function. Only 2 times per system as only 2 addresses are possible. It is only possible to evaluate the sender address with the 2gang switching relay.


**Light command send function**

(Function jumper (2) not inserted )  
With the light command the light contacts can be activated by line power supplies, automatic lights, couplers and additional switching relays. When closing a contact on the control-in input, a light command is transmitted to the 2-wire bus. The relay contact has no function in this operating mode.  
Application: e.g. switch on light via magnetic contact on entrance door and apartment door.

Jumper  - light command send function		
Function selection rotary switch S1		Parameter setting rotary switch S2
E	any time	Light call with sender address 0/0 to target door address = S2
F		Light call with sender address F/F (S2 irrelevant)

**Function relay function**

(Function jumper (2) not inserted )  
The function relay mode allows switching, inching and status functions. The function relay address is set using the rotary switch S2. A maximum of 16 mutually independent function relays can be operated on the 2-wire BUS.  
Applications:  
- Switching of lighting or loads  
- Unlock front door  
- Display of an open front door or garage door with a magnetic contact.  
- Display of an unlocked front door with a lock switching contact

Jumper  - function relay		
Function selection rotary switch S1		Relay address rotary switch S2
0	Inching operation / Control-in status message (see table Inching operation)	Relay address 0-F
1	Switching operation / relay contact status message (see table Switching operation)	Relay address 0-F
2	Slave/signalling operation function relay	Relay address 0-F

		Inching operation		Slave/signalling operation
Reaction	Action	Relay contact Function relay in inching operation	Indoor station Special buttons Status LED	Relay contact slave /signalling function relay
	Indoor station special buttons activation	Closes for the duration of the activation		
	Contact closed on the control-in of the function relay in inching operation		Lights up for the duration of the contact	Closes for the duration of the contact
	Contact closed on the control-in of the slave /signalling function relay	Closes for the duration of the contact		

		Switching operation		Slave/signalling operation
Reaction	Action	Relay contact Function relay Switching operation	Indoor station Special buttons Status LED	Relay contact slave /signalling function relay
	Indoor station special buttons activation	Change-over of the contact per activation		
	Contact closed on the control-in of the function relay in switching operation	Change-over of the contact for each closing of the contact	Lights up when relay contact is closed	Follows the function relay contact switching operation
	Contact closed on the control-in of the slave /signalling function relay	Change-over of the contact for each closing of the contact		

The function relay in inching or switching operation can be extended by a function relay in slave/signalling operation. As a result, status or relay contact setting can be transmitted via the 2-wire bus.

A function relay in slave/signalling operation can replace the triggering special function button of an indoor station. The relay contact of the function relay in the slave/signalling operation function relay displays the LED in that moment.

**Technical data**

- Operating voltage via bus 24 V=
- Switching contact NO contact potential-free max. 24 V /1 A
- Control-in input for potential-free contacts
- Degree of protection IP 20
- Relative humidity 0 ... 65% (no condensation)
- Operating temperature -5 ... +45°C
- Storage/transport temperature -20 ... +60°C
- Connecting terminals plug-in terminals
- Maximum conductor diameter 0.8 mm
- Cable length Control-in input max. 2 m
- Dimensions W x H x D 51 x 42 x 17 mm