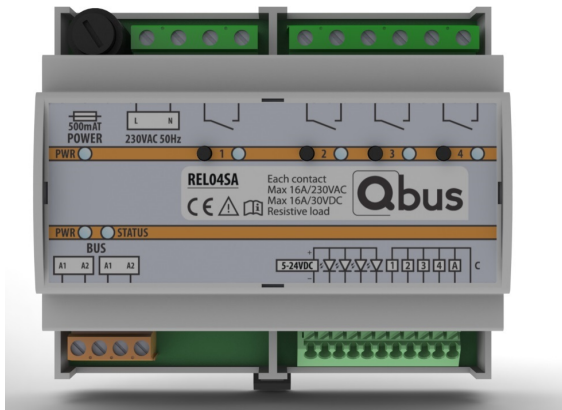


# STAND-ALONE RELAISMODULE REL04SA



Figuur 1

## 1. Product Description

This module with 4 outputs and 5 inputs is the base of the Qbus Stand-Alone range and functions both autonomously – so WITHOUT Controller, WITHOUT external power supply and WITHOUT any configuration – but can also be connected to a Controller to become part of a full-fledged Qbus installation.

The REL04SA contains 4 outputs of each max 16A to control lighting, shutters, power plugs, ... These are 4 independently working contacts which are standard set as bi-stable contacts (ON/OFF => impulse relay function).

For shutter/blind/curtain control, the REL04SA needs to be set in “Shutter Mode” (see “3. Mounting and wiring – Manual Control”).

For heavy inductive loads (many fluorescent lights) with a high capacity or bipolar applications, contactors need to be added. The REL04SA module contact will then activate the coil of the contactor.

It is also possible to configure a REL04SA module via a Qbus controller and then take the controller away. This way, the relay contacts can be configured with a delay ON, delay OFF and TIME OFF-function. Keep in mind that besides the TIME-OFF function, no other Timers are possible in Stand-Alone mode. Using the Controller, the inputs can be set as Normal Open, Normal Closed, Pushbutton.

In case the REL04SA is used as part of a Qbus automation installation (with a controller), all outputs and inputs on the REL04SA can be configured using the Qbus configuration software. Keep in mind that inputs 1 to 4 directly control outputs 1 to 4 and cannot be configured to control other outputs. Also, the scene-input “Input A” can only control all outputs on the respective module.

The REL04SA module also has 5 potential-free inputs to connect standard push buttons. Input 1 to 4 control respectively output 1 to 4, input A is a scene-input which executes an ALL OFF-scene when pushing for 0,7 seconds

(and then releasing the button), or a PANIC-scene (All Outputs on) when pushing the button for 3 seconds. The inputs are set standard in push button mode. When the REL04SA is connected to a controller, the input mode of the REL04SA can be changed to Normal Open, Normal Closed or toggle.

The module also contains four LED outputs to be used as feedback on switch push buttons. In order to use the LED feedback, an external 24V power supply needs to be installed.

All programming remains internally stored in a nonvolatile memory. After a voltage cut-off, the outputs return to their latest position.

A bipolar automatic fuse of a maximum of 16A must be placed on the mains power.

## 2. Safety Instructions

Read the complete manual before carrying out the installation and activating the system.



### WARNING

- The device must be mounted, commissioned and serviced by an authorized electrician in accordance with the country-specific regulations.
- This device is exclusively suitable for DIN-rail mounting EN50022. It must be mounted in a fire-enclosure with ventilation holes.
- A safety disconnection of the device must be possible. Before carrying out the installation the REL04SA should be de-energized.
- Only one phase is fused. In case the fuse is blown hazardous live voltage can still be present in the REL04SA.
- The device must not be opened. All guarantee provisions turn void when the module is opened.

## 3. Mounting and wiring

The REL04SA can be used in different installation configurations. Following specifications will remain the same across the different configurations:

### FITTING:

Snap device onto DIN rail to DIN EN50022.

### INPUTS:

Both solid and stranded wire between 0,5 – 1,5 mm<sup>2</sup> can be used (for stranded use a screwdriver to push on the connection when inserting the wire). Remove approx. 7mm of insulation from the wire and push it into the input terminals 1-A. By pushing with a screwdriver on the

# STAND-ALONE RELAISMODULE REL04SA

connector, the wire can be removed from the connector. Input 1/2/3/4 controls respectively output 1/2/3/4. Input A is set as a scene-input. Pushing the pushbutton connected to Input A for 0,7 seconds will turn all outputs on the REL04SA OFF. Pushing the same button for at least three seconds will turn all outputs ON.

24V LEDs can be connected to the LED-output connector. A 24V external power supply needs to be connected in order to do so.

**LED OUTPUTS**

An external 24V power supply can be connected to the REL04SA in order to provide LED-feedback on the push buttons.

**LOAD CIRCUITS:**

Connect the loads to the outputs. Conductor cross section: minimum 1,5mm<sup>2</sup>. Remove approx. 7mm of insulation from the wire and screw it into the terminals OUT1 – OUT4.

If sockets are to be connected to the home automation system, this should be done with separate contactors (2P/20A contactor required).

**POWER SUPPLY:**

A bipolar automatic fuse of a maximum of 16A must be placed on the mains power 230Vac.

Conductor cross section: minimum 1,5mm<sup>2</sup>.

Remove approx. 7mm of insulation from the wire and screw it into the terminals Ph-N.

**WARNING:**

*BEFORE WORKING ON THE DEVICE DISCONNECT THE MAINS SUPPLY VOLTAGE.*

**LED INDICATION:**

Green light: power supply.

Red light: start-up 2 seconds and during programming. Or when changing between ON/OFF and UP/DOWN mode. See below under Manual Control.

Orange light 1-4 : Output 1 till 4 active.

**MANUAL CONTROL:**

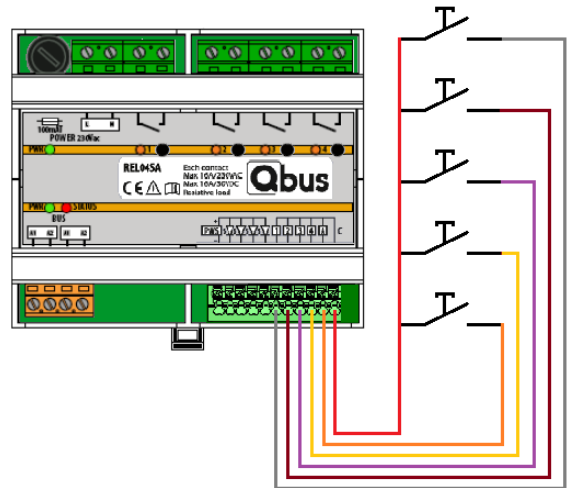
Used to control the output directly from the module, or to put the module in Shutter Mode. Each output can be controlled via the button underneath the output. The mode of the output can be changed from ON/OFF mode to UP/DOWN mode going through the following procedure:

- 1) Push two buttons (1 and 2 or 3 and 4) simultaneously during three seconds. MAKE SURE that both outputs are in OFF position before pushing them.
- 2) The red STATUS LED on the module will be flashing for 5 seconds, and will then start flashing at a different speed:
  - a. Long on, short off, the module is currently in ON/OFF mode
  - b. Long off, short on module is currently in UP/DOWN mode.

- 3) To change the mode release one button 1 second after the LED started flashing at a different speed, release the second button two seconds later.
- 4) The STATUS LED will confirm the changed mode by flashing shortly after both buttons have been released.

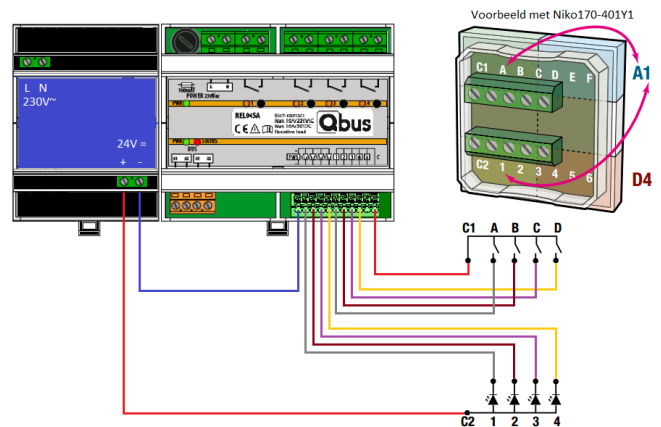
**CABLING OPTIONS**

**Option 1: Stand-Alone**



Multiple REL04SA modules can be connected with each other.

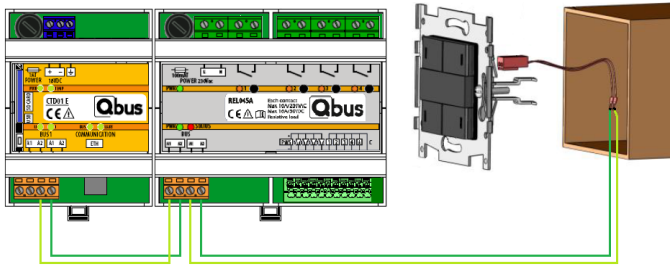
**Option 2: Stand-Alone with LED-feedback**



With extra 5-24V power supply for LED-feedback on push buttons. Here in combination with a Niko push button type 170-401Y1 or 170-401Y0

**Option 3: with controller as part of a complete Qbus system**

# STAND-ALONE RELAISMODULE REL04SA



- No module, switch or push button needs to be replaced.
- A Qbus controller provides all-in- and output modules power and data via the two-wire bus. This module contains clocks, scenes, presence simulation, logic, ... Via the Ethernet port of the controller, the installation can be connected to the internet and can be controlled remotely via smart phones, tablets etc.
- It is recommended to use the EIB cable or any other cable with minimum 2 x 1mm<sup>2</sup> conductors as bus lead.

## 4. Technical Data

### GENERAL SPECIFICATIONS:

- Power supply: 230Vac +/-10%, 50 Hz - maximum protection 16A/2P
- Insulation voltage: 3 kVac tested
- Characteristic consumption: 9VA maximum – all relays on
- Ambient temperature:
  - Working temp. range: 10°C to 50°C
  - Storage temp. range: -10°C to 60°C
- Maximum humidity: 93%, no moisture condensation
- Bus load: 10mA at nominal 13,8V
- Internal fuse: 500mA single-phase
- Max installation altitude: 2.000 meters.

### OUTPUTS:

- OUT1 – OUT4: 4 potential-free normally open single contacts
- In Stand-Alone mode, the outputs can be set as:
  - ON/OFF
  - Shutter (running time 10 minutes)
  - Via a CTD (which can be removed after changing the mode and setting the values) the outputs can be set as DELAY ON, DELAY OFF, TIME OFF.
- When coupled with a controller, the REL04SA will receive its input and output modes via the controller. When the controller is taken away, all Timer modes will be turned in to Timer 1 mode.
- Rated current: 16A
- Contact resistance: 100mΩ
- Set/Reset time: 15ms max / 5ms max
- Endurance: 20mil. Operations

- Rated load:
  - Resistive load (cosφ = 1)  
16A at 230Vac / 30VDC
  - Inductive load (cosφ = 0,4; L/R = 7 ms)  
8A at 230Vac / 30VDC
- Maximum switching power:
  - Resistive load (cosφ = 1)  
3680VA at 230Vac  
480W at 30Vdc
  - Inductive load (cosφ = 0,4; L/R = 7 ms)  
1840VA at 230Vac  
240W at 30Vdc

We strongly recommend not to exceed these values, otherwise an external contactor should be used!

### INPUTS:

- IN1 – IN5: 5 potential-free single contacts
- Input signal delay:
  - when closing the contact: max 100ms
  - after opening the contact: max 100ms
- Input function: standard as push button. When the REL04SA is coupled with a Controller, the inputs can be set as Normal Open, Normal Close or Push button.

### PHYSICAL SPECIFICATIONS

- Housing: Plastic, self-extinguishing according to UL94-V0
- Protection Degree: IP20, EN60529
- Installation: rapid mounting on DIN-RAIL, width 6 modules
- Dimensions (HxWxL): 62mm x 89mm x 107mm
- Weight: approx. 0,328 kg

### ELECTRICAL SAFETY

- Bus: 13,8VDC safety extra low voltage.
- Complies according to EN50491-5-1, EN50491-5-2 and EN60529
- Dielectric strength: module has been tested (and approved) 3kVac. (50 Hz, 1 min)
- Non-toxic WEEE/RoHS compliant

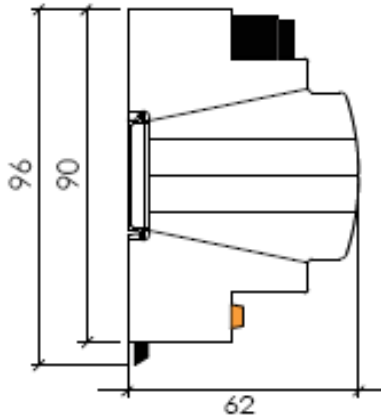
### CE

- Complies with the EMC regulations and low voltage regulations. Emission and Immunity EN50491-5-1 en EN50491-5-2. Low voltage EN60950-1

# STAND-ALONE RELAISMODULE REL04SA

## 5. Dimension Diagram

Dimensions in mm.



Width = 6 modules.

1 Module = 17 mm.

## 6. Guarantee provisions

Standard Warranty Period: 4 years from date of delivery.

Guarantee will not be accepted if the device has been opened!

Any faulty devices should be send postage-free with a description of the defect to our central customer service office :

### **QBUS N.V.**

Joseph Cardijnstraat 19

9420 Erpe-Mere

Belgium

T +32 53 60 72 10

F +32 53 60 72 19

Email : support@qbus.be