



# **VMB4RYLD**

## **Programmable 4-channel voltage out relay module for Velbus system**



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## DESCRIPTION

This relay module is suited for switching on or off the lighting in the living room, the garden fountain, the mains outlets in the children's room, and many more.  
In order to limit the wiring in the switchboard cabinet, this module features a mains voltage input and four voltage outputs to which the consumer can be connected directly.  
This is only suited for use in a Velbus system.  
Multiple functions, e.g. switching on/off timers, are to be programmed via the Velbuslink software.

## CHARACTERISTICS

### *Use:*

- suitable for switching on/off mains-powered lighting or consumers
- connection of a low voltage (e.g. 12V) instead of a high mains voltage to the voltage input allows the switching of up to 4 low-voltage consumers (e.g. 12V light bulbs)
- only suitable for use in a Velbus installation

### *Outputs:*

- 4 voltage outputs with common N connection
- single-pole NO relay contact
- relay contact debounce
- switching capacity:
  - 16A @ 230VAC input voltage
  - 12A @ 30VDC input voltage
  - allowed switch-on current up to 80A (lamp switch-on current)
- Total allowed consumption of the 4 channels:
  - 16A @ 230VAC
  - 12A @ 30VDC
- each relay channel may be inverted in order to simulate an NC contact
- 1 extra virtual channel

### *LED indications:*

- status indication for all 4 channels
  - continuously lit: relay switched on
  - slow blinking: timer 1 running
  - fast blinking: timer 2 running
  - two short blinks: communication error
- power voltage present
- data reception and transfer over the Velbus
- status notification of the relay channels to the control modules

### *Module power supply:*

- required power voltage: 12...18VDC
- consumption in stand-by: 30mA
- max. consumption: 250mA

### *Dimensions:*

- standard DIN-rail housing: 4 modules
- L x W x H: 90 x 71 x 58mm

### *Configuration:*

- only configurable via the Velbus PC interface (VMB1USB, VMB1RS or VMBRUSB) and the Velbuslink software
- addressing through software (up to 250 addresses)
- storage space for 39 different pushbuttons and their function
- multiple functions and timer settings are configurable through software
- learned pushbuttons are saved in case of a power failure

### *Control:*

- local on/off control on the module
- no direct pushbutton connections
- through Velbus commands or pushbuttons connected to the Velbus system

- multiple control functions
  - moment
  - off
  - on
  - on/off
  - timer (start/stop, restartable or non-restartable, switch-on/off delay, interval)
  - output forced off
  - output forced on
  - output inhibition
  - etc.

*Timer presets:*

- only configurable through the Velbuslink software
- timer presets configurable between:
  - 1 sec and 2 min in steps of 1 sec
  - 2 min and 5 min in steps of 15 sec
  - 5 min and 30 min in steps of 30 sec
  - 30 min and 1 hour in steps of 1 min
  - 1 hour and 5 hours in steps of 15 min
  - 5 hours and 10 hours in steps of 30 min
  - 10 hours and 24 hours in steps of 1 hour
  - 2 days
  - 3 days
  - no switch-off timer

## VELBUS CHARACTERISTICS

- 2-wire communication for Velbus data and 2 wires for power
- data transfer: 16.6 kbit/s
- serial data protocol: CAN (Controller Area Network)
- short-circuit proof (towards (-) or (+) of power)
- bus error indication: 2 short blinks of the operation mode LED
- self-restoring after 25 seconds in case of a bus error

Possibility to assign a name (max. 16 characters) to each output channel.

### **The relay module can send following messages:**

- relay status
- relay module type (with software version)
- channel names
- communication error counter
- memory capacity

### **The relay module can send following commands:**

- switch off LEDs on a control module
- switch on LEDs on a control module
- slow or fast blinking of the LEDs on a control module

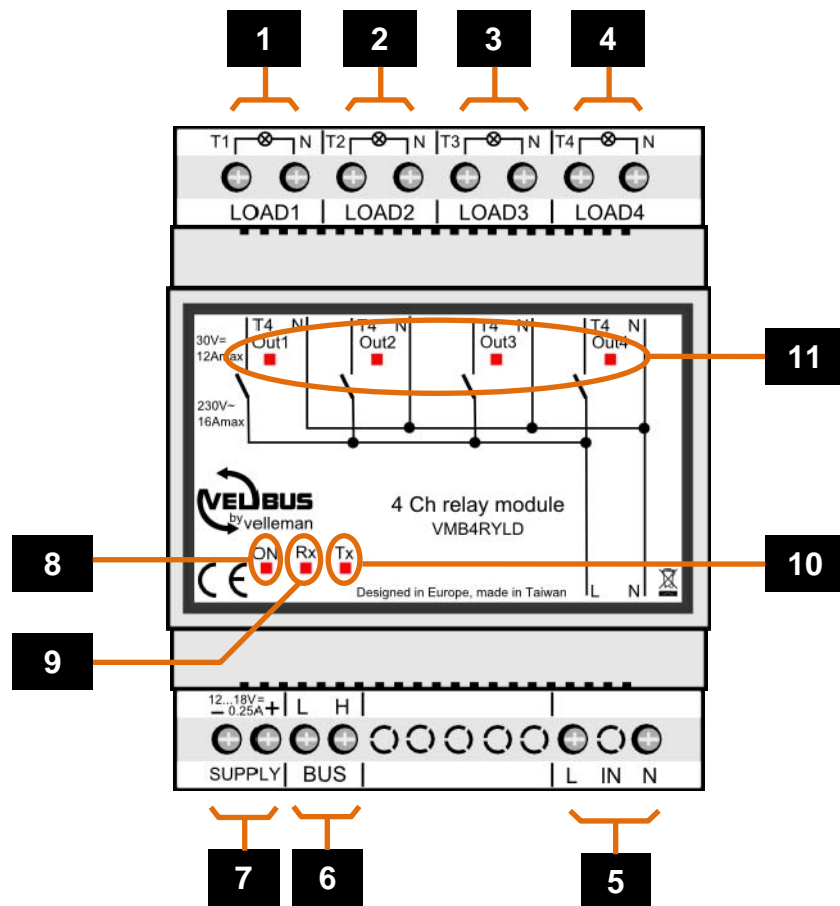
### **The relay module can receive following messages:**

- pushbutton module status

### **The relay module can receive following commands:**

- switch on relay channel
- switch off relay channel
- start timer
- start blinking timer
- recall relay status
- recall module type and software version
- recall communication error counter
- recall relay names
- recall memory contents
- overwrite memory contents
- switch off pushbutton indication LED

## OVERVIEW



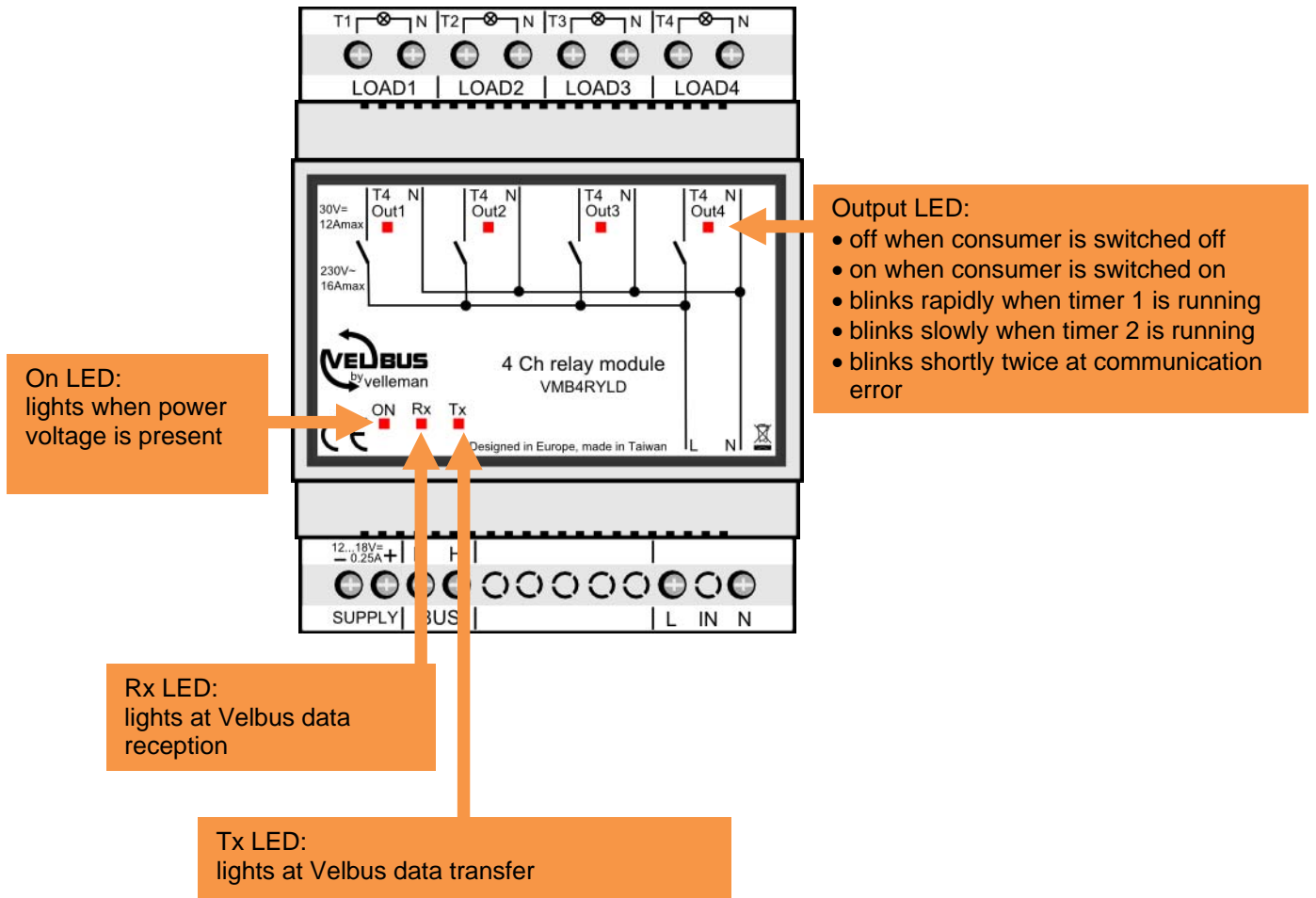
### Connections

- |          |                           |
|----------|---------------------------|
| <b>1</b> | consumer output channel 1 |
| <b>2</b> | consumer output channel 2 |
| <b>3</b> | consumer output channel 3 |
| <b>4</b> | consumer output channel 4 |
| <b>5</b> | consumer output voltage   |
| <b>6</b> | Velbus                    |
| <b>7</b> | Velbus power supply       |

### LED indications

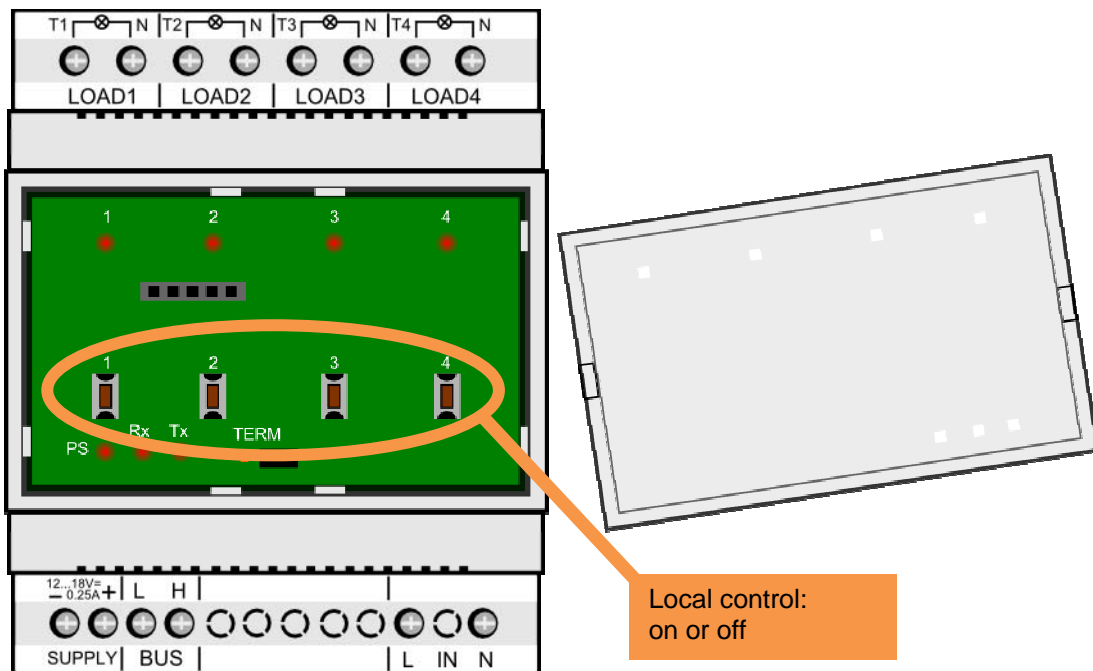
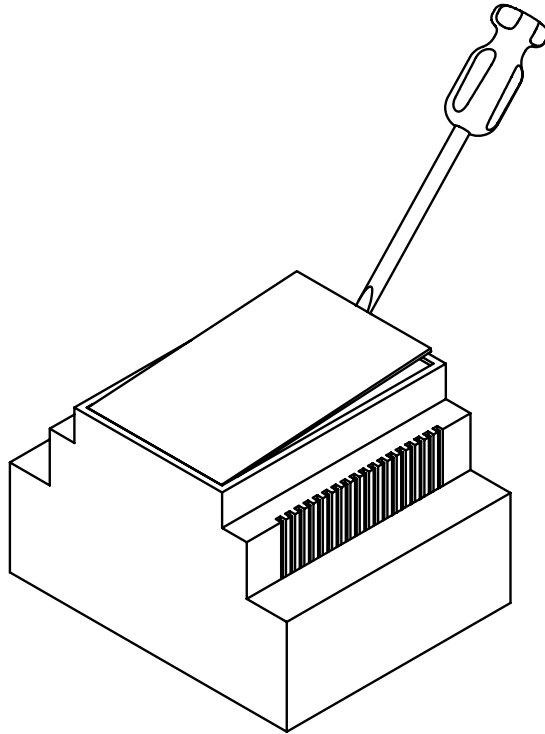
- |           |                          |
|-----------|--------------------------|
| <b>8</b>  | power LED                |
| <b>9</b>  | Velbus RX (receive) LED  |
| <b>10</b> | Velbus TX (transmit) LED |
| <b>11</b> | output status            |

## LED INDICATIONS



## LOCAL CONTROL

Remove the cover.





## USE

Connecting a 230V mains voltage to the input allows you to switch 4 mains voltage consumers like lighting, a pump, an electric heater, electric valves, etc.

Connecting a 12V low voltage to the input allows you to switch 4 low-voltage consumers like low-voltage lighting, LED strips, low-voltage LED spots, etc.

The module is integrated into the Velbus system and controlled through the VMB4PD control panel or by means of pushbuttons connected to a VMB8PB pushbutton interface, VMB6IN or any other relay module.

To interconnect the Velbus modules it is recommended to use a twisted-pair cable (EIB 2x2x0.8mm<sup>2</sup>, UTP 4x2x0.51mm<sup>2</sup> - CAT5 or equivalent).

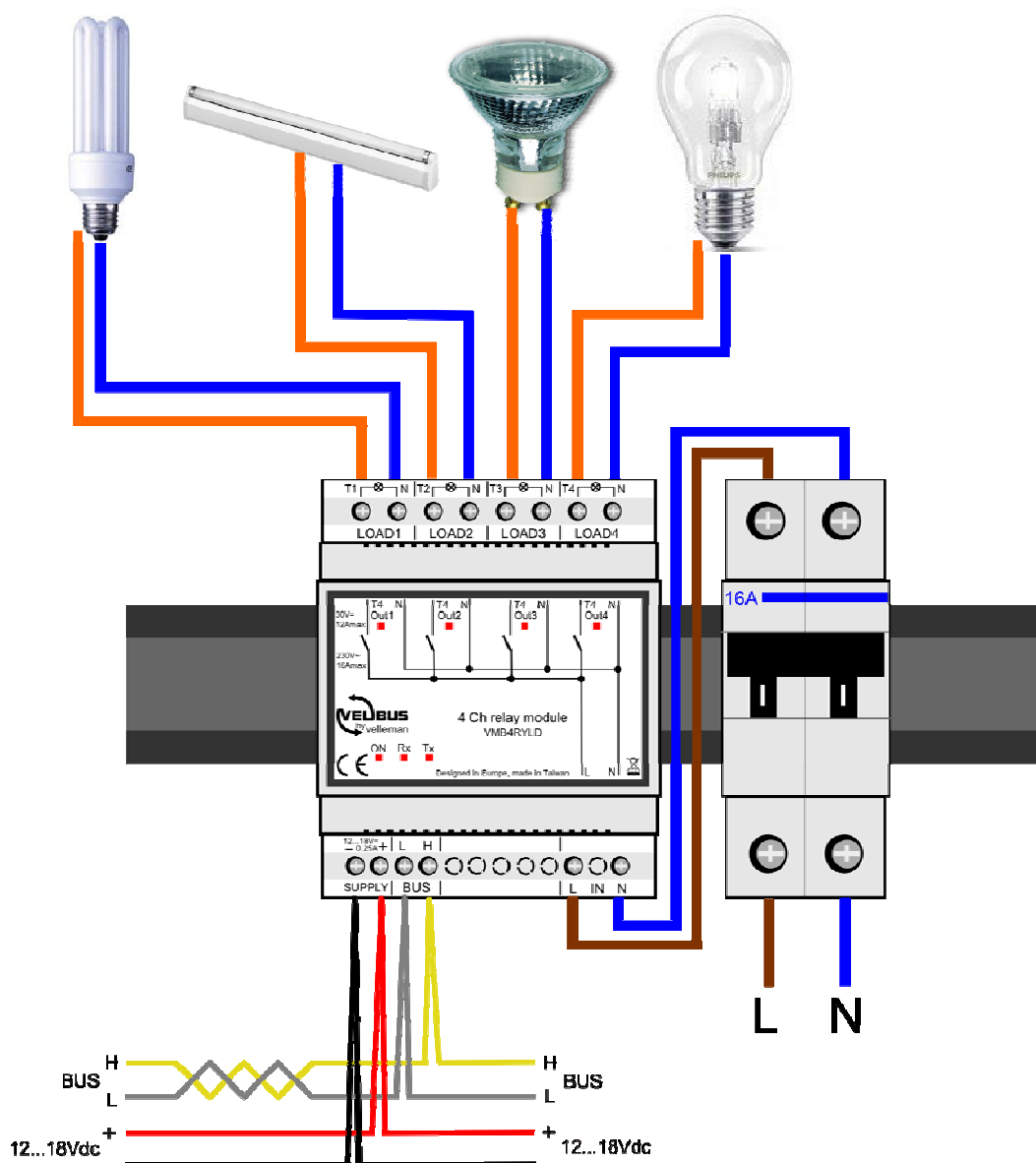
Make sure to use a heavy-gauge wire (0.5mm<sup>2</sup> or more) in case of a multiple module connection (>10 modules) or with long connections (>50m).

Connect the bus to the module (mind the polarity).

## Mains Voltage Connection Diagram

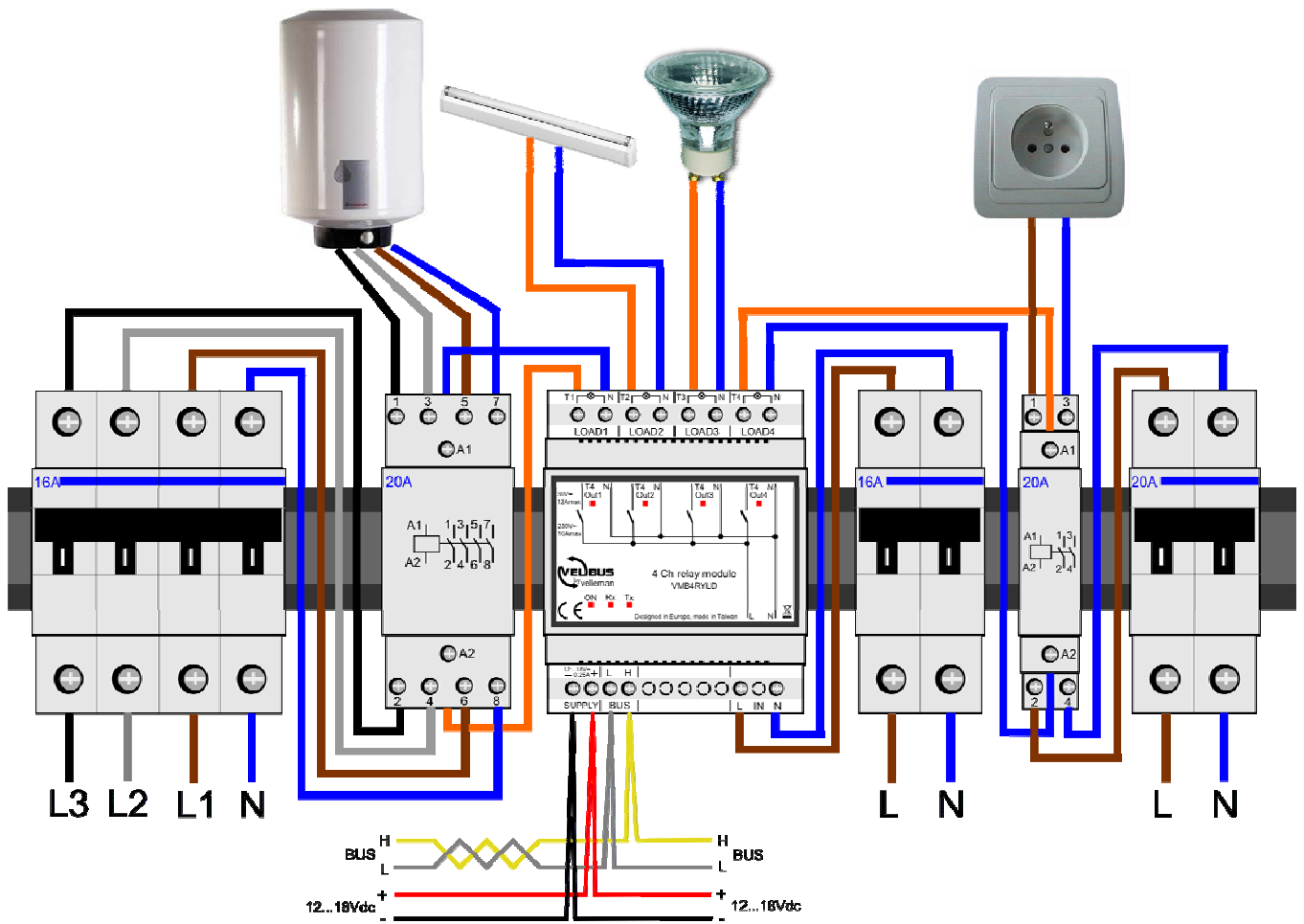
A single-pole load (e.g. lighting) can be connected directly to the output.

**Maximum total current consumption: 16A**



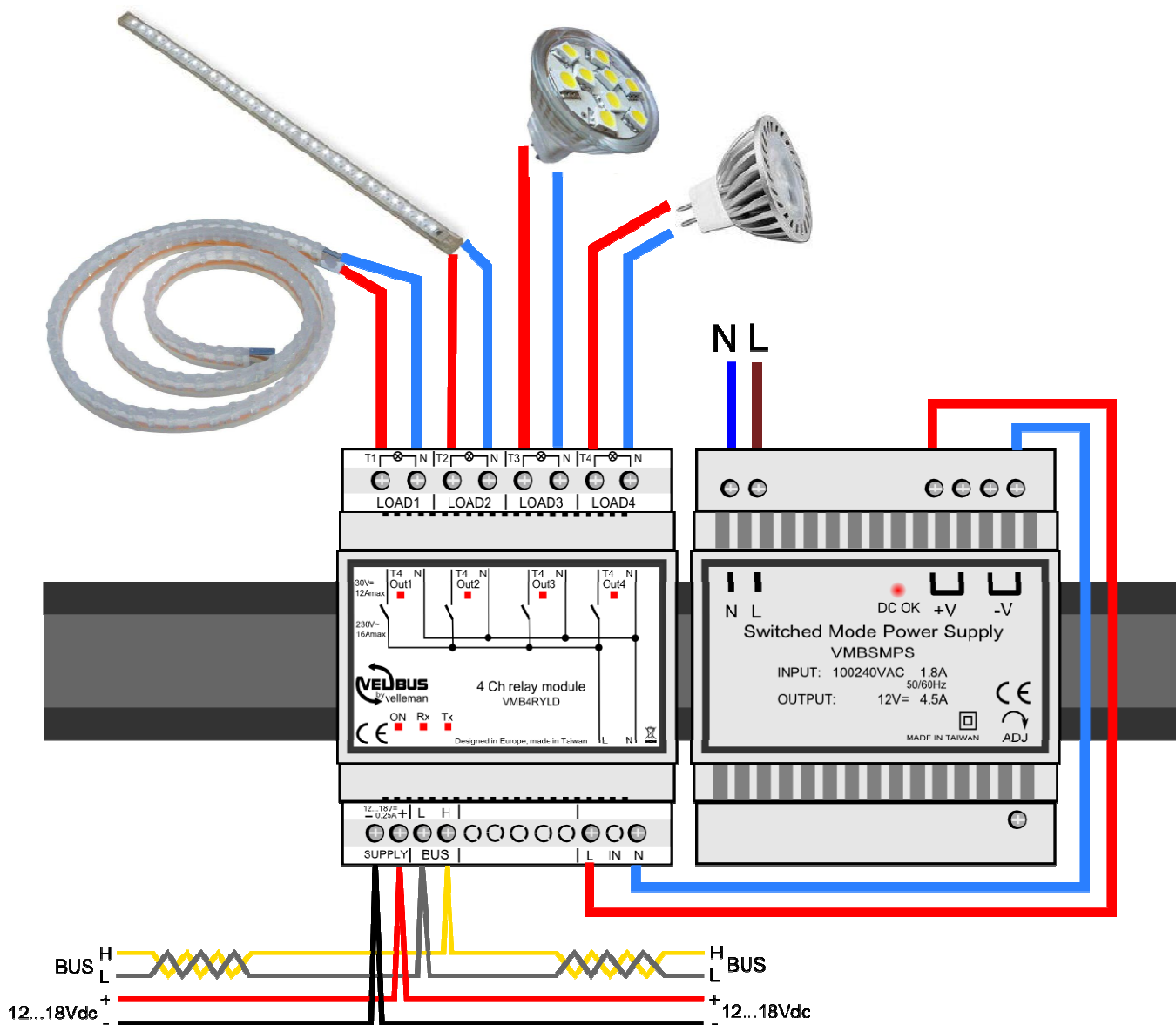
A double-pole load (e.g. mains outlet) requires an extra double-pole relay.

A triple-pole load (e.g. water heater) requires a quadrupole relay.



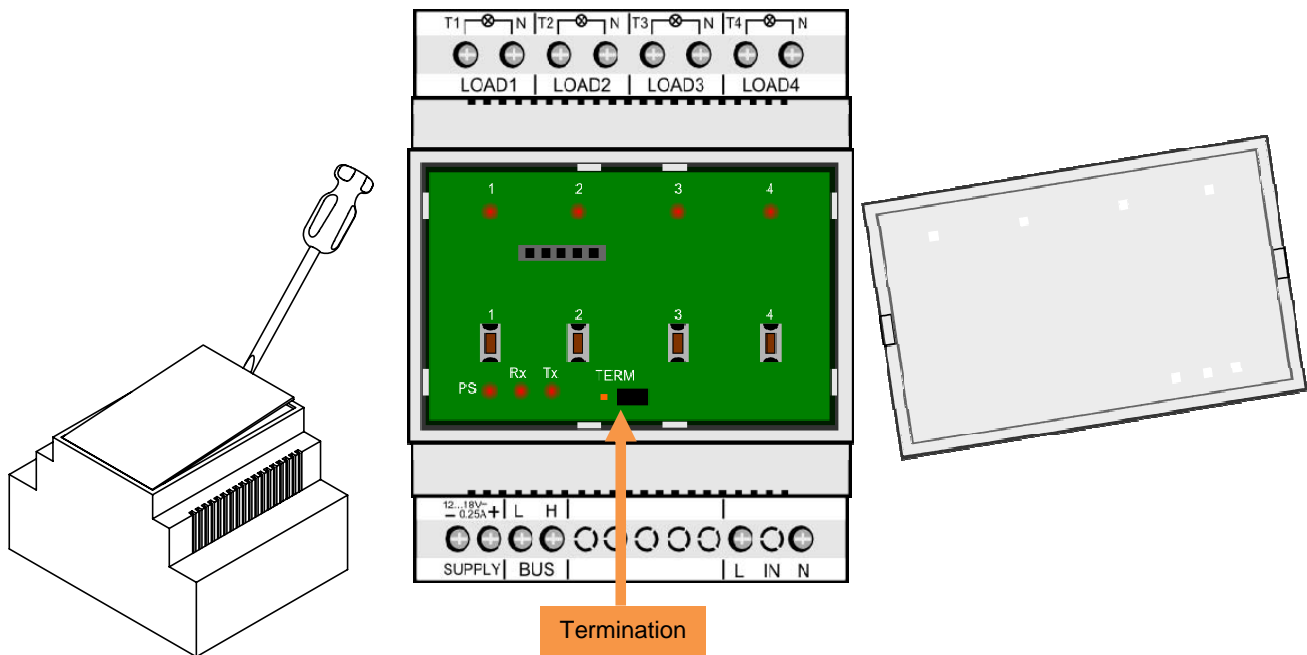
## Low-Voltage Connection Diagram

The module is also suitable for controlling 12V or 24V LED bulbs or strips. The input will then be connected to a low-voltage power supply (12V or 24V). Choose a power supply which can deliver the required consumption while the total consumption does not exceed 12A.



## Termination

Remove the cover.



Generally, only 2 'TERM' terminators must be used in a complete Velbus® installation. Usually, this will be on one module inside the distribution box and on the module which is physically located furthest from the distribution box.



On all other modules, the terminator must be removed.



### Remark:

In case of a wiring with multiple branches, only place a termination into a single module in the distribution box and in the control panel which is the farthest from the distribution box. When communication problems occur, you can place an extra termination on another branch. It is highly recommended to limit the number of terminations as too large a number may overload the bus.

## Configuration

This relay module can only be configured through the Velbuslink software. The address, behaviour and control functions can be configured manually.

### Address

Each module in the Velbus connection must have a unique address. Configure the address through the software.

### Relay Contact Behaviour

The relay contact will behave as an NO contact (no voltage on the outputs at no load). With the software, this behaviour can be modified to an NO contact: at no load (when the indication LED does not light) the relay contact will be closed and the output will present a voltage. Make sure however this occurs when the relay module is live.

### Control Functions

The relay module is controlled through pushbuttons connected to the Velbus system via a pushbutton interface or control panel.

You may assign up to 39 different pushbuttons. Each pushbutton may activate a different function.

	<i>Function</i>	<i>Description</i>
1	<b>Momentary</b>	The relay remains switched on as long as the pushbutton is pressed.
2	<b>Off</b>	The relay is switched off. <i>In order to create an "all off" function, the same pushbutton of all relay channels will be configured as an off function.</i>
3	<b>Off with timers disabled</b>	The relay is switched off and the timers cannot be restarted.
4	<b>Off with timers disabled at short press</b>	A short press of the pushbutton switches off the relay but the timers cannot be restarted. A long press of the pushbutton switches off the relay and the timers remain enabled.
5	<b>Off with timers disabled at long press</b>	A short press of the pushbutton switches off the relay and the timers remain enabled. A long press of the pushbutton switches off the relay but the timers cannot be restarted.
6	<b>On</b>	The relay is switched on. <i>May be used in a control panel with weekly program to switch on an output at a certain point in time.</i>
7	<b>On with timers disabled</b>	The relay is switched on and the timers cannot be restarted. <i>When a PIR detector is triggered, the driveway lighting will switch on for 10 minutes. A pushbutton with the "On with timers disabled" function allows to switch on the driveway lighting continuously without the PIR detector having an influence on the action.</i>
8	<b>On with timers disabled at short press</b>	A short press of the pushbutton switches on the relay but the timers cannot be restarted. A long press of the pushbutton switches on the relay and the timers remain enabled.
9	<b>On with timers disabled at long press</b>	A short press of the pushbutton switches on the relay and the timers remain enabled. A long press of the pushbutton switches on the relay but the timers cannot be restarted.
10	<b>Toggle</b>	Each press toggles the relay status (on/off). <i>Normal lighting control in a room.</i>

11	<b>Toggle with timers disabled</b>	Each press toggles the relay status (on/off). The timers cannot be started when the relay is switched on. <i>A PIR detector will switch on the driveway lighting; this lighting can switched on/off with a pushbutton. A driveway lighting switched on through the pushbutton will not be affected by the PIR detector.</i>
12	<b>Toggle with timers disabled at short press</b>	Each press toggles the relay status (on/off). The timers cannot be started when the relay was switched on by a short press.
13	<b>Toggle with timers disabled at long press</b>	Each press toggles the relay status (on/off). The timers cannot be started when the relay was switched on by a long press.
14	<b>Start/stop timer</b>	A press of the pushbutton switches on the relay for a preset time. A press of the pushbutton switches off the switched-on relay immediately. If desired, the short and long press delays can be set. <i>Control of the lighting in the attic. The lighting will automatically switch off after a preset time.</i>
15	<b>Restartable timer</b>	A press of the pushbutton switches on the relay for a preset time. A press of the pushbutton while the relay is switched on restarts the timer. If desired, the short and long press delays can be set. <i>This function is also called a staircase lighting timer.</i>
16	<b>Non retriggerable timer</b>	A press of the pushbutton switches on the relay for a preset time. A press of the pushbutton while the relay is switched on has no effect.
17	<b>Trigger-on-release timer</b>	The relay status remains unchanged with the closing of the switch. The relay is switched on for a preset time with the opening of the switch.
18	<b>Delayed off at release</b>	The relay is switched off with the closing of the switch. The relay remains switched on for a preset time with the opening of the switch.
19	<b>Delayed off at release only when relay is on</b>	Nothing happens as long as the relay remains switched off. At the release of the pushbutton, the switched-on relay will remain switched on for a preset time.
20	<b>Start/stop with delayed on/off</b>	Pressing the pushbutton will switch on the relay after the expiration of the switch-on delay. The relay is switched off again after expiration of the switch-off delay. Pressing the pushbutton while the switch-on or switch-off delay is running will annul the timer and switch off the relay.
21	<b>Restartable delayed on/off</b>	Pressing the pushbutton will switch on the relay after the expiration of the switch-on delay. The relay is switched off again after expiration of the switch-off delay. Pressing the pushbutton while the switch-on delay is running will restart the switch-on delay.
22	<b>Non restartable delayed on/off</b>	Pressing the pushbutton will switch on the relay after the expiration of the switch-on delay. The relay is switched off again after expiration of the switch-off delay. Pressing the pushbutton while the switch-on or switch-off delay is running does not affect the general status.
23	<b>Start/stop interval timer</b>	Pressing the pushbutton will switch on the interval timer for a preset time. The output is thus repeatedly open and closed. The switch-on and switch-off delays can be set. Pressing the pushbutton while the interval timer is running will stop the interval timer.

24	<b>Restartable interval timer</b>	Pressing the pushbutton will switch on the interval timer for a preset time. The output is thus repeatedly open and closed. The switch-on and switch-off delays can be set. Pressing the pushbutton while the interval timer is running will restart the interval timer.
25	<b>Non restartable interval timer</b>	Pressing the pushbutton will switch on the interval timer for a preset time. The output is thus repeatedly open and closed. The switch-on and switch-off delays can be set.
26	<b>Forced off at closed switch</b>	The relay cannot be switched on as long as the switch is closed. <i>A light sensor will keep the driveway lighting switched off during daylight.</i>
27	<b>Forced off at opened switch</b>	The relay cannot be switched on as long as the switch is open.
28	<b>Forced off at pushbutton press</b>	Pressing the pushbutton will disable the switching-on of the relay for a preset time. <i>The use of a control panel with weekly program allows you to disable the output control of an output for a preset time.</i>
29	<b>Toggle forced off at pushbutton press</b>	Pressing the pushbutton will disable the switching-on of the relay for a preset time. Repressing that same pushbutton will cancel the forced-off mode.
30	<b>Cancel forced off at pushbutton press</b>	Pressing the pushbutton will cancel the forced-off mode. <i>Remark:</i> <i>The forced-off status can still be determined by the function forced off at opened or closed switch.</i>
31	<b>Forced on at closed switch</b>	The relay is switched on as long as the switch is closed. All other commands are ignored. <i>Remark:</i> <i>The forced-off function overrules the forced-on function.</i>
32	<b>Forced on at open switch</b>	The relay is switched on as long as the switch is open. All other commands are ignored. <i>Remark:</i> <i>The forced-off function overrules the forced-on function.</i>
33	<b>Forced on at pushbutton press</b>	Pressing the pushbutton will switch on the relay. All other commands are ignored for a preset time. <i>Remark:</i> <i>The forced-off function overrules the forced-on function.</i>
34	<b>Toggle forced-on at pushbutton press</b>	Pressing the pushbutton will switch on the relay. All other commands are ignored for a preset time. Repressing that same pushbutton will cancel the forced-on mode. <i>Remark:</i> <i>The forced-off function overrules the forced-on function.</i>
35	<b>Cancel forced-on at pushbutton press</b>	Pressing the pushbutton will cancel the forced-on mode. <i>Remark:</i> <i>The forced-on status can still be determined by the function forced off at opened or closed switch.</i>
36	<b>Inhibit at closed switch</b>	The relay is switched off as long as the switch is closed. The functions will still be active internally. The internal status will be transferred to the relay at the opening of the switch.
37	<b>Inhibit at open switch</b>	The relay is switched off as long as the switch is open. The functions will still be active internally. The internal status will be transferred to the relay at the closing of the switch.
38	<b>Inhibit at pushbutton press</b>	Pressing the pushbutton will switch off the relay for a preset time. The functions will still be active internally.
39	<b>Toggle inhibit at pushbutton press</b>	Pressing the pushbutton will switch off the relay for a preset time. The functions will still be active internally. Repressing that same pushbutton will cancel the inhibition mode.

<b>40</b>	<b>Cancel inhibit at pushbutton press</b>	Pressing the pushbutton will transfer the internal status to the relay. <i>A light sensor will switch on the garden lighting at dusk. A pushbutton on the control panel will inhibit the output at 23h00; a second pushbutton will cancel this inhibition at 06h00 via the weekly program. This will keep the garden lighting switched off between 23h00 and 06h00.</i>
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Some functions allow you to set the switch-off time, the switch-on delay or the pulse and pause time between:

- 1 sec and 2 min in steps of 1 sec
- 2 min and 5 min in steps of 15 sec
- 5 min and 30 min in steps of 30 sec
- 30 min and 1 hour in steps of 1 min
- 1 hour and 5 hours in steps of 15 min
- 5 hours and 10 hours in steps of 30 min
- 10 hours and 24 hours in steps of 1 hour
- 2 days
- 3 days
- no switch-off timer



## CHECKING THE SOFTWARE VERSION

The software version can be verified via the Velbus link software.


Check on <http://www.velbus.eu> whether you have the latest version. If a newer version is available, download it. Connect the Velbus interface to a PC and run the upgrade-software and follow the instructions on the screen.

**Remark:**

Upgrading a module is not without risk. **Do not** interrupt the process!

If for any reason the upgrade should fail, the module will cease normal operation. The module will have to be returned to the manufacturer.

en :: fr :: nl ::



by **velleman**


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### All appliances get intelligent, how about your home?


Choosing for Velbus means choosing for a future-proof system which provides comfort, safety and a better energy management at a price which is just slightly higher than classical wiring.

#### COMFORT



Imagine coming home from a long day at work. With a single button press you turn on the heating, the blinds close, several lights turn on and create a cosy, intimate atmosphere. The wall outlets, which were shut off for safety reasons during your absence, are switched on again...

#### SAFETY



A sudden noise wakes you up in the middle of the night. Press your bedside button and your home comes alive. All lighting is turned on, while all blinds open. The garden lighting starts to flash, to attract attention...

#### ENERGYSAVING



Bedtime. Again, you press a single button. All lighting is turned off and nightlights start to glow. The garden remains lit for an hour. Wall outlets are turned off again for safety and to reduce electrosmog. Finally, the heating is lowered with a couple of degrees.

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