



**SMR-S**



**SMR-U**



**SMR-M**

**Warning!**

Device is constructed for connection in 1-phase main AC and must be installed according to norms valid in the state of application. Connection according to the details in this direction. Installation, connection, setting and servicing should be installed by qualified electrician staff only, who has learnt these instruction and functions of the device. This device contains protection against overvoltage peaks and disturbances in supply. For correct function of the protection of this device there must be suitable protections of higher degree (A,B,C) installed in front of them. According to standards elimination of disturbances must be ensured. Before installation the main switch must be in position "OFF" and the device should be de-energized. Don't install the device to sources of excessive electro-magnetic interference. By correct installation ensure ideal air circulation so in case of permanent operation and higher ambient temperature the maximal operating temperature of the device is not exceeded. For installation and setting use screw-driver cca 2 mm. The device is fully-electronic installation should be carried out according to this fact. Non-problematic function depends also on the way of transportation, storing and handling. In case of any signs of destruction, deformation or missing part, don't install and claim at your seller. After stop using the product it is possible to demount and recycle.

**Characteristic**

- simply replace the existing switch with a button under which SMR-S, SMR-U or SMR-M is installed to achieve effective lighting level control. The dimmers are intended to be installed in a mounting box (e.g. KU-68) into existing electrical wiring (SMR-S does not need a neutral conductor).

- used to control the brightness of bulbs, optional control from multiple locations  
- protection against excessive temperature inside the device - the output is switched off  
- power supply 230V AC

**SMR-S**

- allows the dimming of bulbs and 12V halogen lights with coil transformers (inductive load)  
- 3-conductor connection, works without the connection of a neutral conductor  
- maximum load: 300 VA (bulbs or halogen lights with coil transformers)  
- contactless output: 1x triak  
- with a replaceable fuse

**SMR-U**

- also allows the dimming of 12V halogen lights with electronic transformers (capacitive load)  
- 4-conductor connection  
- maximum load: 500 VA (bulbs or halogen lights with electronic or coil transformers)  
- contactless output: 2 x MOSFET  
- electronic overcurrent protection - the output is switched off in case of overloading or short-circuit

**SMR-M**

- intended for the dimming of:  
a) R - bulbs, halogen lamps  
b) L - low-voltage el.bulbs 12/24V wound transformers  
c) C - low-voltage el.bulbs 12/24V electronic transformers  
d) ESL - dimmable compact fluorescent lamps  
e) LED - LED lamps

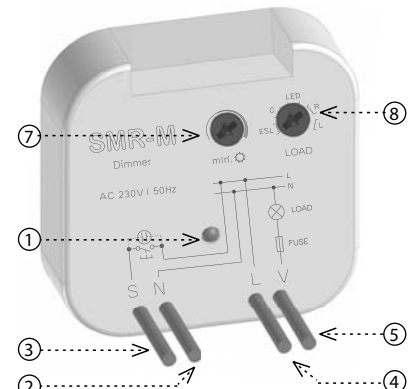
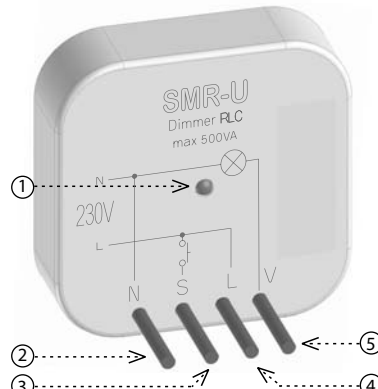
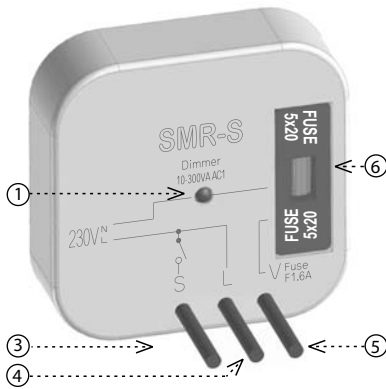
- allows infinite brightness control by button or buttons in parallel  
- when switched off, the set level of brightness is saved in memory and it is restored with the next switching on  
- the type of the light source is set using a switch at the device panel  
- the setting of minimum brightness, using a potentiometer at the device panel, eliminates the flickering of various types of energy-saving bulbs  
- 4-conductor connection

\* With load over 300 VA is necessary to ensure sufficient cooling. SMR-S, SMR-U: it cannot be used for fluorescent lights and energy saving lights! SMR-U: It is not allowed to connect together loads of inductive and capacitive type in the same time!

\*\* Due to a large number of light source types, the maximum load depends on the internal construction of dimmable light sources and their power factor  $\cos \phi$ . The power factor of dimmable LEDs and ESL bulbs ranges from  $\cos \phi = 0.95$  to 0.4. An approximate value of maximum load may be obtained by multiplying the load capacity of the dimmer by the power factor of the connected light source.

Technical parameters	SMR-S	SMR-U	SMR-M
Connection:	3-wire; without neutral	4-wire; with neutral	
Supply voltage:	230 V AC / 50Hz		
Power input (no operation):	max. 3 VA		x
Apparent power:	x		max. 1.5VA
Loss power:	x		max. 0.7W
Supply indication:	x		green LED
Supply voltage tolerance:	+10 / -15 %		
<b>Output</b>			
Resistive load:	10 - 300 VA	max. 500 VA*	max. 160 VA (at $\cos \phi = 1$ )**
Inductive load:	10 - 150 VA	max. 500 VA*	max. 160 VA **
Capacitive load:	x	max. 500 VA*	max. 160 VA **
Contactless:	1 x triak	2 x MOSFET	2 x MOSFET
<b>Control</b>			
Control wire:		L - S	
Control voltage:		AC 230 V	
Current:	max. 3 mA		x
Control input power:	x		AC 0.3-0.6 VA
Control impulse lenght:	min. 50 ms / max. unlimited		min. 80 ms / max. unlimited
Glow tubes connection:		ano / yes	
Max. amount of glow lamps connected to control input:	230V - max. amount 10pcs (measured with glow lamp 0.68mA/230V AC)		
<b>Other information</b>			
Operating temperature:	0.. +50 °C		-20.. +35 °C
Storing temperature:		-20.. +60 °C	
Operating position:	any		
Mounting:	free at connecting wires		
Protection degree:	IP 30 in standard conditions		
Overvoltage category:	III.		
Pollution degree:	2		
Fuse:	F1.6A / 250 V		x
Connection:	drát CY, solid wires 0.75 mm <sup>2</sup> , lenght: 90 mm		
Dimensions:	49 x 49 x 13 mm		49 x 49 x 21 mm
Weight:	32 g	32 g	38 g
Standards:	EN 61010-1, EN 60669-2-1		

**Popis přístroje / Popis přístroja / Description / Descriere / Opis / Termék leírás / Описание устройства**



① Supply indication

③ Switch (button)

⑤ Output to an appliance

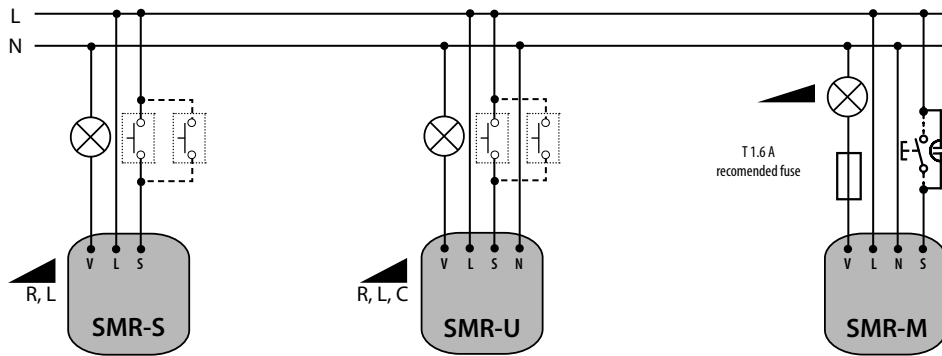
⑦ Minimal luminance setting

② Neutral wire

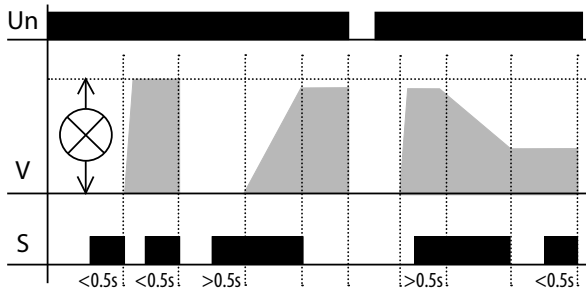
④ Phase

⑥ Exchangeable fuse

⑧ Light source type selection



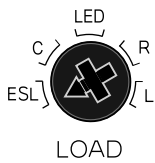
SMR-S; SMR-U - Function



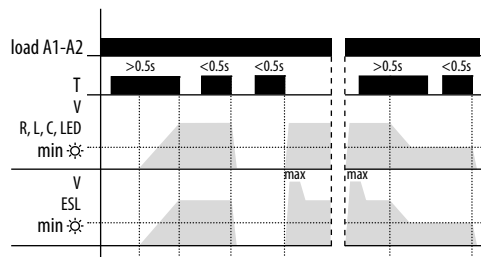
Short press ( $< 0.5s$ ) turns a light on, another short press turns it off. A longer press ( $> 0.5s$ ) causes a gradual regulation of light intensity min-max-min round until the button is released. After releasing a set intensity is kept in memory, further short presses turn the light on/off keeping the set intensity. The intensity can be changed by further long press. After de-energising the relay remembers the set value.

SMR-M - Light source type setting

SMR-M - Function



- ESL - dimmable compact fluorescent lamps
- C - low-voltage el.bulbs 12/24V electronic transformers
- LED - LED lamps
- R - bulbs, halogen lamps
- L - low-voltage el.bulbs 12/24V wound transformers



Controlling:


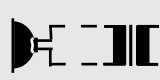
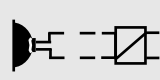
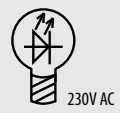
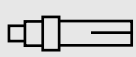


- short button press ( $< 0.5s$ ) turns the light off or on
- long press ( $> 0.5s$ ) enables slight regulation of light intensity
- setting of minimal luminance is possible only during decreasing of luminance by long button press
- setting of minimal luminance by saving fluorescent lamps serves for harmonizing of lowest light intensity prior its unprompted switching off.

Luminance setting:

- R, L, C, LED - if the light is turned off, short press ( $< 0.5s$ ) switches the light onto last set luminance level.
- ESL - if the light is turned off, short press increases the luminance onto maximal level (saving fluorescent lamps fires up) and then luminance decreases onto set level.

Notice:

- it is not possible to dim saving fluorescent lamps without marking: dimmable
- an incorrect setting of light source has effect only on dimming range, it means neither dimmer or load get damaged
- the maximum number of dimmable light sources depends on their internal construction

Load	lamp, halogen light	low-voltage el.bulbs 12-24V wound transformers	low-voltage el.bulbs 12-24V el. transformers	LED bulbs	saving fluorescent lamps	switching management	
	 HAL. 230V R	 L	 C	 230V AC dimmable	 dimmable	 incline edge	 descending edge
SMR-S	•	•	x	x	x	•	x
SMR-U	•	•	•	•	x	•	•
SMR-M	•	•	•	•	•	•	•