DE Oude SCHAKELAAR

SMR-M

Controlled dimmer

Characteristics

- 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 exist-ing 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 230 V AC

SMR-M

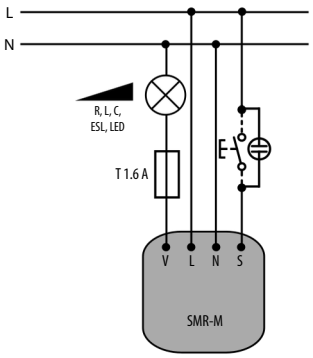
- Designed for dimming of incandescent bulbs and halogen lights with wound or electronic transformer, dimmable light bulbs and dimmable LED2
- Enables gradual setting of luminance by push-button (non-detent) or parallel buttons
- Returns to last state upon re-energization
- Type of light source is set by switch-over on the front panel of device
- Min. luminance, set by potentiometer on the front panel, eliminates flashing of light sources
- 4-conductor connection

Product loadability

	a	b	c	d	e
	R	L	C	ESL	LED[1,2]
SMR-S	●	●	-	-	●
SMR-U	●	●	●	-	●
SMR-M	●	●	●	●	●

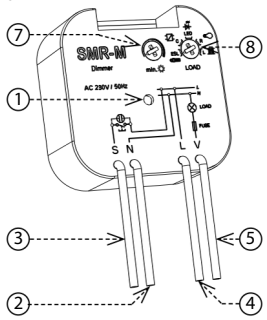
a) lamp,halogen light
b) low-voltage el.bulbs 12/24V wound transformers
c) low-voltage el.bulbs 12/24V electronic transformers
d) energy saving bulbs
e) LED1 - dimmable LED bulbs, designed for dimmers with phase-controlled rising edge (triac dimmers)
LED2 - dimmable LED bulbs designed for dimmers with phase or phase-to-phase phase control (dimmers with MOSFET)

Connection



Description

SMR-M

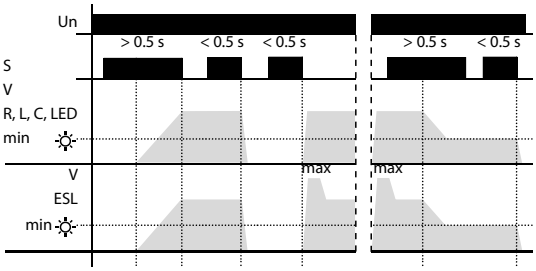


1. Supply voltage indication
2. Neutral wire
3. Switch (button)
4. Phase
5. Output to an appliance
6. Exchangeable fuse
7. Minimal luminance setting
8. Light source type selection:

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

Function

SMR-M



Legend:
Un - Supply
V - Output, Brightness
S - Controlling contact

SMR-M

- Short button press (< 0.5 s) turns the light off or on
- A long press (> 0.5 s) enables slight regulation of light intensity
- The setting of minimal luminance is possible only during decreasing of luminance by long button press
- The 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 (< 0.5 s) switches the light onto last set luminance level
- ESL - when the light is off , a short impulse turns lamp on and then luminance is decreased to set level

Note:

- It's not possible to dim energy-saving lamps without marking: dimmable
- An incorrect setting of light source has effect only on dimming range, it means neither dimmer or load get damaged
- Max. number of dimmable light sources depends on their internal structure
- It's not recommended to connect light sources with different types and brands, to one dimmer

Technical parameters

	SMR-S	SMR-U	SMR-M
Connection:	3-wire con., without neutral	4-wire con., with neutral	
Voltage range:	230 V AC / 50 Hz		
Burden (unloaded):	max. 0.66VA/0.55W		
Max. dissipated power:	3 W		
Supply indication:	x		green LED
Supply voltage tolerance:	-15 %; +10 %		

Output

Resistive load:	10 - 300 VA	500 VA*	max. 160 VA (at cos φ = 1)**
Inductive load:	10 - 150 VA	500 VA*	max. 160 VA **
Capacitive load:	x	500 VA*	max. 160 VA **
Contactless:	1x triak	2x MOSFET	

Control

Control wire:	L - S	
Control voltage:	AC 230 V	
Current:	max. 3 mA	x
Power the control input:	x	AC0.3-0.6 VA
Impulse length:	min. 50 ms / max. unlimited	min.80ms/max. unlimited
Glow tubes connection:	Yes	
Max. amount of glow lamps connected to controlling input:	230 V - max. amount 10 pcs (measured with glow lamp 0.68 mA / 230 V AC)	

Other information

Operating temperature:	0 °C to 50 °C (32 °F to 122 °F)		-20°Cto35°C(-4°Fto95 °F)
Storage temperature:	-20 °C to 60 °C (-4 °F to 140 °F)		
Operating position:	any		
Mounting:	free at connecting wires		
Protection degree:	IP30 in standard conditions		
Overvoltage category:	III.		
Pollution degree:	2		
Fuse:	F 1.6 A / 250 V	x	
Connection(cross-section / lenght):	solid wire CY, 0.75 mm2 (AWG 18) / 90 mm (3.5")		
Dimensions:	49 x 49 x 13 mm (1.9 x 1.9 x 0.5")		49x49x21mm(1.9x1.9x 0.8")
Weight:	30g(1.06 oz.)	32 g (1.13 oz.)	33 g (1.2 oz.)
Standards:	EN 61010-1, EN 60669-2-1		

* With load over 300 VA is necessary to ensure sufficient cooling.

** 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 φ. The power factor of dimmable LEDs and ESL bulbs ranges from cos φ = 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.

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 instruc- tion and functions of the device. This device contains protection against overvoltage peaks and distur- bancies 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 disturbancies 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, non-function or missing part, don´t install and claim at your seller. After stop using the product it is possible to demount and recycle.