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Made in Czech Republic
 02-68/2016 Rev.: 1



SOU-1

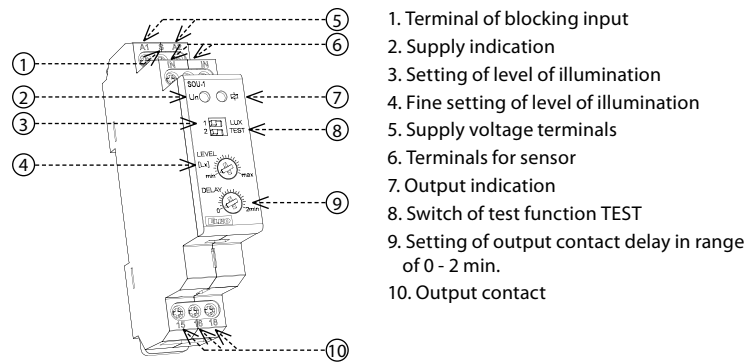
Twilight switch



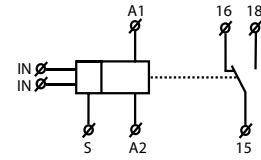
Characteristics

- Is used to control lights on the basis of ambient light intensity
- Used for switching street illumination and garden lights, illumination of advertisements, shop windows, etc.
- Level of ambient intensity is monitored by an external sensor and output is switched according to set level on the device
- Control input for additional control, e.g. time switch, preswitch etc.
- Level of illumination adjustable in two ranges:
 - 1 - 100 Lx - device reacts to low intensity of surrounding illumination. It is for twilight control.
 - 100 - 50 000 Lx - device reacts in a wide range of illumination intensity. It is not possible to set twilight sensitivity in this range but it is possible to operate permanent illumination in rooms or to differ sunny / cloudy. Applicable for controlling of sunshades or controlling of circulating pump for heating by sunlight.
- Adjustable time delay to eliminate short term fluctuation in illumination
- External sensor IP44 suitable for mounting on the wall (cover and holder of a sensor are a part of the package)
- Supply voltage AC 230 V or AC/DC 12 - 240 V
- Output contact: 1x changeover / SPDT 16 A
- Red LED output indication
- 1-MODULE, DIN rail mounting

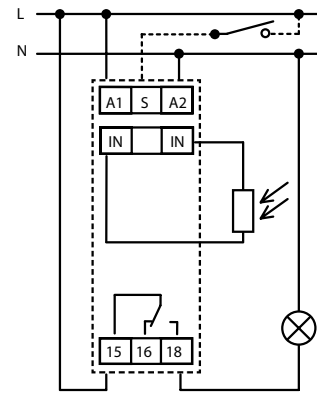
Description



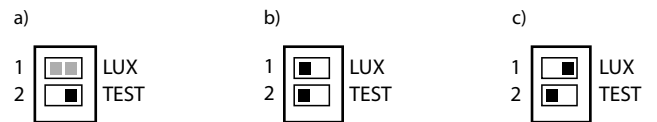
Symbol



Connection



Description of settings



a) By switching to position TEST all function are switched off and switching contacts of output relay are switched on. The function TEST is used for testing of right connection of load and for verification of failure (breaking of the bulb).

b) Range 1 - 100 Lx.

c) Range 100 - 50 000 Lx.

Type of load	$\cos \varphi \geq 0.95$	M	M	AC5a uncompensated	AC5a compensated	AC5b	AC6a	AC7b	AC12
Mat. contacts AgSnO ₂ contact 16A	250V / 16A	250V / 5A	250V / 3A	230V / 3A (690VA)	230V / 3A (690VA) to max. input C=14uF	1000W	x	250V / 3A	x
Type of load	AC13	AC14	AC15	DC1	DC3	DC5	DC12	DC13	DC14
Mat. contacts AgSnO ₂ contact 16A	x	250V / 6A	250V / 6A	24V / 10A	24V / 3A	24V / 2A	24V / 6A	24V / 2A	x

SOU-1

Supply terminals:	A1 - A2	
Voltage range:	AC/DC 12 - 240 V (AC 50 - 60 Hz)	AC 230 V / 50 - 60 Hz
Power input max. (apparent / loss):	AC 0.7 - 3 VA DC 0.5 - 1.7 W	AC 12 VA / 1.8 W
Max. dissipated power (Un + terminals):	3.5 W	
Supply voltage tolerance:	-15 %; +10 %	
Supply indication:	green LED	
Time delay:	0 - 2 min	
Time delay setting:	potentiometer	
Illumination rang 1:	1 - 100 Lx	
Illumination rang 2:	100 - 50 000 Lx	

Control

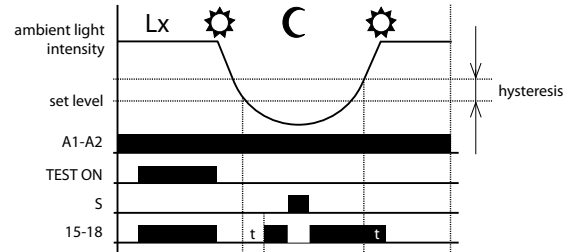
Power the control input:	0.8 - 530 mA
Load between S-A2:	yes
Control. terminals:	A1 - S
Glow tubes connetions:	(UNI): no / (230 V): yes
Max. amount of glow lamps connected to controlling input:	(UNI): glow lamps cannot connected (230 V): max. amount 20 pcs (measured glow lamps with glow lamp 0.68 mA / 230 V AC)
Impulse length:	min. 25 ms / max. unlimited
Reset time:	150 ms

Output

Number of contacts:	1x changeover (AgSnO ₂)
Current rating:	16 A / AC1
Breaking capacity:	4000 VA / AC1, 384 W / DC
Inrush current:	30 A / < 3s
Switching voltage:	250 V AC1 / 24 V DC
Output indication:	red LED
Mechanical life:	3x10 ⁷
Electrical life (AC1):	0.7x10 ⁵

Other information

Operating temperature:	-20 °C to +55 °C (-4 °F to 131 °F)
Storage temperature:	-30 °C to +70 °C (-22 °F to 158 °F)
Electrical strength:	4kV (supply - output)
Operating position:	any
Mounting:	DIN rail EN 60715
Protection degree:	IP40 from front panel / IP20 terminals
Sensor cable length:	max. 50 m (standard wire)
Overvoltage category:	III.
Pollution degree:	2
Max. cable size (mm ²):	solid wire max. 1x 2.5 or 2x 1.5 / with sleeve max. 1x 2.5 (AWG 12)
Dimensions:	90 x 17.6 x 64 mm (3.5" x 0.7" x 2.5")
Weight:	(UNI): 76 g (2.7 oz.) / (230 V): 73 g (2.6 oz.)
Weight of sensor SKS:	15 g (0.5 oz.)
Standards:	EN 60255-6, EN 61010-1



Photosensor SKS

Sensor for SOU-1 is external and is connected to terminals IN.

Sensor is installable to panel (by screw-able transparent cover) to opening with diameter 16 mm. A part of the sensor is a plastic holder for placing into the wall or to another place. Length of a line connector to the sensor cannot be more than 50 m. Doublecore cable can be used as wire diameter min. 2x 0.35 mm² and max. 2x 2.5 mm².

Protection degree is IP44. To keep this protection:

- photoresistor cover must be sealed by a rubber circle (part of the sensor)
- cable must be of round cross-selection
- the opening must be tight to the used cable

It is possible to use photoresistor, which changes resistance in accordance with ambient illumination, as a sensor. Tolerance sensor ± 33 %.

light intensity	sensor resistance
1 Lx	22.6 KΩ
100 Lx	1.1 KΩ
50 000 Lx	59 Ω

Warning

Device is constructed for connection in 1-phase AC 230 V or AC/DC 12- 240 V main alternating current voltage 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, non-function or missing part, don't install and claim at your seller it is possible to dismount the device after its lifetime, recycle, or store in protective dump.