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LIGHTING DIMMER SCO-816

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Do not dispose of this device in the trash along with other waste! According to the Law on Waste, electro coming from households free of charge and can give any amount to up to that end point of collection, as well as to store the occasion of the purchase of new equipment (in accordance with the principle of old-for-new, regardless of brand). Electro thrown in the trash or abandoned in nature, pose a threat to the environment and human health.

Purpose

Universal dimmer SCO-816 is designed to regulate the brightness of dimmable high-power lighting sources supplied with 230 V AC.
It is dedicated to cooperation with:
– incandescent and halogen lamps (resistive load);
– lamps powered by a toroidal or electronic transformer (inductive or capacitive load) [1];
– LED lamps [1].

Lighting control is carried out using monostable buttons connected to control inputs or by means of the OC transistor key.

The SCO-816 dimmer is additionally equipped with:
– soft switching on and off function;
– thermal protection;
– current overload control;
– built-in 20 A slow blow fuse;
– possibility of connecting the ON/OFF button controlled by 230 V AC mains voltage or low DC voltage [2].

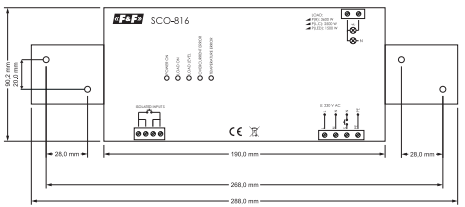
Functioning

Switching on and off of the lighting takes place after a short press of a button connected to the control input S. The brightness level is changed by long press of the button. One long press brightens the lighting until the maximum value is reached, the next long press dims it until the minimum value is reached. Switching on the light by shortly pressing the button restores the previously set brightness level [3].

[1] Brightness control requires light sources uniquely designed to work with dimmers. The brightness level control range and control characteristics can be limited by the design of light sources.
[2] Dimmer is not adapted to cooperate with backlit buttons.
[3] The status memory works until the power is turned off. After switching on the power again, the first switching on takes place at 100% brightness.

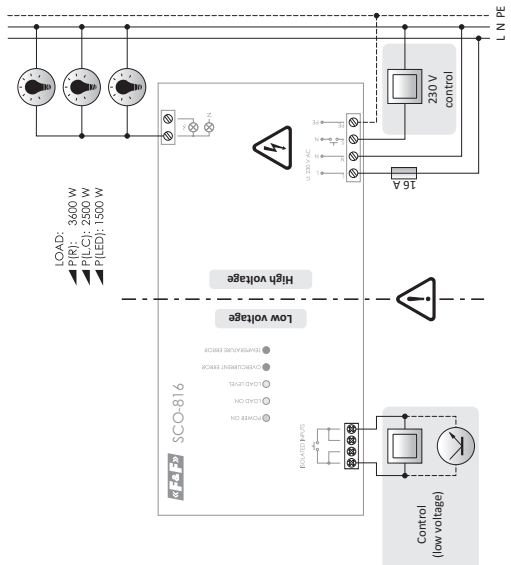
Assembly

The SCO-816 dimmer is designed for mounting on a metal mounting plate or other flat and non-flammable surface.
1) Screw the mounting brackets to the holes on the side of the housing.
2) Using the mounting brackets, screw the dimmer to the mounting plate. The location of mounting holes is shown in the figure below:



3) Connect the power and control circuits according to the following diagram:

Connection diagram



Ventilation

The dimmer is equipped with a fan that ensures forced air circulation in case of temperature increase inside the device. Nevertheless, the SCO-816 should be installed in a place that ensures proper ventilation of the controller. Failure to do so may lead to an emergency shutdown due to exceeding the temperature limit.

Separation of high and low voltage circuits is required!

The 230 V AC supply and control circuits must not be connected to the low voltage control circuits at any point. Failure to do so may result in dangerous voltage on the control circuits and damage to the device.

Characteristics of brightness

The actual illumination curve depends very much on the lighting sources used. In the case of incandescent lighting, the brightness level is proportional to the voltage value of the power supply, while for most LED lamps this characteristics may be non-linear. In the case of some lighting sources this may mean a significant limitation of the regulation range – for example the brightness change can only be seen in the range of 20÷60% of the control signal.

Signalling

The SCO-816 dimmer is equipped with 5 signaling LEDs located on the facade of the controller.

They perform the following function:

Designation	Color	Function
POWER ON	Green	Indication of the presence of power supply and correct operation of the device. **Slow blinking** of the control diode (1×/s) – indicates the correct operation of the controller. **Fast blinking** of the control diode (5×/s) – indicates the controller failure. [4]
LOAD ON	Yellow	Indication of switching on the output circuit
LOAD LEVEL	Yellow	Indication of the set brightness level
OVERCURRENT ERROR	Red	Exceeding the maximum output current. [5] **Slow blinking** – exceeding the current limit value. **On** – exceeding the current limit value and emergency disconnection of the load
TEMPERATURE ERROR	Red	Exceeding the maximum operating temperature. [6] **Slow blinking** – exceeding the temperature limit.. **On** – exceeding the temperature limit and emergency disconnection of the load.

Technical data

power supply	230 V AC
maximum power of connected lamps [7]	
	3600 W (R)
	2500 W (L or C)
	1500 W (LED)
power consumption	<5 W
control	
ON / OFF	230 V AC or 9÷12 V DC [8]
brightness level	voltage 1÷10 V DC
brightening/dimming time	1 s
current limit	16 A
internal overcurrent protection	20 A slow blow fuse (6.3×32 mm)
maximum temperature inside the housing	65°C
fan start temperature	45°C
ambient temperature	0÷40°C
protection level	IP20
mounting	mounting plate
terminal	
230 V AC circuits	4 mm² terminals, 0.5 Nm torque
low voltage circuits	2.5mm² terminals, 0.4 Nm torque
dimensions	
without mounting brackets	190×90×93 mm
with mounting brackets	230×90×93 mm

Comments to the table (page 6)

[4] In the event of a controller error, please switch the power supply of the device off and on again. In the event that the error persists, send the device to the service department.

[5] The dimmer controls the load level on an ongoing basis and, if necessary, limits the level of the output voltage so that it does not exceed the maximum permissible load.

The overload control system of the dimmer must not be regarded as a short-circuit protection. A short circuit at the dimmer output can damage the dimmer.

[6] Exceeding the temperature inside the dimmer switches off the load until the temperature drops to a safe level.

Comments to the technical data (page 7)

(7) The actual limit value of the dimmer load will depend on the design of the lighting sources used. In some cases (especially for inductive loads or LED lamps) the actual limiting load will be lower than the value given in the technical data of the device.

(8) The lighting can be switched on and off simultaneously using the high and low voltage controlled buttons. However, remember to separate the circuits of both buttons according to the wiring diagram in this manual.

CE declaration

A copy of the CE declaration is available for download from the website: www.fif.com.pl from the product subpage.