

Operating Instructions for Supplementary Circuit for Energy Saving Lamps and LED-Lamps

ZSL-UP
Art. Nr. 221.90.410

1 Introduction



The supplementary circuit ZSL improves the dimming performance of energy saving lamps and LED retrofit lamps (i.e. LED-lamps which can replace incandescent lamps with the same socket).

Energy saving and LED-lamps have in their socket a ballast circuit which provides them with the necessary voltage. When dimming these lamps it can occur that this circuit disturbs the detection of the zero-crossing of the line voltage which is necessary for the dimmer. The dimmer can fall out of stepp, what can lead to a flickering of the lamp.

The ZSL circuit has the following characteristics:

- Simple connection in parallel to the load (neutral lead N and dimmed phase L_D can be connected in any way, Polarity reversal is impossible).
- Suitable for 230 VAC.
- Operation independently of the size of the load.
- Power dissipation during dimming 1.7W, no stand-by losses.
- Casted into housing for mounting together with the wall mount dimmer in a wall mount box.
- Suitable from minimal load to maximal current of the dimmer.

1.1 Intended use

The supplementary circuit ZSL is intended only to improve the dimming performance of dimmable energy saving lamps and LED retrofit lamps on 230 VAC and can be connected directly in parallel to the load.

Note



The manufacturer (and/or supplier of the ZSL) is not liable for any personal injury or property damage whatsoever, arising from use other than the intended use or from failure to comply with the information set out in this operating manual.

2 Safety Instructions

2.1 Responsibilities

The person installing the unit is responsible for ensuring protection against personal injury and property damage, and also for the provision of the necessary information to the installation owner. He is also responsible for ensuring compliance with the applicable general health and safety regulations and the specific safety regulations applying to work on medium-voltage electrical installations.

2.2 Regulations specific to the equipment

Attention!

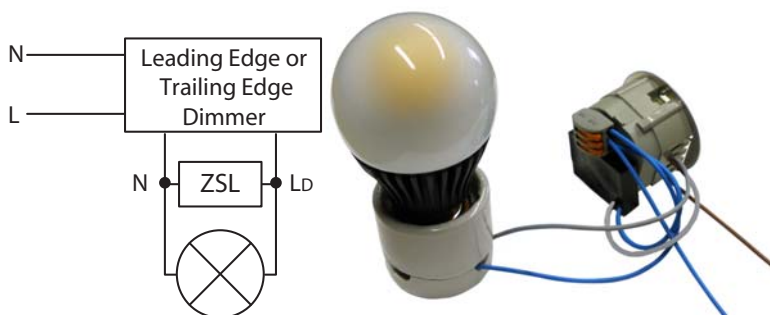


The ZSL must only be connected in parallel to the load on an output of a dimmer. Each channel of a multiple channel dimmer must have its own ZSL.

3 Installation

The ZSL can be mounted behind the dimmer in a wall mount box. The heat produced in the dimmer should not pass to the ZSL and the heat produced in the supplementary circuit should be allowed to pass to the ambient air.

4 Electrical Connection



The ZSL is connected in parallel to the load. I.e. the phase (L) is connected to the dimmer, at the outlet of the dimmer (dimmed phase $\tilde{}$) the lamp and the ZSL (gray wire) are connected. The second (light blue) wire is connected together with the load to neutral (N). The wires and the ZSL are arranged to fit behind the dimmer into the wall mount box. For dimmers which are connected only to the phase (L) the neutral (N) must be connected to the ZSL separately. Some dimmers use as well L and N. Those dimmers are connected as in the schema on the left. The two wires of the ZSL may be interchanged. However it is important that the dimmed phase and not the phase is connected.

5 Technical Data

Type	ZSL
Article number	221.90.410
Mechanical data:	
Case:	Plastic
Dimensions:	Width: 41 mm
	Height: 29 mm
	Depth: 10 mm
Weight:	20 g
Installation:	Behind dimmer in wall mount box
Connections:	2 wires 1 mm ²

U Ambient conditions:

Ambient temperature:	ta 0-40 °C max.
Storage temperature:	70 °C max.
IP-protection:	IP20

Electrical data:

Operational voltage:	max. 230V AC (+10%)
Current:	max. 35mA _{RMS} (90mA peak)
Power dissipation:	max. 1.7W (VA)
CE mark: as per 89/336/EWG and 73/23/EWG	
EN 60669-2-1	Safety requirements