

**ELKO EP, s.r.o.**  
 Palackého 493  
 769 01 Holešov, Všetuly  
 Czech Republic  
 Tel.: +420 573 514 211  
 e-mail: elko@elkoep.com  
 www.elkoep.com

Made in Czech Republic

02-192/2016 Rev.: 0



## DIM-6

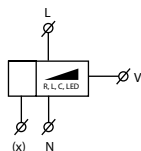
### Controlled dimmer



### Characteristics

- Designed for dimming of incandescent bulbs and halogen lights with wound or electronic transformer and Dimmable LED<sup>2</sup>.
- DIM-6 control options:
  - button (parallel button connection)
  - external potentiometer
  - analog signal 0-10 V (1-10 V)
  - iNELS BUS system.
- The DIM-6 can connect up to 8 pieces of DIM6-3M-P and control up to 10.000 VA.
- Electronic overcurrent protection, overvoltage and short-circuit protection.
- Protection against over-heating inside device - switch off output + signalize overheat by flashing red LED.
- 6-MODULE version, DIN rail mounting.

### Symbol



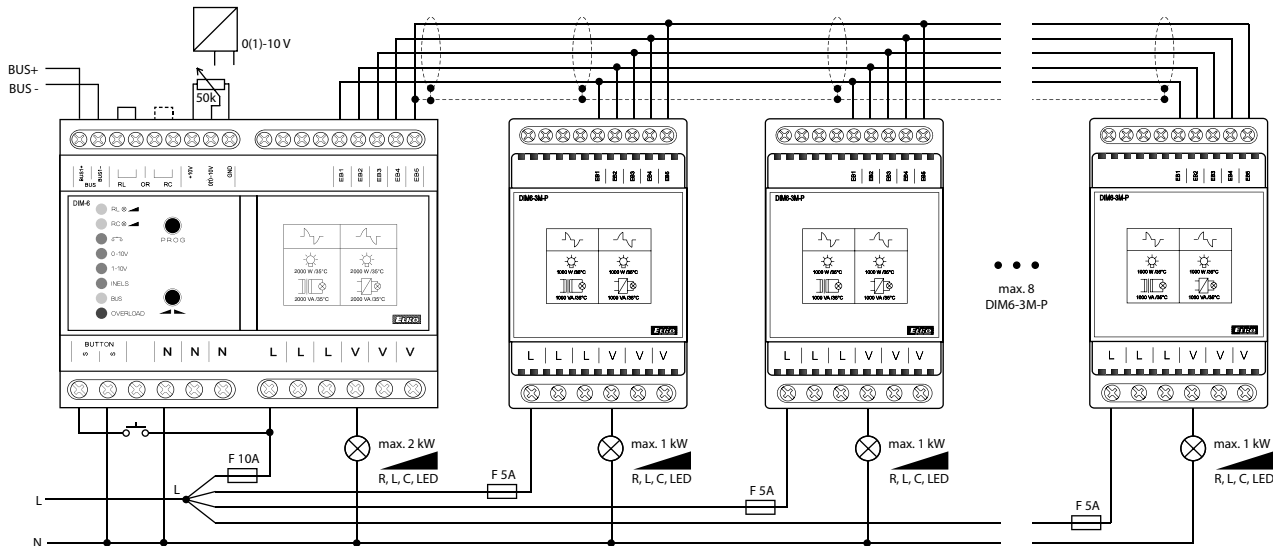
(x) - according to control type setting

### Product loadability

a	b	c	d	e
R	L	C	ESL	LED <sup>2</sup>
●	●	●	-	●

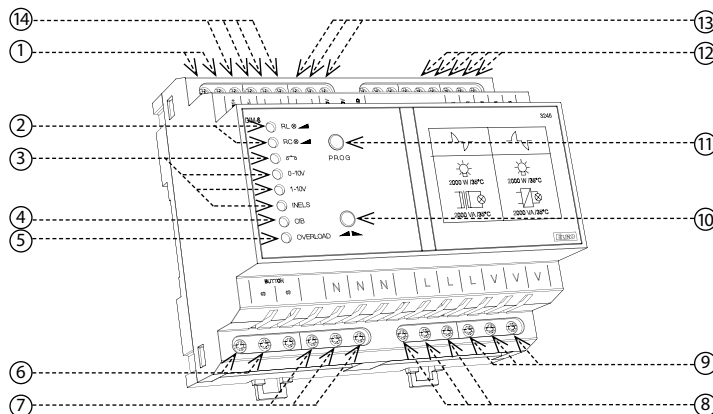
- a) lamp, halogen light  
 b) low-voltage el. bulbs 12/24V wound transformers  
 c) low-voltage el. bulbs 12/24V electronic transformers  
 d) energy saving bulbs  
 e) dimmable LED bulbs designed for dimmers with phase or phase-to-phase control (dimmers with MOSFET)

### Connection



A quick fuse corresponding to the power of each module must be included in the L supply for each module.

### Description



1. Terminals for BUS bus connection
2. Load type indication  
 RL ◀ - yellow - indicates configuration of load RL  
 RC ◀ - yellow - indicates configuration of load RC
3. Control type indication  
 ⚙ - green - button control mode selected  
 0-10V - green - 0-10 V signal control mode selected  
 1-10V - green - 1-10 V signal control mode selected  
 iNELS - green - BUS conductor bar - iNELS control mode selected
4. Indicates BUS conductor bar data transfer communication - yellow
5. Overload indication - red - indicates overload, flashing LED signalizes overrun inside the device, shining LED signalizes current overload
6. Terminals for connecting control button
7. Terminals of neutral wire
8. Phase connection term
9. Output terminals
10. Button for output control
11. Button control type selection
12. Terminals for additional module conductor bar
13. Terminals for control by signal 0(1)-10V, or by potentiometer
14. Terminal for regulation load of wire jumper

### Note

The DIM-6 dimmer (L, V) terminals and the DIM6-3M-P expansion module are three-fold for easier multi-part loads.

**DIM-6**

Supply terminals:	L, N
Supply voltage:	AC 230 V / 50 Hz
Burden (unloaded):	max. 4 VA / 3.2 W
Max. dissipated power:	6 W
Tolerance of supply voltage:	-15 %; +10 %
Max. output power:	max. 2 000 VA
Module extendable:	to 10 000 VA
Galvanic separation of bus and power output:	yes
Insulating voltage between outputs and inner circuits:	3.75 kV, SELV according to EN 60950

**Control - button type**

Control voltage:	AC 12 - 240 V
Control terminals:	S - S, galvanically separated
Power of control input:	AC 0.53 VA (AC 230 V), AC 0.025 - 0.2 VA (AC 12-240 V)
Length of control impulse:	min. 25 ms / max. unlimited
Recovery time:	max. 150 ms
Connection of glow lamps:	no

**Control 0(1)-10V**

Control terminals:	0(1) - 10 V, GND
Control voltage:	0 - 10 V or 1 - 10 V
Min. current of control input:	1 mA

**BUS control**

Control terminals:	BUS+, BUS-
bus voltage:	27 V DC
Current of control input:	5 mA
Indication of data transmission:	yellow LED

**Output**

Contactless:	4x MOSFET
Rated current:	10 A
Resistive load:	2 000 VA*
Inductive load:	2 000 VA*
Capacitive load:	2 000 VA*
Indication of output state:	yellow LED, according to load type

**Other data**

Operating temperature:	-20.. +35 °C
Storing temperature:	-30.. +70 °C
Operating position:	vertical
Mounting:	DIN rail EN 60715
Protection degree:	IP40 from front panel
Purpose of control device:	operative control device
Construction of control device:	individual control device
Char. of automatic operation:	1.B.E
Heat and fire resistance cat.:	FR-0
Anti-stroke category (immunity):	class 2
Rated impulse voltage:	2.5 kV
Overvoltage category:	III.
Pollution level:	2
Profile of connecting wires (mm <sup>2</sup> ):	
- output part:	max.1x2.5, max. 2x1.5 / with sleeve max. 1x1.5 (AWG 12)
- control part:	max.1x2.5, max. 2x1.5 / with sleeve max. 1x2.5 (AWG 12)
Dimensions:	90 x 105 x 65 mm (3.5" x 4.1" x 2.6")
Weight:	392 g (13.8 oz.)
Applying standards:	EN 60669-2-1, EN 61010, EN 55014

\* Warning: it is not allowed to connect inductive and capacitive loads in the same time.

This device is designated for switching and dimming of lightning, light bulbs and halogen lamps with wound or electronical transformer up to 2 000 VA in the range of luminance intensity 0-100%. Capacity of attachable load could be increase with additional modul up to 10 000 VA. Switching and dimming of attached output load is controlled with several modes - types of control, which are chosen with button PROG. Modes are to be switched in circle after you press PROG button and analogically indicated on the front panel with one of four green LED diods.

Modes of control dimmer DIM-6:

- button ▲ on the front panel - in mode ↔ is possible to control dimmer output and regulate luminance setting 0-100% (short button press turn on/off the light, longer press > 0.5s - allows slight luminance setting).
- external button on terminals S, S - this control input of device is galvanically separated from inside device circuits, operation switching voltage by external button can be in the range AC/DC 12-240V, polarity voltage doesn't metter. Output controlling is identical as control by button ▲ on the front panel (short button press turn on/off the light, longer press > 0.5s - allows slight luminance setting).
- control signal 0-10 V or 1-10V - into this input is possible connect the external converter with output 0-10V or 1-10V, where 0 V (or 1 V) on the terminal 0(1)-10 V is equal to 0% luminance intensity and 10 V is equal to 100% luminance intensity. This voltage must be related to terminal GND.
- external potentiometr 50k - during the service of an internal supplier (terminal + 10 V), is possible to use an external potentiometr, by connecting it with terminal 0(1)-10 V and GND, see the picture of connection options. With this potentiometer is possible to control an output of dimmer in the range of luminance intensity 0-100%.
- iNELS, with the help of conductor bar BUS - dimmer is possible to use as a component of conductor bar in system iNELS. Operating of dimmer is controlled by central conductor bar system iNELS.

It's not possible to combine individual types of dimmer controllers.

Attention - before setting the mode of dimmer control, is necessary to set up the type of connecting load, with the wire jumper on terminals RC or RL. If the type of connecting load is not set up, LED diods RC and RL are flashing in turns and switching, dimming of load on output is not possible. If the type of load is set up incorrectly than is connected on output, that cause a risk of damage or destruction of operating output of device!!!

The dimmer has multiple current terminals, for easier installation of this device. It's not possible to use these terminals as a conductor bar for distribution of current in installation.

Dimmer is equipped with heat and overcurrent protection - signalized by red LED diod on the front panel. Flashing LED diod signalize heat overload (overheating) inside the device.

Dimmer is also equiped with electronic overcurrent protection, which will be activated in the case of device overload or short circuit of output with N conductor - output will be switched off.

Supply of device (potencial L) must be protected with circuit breaker component, which has to be accordant with load connected to device by fast fuse.

**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, non-function or missing part, don't install and claim at your seller. After the product exceeds lifetime, it should be removed and placed in protected dump. Important advice and warning: Dimmer is designated for managing brightness of el. bulbs, in case of low-voltage halogen lights with separating ferromagnetic transformer or electronic transformer.

Warning: by signals HDO and similar signals that are distributed in the main, can create disturbances of dimmer. Disturbance is active only for the period of signal transmission.