



DIM-7

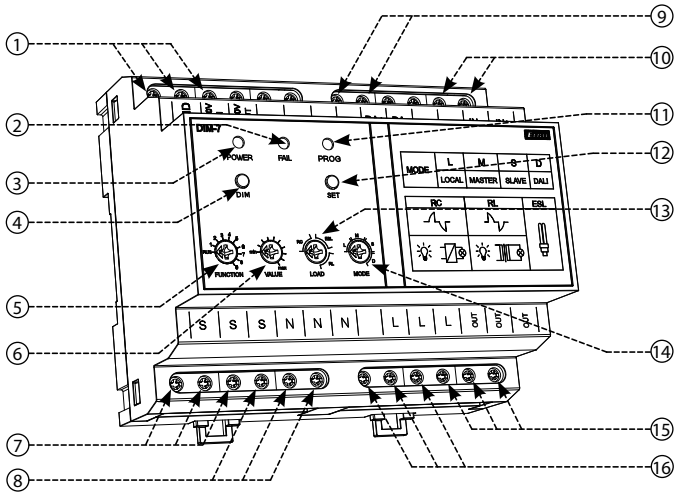
Universal power dimmer



Characteristics

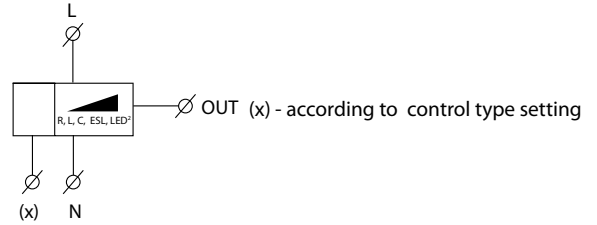
- Designed for dimming incandescent lamps, halogen lamps, low-voltage halogen lamps with wound or electronic transformer, dimmable energy-saving lamps and dimmable LED lamps.
- Control via control button (with orientation glow lamp) or galvanically separated input (LOCAL/MASTER mode).
- Control via 1-10V interface (MASTER/SLAVE mode), possibility of control via external potentiometer in SLAVE mode.
- Control via DALI bus (DALI mode).
- Electronic protection against current overload and short circuit.
- Electronic protection against thermal overload.
- Dimming parameters adjustable by potentiometers on the device panel (min./max. brightness, preheating, dimming curve, dimming speed, dim-up/dim-down time for each input S and IN separately).
- Indication of operating states – power supply, fault states (overload), programming mode.
- Loads can be divided between different phases (when controlling several DIM-7 dimmers together).
- Possibility of joint control of several DIM-7 dimmers with a 1-10 V interface or DALI bus.
- RF and BUS elements can be used to control these dimmers via the 1-10 V interface (RFDAC-71B-SL, DAC3-04M, DAC3-04B, ...).

Description



- | | |
|---------------------------------|-----------------------------------|
| 1. Interface terminals (1-10 V) | 9. DALI bus |
| 2. Fault state indication | 10. Control input (IN) |
| 3. Supply indication | 11. Set mode indication |
| 4. DIM button | 12. SET button |
| 5. Set parameter selection | 13. Load type selection |
| 6. Parameter value setting | 14. Control mode selection |
| 7. Control input (S) | 15. Output terminals |
| 8. Neutral conductor terminals | 16. Terminals for phase conductor |

Symbol



Product loadability

a	b	c	d	e
RL, RC	RL	RC	ESL	RL, RC**

** depending on lamp type.

- a lamp, halogen lamps
- b low-voltage el. lamps with wound transformer
- c low-voltage el. lamps with electronic transformer
- d energy-saving lamps
- e dimmable LED lamps, designed for dimmers with phase control by the leading or trailing edge

Load type selection:

Set the LOAD switch to the position corresponding to the type of connected luminaires:

RC – Trailing-edge phase control. For dimming conventional/halogen lamps, low-voltage halogen lamps with an electronic transformer, and dimmable LED lights with MOS-FET regulation.

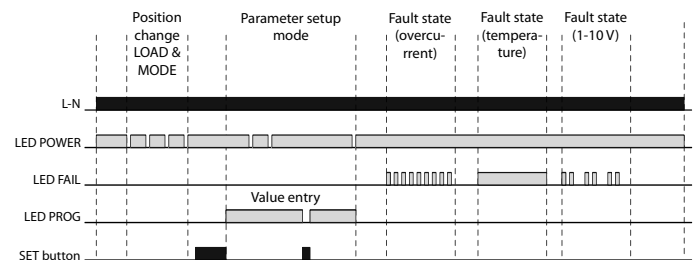
ESL – Dimming of compact fluorescent lamps (CFLs) that requires a max. brightness level to turn on. After the lamp is turned on, the brightness drops to the set value. These lamps require a minimum brightness level to prevent them from going completely out when regulated.

RL – Leading-edge phase control. For dimming conventional/halogen lamps, low-voltage halogen lamps with a wound transformer, and dimmable LED lights with TRIAC regulation.

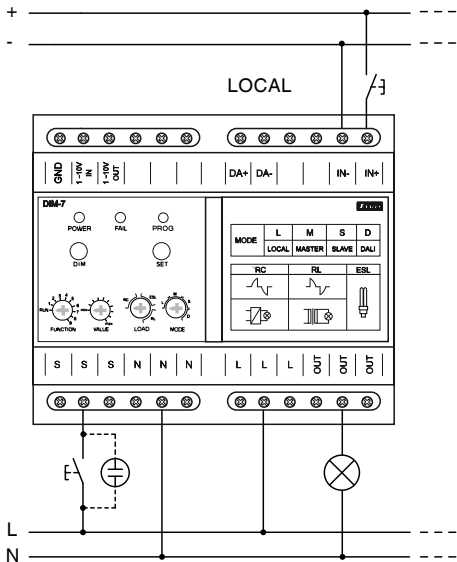
Note 1: It is not allowed to connect capacitive and inductive loads simultaneously!

Note 2: When powering halogen lamps from a wound transformer, its load should not be less than 80% of its rated power.

LED indication



LOCAL



LOCAL

- Button control (with orientation glow lamp) - input S
 - Button control from an external (separate) source - input IN+; IN-
 - DIM button control on the device panel
- In this mode, control by 1-10 V interface or DALI bus is not active.

MASTER

- Button control (with orientation glow lamp) - input S
 - Button control from external (separate) source - input IN+; IN-
 - DIM button control on the device panel
- This mode allows to control other connected dimmers with 1-10 V interface. These other dimmers must be in SLAVE mode. The control dimmer must have 1-10 V IN and 1-10 V OUT terminals connected. In this mode, control by DALI bus is not active.

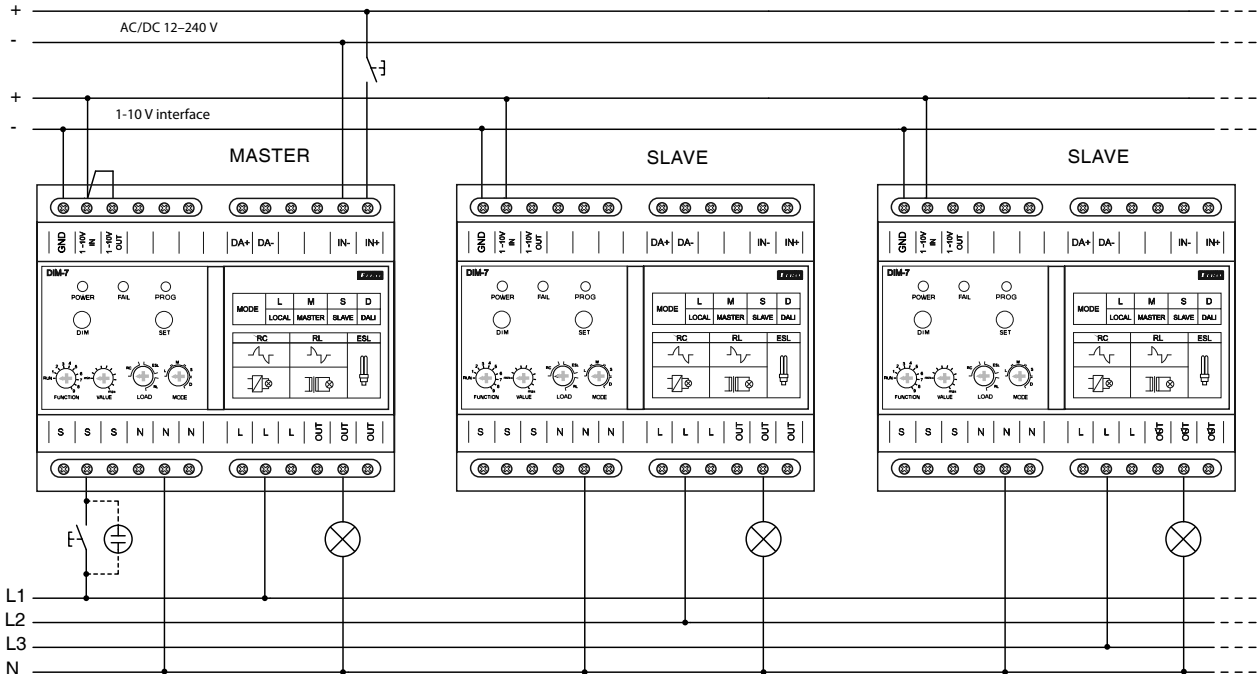
SLAVE

- Control by interface 1-10 V - either by external control device or external potentiometer (cannot be connected simultaneously)
 - The potentiometer is powered from the 1-10 V OUT terminal, which in this mode has a voltage of +10 V against the GND terminal
- In this mode, control by DALI bus is not active and inputs for control buttons or DIM button on the panel are not active.

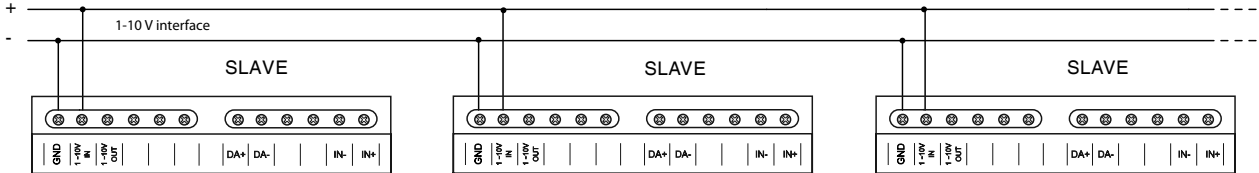
DALI

- Control by DALI bus, connected to terminals DA+; DA-
- In this mode, the inputs for control buttons and the DIM button on the panel are not active. Control by 1-10 V interface is also not active. If the DALI bus is interrupted or disconnected, the dimmer is set to an unregulated state (maximum brightness level).

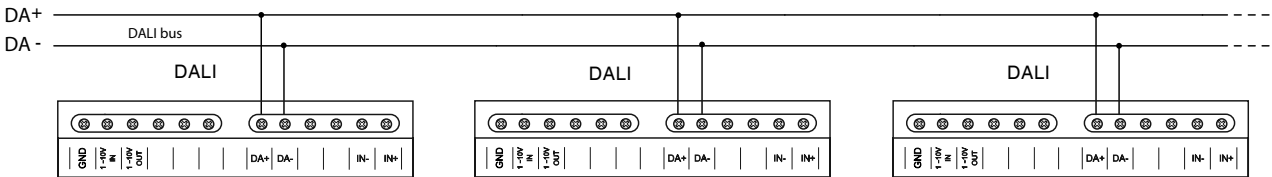
MASTER



SLAVE



DALI



Technical parameters

DIM-7

Power supply

Supply terminals:	L-N
Supply voltage:	AC 230 V (50-60 Hz)
Consumption (max.):	26 VA/1.8 W
Supply voltage tolerance:	−15%; +10%

Output

Loadability (max.):	1500 VA*
Output current (max.):	10 A
Power dissipation (max.):	15 W

Control mode

LOCAL (output 1-10 V OUT not active):	Control inputs S, IN
MASTER (output 1-10 V OUT active):	Control inputs S, IN
SLAVE (input S, IN not active):	Control input 1-10 V IN
DALI (input S, IN, 1-10 V not active):	Control input DA+, DA−

Control input S

Control voltage:	AC 230 V (−15%; +10%)
Glow lamp connetion (max.):	YES (20 mA)

Control input IN

Control voltage:	AC/DC 12 – 240 V (−15%; +10%)
Galvanically separated:	YES**
Input current (max.):	2 mA

Control 1-10 V

Galvanically separated:	YES**
Input current (max.):	0.1 mA
Output current +10 V (max.):	10 mA***

DALI control

Power supply:	DC 16 V
Galvanically separated:	YES**
DALI current (resting state):	2.4 mA

Other information

Operating temperature:	−20 .. +50 °C (−4 .. 131 °F)
Storage temperature:	−30 .. +70 °C (−22 .. 158 °F)
Operating position:	on a horizontally positioned DIN rail
Mounting:	DIN rail EN60715
Protection degree:	IP40 front panel/IP20 terminals
Overvoltage category:	III.
Pollution degree:	2
Dielectric strenght:	AC 4 kV/DC 6.1 kV**
Cross-wire section; solid/ stranded with ferrule (max.):	1× 2.5 mm² (14 AWG), 2× 1.5 mm² (16 AWG)/ 1× 2.5 mm² (14 AWG), 2× 1.0 mm² (17 AWG)
Dimensions:	90 × 105 × 65 mm (3.5" × 4.1" × 2.6")
Weight:	306 g (10.8 oz)
Standards:	EN 63044-1

* maximum loadability of the device can be increased to 2000 VA provided that the operating temperature is limited to max. +35°C. **Warning:** it is not allowed to connect inductive and capacitive loads at the same time.

** dielectric strength of galvanically separated parts from each other

*** ideal range of external potentiometer is 10 kΩ to 100 kΩ (closer to 10 kΩ, the better - not so sensitive to interference)

Protection against thermal and current overloading

- If the dimmer overheats, the thermal protection is activated – the dimmer output is disconnected and the red FAIL LED is lit. After the device cools down, the dimmer returns to its previous state.
- In the event of a current overload or short circuit at the dimmer output, the overcurrent protection is activated – if the overload lasts longer than 0.5 s, the output is disconnected and the red FAIL LED flashes. After the safety delay (60 s) has elapsed, the FAIL LED goes out and the dimmer can be controlled again.

Installation recommendations

- Place the dimmer in the lower part of the distribution board so that it is not heated by other devices in the distribution board.
- Leave a gap of at least 1/2 module width (9 mm) on the sides of the dimmer for better cooling of the dimmer.
- If there are a large number of dimmers in the distribution board, it is advisable to ensure forced air flow using a fan.

Parameter settings

- Set the mode to LOCAL, MASTER or SLAVE (if the MASTER mode is set, the 1-10V IN and 1-10V OUT terminals must be connected).
- Use the FUNCTION switch to select the parameter to be set:

Position	Parameter	Values range	Default setting
1	Minimum lighting intensity	0 .. 49 %	0 %
2	Maximum lighting intensity	51 .. 99 %	99 %
3	Preheating of the light	0 .. 10 %	0 %
4	Dimming curve – linear on the left, logarithmic on the right, smooth transition between them	lin .. log	50 %
5	Dimming speed with long pressing of the control pushbutton (inputs S or IN)	4 .. 60 s	4 s
6	Time of gradual lighting up with short pressing of the control pushbutton (input S)	1 .. 60 s	1 s
7	Time of gradual switching off with short pressing of the control pushbutton (input S)	1 .. 60 s	1 s
8	Time of gradual lighting up with short pressing of the control pushbutton (input IN)	1 .. 60 s	1 s
9	Time of gradual switching off with short pressing of the control pushbutton (input IN)	1 .. 60 s	1 s

- Press the SET button for a long time (min. 3 s) to enter the setting mode – the yellow PROG LED lights up. Now set the value of the selected parameter using the VALUE potentiometer.

Note 1: When setting the lighting intensity in positions 1, 2, 3, the light is permanently on.

Note 2: When setting time intervals in positions 5, 6, 7, 8, 9, it is possible to control the dimmer with the DIM button (short or long press) for checking.

- After setting each parameter, the new value must be saved by briefly pressing the SET button – the yellow PROG LED will go out briefly.
- Parameter setting is completed by switching the FUNCTION switch to the RUN position – the yellow PROG LED will go out.

Note 3: The DIM-7 dimmer is factory-set to the values listed in the table as the default settings.

Dimmer function

- After connecting the power supply, all LEDs on the dimmer panel flash and only the green POWER LED remains lit. The green LED also briefly goes out when the LOAD and MODE control elements are changed.
- In LOCAL and MASTER mode, the lighting can be controlled by pressing the button on the panel or by external buttons connected to the S or IN input. The IN input is galvanically separated and requires external power supply.
- By pressing the button for a long time, the lighting intensity is adjusted from the minimum to the maximum preset value and vice versa.
- The lighting can be switched on or off by briefly pressing the button. After switching on, the lighting will light up to the level set before it was switched off.

Warning

Device is constructed for connection in 1-phase network AC 230 V 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.