

# Transistor Dimmer (454)

The DIN-rail mounted 454 is a four-channel transistor dimmer. It can operate in one of two modes: leading edge or trailing edge. All four channels operate in the same selected mode, with each channel capable of controlling 2.2 A.

It supports capacitive and resistive loads, and it can be connected directly to mains-voltage lamps and to low-voltage lamps with electronic transformers. The 454 is not for use with inductive loads.

Each channel of the dimmer has both current and thermal protection.

The dimmer features an LED segment display. There is a push button user interface for monitoring, manual configuration and control purposes.



## Key Features

- Trailing-edge or leading-edge dimming
- LED segment and push buttons for manual configuration, including the following output types: linear, square, S-law, DALI logarithmic, LED curve, and DALI linear
- Capable of handling resistive and capacitive loads
- Manual wired override input
- Voltage and frequency compensation
- Overcurrent and temperature protection included
- Power-on to last level or to user-defined level

## Additional Features

The following features may be accessed using Helvar's Toolbox or Designer software:

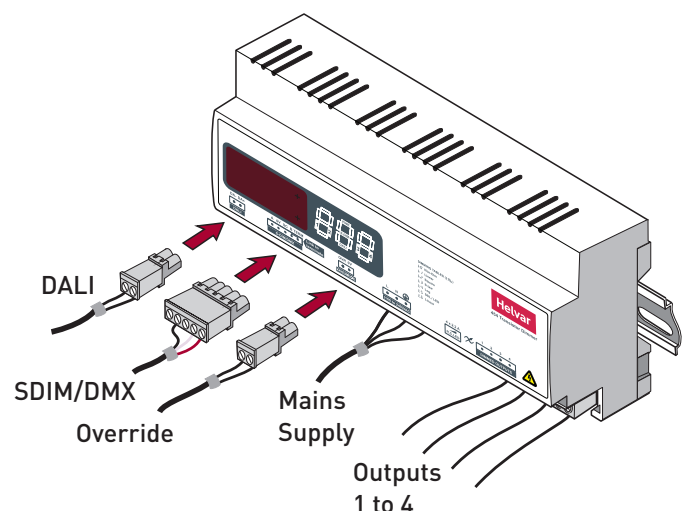
- Max./Min. levels, fade times, scenes and groups
- System failure level/ignore

Output	Output Type	Additional Information
L 0	Non-Dim	Switched on and off only
L 1	Linear	Optimised for incandescent
L 2	Square	Optimised for incandescent
L 3	S-law	Optimised for incandescent
L 4	DALI logarithmic	IEC 62386-205
L 5*	LED curve	Optimised for LED
L 6	DALI linear	IEC 62386-205

**Note:**

\* L 5 is the default output type.

## Connections



## Technical Data

### Connections

<b>Mains:</b>	Solid core: up to 4 mm <sup>2</sup> Stranded: 2.5 mm <sup>2</sup>
<b>DALI:</b>	0.5 mm <sup>2</sup> – 1.5 mm <sup>2</sup> , max. 300 m @ 1.5 mm <sup>2</sup>
<b>SDIM/DMX:</b>	0.22 mm <sup>2</sup> – 1.5 mm <sup>2</sup> low-loss RS485 type (multistranded, twisted and shielded)

### Power

<b>Mains supply:</b>	100 VAC – 240 VAC (nominal) 85 VAC – 264 VAC (absolute) 45 Hz – 65 Hz
<b>Power consumption:</b>	2.3 W (excluding loads)
<b>Load current:</b>	2.2 A (2.2 A × 230 V = 500 W) 4 outputs (4 × 500 W = 2 kW)
<b>Heat dissipation:</b>	11 W with maximum load (resistive)
<b>DALI consumption:</b>	2 mA
<b>External protection:</b>	10 A Type C MCB maximum. The external supply must be protected.

### Inputs

<b>Communication:</b>	DALI, SDIM and DMX
<b>Override:</b>	Switched input
<b>User interface:</b>	2 push buttons for configuration

### Mechanical data

<b>Dimensions:</b>	160 mm × 91 mm × 62 mm
<b>Housing:</b>	DIN-rail case; 9 module width
<b>Material:</b>	Polycarbonate/ABS mix, UL94 V-0
<b>Mounting:</b>	DIN rail (installation in switchgear/ controlgear cabinet)
<b>Weight:</b>	250 g
<b>IP code:</b>	30 (IP 00 at terminals)

### Operating conditions

<b>Ambient temperature:</b>	0 °C to +40 °C
<b>Relative humidity:</b>	Max. 90 %, noncondensing
<b>Storage temperature:</b>	–10 °C to +70 °C

### Conformity and standards

<b>DALI:</b>	DALI standard IEC 62386, with Helvar additions
<b>SDIM:</b>	Helvar SDIM protocol
<b>DMX:</b>	DMX512-A protocol (max. refresh rate: 33 Hz)
<b>EMC emission:</b>	EN 55015
<b>EMC immunity:</b>	EN 61547
<b>Safety:</b>	EN 61347-2-11
<b>Environment:</b>	Complies with WEEE and RoHS directives.

### Software compatibility

<b>Designer:</b>	4.1 or later
<b>Toolbox:</b>	2.3.6 or later

### Dimensions (mm)

