

TECHNICAL INFORMATION

LEDs in RIBAG lamps

Quality

RIBAG uses only LED components from manufacturers who are among the world market leaders in terms of efficiency and light quality. As a rule we use LEDs with consistent quality parameters. For the users advantage the quality of light always remains at the same high level.

Selection

Specific tolerances result from the production of white LEDs. These tolerances are reflected in the colour location deviation, the preservation of luminous flux, and forward bias. RIBAG uses the above-mentioned criteria to select LEDs and, in doing so, provides the best possible quality for the customer. The LEDs used by RIBAG show an excellent colour tolerance of SDCM3 resp. SDCM2 (Standard Deviation of Colour Matching).

Colour rendering (CRI)

Colour rendering refers to a light source's ability to reproduce light as naturally as possible. A value of 100 correlates with accordance to a reference, though not automatically with an authentic colour impression in general. For this reason, we recommend a holistic approach to light quality that includes added criteria such as light colour, light level, light direction, etc., in addition to colour rendering. RIBAG uses a CRI target value of 85 for diffuse emanating lamp and a CRI target value of 95 for all targeted emanating lamps as standard.

Lifespan

LEDs have a very low failure rate and, thereby, produce light for an extremely long period of time. The total failure of an LED is very rare. Early as the lamp's development phase, RIBAG pays attention to reliable thermal management in order to reach a maximum LED lifespan. RIBAG usually specifies the lamps with L90/B10 50,000 h, meaning that up to 50,000 hours, 90% of the LEDs have at least 90% of the original luminous flux.

High-voltage LEDs (AC)

RIBAG lamps fitted with high-voltage LEDs (AC) can be run directly with the standard voltage of 230 volts. The high-voltage LEDs used by RIBAG can be run directly with the existing 3-wire house installation and dimmed using a LED phase dimmer. High-voltage LED lamps by RIBAG met European EMC and Flicker regulations according to EN 6100. Compared to other LEDs, these LEDs are more sensitive to interference such as ripple control signals. Additional references as well as an overview of compatibility with recommended dimmers can be found at www.ribag.com/downloads.

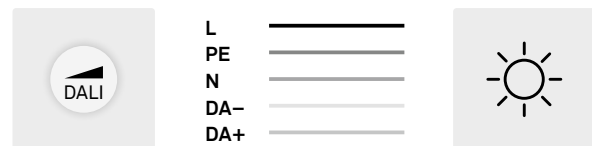
Controlling RIBAG lamps

DALI

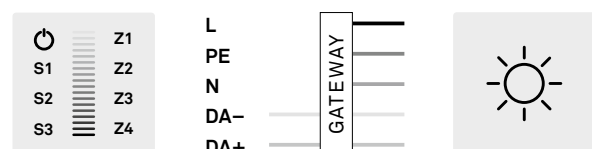
DALI (Digital Addressable Lighting Interface) is the professional, non-proprietary interface standard for dimmable electronic control gear. They are controlled with a 5-wire building installation via DALI lighting control or a DALI system. Every DALI lamp/control gear is individually digital and, therefore, individually addressable and can belong to multiple control groups. DALI is usually the interface standard for integration into superordinate building automation systems.

DALI DT8

Lights with colour control that correspond to DALI Device Type 8 (DT8). DT8 lights are multi-channel, but only receive one DALI address. The colour and brightness information is sent in succession (serially) from the DT8-capable master to the lights. The DT8-capable control unit interprets this information and controls the output channels individually.

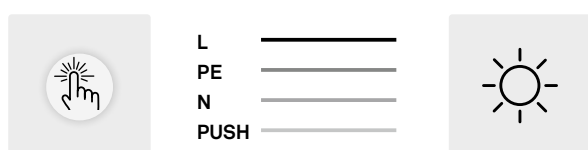


DALI Bus



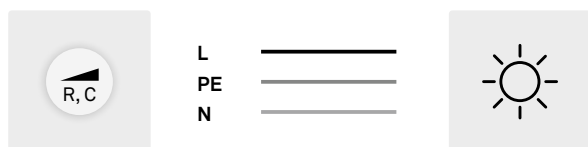
TouchDIM

A commercial wall switch is enough to dim lamps/control gears with TouchDIM function using a 4-wire building installation. Lamps are turned on and off by pressing the button briefly; pressing and holding the button dims the lights. Depending on the manufacturer and the control gear, up to four lamps/control gears can be controlled using buttons, provided that the total cable length of all control sections does not exceed 25 metres.



Forward/reverse LED phase control (TRIAC)

Many RIBAG LED lamps are now dimmable using the existing house installation with three wires. A traditional wall dimmer (button or rotary LED phase dimmer as well as KNX Gateway's) is used to control them. Phase dimmers can also be used to dim our voltage LED lamps (AC). Note: The minimum load of the wall dimmer must be less than the power consumption of the lamps used. In rare cases, light fluctuations may occur with LED lamps powered by mains voltage (AC) due to grid disturbances (ripple control signals of energy suppliers, faulty household appliances etc.). These disruptions do not indicate a defect with the lamp. Our customer service will be happy to assist with disruption analysis.



Bluetooth and additional dimming and control methods

Bluetooth and additional dimming and control methods as well as a comprehensive overview of compatibility with our lamps, control gears, and recommended dimmers can be found at www.ribag.com/downloads.



Cable lengths for lamps with external control gears

The maximum cable lengths between LED lamps and control gears can be taken from this table. In general: The higher the power, the larger the cable cross-section must be.

Maximum cable lengths between lamp(s) and control gear in relation to cable cross-section and power input:

	0,5 mm ²	0,75 mm ²	1,0 mm ²	1,5 mm ²
< 10 W	9 m	14 m	19 m	28 m
< 15 W	6 m	9 m	12 m	19 m
< 20 W	5 m	7 m	9 m	14 m
< 25 W	4 m	6 m	7 m	11 m

A maximum voltage drop of 2% is allowed on the cables. For EMC reasons, the cable between the dimmer and the LED lamp may not be longer than 10 m.

Photometric tolerances

The lumen and wattage figures are design values and initially subject to a tolerance of +/- 10%. Tolerance of colour temperature +/- 150K. Unless specified otherwise, the values apply to an ambient temperature of 25°C.

Dimmability list

A list of compatible dimmers can be found at www.ribag.com/downloads