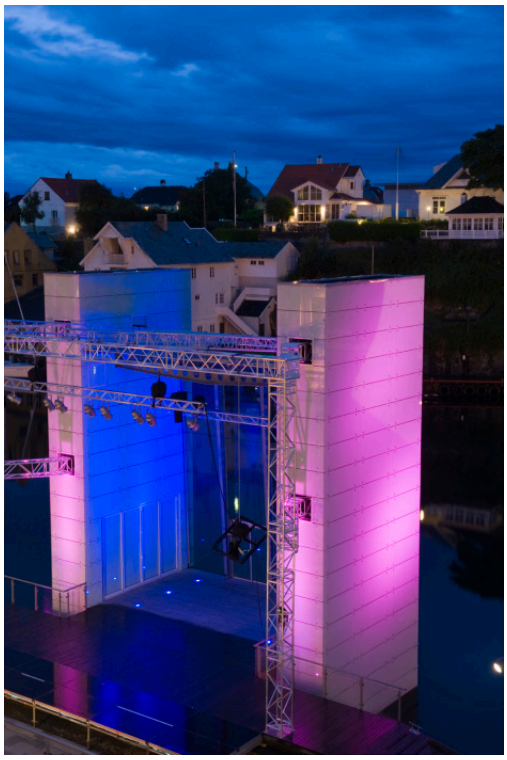
ERCO

ERCO RGBW luminaires

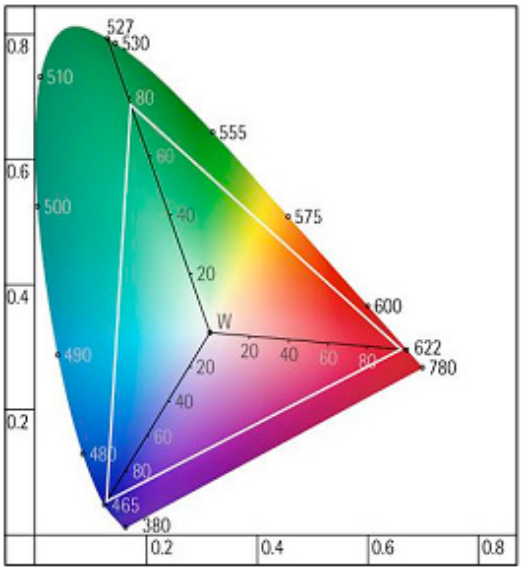


ERCO GmbH
Postfach 2460
58505 Lüdenscheid
Brockhauser Weg 80–82
58507 Lüdenscheid
Germany

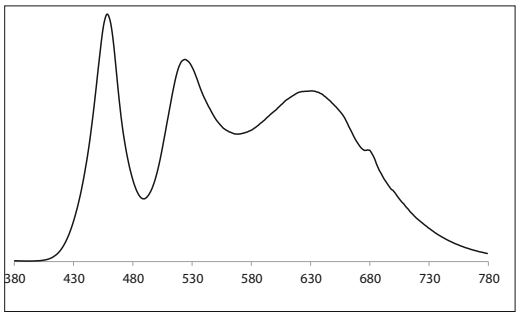
Tel.: +49 2351 551 0
Fax: +49 2351 551 300
info@erco.com
www.erco.com

ERCO RGBW luminaires

The coloured light of LED luminaires is produced by individual control of red (R), green (G) and blue (B) LEDs. ERCO RGBW luminaires have additional warm white (W) LEDs.
The following diagram depicts the CIE colour triangle. ERCO RGBW luminaires can create any light colour with coordinates within the white triangle.



Example: Colour spectrum of a RGBW luminaire for 5000K (daylight white)



The warm white LEDs ensure a relatively balanced spectrum. This luminaire has a CRI value of 90 and is suitable for many applications. Saturated light colours are just as achievable as are the typical colour temperatures of warm white to daylight white. According to the options available with the DALI control used, the dimming behaviour of a low voltage lamp can be simulated, meaning the more the luminaire is dimmed the more yellow and red are accentuated so that the light colour simulates the natural colour changes of the setting sun.

Operation in DALI systems with Colour Control
DALI lighting control systems which support device type 8 (Colour Control) enable convenient control of the ERCO RGBW luminaires. In systems with Colour Control, an ERCO RGBW luminaire displays with only one DALI address via which you can set all colours. This is made possible because such systems use an extended command set. Please consult the documentation of your DALI system for setting up the luminaire.

Operation in DALI systems without Colour Control
In systems without Colour Control, the luminaire also initially displays with just one address and one preset colour temperature of 3000K. Without making further settings you can dim the luminaire but not set the light colour. The luminaire must be configured to enable setting of the light colour.
Note: because of upgrading to DALI 2.0 the previous automatic detection of the system can no longer be offered.

Configuring ERCO RGBW luminaires for systems without Colour Control

Two operating modes are available:

4-address mode: separate dimming values are input for white, red, green or blue LEDs in accordance with your visual impression. The luminaire shows with 4 DALI addresses.

3-address mode: the desired light colour is input using RGB values. Note: in most cases this is the preferred mode because by simply entering an RGB value, a setting always optimised in terms of colour and CRI is achieved. This mode utilises the colour engine of the control gear and the colour calibration of the luminaire. The luminaire shows with 3 DALI addresses.

You can also simultaneously configure several luminaires (broadcast).

A simple DALI system is sufficient for setting the following parameters. The setting method is different according to whether you operate the luminaire in a DALI 1.0 or 2.0 system. Also refer to the instructions for your DALI system.

DALI 1.0 system
To regulate the light colour in a system without Colour Control, the operating mode in Memory Bank 007 in byte 3 must be set to 0x83 for 3-address mode or 0x84 for 4-address mode.

Command:
WRITE MEMORY LOCATION

Parameters:
0x00 1-address mode, colour management (state of supply)
0x83 3-address mode
0x84 4-address mode

DALI 2.0 system
The DALI 2.0 system uses command 35 "Set operating mode". (This command is not available in DALI 1.0)
These parameters are available in the Data Transfer Register (DTR):

Command:
SET OPERTING MODE

Parameters:
0x00 1-address mode, colour management (state of supply)
0x83 3-address mode
0x84 4-address mode

ERCO RGBW luminaires

Controlling the luminaires
4-address mode:
After configuration, the luminaire displays in your DALI system with 4 addresses.
Enter each of the dimming values for the four available light colours via an address according to your visual impression.

3-address mode:
After configuration, the luminaire displays in your DALI system with 3 addresses.
Input the RGB values of the desired light colour. An algorithm in the control gear of the luminaire utilises these values to determine the dimming values for controlling the four different red, green, blue and warm white LED colours. This process always ensures that the desired colour and optimum colour rendering are achieved.

RGB values for systems without colour control in 3-address mode
For initial orientation, see the table below for required RGB values. The value 254 corresponds to a dimming value of 100%.

Colour temperature	R	G	B
2000K	254	247	99
3000K	246	254	164
3500K	242	254	176
4000K	239	254	185
5000K	235	254	198
6000K	233	254	205
Colour			
Cyan	0	254	196
Amber	232	254	0
Magenta	254	112	219

For further colour temperatures or light colours, refer to the ERCO Colour Picker available at www.erco.com/service/rgbw. Simply select the required colour in a colour wheel or use the slider to set the required colour temperature. The tool will then calculate the RGB values you need to enter in your DALI system.

Note:
ERCO RGBW luminaires with connected DALI system have a colour temperature of 3000K as standard. With operation without active DALI lines, the luminaire starts with 10,000K colour temperature, thereby indicating the missing DALI signal.




We reserve the right
to make technical
and design changes.
Edition: 28.03.2017
Current version under
www.erco.com/download