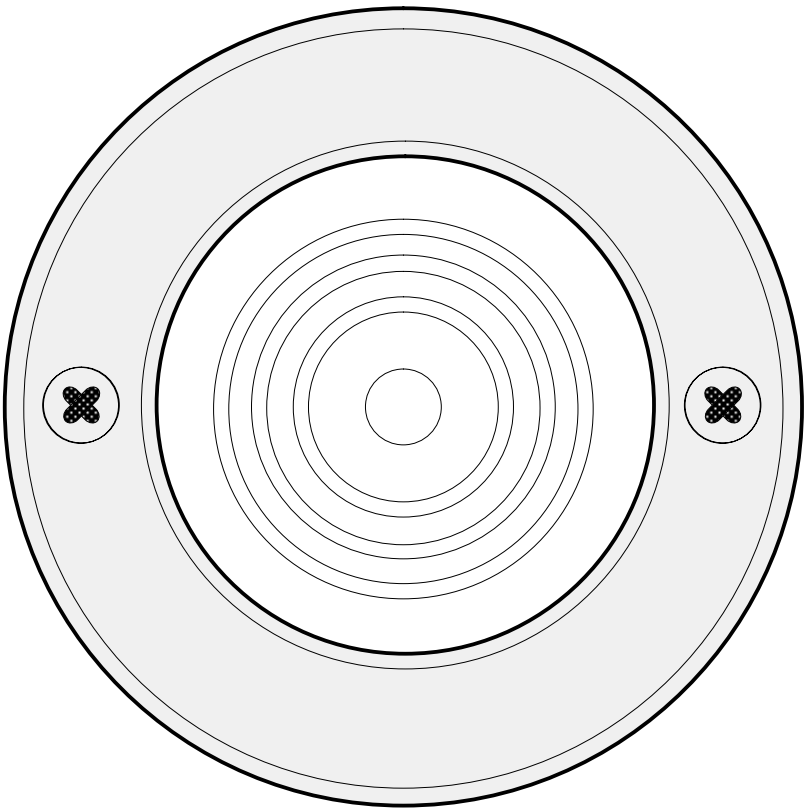
Electronic Signal Lamp

with three independently controllable colours



ESL 1

KROMA
FÜLLSTANDSMESSTECHNIK GmbH
Rostocker Straße 9-10 D-39124 Magdeburg
Telefon: +49(0)391/2538744 Fax: +49(0)391/2538745
E-Mail: info@KROMA.eu Internet: www.KROMA.eu

ESL 1 Electronic Signal Lamp

with three independently controllable colours

Description

KROMA ESL 1 signal lamps are designed for visual indication of electric signals. The ESL 1 is suited for use as a one-, two- or three-colour warning lamp and as a one-colour emergency lamp. The housing of the lamp is made of stainless steel, completely watertight, welded and vandal-safe. The lamp is installed in the vehicle's side from outside. It can be fastened with screws from outside or inside. Long-life LED's eliminate the need for replacement of illuminants. Extra bright LED's are arranged behind a Fresnel lens. Their bright and good visible signal light permits a wide viewing angle. The electronics are encapsulated and guarantee constant luminosity over the whole operating voltage range ($0.7<U_N<1.3$). Three signals with different colours can be driven from outside (e.g. directly by an computer) without electric power. They can be programmed by the manufacturer for different flashing frequencies. Available signal colors are white, red, yellow, green and blue.

Special features

- Flat design - to be fastened with screws from inside or outside -, vandal-safe, watertight (IP 67)
- Three separate signals, different colours
- Each signal colour is available as a steady burning light or flashing light (0.5 Hz) (programmable flashing frequency)
- Drive without electric power possible
- No replacement of illuminants - extra bright LED's - long life
- High light efficiency at low electric power
- Controlled constant luminosity over the whole operating voltage range
- Tested according to German railways' standard BN 411002/EN 50155 (approved for use on rail vehicles)

Technical data

Optical signals:	Two-signal lamp
Operating voltage:	24 V DC (16 to 32 V), as special version 36 V DC (16 to 48 V)
Operating current (full load):	100 mA
Illuminants:	extra bright light-emitting diodes, 16 LED (1st colour) + 8 LED (2nd colour) + 4 LED (3rd colour)
Signal colours (colour code):	white, red, yellow, green, blue (customized)
Flashing frequency:	0.5 Hz (other frequencies programmable by the manufacturer)
Control inputs:	2 mA
Degree of protection:	IP 67 as per EN 60529
Humidity class:	F as per BN 411002
Connecting elements:	Cord set with four-pole plug or integral cable
Installation:	From outside (75 mm ≤ ∅ hole ≤ 80 mm)
Mounting:	2 M5 screws, accessible from inside or outside (depending on connecting elements)
Operating temperature range:	-40°C to +70°C
Storage temperature range:	-55°C to +70°C
Vibratory strength:	20 m/s² (5 to 150Hz)
Shock resistance:	50 m/s²
Weight:	0.270 kg

Information required with order

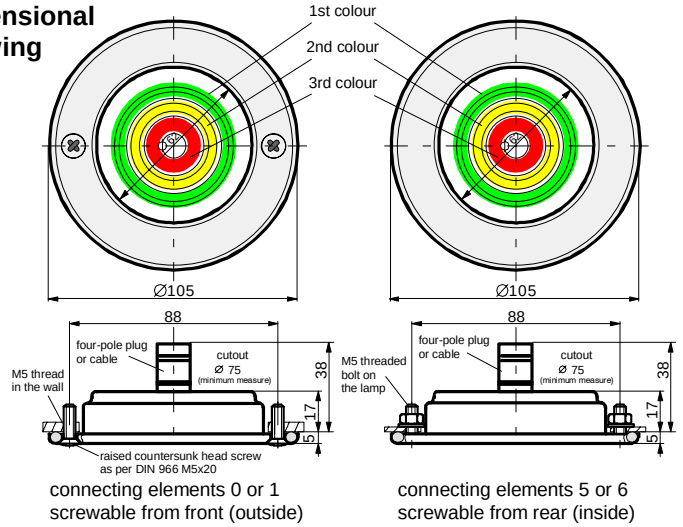
ESL 1 . 1 3 2 1 0 - 5

Type :	KROMA ESL 1 Electronic Signal Lamp
Connecting elements:	"0" = screwable from front, with four-pole plug
	"**1**" = screwable from front, with integral cable
	"5" = screwable from rear, with four-pole plug
	"6" = screwable from rear, with integral cable
1st colour:	"**3**" = green, steady burning light (see colour code)
2nd colour :	"**2**" = yellow, steady burning light (see colour code)
3rd colour:	"**1**" = red, steady burning light (see colour code)
Drive:	"**0**" = none (switching on by operating voltage)
	"1" = switching on with separate control signal (active low)
	"2" = switching on with separate control signal (active high)
Cable length	"**5**" = e.g. 5 m

Colour code:

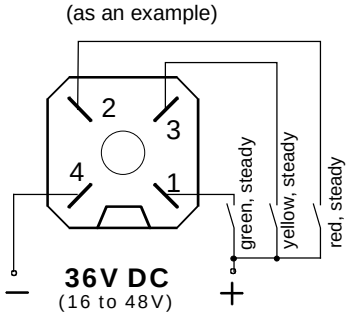
"0" = white steady "1" = red steady "2" = yellow steady "3" = green steady "4" = blue steady burning light
"5" = white flashing "6" = red flashing "7 "= yellow flashing "8" = green flashing "9" = blue flashing

Dimensional Drawing



connecting elements 0 or 1
screwable from front (outside)

connecting elements 5 or 6
screwable from rear (inside)

Terminal assignment

(as an example)