



## BRIEF INFORMATION

### Modular LED hybrid trailer lamp with logo Krone

- Available as a hybrid or a full LED rear combination lamp, tail light/stop light/direction indicator/rear fog lamp/reversing light with reflex reflector, with or without clearance light
- With pulse for indicator failure control

## PRODUCT FEATURES

#### Function

- Tail/stop light always in LED
- All other functions possible in LED or with bulb for converting to LED technology
- Patented replaceable lens (independent of light source)

#### Contributes to environmental protection, resource preservation and sustainability

- LED indirectly reduces CO<sub>2</sub> emissions
- Only faulty parts are replaced and these can be individually recycled

#### Polarity reversal protection

If the contact to the pole is accidentally reversed, there is a guarantee that the light will not be damaged

#### Direction indicator failure control

The patented HELLA monitoring system for direction indicators allows the lights to be used in accordance with the requirements of ECE R 48

# LED LIGHTING TECHNOLOGY

As an innovation leader in the field of automotive original equipment, HELLA is now setting new standards in LED lighting technology.

## The benefits of modern LED lighting technology at a glance:

### Extremely low energy consumption

The combination of efficient light emitting diodes (LEDs) and precision optics enables HELLA rear combination lamps to meet the legally required level of light distribution while needing 67% less energy consumption than that of bulb-based lamps.

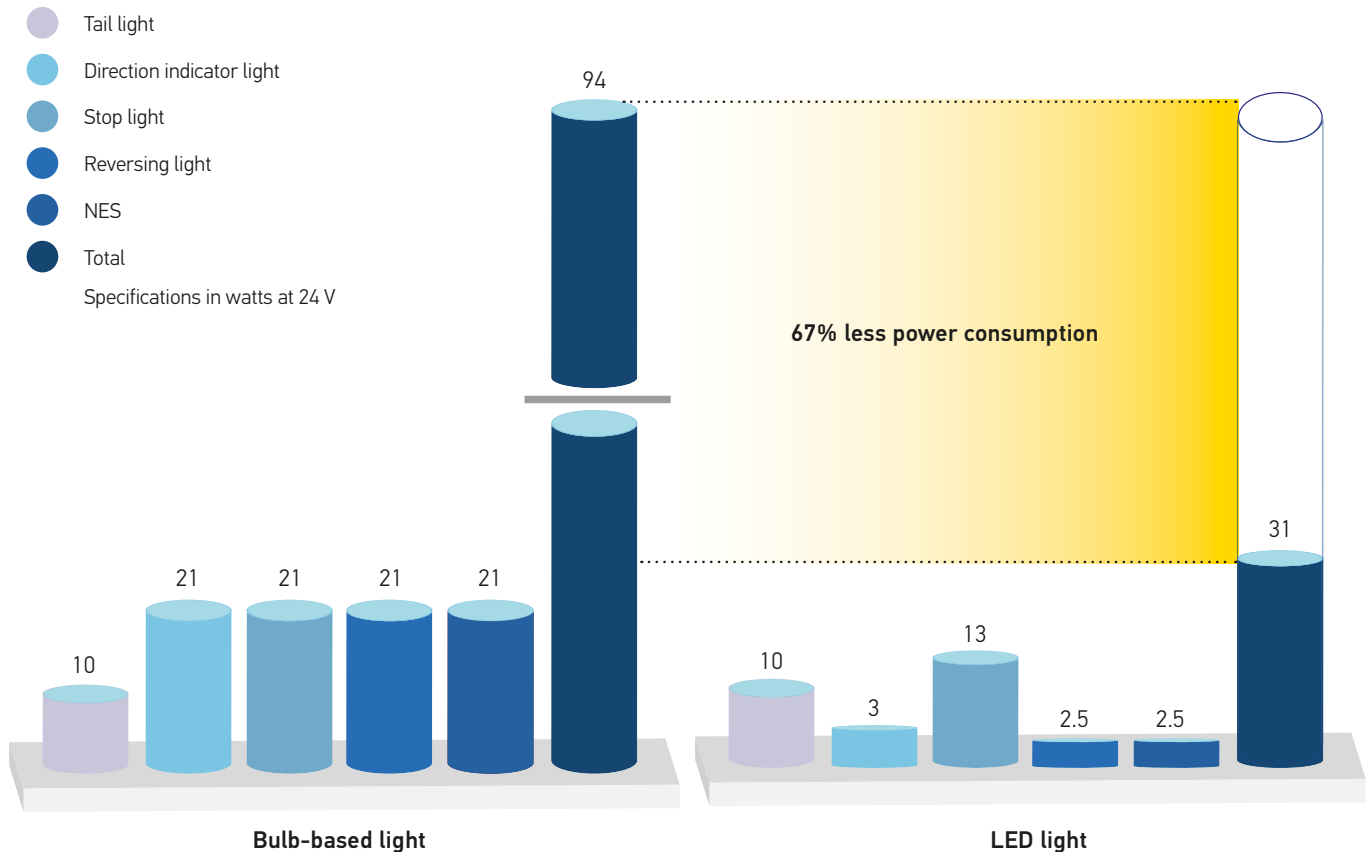
### No change of light source, no maintenance and an extremely long service life thanks to good thermal management

So as to extend the service life of the lights, all components have been optimally matched temperature-wise. Overloading LEDs at extremely high ambient temperatures can consequently be ruled out. These products are built for durability over the vehicle's service life through the use of quality LEDs and good thermal management. They are thus an impressive, economical and environmentally-friendly "fit-and-forget" solution.

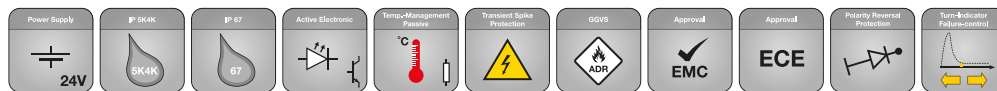
### Direction indicator failure control

The direction indicator function is monitored by the electronics. It produces a current pulse for the indicator input; this current pulse is generated at a defined point in time. For every flashing impulse, the upstream flasher unit in the vehicle electrical system requests this impulse after 100 ms – for at least 20 ms. If components or LEDs of the indicator function are defective, this is detected by the electronics: the pulse fails to function. In this way the driver is always informed of indicator failure. This complies with the legally prescribed direction indicator failure detection (in accordance with the ECE regulation). The following ballasts cover nearly all applications: 5DS 227 488-101 (Basic) and 5DS 227 489-101 (Premium).

## COMPARISON OF THE PERFORMANCE OF BULB-BASED AND LED LIGHTS



# TECHNICAL DETAILS

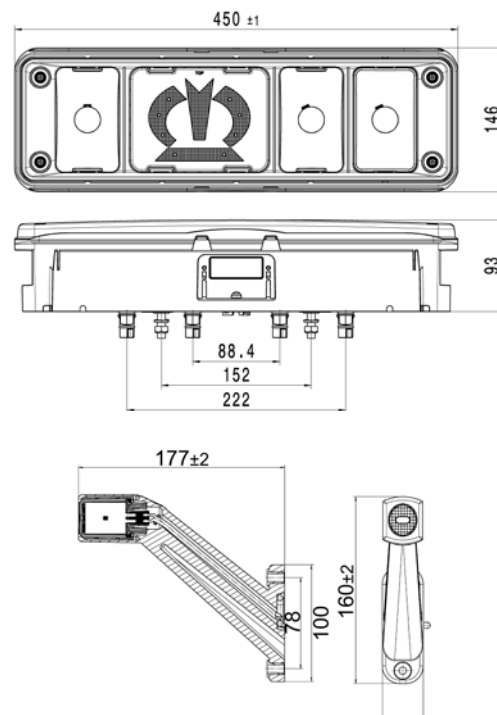


## Technical data

Type approval	ECE R65, ECE R10, GGVs / ADR: only full LED 2VP 340 960- ...	
Functions	Tail light/stop light	7 red LEDs
	Direction indicator	7 amber LEDs
	Reversing light	6 white LEDs
	Rear fog light	7 red LEDs
	Clearance lamp	1 red LED (tail light) 1 white LED (position light)
	Side marker light	2 amber LEDs
Specification	HELLA Norm 67101 Class 5.1 trailers	
Current consumption at 24 V/LED	Tail light:	0.02 W = 0.01 A
	Stop light:	20 W = 0.83 A
	Direction indicator:	3 W = 0.13 A
	Reversing light:	2.5 W = 0.10 A
	Rear fog light:	2.5 W = 0.10 A
	Clearance light:	1.2 W = 0.05 A
	Side marker light:	1 W = 0.04 A
Operating temperature	-40 °C to approx. +50 °C	
IP protection class	For the light IP 5K4K For the LED modules IP 67	
EMC approval for LED modules with active electronics		
Reversing light	[e1] 035912	
Direction indicator	[e1] 035683	
Plug connections	7-pin EasyConn plug connection	
	left light right light	amber blue
3 X 2-pin connector	For connection of the reversing, clearance, side marker and number plate light functions	
1 X 2-pin connector	Optionally assignable Standard: tail light	
Mounting	2 x hexagon screw With 8 x 30 caulked in housing With spring washer and hexagon nut	
Service life	30,000 h*	

\* depending on ambient temperature

## Technical drawing






### Please note:

The functions stop light, tail light, side maker light and clearance light contain passive electronics with series resistors. The light (also the full LED version) is so designed that, according to the current status, no error message is displayed in the vehicle's electrical system.

## RANGE OVERVIEW

Part number	Variants				Functions					
	Full LED	Hybrid	Left	Right	Tail light/triangular reflex reflector/stop light	Direction indicator	Rear fog light	Reversing light	Clearance lamp	Side marker light
<b>2VP 340 960-231</b> OE: 515076411	X	–	X	–	LED	LED	LED	LED	LED	–
<b>2VP 340 960-241</b> OE: 515076412	X	–	–	X	LED	LED	LED	LED	LED	–
<b>2VP 340 960-251</b> OE: 515076389	X	–	X	–	LED	LED	LED	LED	–	–
<b>2VP 340 960-261</b> OE: 515076390	X	–	–	X	LED	LED	LED	LED	–	–
<b>2VP 340 961-511</b> OE: 515072258	–	X	X	–	LED	Bulb	Bulb	Bulb	–	–
<b>2VP 340 961-521</b> OE: 515072259	–	X	–	X	LED	Bulb	Bulb	Bulb	–	–
<b>2VP 340 961-531</b> OE: 515072260	–	X	X	–	LED	Bulb	Bulb	Bulb	LED	–
<b>2VP 340 961-541</b> OE: 515072281	–	X	–	X	LED	Bulb	Bulb	Bulb	LED	–

## ACCESSORIES / SPARE PARTS

Product picture	Description
	License plate lamp, 6.3 mm blade terminal, cable length 2,000 mm <b>2KA 012 271-231</b> OE: 515070867
	License plate, 2-pin EasyConn bracket connector, cable length 1,300 mm <b>2KA 012 271-271</b> OE: 515070868
	Lens, right <b>9EL 183 432-041</b> OE: 550017962
	Lens, left <b>9EL 183 432-031</b> OE: 550017961
	LED module for tail light and stop light with logo Krone <b>9DW 178 904-021</b> OE: 550016465