



# BRIEF INFORMATION

## LED reversing lights Repulse and Repulse Pro

### PRODUCT FEATURES

#### **Innovative design, top functionality, and maximum flexibility**

The new Repulse and Repulse Pro LED reversing lights are specifically designed to provide an auxiliary reversing function. Its exceptionally wide light dispersion makes this lamp special, as this illuminates areas behind and next to the vehicle which normally would not be illuminated. This light output is integrated in a sleek design with various attachment options to ensure the highest possible level of flexibility.



Flexible installation options through upright, pendant and rear mounting



Extremely wide light dispersion for illuminating dark items behind and alongside the vehicle



Shock-resistant lens material made of Grilamid



It also satisfies IP 6K9K and HELLA Norm 67101 and can therefore withstand high-pressure steam cleaning



ADR-certified for dangerous goods transport

## LED LIGHTING TECHNOLOGY

As a leading innovator in the field of automotive original equipment, HELLA sets standards:

### Extremely low energy consumption

With the combination of efficient light emitting diodes (LEDs) and precision lenses, HELLA lights achieve the statutory light distribution with 85% less power consumption compared to incandescent bulbs!

**No change of light source, no maintenance and an extremely long operating time thanks to optimal thermal management.**

To increase the light's lifetime, the components are arranged optimised for temperature. This prevents overheating of the LEDs at extremely high temperatures. This thermal management maximises the lifetime. The lifetime of the LEDs corresponds to that of the vehicle (depending on the operating temperature).

## STATE-OF-THE-ART PRODUCTION TECHNOLOGY

### Quality by conviction

We work on our processes and technologies every day. This is effectively ensured by continuous further development of our manufacturing processes and production methods. Our HELLA standards reflect our underlying quality-oriented approach. This expectation is therefore reflected in every product.

### Process reliability

Integrated production guarantees outstanding quality in terms of leak tightness and fault rate. Our standards have been established across the entire production process. Our experience demonstrates: "only those who have their processes under control can guarantee high performance at all times".

## APPLICATION EXAMPLES

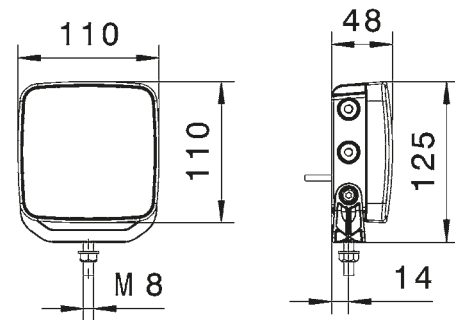


# TECHNICAL DETAILS

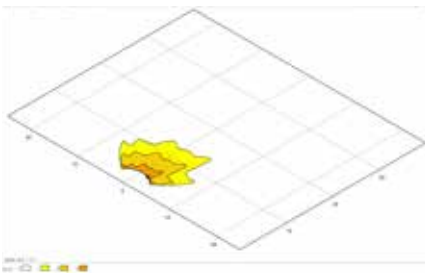
## Technical Data

Operating voltage	Multivolt 9–32 V
Current consumption	~ 400 mA
Power consumption	5 W at 12 V 12 W at 24 V
Functions	LED auxiliary reversing light
Number of LEDs	1 LED or 3 LEDs
Dimensions	109.7 x 109.7 x 47.5 mm (L x H x W)
Operating temperature	-40 °C to +80 °C
Contacting	<ul style="list-style-type: none"> <li>• 2-pin AMP-SUPERSEAL connector with 2,000 mm connecting lead</li> <li>• 2-pin EasyConn connector (angled 90°) with 1,000 mm connecting lead</li> <li>• 6.3 mm flat receptacles with 3,500 mm connecting lead</li> <li>• Amphenol DT connector AT04-2P with 500 mm lead</li> </ul>
Assembly	Upright, pendant, or rear-mount integration
Degree of protection	IP 6K9K
EMC class	3
Specification	HN 67101 Class 5.1
Fuse	Integrated short-circuit protection
Polarity reversal protection	yes

## Dimensional sketch

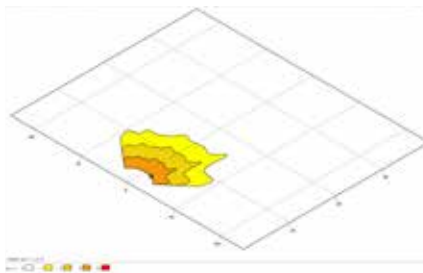


## Light distribution



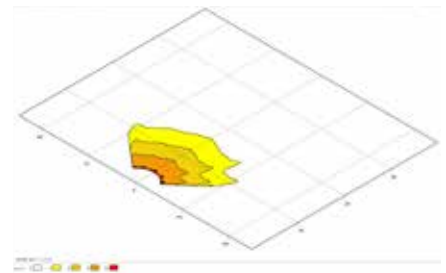
### LED reversing light, Repulse (1 LED)

Broadly spread light cone with optimised light performance for better visibility of obstructions behind and adjacent to the trailer.



### LED reversing light, Repulse Pro (3 LEDs)

Light cone with a very broad spread behind and adjacent to the vehicle with exceptional light performance.



### LED reversing light, Repulse Ultra Pro (3 LEDs), 2ZR 012 456-117

Light cone with a very broad spread behind and adjacent to the vehicle with exceptional light performance.

## Illumination comparison

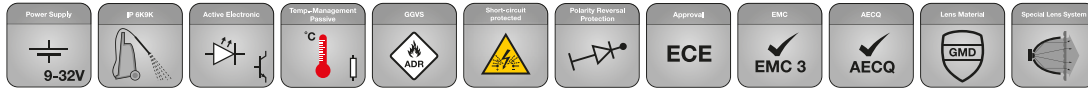


Illumination without additional reversing lights



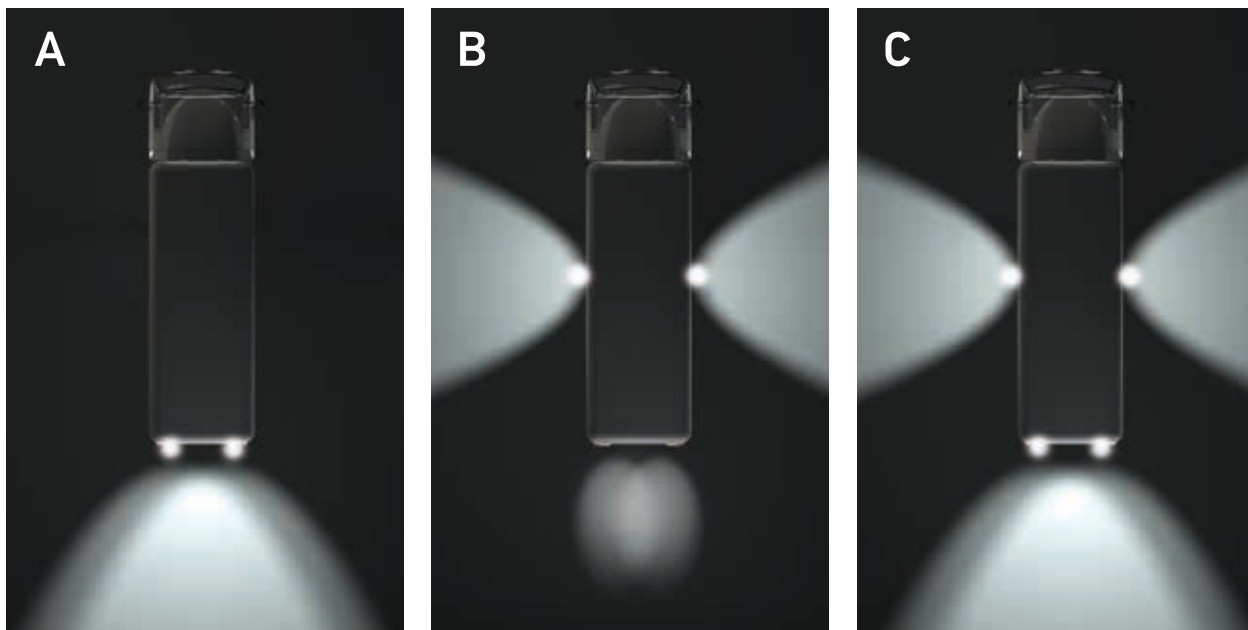
Illumination with additional reversing lights

# RANGE OVERVIEW



Plug connection	Part number	Version	Description	PU
	2ZR 012 456-001 2ZR 012 456-007	Repulse 1 LED	2-pin AMP-SUPERSEAL connector with 2,000 mm connecting lead	1 12
	2ZR 012 456-011 2ZR 012 456-017	Repulse 1 LED	2-pin EasyConn connector (angled 90°) with 1,000 mm connecting lead	1 12
	2ZR 012 456-021 2ZR 012 456-027	Repulse 1 LED	6.3 mm flat receptacles with 3,500 mm connecting lead	1 12
	2ZR 012 456-031 2ZR 012 456-037	Repulse 1 LED	Amphenol DT connector AT04-2P with 500 mm cable	1 12
	2ZR 012 456-201 2ZR 012 456-207	Repulse Pro 3 LEDs	2-pin AMP-SUPERSEAL connector with 2,000 mm connecting lead	1 12
	2ZR 012 456-211 2ZR 012 456-217	Repulse Pro 3 LEDs	2-pin EasyConn connector (angled 90°) with 1,000 mm connecting lead	1 12
	2ZR 012 456-221 2ZR 012 456-227	Repulse Pro 3 LEDs	6.3 mm flat receptacles with 3,500 mm connecting lead	1 12
	2ZR 012 456-231 2ZR 012 456-237	Repulse Pro 3 LEDs	Amphenol DT connector AT04-2P with 500 mm cable	1 12

# HOMOLOGATION OVERVIEW AND INSTALLATION INSTRUCTIONS



Variant A: Two additional reversing lights at the rear.

Variant B: One additional headlamp on each side, 15° inclined downwards.

Variant C: Two additional reversing lights at the rear plus one additional manoeuvring light.