



Rear Lighting

Front Lighting

## BRIEF INFORMATION

Modular LED light, 011 172, Ø 55 mm

- For installation
- Modular, in 12 V and 24 V versions
- 1:1 replacement of bulb version 008 221

## PRODUCT FEATURES

### Upgrade to LED

Current filament bulb versions and combinations with LED ring modules can easily be changed over to LED.

### A well-rounded product line

The product range has been expanded to include LED versions in addition to the filament bulb models already established in the market (tail light, brake light, rear fog lamp, reverse light and direction indicator).

### Indicator failure check

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

### Reverse-polarity protected

The lights are protected against damage caused by incorrect connections.

### Sealed to withstand high-pressure cleaning

Tested to HELLA standard 67101, IP 6K9K, protected against high-pressure/steam cleaning

### High vibration resistance

The lights are tested in accordance with HELLA standard 67101 class 4.1. The high level of vibration resistance makes this product ideal for use in heavy construction machinery.

### Long service life

The latest LED technology provides an optimum signal image with low power consumption.

# 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 combination rear lights to meet the legally required level of light distribution while using 67% less power than filament bulb lamps.

### **No light source replacement, no servicing and extremely long service life thanks to competent thermal management**

All the components have been optimised in terms of temperature and are matched to each other in order to extend the light's service life. This prevents the LEDs overheating at extremely high ambient temperatures. Thanks to the use of top-quality LEDs and good thermal management, these products have been designed with a service life as long as that of the vehicle, and are thus a convincing, economical and eco-friendly "Fit and Forget" solution.

### **Indicator failure check**

The direction indicators are monitored by the electronics system, which generates current pulses for the direction indicator input at defined points in time. For each indicator pulse, the upstream flasher within the vehicle electric system expects to receive the pulse after 100 ms - for at least 20 ms. If components or LEDs in the direction indicator are faulty, the electronics do not receive the pulse and recognise the fault. This ensures that the driver is always informed of any direction indicator failures and meets the legal requirements of the ECE Regulation. The following ballast units are suitable for just about any intended use: 5DS 009 552-001/-011.



# TECHNICAL DETAILS

## Technical data

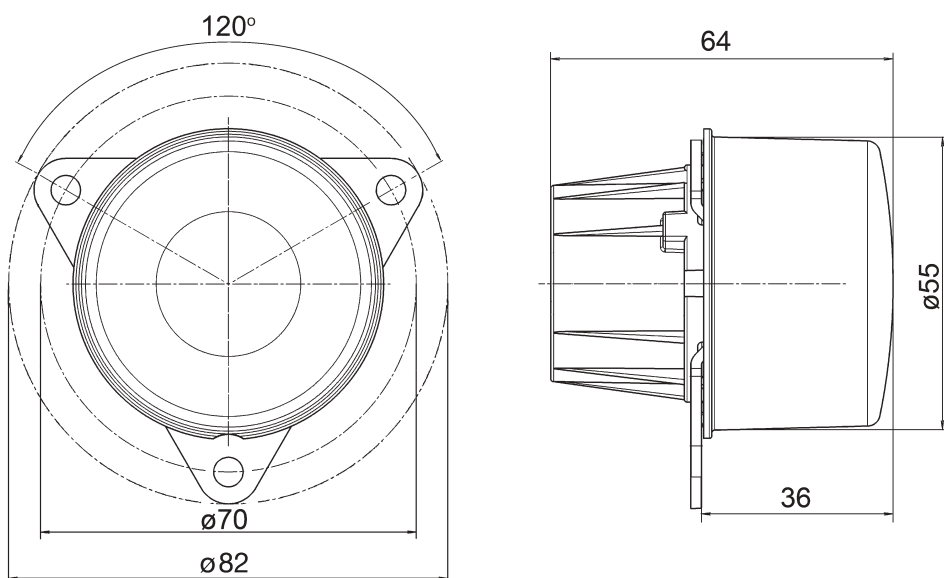
Operating voltage	12 V and 24 V
Type approval	ECE, CCC
DI front	E1_3284
DI rear, S, B	E1_3283
Rear direction indicator, tail, brake and position light in front	E1_3283
NES	E1_3286
ZR	E1_3285
EMC protection	E1_10R - 036317
Functions	
- Front direction indicator	3 yellow LEDs
- Rear direction indicator	6 yellow LEDs
- Tail light	6 red LEDs
- Brake light	6 red LEDs
- Rear fog lamp	6 red LEDs
- Position light front	6 white LEDs
- Reverse light	6 white LEDs
Failure check	integrated for indicator

## Power consumption

Tail light	12 V	0.02 A - 0.2 W
Stoplight	12 V	0.08 A - 0.9 W
Front direction indicator	12 V	0.4 A - 4.8 W
Direction indicator rear	12 V	0.09 A - 1.1 W
Rear fog light	12 V	0.21 A - 2.5 W
Position light front	12 V	0,08 A - 1 W
Rear lighting	12 V	0.17 A - 2.0 W
Rear lighting	24 V	0.003 A - 0.08 W
Stoplight	24 V	0.03 A - 0.7 W
Front direction indicator	24 V	0.2 A - 4.8 W
Direction indicator rear	24 V	0.004 A - 0.8 W
Rear fog light	24 V	0.08 A - 1.9 W
Position light front	24 V	0,07 A - 1,7 W
Rear lighting	24 V	0.05 A - 1.1 W




Reverse polarity protection	yes
Specification	HELLA standard 67101, class 4.1
Operating temperature	-40 °C to +60 °C
IP protection class	IP 6K9K
Fastening	Using three screws Hole Ø 5.5 mm
Connection	500 mm lead with open ends
Cable colours	Black = positive White = negative

## Technical drawing



# PRODUCT OVERVIEW

LED version							Filament bulb version*
LED lamp, Ø 55 mm, with patterned clear lens and 500 mm connection lead							
							
Product photo	Part Number	Voltage	Function	Installation	PU	Part Number	
 With heat sink	2BA 011 172-001/-007	12 V	Direction indicator, active electronics	front	1/20	2BA 008 221-001/-007	
	2BA 011 172-401/-407	24 V			1/20		
	2BA 011 172-011/-017	12 V	Direction indicator with pulse for DI failure control*, active electronics	front	1/20		
2BA 011 172-411/-417	24 V	1/20					
	2PF 011 172-111/-117	12 V	Position light	front	1/20	2PF 008 221-011	
	2PF 011 172-511/-517	24 V			1/20		
	2BA 011 172-021/-027	12 V	Direction indicator, active electronics	rear	1/20	2BA 008 221-041/-047	
	2BA 011 172-421/-427	24 V			1/20		
	2BA 011 172-031/-037	12 V	Direction indicator with pulse for DI failure control*, active electronics	rear	1/20		
	2BA 011 172-431/-437	24 V			1/20		
	2SA 011 172-041/-047	12 V	Tail light, passive electronics	rear	1/20	2XA 008 221-021/-027	
	2SA 011 172-441/-447	24 V			1/20		
 With heat sink	2DA 011 172-061/-067	12 V	Stop light, passive electronics	rear	1/20	2XA 008 221-021/-027	
	2DA 011 172-461/-467	24 V			1/20		
	2NE 011 172-081/-087	12 V	Rear fog light, passive electronics	rear	1/20	2NE 008 221-031/-037	
	2NE 011 172-481/-487	24 V			1/20		
	2ZR 011 172-101/-107	12 V	Reversing light, passive electronics	rear	1/20	2ZR 008 221-051/-057	
	2ZR 011 172-501/-507	24 V			1/20		

Accessories	
	Chrome-plated trim 8XU 008 405-031
	LED position light 2PF 008 405-051 (24 V) / -061 (12 V) LED tail light / stop light 2SB 008 405-091 (24 V) / -101 (12 V) LED tail light 2SA 008 405-011 (24 V) / -021 (12 V)
	Reflectors 8RA 008 405-001

Example combinations of LED module and ring	
Series 011 172	Series 008 405
All modules	8RA 008 405-00 / 8XU 008 405-03
2BA 011 172-00/-01 2BA 011 172-40/-41	2PF 008 405-06 12 V 2PF 008 405-05 24 V
2DA 011 172-06 2DA 011 172-46	2SA 008 405-02 12 V 2SA 008 405-01 24 V
2BA 011 172-02/-03 2BA 011 172-42/-43	2SB 008 405-10 12 V 2SB 008 405-09 24 V

The individual light functions of the LED may only be operated with a vehicle fuse of max. 3A.  
When converting the direction indicator functions (24 V, front and rear) from filament bulb to LED, please use the 5DS 009 552- ballast.  
Available as of June 2012. CCC certified as of Nov.2012