

FORVIA



BRIEF INFORMATION

Hybrid and full LED round lamps
for trucks, trailers, etc.

PRODUCT FEATURES

The new generation of our popular series of round lamps includes a combination tail light, brake light and direction indicator, and a combination rear fog light and reversing light. The lamps have a diameter of 140 mm and are each available either in a hybrid version (with the direction indicator function implemented as a bulb) or as a full LED version.

All versions optionally come with an integrated resistor to provide for the vehicle's comfort function (for the brake lights). The lamp is upward-compatible with the 001 685 series and all the usual cable groups are available. The series also complies with IP 6K9K meets and was developed in accordance with FORVIA HELLA standard 67101.

LED LIGHTING TECHNOLOGY

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

Extremely low energy consumption

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

No need to ever replace the light source, no maintenance and extremely long service life thanks to optimal thermal management

To extend the lamp's service life, the components are arranged for optimal temperature. This prevents the LEDs overheating at extremely high temperatures. This thermal management maximises the lifetime, so the lifetime of the LEDs corresponds to that of the vehicle (depending on the operating temperature).

STATE-OF-THE-ART PRODUCTION ENGINEERING

Quality by conviction

We work on our processes and technologies every day. This is effectively ensured by the continuous further development of our manufacturing processes and production methods. Our FORVIA HELLA standards reflect our fundamentally 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".

DESIGN OF LAMP



Hybrid combination tail light, brake light and direction indicator;
with accessories: Chrom ring

Full LED combination tail light, brake light and direction indicator

NIGHT-TIME DESIGN



Hybrid combination tail light, brake light
and direction indicator



Full LED combination tail light, brake light
and direction indicator



Combination fog light and reversing light

TECHNICAL DETAILS

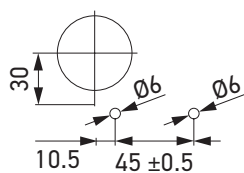
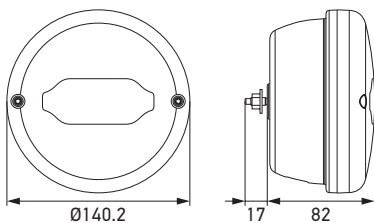
Technical data	SBBL* 2SD 013 155-001, -021, -041 (with integrated resistor)	SBBL* 2SD 013 155-011, -031 (without resistor)	SBBL* 2SD 013 155-101, -111, -121	NES/ZR** 2NR 013 155-201, -211, -221 (with integrated resistor)
Operating voltage range	Single-voltage (18–32 V)	Single-voltage (18–32 V)	Single-voltage (18–32 V)	Single-voltage (18–32 V)
Rated voltage	24 V	24 V	24 V	24 V
Current consumption	Tail light: 0.003 – 0.005 A Brake light: 0.42 – 0.48 A Blinklicht (Glühlampe): 0.9 – 1.15 A	Tail light: 0.003 – 0.005 A Brake light: 0.03 – 0.055 A Blinklicht (Glühlampe): 0.9 – 1.15 A	Tail light: 0.03 – 0.05 A Brake light: 0.03 – 0.055 A Direction indicator: 0.11 – 0.18 A	Rear fog light: 0.065 – 0.12 mA Reversing light: 0.08 – 0.145 mA
Power consumption	Tail light: 0.25 W Brake light: 2.45 W Direction indicator: 21 W	Tail light: 0.25 W Brake light: 2.45 W Direction indicator: 21 W	Tail light: 0.25 W Brake light: 2.45 W Direction indicator: 1.9 W	Rear fog light: 2.45 W Reversing light: 1.9 W
Light function	Tail light: 6 LEDs Brake light: 6 LEDs Direction indicator with bulb	Tail light: 6 LEDs Brake light: 6 LEDs Direction indicator with bulb	Tail light: 6 LEDs Brake light: 6 LEDs Direction indicator: 3 LEDs	Rear fog light: 6 LEDs Reversing light: 3 LEDs
Temperature range	-40°C to +50°C	-40°C to +50°C	-40°C to +50°C	-40°C to +50°C
Protection class	Lamp: IP 5K4K LED module: IP 6K9K	Lamp: IP 5K4K LED module: IP 6K9K	IP 6K9K	IP 6K9K
Approved	ECE-R6, ECE-R7, ECE-R10	ECE-R6, ECE-R7, ECE-R10	ECE-R6, ECE-R7, ECE-R10, ADR / GGVSEB	ECE-R32, ECE-R38, ECE-R10, ADR / GGVSEB
Protection	Polarity reversal protection, short circuit protection, direction indicator failure control	Polarity reversal protection, short circuit protection, direction indicator failure control	Polarity reversal protection, short circuit protection, direction indicator failure control	Polarity reversal protection, short circuit protection, direction indicator failure control
Specification	FORVIA HELLA standard 67101 Class 5.1	FORVIA HELLA standard 67101 Class 5.1	FORVIA HELLA standard 67101 Class 5.1	FORVIA HELLA standard 67101 Class 5.1
Mounting	Surface mounting	Surface mounting	Surface mounting	Surface mounting

* Combination tail light, brake light and direction indicator


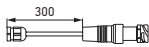
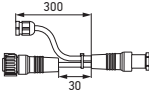
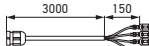
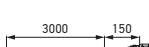
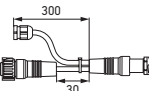
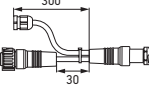
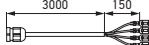
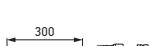

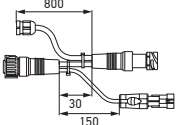
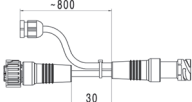
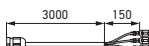



** Combination fog light and reversing light

APPLICATION EXAMPLE

Dimensional sketch and drilling template



PROGRAM OVERVIEW

Product picture	Connection	Description	Resistor	Part Number
		Hybrid Tail light, brake light (LED) and direction indicator (bulb)	With integrated resistor for brake light function	2SD 013 155-001
		Hybrid Tail light, brake light (LED) and direction indicator (bulb)	Without resistor	2SD 013 155-011
		Hybrid Tail light, brake light (LED) and direction indicator (bulb)	With integrated resistor for brake light function	2SD 013 155-021
		Hybrid Tail light, brake light (LED) and direction indicator (bulb)	Without resistor	2SD 013 155-031
		Hybrid Tail light, brake light (LED) and direction indicator (bulb)	With integrated resistor for brake light function	2SD 013 155-041
		Full LED Tail light, brake light and direction indicator (LED)	Without resistor	2SD 013 155-101
		Full LED Tail light, brake light and direction indicator (LED)	Without resistor	2SD 013 155-111
		Full LED Tail light, brake light and direction indicator (LED)	With integrated resistor for brake light function	2SD 013 155-121
		Full LED Fog light and reversing light (LED)	-	2NR 013 155-201
		Full LED Fog light and reversing light (LED)	-	2NR 013 155-211
		Full LED Fog light and reversing light (LED)	-	2NR 013 155-221
Spare parts and Accessories				
		Spare part lens	-	9EL 213 522-001
		Chrome ring	-	2XD 997 909-811