High power LED lights

# COST REDUCTION IN OPERATION AND MAINTENANCE

LED exterior lighting upgrade for Airbus A320 family aircraft



**Collins Aerospace** 

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# IDEAL REPLACEMENT OPTION

The high power LED lights presented in this brochure are part of the standard exterior lighting package installed on the Airbus A320neo and as a customer option on the A320ceo family aircraft.

Collins Aerospace now offers this same advanced LED technology as a replacement for incumbent lights with sealed beam units on the A320 family.

The following devices are the ideal LED upgrade option for operators looking to reduce maintenance and operating costs over the life of the aircraft. Collins Aerospace designed them to be universally applicable for Airbus A318, A319, A320 and A321ceo and neo aircraft:

- LED taxi light 2LA456292-01 (see pages 4 and 5)
- LED runway turn-off light 2LA456343-00 (see pages 6 and 7)
- LED wing engine scan lights 2LA456335-01/-02 (see pages 8 and 9)
- LED logo lights 2LA456342-03/-04 (see pages 10 and 11)

### IMPROVED PERFORMANCE

These new LED lights have increased longevity and reliability when compared with traditional sealed beam lights.

Our engineers have also achieved a remarkable improvement of overall photometric performance – for better sight and safer operation of the aircraft.

Featuring a lifetime of approximately 20,000 operating hours, the new LED technology remarkably outperforms the reliability of the sealed beam units.

#### EASY INSTALLATION

All LED units are mechanically and electronically fully interchangeable with the currently installed sealed beam lights on the A320 series aircraft. No aircraft modification is required.

#### **KEY FEATURES AND BENEFITS**

- Advanced LED technology
- Standard on A320neo family aircraft, optional on currently built A320ceo family aircraft
- Retrofit option for A320 family aircraft in operation: no aircraft modification required – fits into existing interface
- Listed in Airbus' Illustrated Parts Catalog (IPC)
- Robust design with high vibration resistance
- Better illumination performance when compared with sealed beam unit
- Low power consumption
- Long lifetime
- High reliability





## **TECHNICAL DATA**

Operating voltage	115 V <sub>rms</sub>
Operating current	$600 \text{ mA}_{\text{rms}} \pm 150 \text{ mA}_{\text{rms}}$
Peak inrush current	5.0 A max (t < 100 ms)
Nominal frequency	400 Hz
Power factor	> 0.9
Peak intensity	30,000 cd min.
Light distribution	± 40° horizontally, ± 5.5° vertically at 10% of peak
Light color	Aviation White 5,500 K+ correlated color temperature (CCT) in compliance with current FAR § 25.1397
Reliability	Approx. 33,333 flight hours MTBF
Optical system	Integrated LEDs, nonreplaceable
Lens material	High impact resistant laminated safety glass
Weight	1 226 kg/2 702 lbc may

The LED taxi light 2LA456292-01 is integrated into the aircraft's nose landing gear (NLG) and provides optimal light to illuminate taxiways, runway turnoff locations and ground obstructions that may cause hazard to the aircraft. Specifically, it provides illumination in the near to middle distance in travel direction of the aircraft.

With a lens made of high impact resistant glass, the taxi light is optimally equipped for its exposed mounting position.

Featuring a lifetime of approximately 20,000 operating hours, the new LED technology outperforms the reliability of the sealed beam unit by a factor of approximately 200.



LED taxi light 2LA456292-01









## LED runway turn-off light | 2LA456343-00



#### **TECHNICAL DATA**

Operating voltage	115 V <sub>rms</sub>
Operating current	350 mA <sub>rms</sub> ± 100 mA <sub>rms</sub>
Peak inrush current	3.1 A max (t < 100 ms)
Nominal frequency	400 Hz
Power factor	> 0.9
Peak intensity	30,000 cd min.
Light distribution	± 17° horizontally, ± 5° vertically at 10% of peak
Light color	Aviation White 5,500 K+ correlated color temperature (CCT) in compliance with current FAR § 25.1397
Reliability	Approx. 100,000 flight hours MTBF
Optical system	Integrated LEDs, nonreplaceable
Lens material	Borosilicate glass, tempered for increased impact resistance
Weight	0.860 kg/1.895 lbs max.

Two LED runway turn-off (RTO) lights 2LA456343-00 are integrated into the aircraft's nose landing gear (NLG) and provide optimal light to illuminate the lateral areas of the runway, including turn-off locations. Their main purpose is to augment the illumination provided by the taxi light – for better visibility and safer ground operation. Therefore, they are typically used in combination with the taxi light.

With a lens made of high impact resistant glass, the RTO light is optimally equipped for its exposed mounting position. Tests have proven that this lens is approximately 20 percent more resistant to impact than the preceding sealed beam unit.

Featuring a lifetime of approximately 20,000 operating hours, the new LED technology outperforms the reliability of the sealed beam unit by a factor of approximately 200.

## LED runway turn-off light 2LA456343-00













# LED wing engine scan lights | 2LA456335-01/-02



#### **TECHNICAL DATA**

Operating voltage	115 V <sub>rms</sub>
Operating current	$310 \text{ mA}_{\text{rms}} \pm 100 \text{ mA}_{\text{rms}}$
Peak inrush current	4.2 A max (t < 100 ms)
Nominal frequency	400 Hz
Power factor	> 0.9
Light distribution	In compliance with FAR § 25.1403
Light color	Aviation White 5,500 K+ correlated color temperature (CCT) in compliance with current FAR § 25.1397
Reliability	Approx. 120,000 flight hours MTBF
Weight	1.100 kg/2.425 lbs max.

The LED wing engine scan lights 2LA456335-01 (LH) and -02 (RH) are mounted on each side of the aircraft fuselage, forward of the wing. Due to its optical characteristics, each device provides illumination for the inspection of both the wing leading edge and the engine nacelle during ground or flight operation in order to identify any accumulation of ice. The optical design even considers the flexing of the wings due to drag load and different fuel weights.

Our engineers have also incorporated easy maintenance features into the design of this unit. Replacement of lens, LED module and power supply is possible without dismounting the entire device. LED wing engine scan light 2LA456335-01 (LH)











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# LED logo lights | 2LA456342-03/-04



### **TECHNICAL DATA**

Operating voltage	115 V <sub>rms</sub>
Operating current	$200 \text{ mA}_{\text{rms}} \pm 100 \text{ mA}_{\text{rms}}$
Peak inrush current	4.2 A max (t < 100 ms)
Nominal frequency	400 Hz
Power consumption	< 35 VA
Power factor	> 0.9
Light color	Aviation White 5,500 K+ correlated color temperature (CCT) in compliance with current FAR § 25.1397
Reliability	Approx. 40,000 flight hours MTBF
Lens material	Polycarbonate, injection molded lens
Weight	1.050 kg/2.315 lbs max.

The LED logo lights 2LA456342-03 (LH) and -04 (RH) are integrated into the aircraft's horizontal stabilizer and optimally illuminate the airline's logo on the vertical stabilizer.

Featuring a lifetime of approximately 20,000 operating hours, the new LED technology outperforms the reliability of the sealed beam unit by a factor of approximately 200.

LED logo light 2LA456342-03 (LH)











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