

General Installation Instructions for NOLDEN LED Vehicle Lighting

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General installation instructions for NOLDEN LED vehicle lighting

1. General

a. Provider

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Please take the time to carefully read through these installation instructions. This will enable you to avoid danger for yourself as well as damage to the product or your vehicle. Please retain this document for further reference.



General installation instructions for NOLDEN LED vehicle lighting

b. Scope of application

These general installation instructions are valid for all NOLDEN LED lights in use for exterior lighting of vehicles on public roads within the EU.

For rail vehicles and special purpose vehicles, other or additional provisions may apply.

Other provisions may also apply for use in different regions (e.g. USA, China).

If specific installation instructions are provided separately with the product in question, those instructions take precedence.

When installing the product you have purchased on road-legal vehicles, you must consider UNECE regulation 48.

c. Installing at qualified companies

The installation may require some specialized tools (e.g. to make the electrical connectors on the vehicle side) and expertise, and shall be done at a qualified company.

If the product does not show any CE or UKCA mark, it is only permitted for installation in road-legal vehicles. Installation must be performed by a fully trained specialist (mechanic).

The following tools and materials may be required for the installation: Screwdriver, spanner and socket set, cable ties, pliers, crimping tools, electrical meter (multimeter).

A separate type approval is not necessary if all legal provisions and fitting and package conditions (see below) are met.

d. Lighting technical data

The technical data can be taken from the relevant product-specific data sheet.

e. Exclusion of liability

NOLDEN Cars & Concepts GmbH is not liable for any damage caused as a result of improper installation.



2. Safety information

a. Eye safety

All NOLDEN lights must be used solely for their intended purpose. Avoid staring directly into operating LED headlamps. Please refer to the product-specific photobiological safety information or general information (available at: <https://www.noldengmbh.de/service-2/eye-safety>).

b. Heating

LED headlamps and lights, as well as additional electronics or ballasts can get very hot. This must be taken into account during installation and testing. The lights must be sufficiently spaced from neighbouring components and protected against contact. External drivers with heat sinks shall be fitted on metal surfaces that offer sufficient heat transfer. If necessary, endurance tests shall be carried out to determine the light's external temperature.

c. Special considerations for vehicle electronics

All NOLDEN headlamps and lights are, unless expressly stated otherwise, intended for use in vehicles with direct current (DC) voltage electrical systems. The permitted input voltage is specified in the corresponding data sheet. NOLDEN headlamps and lights must NOT be operated on pulsed DC voltage (PWM control) or alternating current (AC) voltage!

This can cause light flickering or even cause the control electronics to switch the lights off.

As part of customer-specific projects, NOLDEN develops and delivers ballast electronic solutions and special headlamp or light designs, which are suitable for use in PWM electrical systems within strictly defined boundaries. There are also NOLDEN solutions available to adapt to different vehicles' failure control. In general this affects special models from car manufacturers/conversion companies and not the after-sales end-user sector.

d. Functions test

As part of the installation, an extensive, multi-stage function test shall be performed.

Stage 1: Test while ignition switched off, vehicle stationary

Stage 2: Test while ignition switched on, but engine not running, vehicle stationary

Stage 3: Test while engine is running, vehicle stationary

Stage 4: Test drive

During this process, all light functions must be tested one by one and – if applicable – in combination. In particular, with indicator lights, checks must be performed to ensure ALL indicators flash on the correct vehicle side when the indicator switch is activated. If any light flashes abruptly, starts flickering or even switches off, then this may indicate that there is an incompatibility with the vehicle's electronics. Furthermore, the relatively low power consumption of LEDs compared to halogen light sources can cause error messages to be displayed in some vehicles. If this happens, the lights must NOT be installed on that vehicle. Contact your dealer.



e. Further safety information

Follow the safety instructions and requirements specified by the vehicle manufacturer.

Prior to installation, always disconnect the negative terminal of the vehicle battery, otherwise operation errors may cause a short circuit.

If the vehicle has additional batteries, then these must also be disconnected from the vehicle's electric system. A short circuit can potentially damage or trip electronic components and systems.

When disconnecting the negative terminal of the battery, all volatile electronic storages, such as board computers, timers and radios will lose their stored values. For instance, the radio code should be noted down prior to disconnecting. Settings such as the seat position, the clock or the heating level of heated seats may also require adjustment.

Only a diode test lamp or a voltmeter shall be used to check the voltages on electrical wires. Conventional test lamps may consume too high currents, which can damage the vehicle's electronics.

All components must be suitably fused and properly fixed in place.

All connections must be isolated and protected from mechanical stresses. When installing wires, ensure that the wires are not squashed or scraped nor positioned on or next to any airbag.

When drilling, take into account the path of wires and cables and ensure there is sufficient space for the drill to get through. Unless expressly stated otherwise, the installation of NOLDEN LED headlamps and lights is not permitted to result in the vehicle exceeding its approved dimensions. Take care that no signaling light devices or number plates are obstructed.

All applicable legal provisions must be respected.

3. Maintenance/cleaning

Unless expressly stated otherwise in the product's data sheet, no maintenance is necessary for NOLDEN LED lighting products. The lights can be cleaned with conventional cleaning products. Solvent-based cleaning products must NOT be used.



4. Legal provisions

a. ECE regulations

All NOLDEN headlamps and lights are tested for operation in the prescribed region – in this case, the EU – and have all the necessary certificates and approvals. This however only applies to the light units themselves. Besides installation and fitting requirements, the number and position of individual lights and the type of circuitry, numerous other provisions must be respected. These are mainly governed by the ECE regulation 48. The UNECE's regulations are available via the following link:

<http://www.unece.org/trans/main/wp29/wp29regs.html>

Any company performing the installation and the vehicle owner are responsible for compliance with all regulations with regard to the correct installation.

b. Type approval

A separate technical approval is not generally required. All NOLDEN headlamps and lights are approved and are marked with the legally required information in the specified locations.

For vehicles already on the road, the regulations apply which were valid when the vehicle in question was type approved/homologated. In early regulation revisions LED low-beam and high-beam headlamps are not mentioned at all. For vehicles where earlier regulation versions apply, the latest state of the art can be required when converting to LED low-beam and high-beam headlamps. In case of doubt, consult an authorized testing or certification organisation.

5. Operating conditions

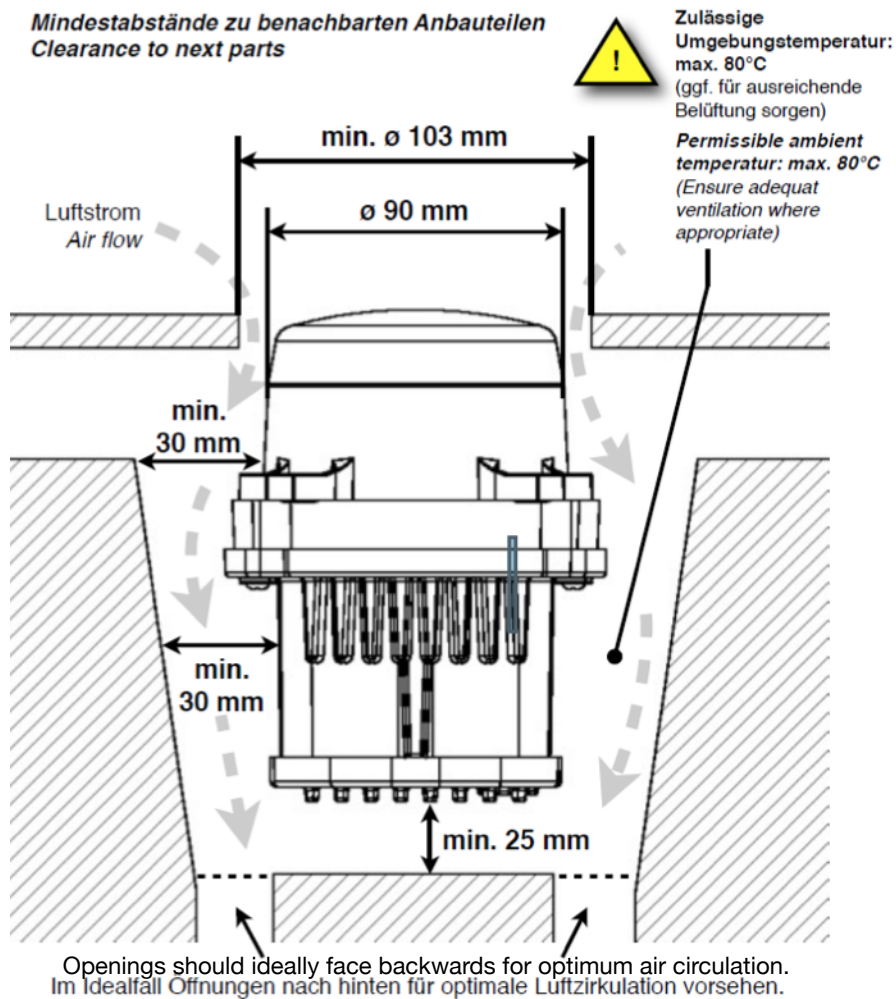
Unless specified otherwise in the data sheet, NOLDEN headlamps and lights are specified for use in ambient temperatures between -40 °C and 80 °C. This refers to the immediate surroundings of the module, not the temperature outside the vehicle. The lifetime of LED headlamps gets shorter with increasing operating temperature. It is therefore important to ensure during installation and fitting that sufficient ventilation and heat transfer is given (see below example).



6. Fitting and package conditions

The installation must be completed using the prescribed fixings. Depending on the product and application, different variants are provided or available upon request. Particularly with high-power headlamps, it is important to ensure sufficient ventilation. All product components that aid ventilation (such as membranes), must not come into direct contact with other vehicle components.

Care must be taken to ensure sufficient clearance is maintained. The following shows the installation requirements for NCC 90 mm low-beam and high-beam headlamps, as an example.



7. Electrical connection

All wires must be laid such that they are not subject to tension or abrasion and, if applicable, must be fixed in place with cable ties. The connectors provided shall be used. For the corresponding mating plugs, please refer to the available data sheets. Use original connectors only. Reproductions and copies are often of an inferior quality and may cause leaks and / or electrical contact problems. For products with open cable ends, waterproof connectors approved for automotive use and produced by renowned manufacturers (e.g. Tyco, AMP, DEUTSCH, Denso, Sumitomo) shall be used. Any changes to wires and/or connectors on the headlamps / lights and / or their control devices (if provided) render the warranty void.

8. Warranty/service

To make a complaint or a warranty claim, please contact your dealer. Please refer to our website for further customer service contacts:

<https://www.noldengmbh.de/service-2/sources-of-supply>

These general installation instructions may be found translated into other languages on the following website:

<https://www.noldengmbh.de/service-2/general-instructions>

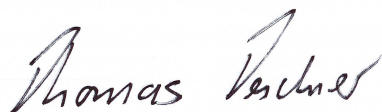
Please note that in case of discrepancies or legal dispute only the official German version of this document is binding.

9. Disposal

In accordance with the ElektroG2 (German Electricals and Electronics Act), LEDs and lamps that are not used in a private domestic setting (i.e. "technical lights") must be recycled.

The lights can be taken to a collection point provided by municipal authorities or to specialist dealers who provide a collection service.

Disposing of the lights separately to other waste prevents possible harmful environmental impacts and health hazards, which can arise from improper disposal. Furthermore, it saves a significant amount of energy and resources by reusing raw materials.



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