



COMMERCIAL WARRANTY

PAN S.r.l. (hereinafter “PAN”) warrants its products in accordance with the provisions of this **Commercial Warranty** (hereinafter the “Warranty”), subject to the conditions of use and limitations set forth in this document.

1. Scope of the Warranty

The right to this Warranty is reserved exclusively to PAN S.r.l.’s direct customers and is not transferable to third parties, including resellers, installers, or end users.

The Warranty shall commence on the purchase date indicated on the invoice and shall remain valid for the period specified in the technical documentation of each individual product.

At its sole and unquestionable discretion, PAN S.r.l. may fulfil the Warranty by means of:

- repair or replacement of the entire fixture;
- repair or replacement of defective parts only (e.g. LED modules, drivers, reflectors, glass, mechanical components);
- credit of the purchase price of the product or of the value of the defective part only.

2. Conditions for Warranty Applicability

The Warranty shall apply only if all of the following conditions are fully met:

- products are used in compliance with PAN S.r.l.’s technical specifications and instructions for use;
- installation environments are suitable for the intended product application;
- installation and assembly are carried out by qualified technical personnel and in compliance with the supplied instructions;
- products are subject to regular maintenance and cleaning;
- operation does not exceed **4,400 hours per year**, with a maximum of **12 hours per day**;
- any combination with drivers, power supplies, accessories or electronic devices is made exclusively using components supplied or approved by PAN S.r.l.;
- products are installed under conditions ensuring correct operation. Unless otherwise technically specified, the following reference parameters shall apply:
 - supply voltage compliant with the values indicated in the manual and stable over time (see section 4 “Overvoltage damage” and section 9 “CEI standards” of this document);
 - ambient temperature between –20 °C and +35 °C; for outdoor installations, switching on under direct solar radiation must be avoided;

- ambient humidity not exceeding 60%;
- absence of mechanical loads or vibrations induced by machinery that may interfere with the fixture;
- absence of chemical, corrosive, or aggressive atmospheric agents;
- proper ventilation. Even for recessed fixtures, sufficient air circulation must be provided to allow correct thermal dissipation;
- absence of obstacles to ventilation (panels, insulating materials, thermal blankets, rock wool, etc.).

3. Warranty Exclusions

The Warranty shall not apply in the following cases:

- the lighting system is controlled by digital lighting control systems (DALI, DMX, KNX, etc.); in such cases, Warranty applicability may be evaluated by PAN S.r.l. following project analysis;
- in the event of integrations or replacements, differences in luminous efficacy, luminous flux, correlated color temperature or color rendering compared to previously installed products are detected;
- improper use or installation not compliant with instructions;
- defects caused by improper cleaning or maintenance;
- damage to products installed in saline environments, particularly affecting coatings and finishes;
- incomplete product supplies, where only part of the assembly as presented in the catalogue is supplied (e.g. driver only, LED fixture only, LED strip only);
- damage caused by vandalism, impacts, tampering or extraordinary events (floods, fires, earthquakes, etc.);
- components subject to normal wear and tear (light sources, batteries, mechanical parts);
- software installation, configuration or restoration;
- installation, disinstallation, assembly, disassembly or equipment rental costs;
- any indirect damage or economic loss resulting from malfunction;
- transport costs for returned products deemed non-defective by PAN S.r.l.

4. Damage Caused by Overvoltages, Power Supply Disturbances and Electrical Power Quality

The Warranty does not cover under any circumstances damages, malfunctions or failures—total or partial—to drivers, power supplies, electronic components or the product as a whole, resulting directly or indirectly from anomalies in the electrical power supply, including but not limited to:

- transient or permanent overvoltages;
- voltage spikes;
- micro-interruptions, blackouts or line restoration events;
- voltage or frequency fluctuations;
- electromagnetic disturbances (EMI/RFI);
- direct or indirect lightning strikes;

- voltage backflow or induced currents;
- improper grounding;
- wiring not compliant with applicable standards.

The Warranty shall also not apply if the electrical system to which the product is connected does not comply with applicable technical standards (CEI, IEC or equivalent) or lacks adequate protection devices such as surge protection devices (SPD), residual current devices and suitable circuit breakers.

Any damage to drivers and electronic components (AC 120/240V section of the power supply) caused by such conditions shall be considered external events and not attributable to manufacturing defects.

PAN S.r.l. reserves the right to carry out technical inspections on returned components in order to determine the cause of failure. Should the analysis reveal damage attributable to disturbances or anomalies of the AC 120/240V supply section, the Warranty shall be deemed not applicable.

➤ **Warranty Appendix: see section 9 – CEI standards**

5. Additional Essential Conditions

The Warranty is also subject to the following conditions:

- the Customer must be fully compliant with agreed payment terms;
- defects must be reported in writing within 30 (thirty) days from discovery, with clear and documented description of the defect;
- the allegedly defective product must be kept in its original condition, including the light source, to allow technical inspections by PAN S.r.l. or appointed third parties.

6. Warranty Limitations

The Warranty shall not apply if:

- modifications or repairs have been carried out without prior written authorization from PAN S.r.l.;
- the detected defect rate is below the nominal failure rate of 0.2% per 1,000 operating hours, considered physiological;
- LED luminous flux reduction falls within the depreciation limits defined by IES TM-21.

7. Warranty Claim Procedure

To activate the Warranty, the Customer must provide PAN S.r.l. with:

- copy of the purchase invoice;
- product code;
- detailed description of the defect;
- quantity of products subject to claim and quantity installed;
- operating hours;

- maintenance history.

PAN S.r.l. reserves the right to collect and inspect the products before applying the Warranty.

8. Governing Law and Jurisdiction

In consideration of the continuous technological evolution of electronic components, PAN S.r.l. reserves the right to amend the terms of this Warranty without prior notice.

Any dispute relating to the interpretation or application of this Warranty shall fall under the exclusive jurisdiction of the Court of Florence (Italy).

9. WARRANTY APPENDIX – Regulatory Framework (CEI / IEC)

Power Supply Quality and Overvoltage Standards CEI EN 50160

Defines the characteristics of voltage supplied by public networks. Variations, disturbances, micro-interruptions and overvoltages do not constitute defects of the load (fixture).

IEC / EN 61000 (EMC series)

Regulates electromagnetic immunity and emissions. Drivers are designed to withstand normative limits, but not abnormal or repeated events.

Electrical Installation Standards

CEI 64-8 (Electrical installations)

- protection against overvoltages is the responsibility of the installation, not the load;
- adoption of SPD (Surge Protection Devices) is mandatory or strongly recommended in many configurations;
- improper grounding may cause damage to electronic devices.

Manufacturer Responsibility Standards

Low Voltage Directive 2014/35/EU (LVD)

The manufacturer guarantees product safety when properly used and operated within a compliant electrical system.

Electrical Network Anomalies and Installation Conditions

The Warranty does not cover, under any circumstances, damages, failures or malfunctions—also partial—to drivers, power supplies, electronic components or the product as a whole, resulting directly or indirectly from anomalies in the electrical supply network or from non-compliant installation conditions.

The Warranty shall also not apply if the electrical installation does not comply with applicable technical standards (in particular CEI 64-8, CEI EN 50160, IEC/EN 61000 or equivalent), or if it lacks adequate protection systems such as surge protection devices (SPD), suitable circuit breakers and residual current devices.

PAN S.r.l. products are designed and tested to operate correctly with power supplies compliant with applicable standards; any damage attributable to abnormal network or installation conditions shall be considered external to the product and not attributable to design or manufacturing defects.