



INSTALLATION

The LC -XR-IP67 (VALUE SERIES) control gear is an independent device with a high level of IP67 protection suitable for installation in conditions that are exposed to water, snow and ice, always provided that the manufacturer's instructions are followed. However it must not be permanently immersed or used in highly aggressive salty or chemical environments without additional protection.

Insofar as it is possible, they must be installed away from heat sources and be fitted to enhance thermal dissipation and reduce mechanical vibrations.

The LED module connected to the control gear must be within the specified load range. For correct operation, observe the limits indicated on the product marking.

Always comply with the (+) and (-) polarity markings indicated on the output terminals of the device that supplies the LED modules.

The installation of a switch at the device output is not allowed as this could damage the LED modules as well as the control gear itself.



The mains power supply must always be disconnected prior to carrying out any operation on the connection to the LED module.

INSTRUCTION MANUAL

CONSTANT CURRENT CONTROL GEAR FOR LED MODULES

STREET LIGHTING APPLICATIONS Type: LC ...V/...-XR-IP67 (VALUE SERIES)

Constant current control gear for LED modules uses sensitive components. Like all electronic equipment, its components must be treated and handled with care. They must be installed following the manufacturer's recommendations in order to ensure the correct level of durability and operation of both the control gear and the LED module it supplies.

SAFETY



Installation, maintenance and replacement of all equipment must be carried out by qualified personnel, strictly following the instructions given on the product and in line with current regulations.

To ensure protection against electric shock during any operation on the equipment, always disconnect the power supply beforehand.

EARTH CONDUCTOR



Only functional earthing terminals are allowed in electronic equipment to be built into systems with double or reinforced insulation.

This electronic equipment may be installed in Class I and Class II luminaires.

Do not leave the lighting enclosure and other internal metal parts (mounting plates, brackets, heat sinks ...) electrically live or uninsulated. Make a reliable electrical connection between them using toothed washers and well-tightened bolts. Keep the connection cables as short as possible to minimise inductance and maximise efficiency.



Class I luminaires: A protective earthing conductor is MANDATORY. Connect the earthing wire to the enclosure and internal metal parts (mounting plates, brackets, heat sinks ...).

Class II luminaires: We recommend installing an isopotential connection or a star point functional earth conductor between the enclosure and all non-accessible conductive parts of the luminaire. This will prevent issues with electromagnetic compatibility, reduce residual flicker in standby LED modules and provide protection against power surges.

MAINS SUPPLY



The supply voltage and frequency must be within normal operating range. Comply with the polarity markings indicated (phase and neutral).

DC operation is only allowed in equipment specifically designed for that purpose.

In 3-phase 400V installations, ensure that the neutral is always connected. If interrupted, 400V could reach the control gear and cause it to fail. During installation, the load distribution between phases must be balanced as much as possible.

INSULATION TEST



If the insulation test is carried out on the installation, on the feed circuits to the electronic equipment, testing should be undertaken by applying the test voltage between the phases and neutrals, all connected together, and the earth conductor.

Never apply test voltage between the phases and neutral or between phases.

TEMPERATURE



Do not exceed the tc temperature marked on the equipment enclosure. Non-stop operation at higher temperatures reduces the life expectancy of the equipment.

The devices have a built-in temperature protection. If the operating temperature is too high, the equipment will enter in safety mode.

TERMINAL BLOCK AND CABLE PREPARATION



The connection cables between the LED module and the device must be properly insulated for the operating voltage. They must also be as short as possible and never exceed 2 metres in length.

As humidity and water can be absorbed by the ends of the control gear connection cables, these must be protected using connectors or junction boxes that guarantee a minimum protection level of IP65, whether connected or not.

The end of every unconnected control gear cable must be electrically insulated to guarantee the minimum insulation required by the installation.

Do not apply too much mechanical stress to the cables or bend them overmuch otherwise this will damage their insulation. We recommend a radius with a minimum curvature of 25mm.

Protect the cables from extended exposure to UV rays, aggressive salty and chemical environments to prevent the insulating materials from deteriorating and to prolong their service life.

PROTECTIVE SWITCHES

Each set of power supplies for LED modules must be protected by a circuit breaker and, in Class I installations, by a single-circuit trip switch.

Power supply units for LED modules are resistant to the transient power surges specified in the regulations and must be installed in separate circuits away from other inductive loads (ballasts, motors, fans, etc.).

Differential circuit breaker



The purpose of interference filters for electronic equipment is to divert interferences in the form of a leakage current to earth.

In single-phase systems: the leakage current of the equipment and of the other components that make up the lighting system (luminaire, wiring, LED module ...) must be taken into account in order to calculate the maximum number of components that can be connected on each trip switch.

In three-phase systems: distribute the luminaires equally between the three phases. Leakage currents offset each other.

Automatic circuit breaker



LED modules with electronic equipment switch on simultaneously. The moment the connection is made, the capacitors in the driver create a high current pulse which only lasts a very short time. This is the inrush current. We recommend fitting the maximum number of devices, according to the type and features of the circuit breaker. See table below.

Model	Peak I. (A)	Inrush Current Width at 50% I. peak (us)	Max. n° of units for each circuit breaker- Type B	
			10 A	16 A
54 W	24	175	14	24

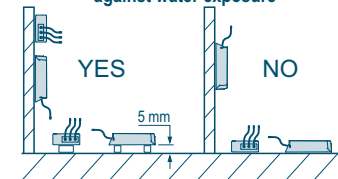
Note: measured values according to a 240V AC reference power grid as defined under NEMA 410 standard with a line impedance of 450 mΩ and 100uH. The inrush current values of the control gear will reduce, thereby increasing the number of drivers to be connected to each circuit breaker, the lower the voltage and the greater the impedance of the power grid (and vice versa). Therefore we recommend to check it for each installation.

GEAR RESPONSE AND SAFETY SYSTEM

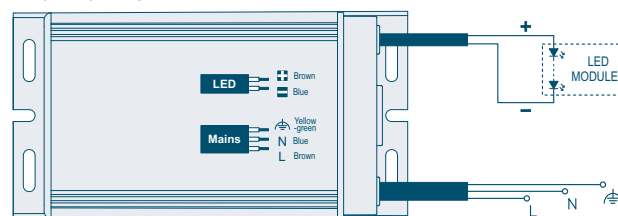
Issue	Response	Automatically re-settable
Open circuit on output	Safety mode	Yes
Overload	Flickers	
Short-circuit on output	Safety mode	
Low load	Flickers	
380V in the circuit	Normal operating (withstands up to 2 hours)	
Over temperature	Flickers	

Safety mode: The electronic equipment is off when in safety mode.

Recommended mounting positions against water exposure



WIRING DIAGRAMS



Indications for corner mounting or housing

