User Guide
MODELS: INEBOX001

INTRODUCTION

The manufacturer suggests reading this manual carefully. This equipment is manufactured with first quality material by experienced technicians. Proper installation and maintenance will guarantee a reliable service for years to come. A Qrcode fixed to the front or back side of the box specifies the model number, serial number, Voltage and Amperage. Drawings and extra parts numbers are included in this manual. The electrical diagram is at the end of the user guide.

ATTENTION

Inesocompany is not responsible for damages to the property or the equipment caused by personnel who is not certified by known organizations. The customer is responsible for finding qualified technicians in electricity and plumbing for the installation of the box.

Security of the workers

The first objective is to protect the personal that will be in charge of the replacement of the light sources. That replacement will be done once we have switched of the district (or the general circuit breaker) of the line that deliver the main to the road where we will apply the pilot.

That for it is important to have a good localization of that breaker and make test to be sure we have opened the good breaker before we start any process on the existing installation.

The procedure to guaranty that the circuit is open is to validate with someone in charge of the operation on site to control if the supply is still here or not when we open the breaker. Once that is validated we have to guaranty that no one can close the breaker again, that can be done with a key locker when the breaker is open.

CONSTRUCTION

You just bought the most advanced lighting control box, "Inesocompany" technology at its best. This box is manufactured using the highest quality components and material. The box is one of the key elements of the network, that for it is important to pay a special attention during the installation process to guaranty a long and reliable system.

SHIPPING

For your safety, this equipment has been verified by qualified technicians and carefully crafted before shipment. The freight company assumes full responsibility concerning the delivery in good condition of the equipment in accepting to transport it.

IMPORTANT FOR THE RECEPTION OF THE MERCHANDISE

Take care to verify that the received equipment is not damaged before signing the delivery receipt. If damage or a lost part is noticed, write it clearly on the receipt. If it is noticed after the carrier has left, contact immediately the freight company in order that they do their inspection.
We do not assume the responsibility for damages or losses that may occur during transportation.

Safety and security

IMPORTANT SAFETY INFORMATION

<u>CAUTION</u>: As when installing or using any high voltage electrical equipment, basic safety precautions should always be followed. Under no circumstances should you attempt to clean, install, inspect, repair, disassemble or otherwise service this product without first shutting off all power to the unit.

SERIOUS BODILY INJURY OR DEATH COULD OCCUR IF YOU IGNORE THIS WARNING.
THIS PRODUCT MUST BE INSTALLED BY A CERTIFIED & QUALIFIED ELECTRICAL ENGINEER IN ACCORDANCE WITH ALL NATIONAL, STATE, PROVINCIAL AND LOCAL ELECTRICAL CODES AND PERMITS.

Before proceeding with installation or service maintenance of this product:
• Review the entire Installation Instructions Procedure thoroughly and completely prior to installation & use.
• Inspect this properly packaged product for any damage that may have occurred during transit.
• Verify the availability of necessary tools and incidental material.
• Verify applicable code requirements. Field assembly and installation are subject to acceptance by local inspection authority.
• Appropriate safety equipment to be determined by end user, per applicable safety standards and precautions.

FAILURE TO DO SO COULD CAUSE DAMAGES OR SERIOUS INJURY OR DEATH & VOID YOUR WARRANTY.

In no way is this document intended to construe warranty or fitness of use of the products described, nor is it intended to provide safety instruction for those installing the product.

It is the responsibility of the installer to respect the installation procedure and to use the box for what it has been designed for (lighting) with a maximum allowed current. The environment is also an important point that has to be strictly respected. The product is and IP 55 product. This is not design for all the external use. It is not vandal proof for example. Make sure you respect the specification before installing the box in any application.

This document should be given to the owner after installation and should be retained for future reference.

1/ InesoBox Overview

5 : Dimming 0V

6 : Output Dimming 1-10V 20mA

7 : CTN Temperature Sensor

8 : CTN Temperature Sensor

2/ Electrical Specification

A/ Input Power Supply

Voltage	100-277Vac
Frequency	50-60 Hz
Current	10A

B/Output Power Supply

Voltage	100-277Vac
Frequency	50-60 Hz
Current	10A

C/Digital and Analogue I/O

1: Accessories Power Supply (Car Radar, Pedestrian Radar)	12Vdc-200mA
2: Accessories Digital I/O	3.3Vdc-20mA
3: Accessories Digital I/O	3.3Vdc-20mA
4: Accessories Power Supply Reference	0Vdc
5: Drivers Dimming Reference	0Vdc
6: Drivers Dimming Signal	1-10Vdc-20mA
7: CTN Temperature Sensor	2.5Vdc-1mA
8: CTN Temperature Sensor	2.5Vdc-1mA

3/ Radio Specifications

RF Radio Communications	915Mhz
Maximum output radio power	0dbm (1mw)
Receiver category 2	Transmitter duty cycle 1%
Channels	1
Data rate	32.768Kb/s +/- 1%
RF connector	SMA

NOTE: *This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:*

- *Reorient or relocate the receiving antenna.*
- *Increase the separation between the equipment and receiver.*
- *Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.*
- *Consult the dealer or an experienced radio/TV technician for help.*

Radiofrequency radiation exposure Information:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 50 cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

FCCID *:* **2AAOFINEBOX001**

NOTICE:

This device complies with Part 15 of the FCC Rules and with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTICE:

Changes or modifications made to this equipment not expressly approved by Inesocompany may void the FCC authorization to operate this equipment.

4/ Wiring and External Protection

Over current protection is not provided by InesoBox it MUST be done by the customer.

Characteristics & features imbedded in the box

Non-Start Detection	Yes
Error Reporting	Yes
Light Power Monitoring	Yes
Tracks Burn-In Hours	Yes
Dimming Based on Schedule or pre programmed scenario	Yes
Photocell Adapter (Detection)	Optional
Operating Temp Range	-20 to 70ºC
Storage Temp Range	-40 to 85ºC
Humidity	Unlimited except above 40ºC less than 90%
Water	Rain tight (mounted below)
Degree of protection	IP55
Dimensions	127 x 85 x 30 mm
Casing	IR resistant plastic
Input Voltage Range	100V ~ 277V AC
Frequency	50Hz & 60Hz
Minimum Power Consumption	0.25W
Ballast Wattage Range	30-400W
Maximum current allowed for non inductive loads	10 A at 230V AC
Driver control	1 - 10V
Electric connections	1.5 mm

5/ Installation procedure

1st step.

Connect the main input (live and neutral) from the driver to the left cable of the inesobox. Once you have done the connection, please make sure the connection have been well done by pulling (not to strongly but enough to verify ~0.5kg) each wire to guaranty a safe and reliable connection.

2nd step

Connect the dimmer cable to the dimming input of the driver. You have to take care on the polarity of the cables. The red line is the positive and the gray is the negative line for the dimming function. If you make a wrong connection it can damage the driver and the box. So before powering the light fixture pay a special attention on the polarity of the dimming control.

3rd step

In case of a LED fixture it would be used, it is highly recommended to install a temperature sensor on one of the led panel in order to monitor and to control the temperature of the LED sources. This feature will allow guarantying a better chance to reach the max life time of the leds. In case you don't connect the sensor you can't prove to you LED supplier that you have respected the temperature range.

4th step

Drill a hole in the light fixture cover to allow the antenna to go out. Use the silicon parts that we recommend to guaranty a safe and secure fixing of the antenna on top of the light pole. Please use the delivered antenna.

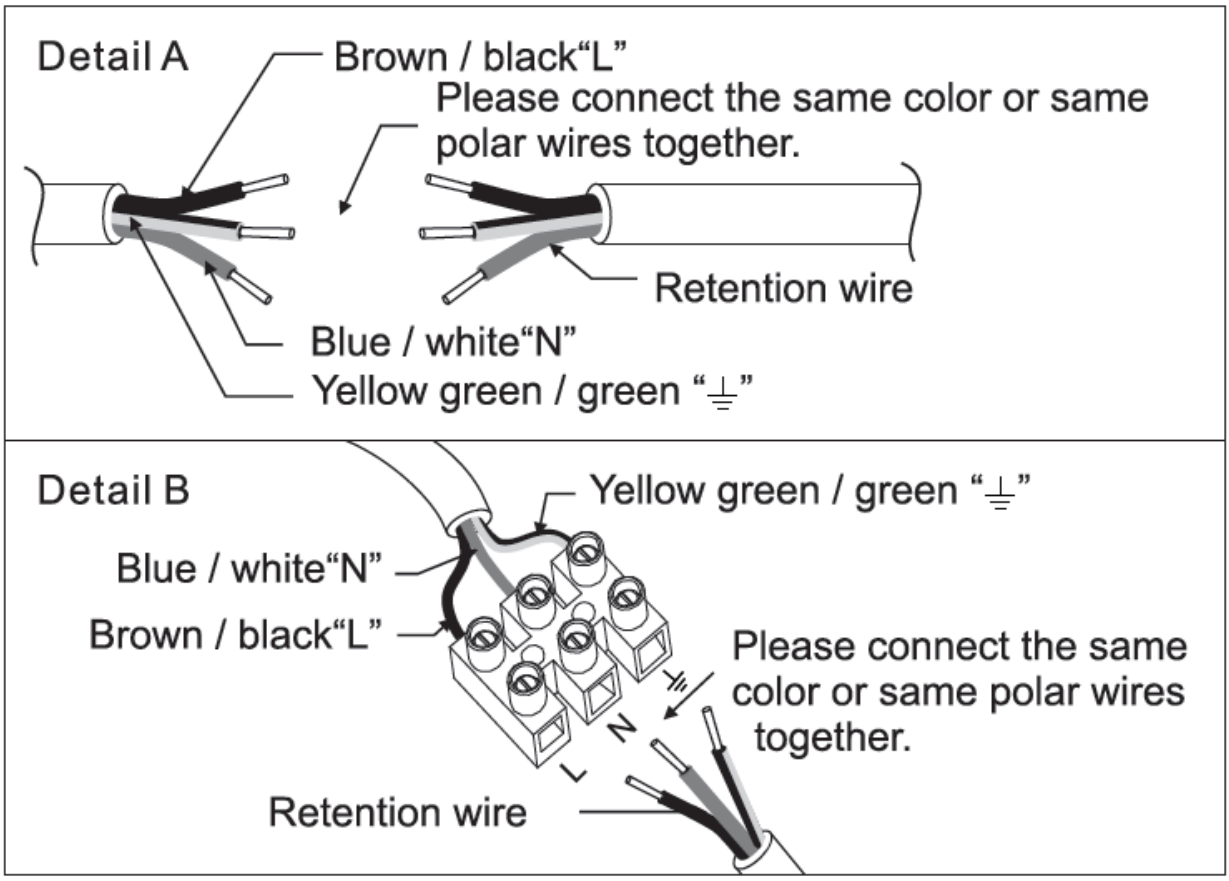
5 th

Connect the ground wires of the driver and the ground of the main input together on the dedicated screw located in the light pole. In case of there would not be one use the quick connect that we recommend to connect all the ground lines together.

6 th

Connect the main wires of the box, once you install the light head on the top of the light pole.

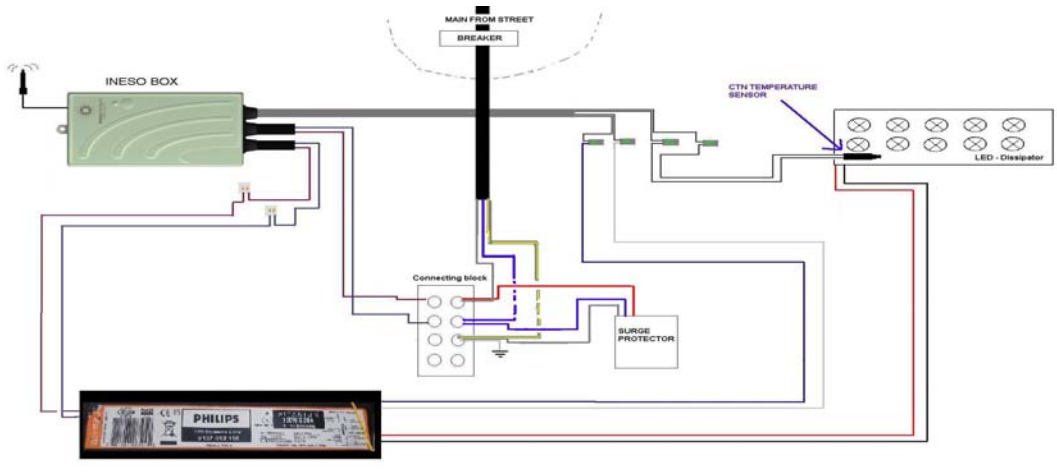
Make all the connections of the wiring coming from the light pole and the lamp. Please refer to the detail A & B for the connections.

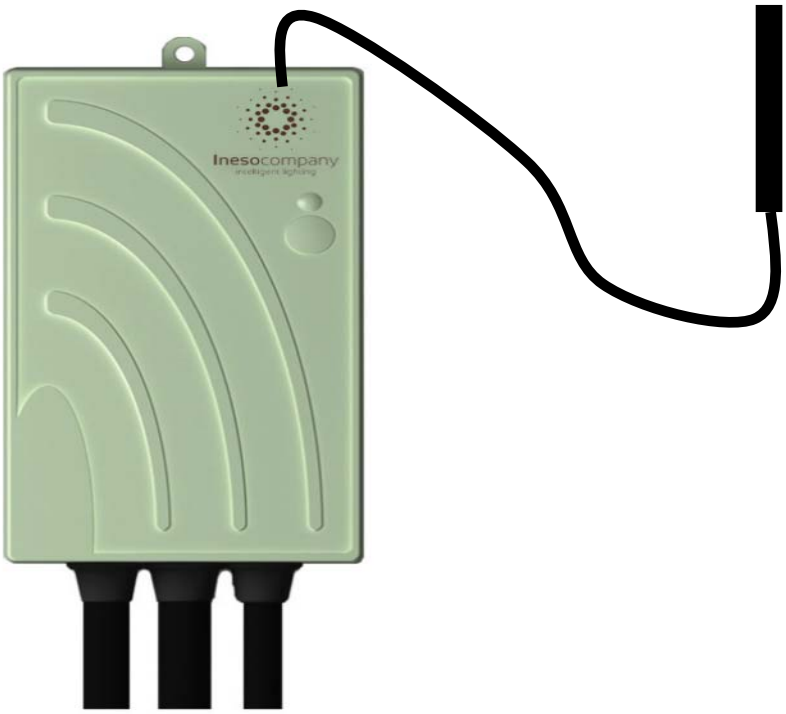


Make sure that the cables are well connected and ensure by pulling on each of them before closing all. For more security we suggest that you protect the connections with insulation tape.

Nota: Please read the special instruction about the remote antenna at the end of the installation chapter.

General view of a typical wiring





Main for the Driver

2nd step connect the Driver control signal (1-10V) to the dedicated dimming input.

Please use the recommended quick

3th step connect the CTN (temperature sensor) to the LED pannel . Max lenght of the cable 3m

Please use the recommended quick connects.

1st step connect the live and neutral to the driver

Please use the recommended quick connects.

5th Connect all the ground lines together on the dedicated screw or use the quick connect

Fuse board

6th Connect the main input of the inesobox to the fuse board. Please make sure the connections are well done than reconnect the fuse.

Main from the street

Remote antenna installation procedure and warning.

The remote antenna is used in case of we need to go out from a thick metal housing. That for we propose 2 references of coaxial cable with at the end a connection for the antenna that will be placed outside the metal housing. In case of you would like to do your own, we do not assume the responsibility for damages or non function that would occur after.

So please take a special attention of the installation procedure. The performances of the whole system will be affected in case of non respect to those instructions.

NOTICE:

Changes or modifications made to this equipment not expressly approved by Inesocompany may void the FCC authorization to operate this equipment.

6/ Description of the different information displayed by the LED

Led RED

Fixed ON : mean that the relay is ON, the dimming output is > 0v as result the LIGHT is ON

Fixed OFF : mean that the relay is Off, the dimming output = 0v, as result the LIGHT is OFF

Fast Blinking : device going back to factory state

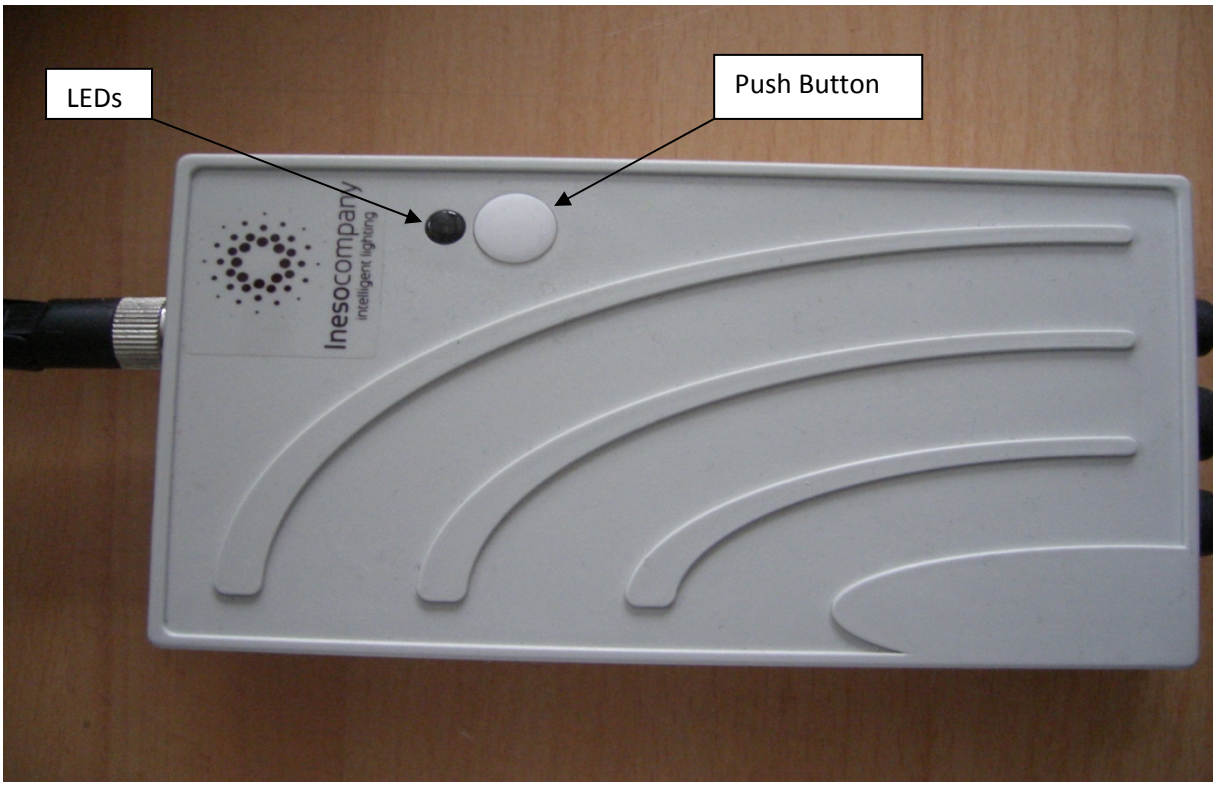
Slow Blinking : device error so please refer to the error procedure

Led GREEN

Fast Blinking: calibration of bulb in progress

Slow Blinking: 250ms/2s device is linked with a concentrator (this is the normal status)

Very Slow Blinking: 250ms/5s: device is not linked (status that can appear during installation procedure)



7/ Behavior change due to pushing the button

Push-Button:

Short press : toggling ON/OFF (when toggling ON, the box restore the dimming value saved on the last off)

Long Press (>1s) : toggling dimming. Increase or Decrease

Very long press (>10s) : return to factory state