NOTE
All numerical values are in metric units [with U.S. customary units in brackets]. Dimensions are in millimeters. Unless otherwise specified, dimensions have a tolerance of ±0.13 mm and angles have a tolerance of ±2°. Figures and illustrations are for identification only and are not drawn to scale.

1. INTRODUCTION

This specification covers the requirements for application of the AA Series Button Style Photocontrol typically used for roadway, pathway, and area lighting. All electronics are enclosed in a high impact UV stabilized housing with wire leads exiting the rear of the control unit allowing it to be placed in tight locations. The AA Series Button Style Photocontrol is supplied with pre-installed 105°C 16AWG stranded wire (white, red, black).

When corresponding with TE Connectivity (TE) Personnel, use the terminology provided in this specification to facilitate inquiries for information. Basic terms and features of this product are provided in Figure 1.

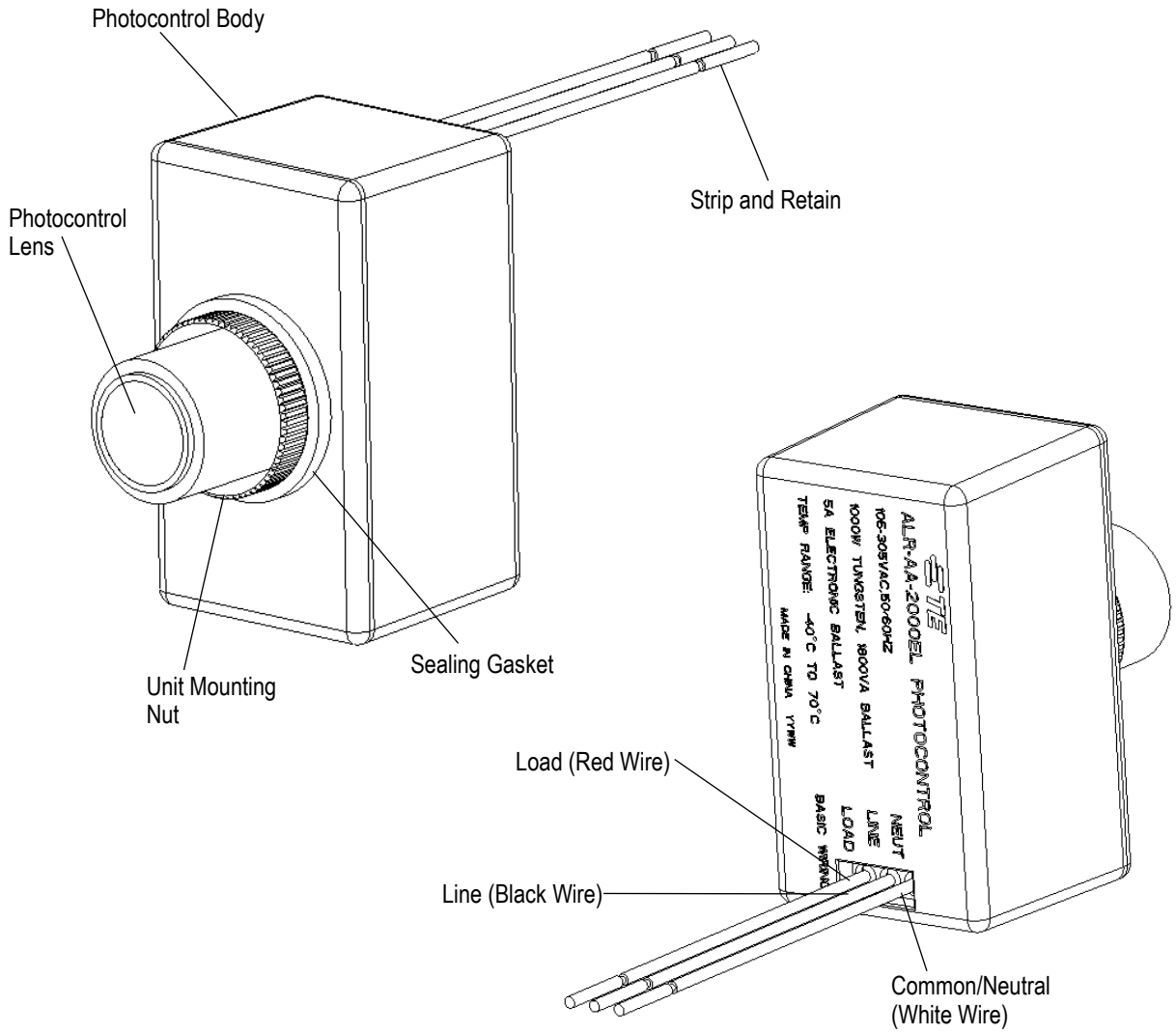

Figure 1

2. REFERENCE MATERIAL

2.1. Revision Summary

Proposed

2.2. Customer Assistance

Reference Product Base Part Number 2393866-1 and Product Code F325. Use of these numbers will identify the product line and help you to obtain product and tooling information. Such information can be obtained through a local TE Representative, by visiting our website at www.te.com, or by calling PRODUCT INFORMATION or the TOOLING ASSISTANCE CENTER at the numbers at the bottom of page 1.

2.3. Drawings

Customer Drawings for product part numbers are available from the service network. If there is a conflict between the information contained in the Customer Drawings and this specification or with any other technical documentation supplied, the information contained in the Customer Drawings takes priority.

3. REQUIREMENTS

3.1. Safety

Perform all wiring of Photocontrol Unit with power turned OFF.

3.2. Limitations

The photocontrol is designed to operate in a temperature range of -40° to 65°C [-40° to 149°F]. The photocontrol should be used within its UL/CSA approved load ratings of 1800VA (ballast), 1000W (tungsten), and 5A (electronic ballast). Operating input voltages of 105-305VAC (50/60Hz) are to be used.

3.3. Material

The housing is made of UL 94V-0 rated thermoplastic. Internal PCBA meets IPC610 Class II requirements. All materials are ROHS compliant.

3.4. Storage

A. Shelf Life

The product should remain in the shipping containers until ready for use to prevent deformation to components. The product should be used on a first in, first out basis to avoid storage contamination that could adversely affect performance.

B. Chemical Exposure

Do not store product near any chemical listed below as they may cause stress corrosion cracking in the material.

Alkalies	Ammonia	Citrates	Phosphates Citrates	Sulfur Compounds
Amines	Carbonates	Nitrites	Sulfur Nitrites	Tartrates

3.5. Handling

The Photocontrol Unit is supplied with sealing gasket and is ready to install upon receipt. It is recommended to avoid touching or having any contact with the photocontrol lens as to not contaminate or mark the optical lens surface.

3.6. Photocontrol Unit Mounting

A. Mounting

A flat surface shall be provided on luminaire housing/post to mount Photocontrol Unit assembly with supplied gasket. The mounting surface should have a flatness tolerance of 0.25mm or less. To provide water-tight mounting, it is recommended that the seal surfaces between Photocontrol Unit assembly and luminaire housing/post are clean and free from any debris. The Photocontrol Unit housing has 3/8" NPT thread, gasket and securing nut. The AA Button Series Photocontrol Unit has a maximum mounting plate thickness of 9.50mm. To mount the AA Button Series Photocontrol Unit, remove the mounting nut leaving the sealing gasket on the threaded portion of the housing. Insert the threaded portion of the AA Button Series Photocontrol Unit through the hole from the inside of the unit and screw the nut onto the threads. Nut should be tight enough to provide a waterproof seal, a nut torque of 1.0 to 2.0 N-m is recommended. Do NOT exceed 3.0 N-m. The body of the AA Button Series Photocontrol Unit must be located in a waterproof enclosure, only the lens and threaded portion are watertight on this unit. If the mounting surface of the enclosure is curved or uneven, apply silicone rubber sealing compound between the enclosure mounting hole and threaded portion of the unit, before securing nut in position. See Figure 2.

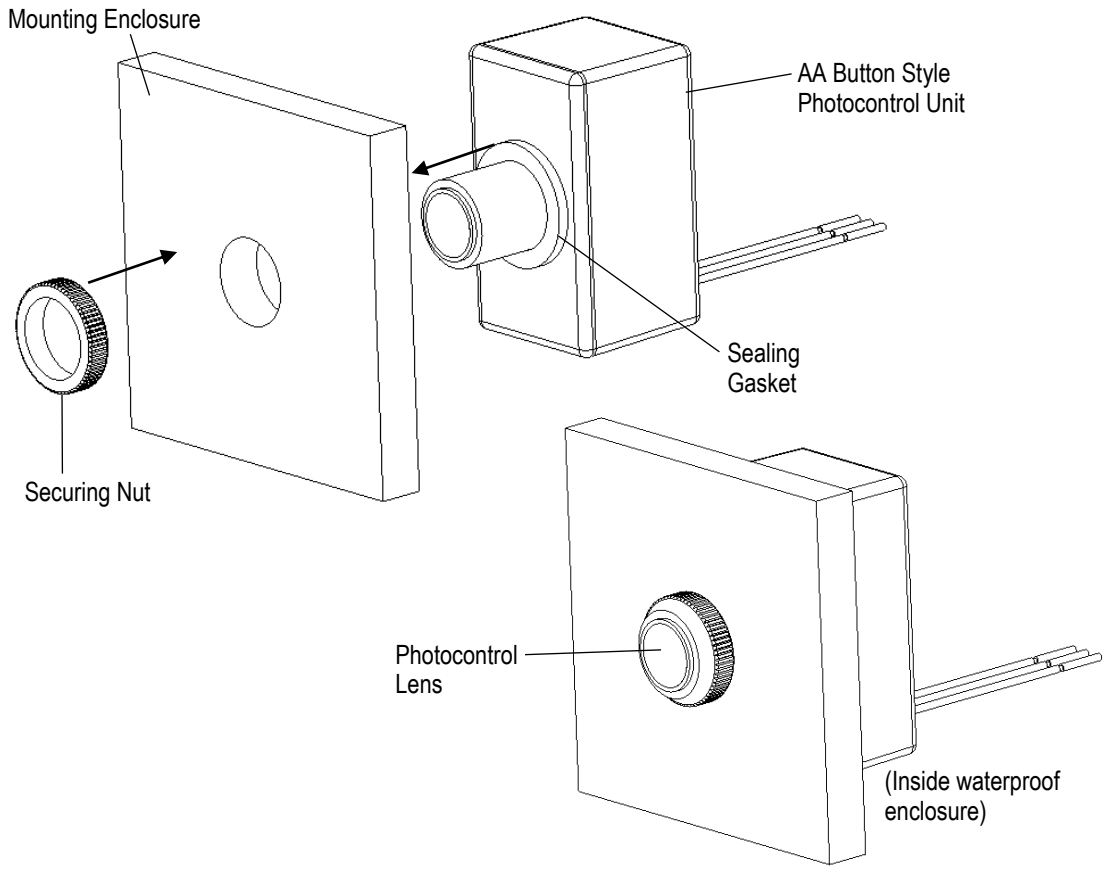

Figure 2

B. Mounting Hole

The recommended mounting hole is shown in Figure 3.

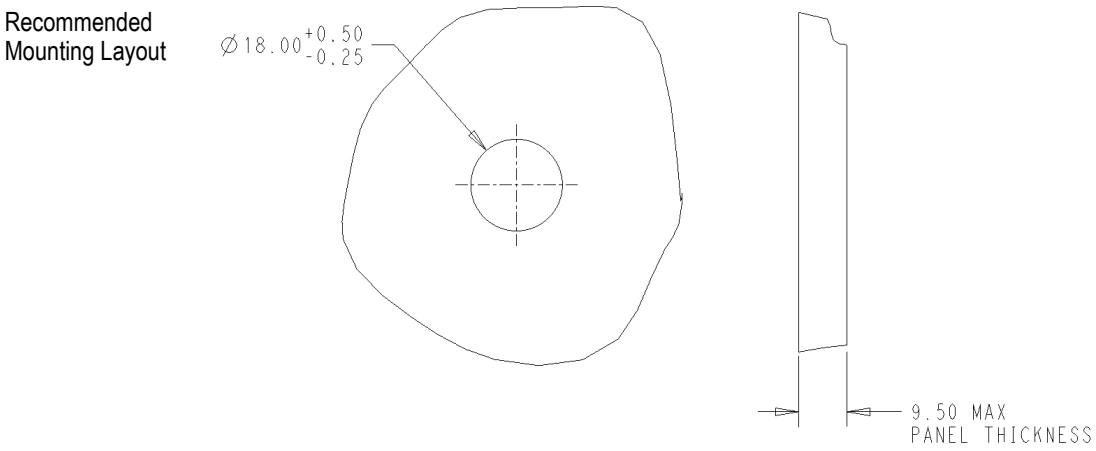

Figure 3

C. Mounting Location and Orientation

Locate the Photocontrol Unit where artificial light cannot fall on the photocontrol lens causing it to turn off or cycle (on and off) at night.

D. Workmanship

The housing must not be damaged in any way. There shall be no nicked wire insulation.

3.7. Wire Connections and Diagram

A. Wire Connections

The Photocontrol Unit wires must be appropriately spliced with the correct line voltage power. When splicing lead wires with crimp-style splices, wire nuts, etc., ensure the proper size splicing connector per the manufacturer's recommendation is being used.

DANGER
Extreme caution must be taken to ensure that power is OFF prior to disconnecting or connecting any wires to prevent electrical shock.

NOTE
All wire connections must be electrically insulated.

B. Wiring Diagram

The Photocontrol Unit wires must be appropriately spliced with the correct line voltage power. Refer to the wiring diagram example shown in Figure 4.

Wiring Diagram

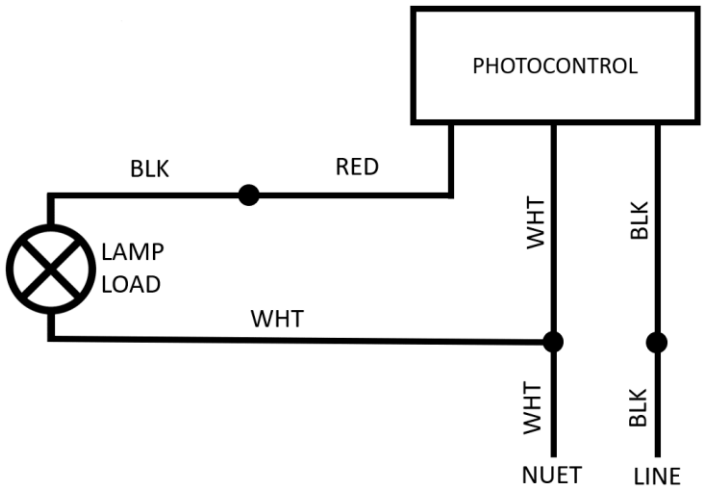

Figure 4

C. Wiring Instructions

1. Turn off Power
2. Line voltage must be the same as indicated on the control label
3. Locate the control so no artificial light will cause the control to turn off at night. If light from the controlled lamp shines on the photocell, the control will cycle (turn on and off)
4. Wiring Procedure
   a. Connect Black wire (hot line) to black wire of control
   b. Connect all black wires of the light fixture to the red wire of the control.
   c. Connect all white wires from the fixture and he white wires from the control to the neutral wire.
   d. Check connections for any bare wires which may be exposed
5. Turn Power on
6. Lamp should turn off in less than 2 minutes if control is tested in daytime
7. If control is tested at night, use a flashlight, and shine the light on the cell. The lamp should turn off in less than 2 minutes. The lamp will come on in 2 minutes or less after removal of the light

3.8. Strain Relief

It is recommended that a means be provided to support the wire bundle extending away from the Photocontrol Unit assembly to prevent inadvertent application of high force to the wire bundle from transmitting into the wire/connector interface. The suggested strain relief method is to use a cable tie and anchor mounted inside the enclosure.

3.9. Replacement and Repair

The controls and housings are not repairable. DO NOT use AA Series Button Style Photocontrol Unit with damaged or defective wires and/or housings.

4. QUALIFICATIONS

AA Series Button Style Photocontrols are Underwriters Laboratories, Inc. Listed in File E45412. Refer to ratings documented on the device.

AA Series Button Style Photocontrols have been evaluated to ANSI C136.24-2020 by Intertek and documented on certificate RT-G-Global-Cert-7959.

5. TOOLING

No special tooling is required for the installation of this product line.

6. VISUAL AID

The illustration below shows a typical application of AA Series Button Style Photocontrols. This illustration should be used by production personnel to ensure a correctly applied product. Applications which DO NOT appear correct should be inspected using the information in the preceding pages of this specification and in the instructional material shipped with the product or tooling.

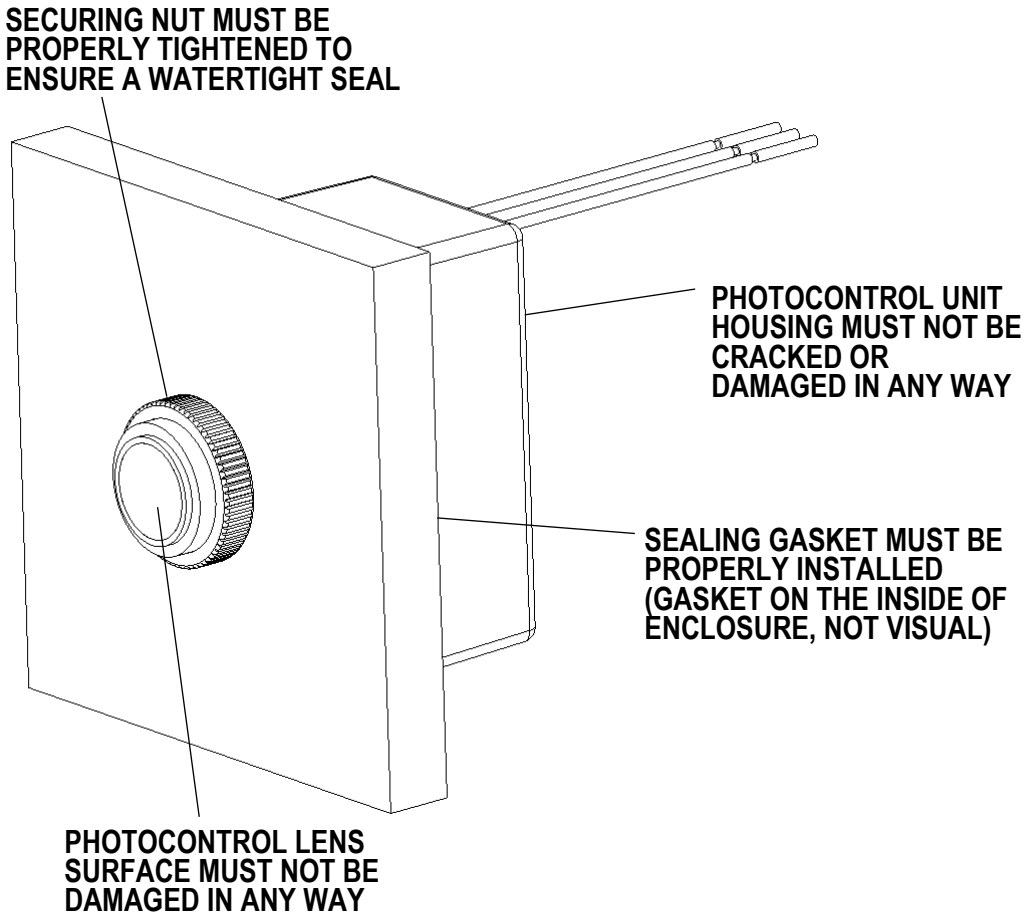

FIGURE 5. VISUAL AID