



**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  $\pm 0.13$  and angles have a tolerance of  $\pm 2^\circ$ . Figures and illustrations are for identification only and are not drawn to scale.

**1. INTRODUCTION**

This specification covers the requirements for application of LUMAWISE Endurance N Control Base and Cover typically used for roadway and area lighting applications utilizing the ANSI C136.41 interface. All contacts are pre-installed into the Dimming Light Controller Base. An O-ring seal is pre-assembled to the base, which provides a seal between the base and cover. The interfacial foam gasket is supplied with the base assembly, but not installed.

The Light Controller Cover is not supplied with the base assembly, but available separately. Dimming Light Controller Base Assemblies may be supplied with either 2 or 4 dimming signal contacts. It is the responsibility of the customer to provide and install the light controller electronics.

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.

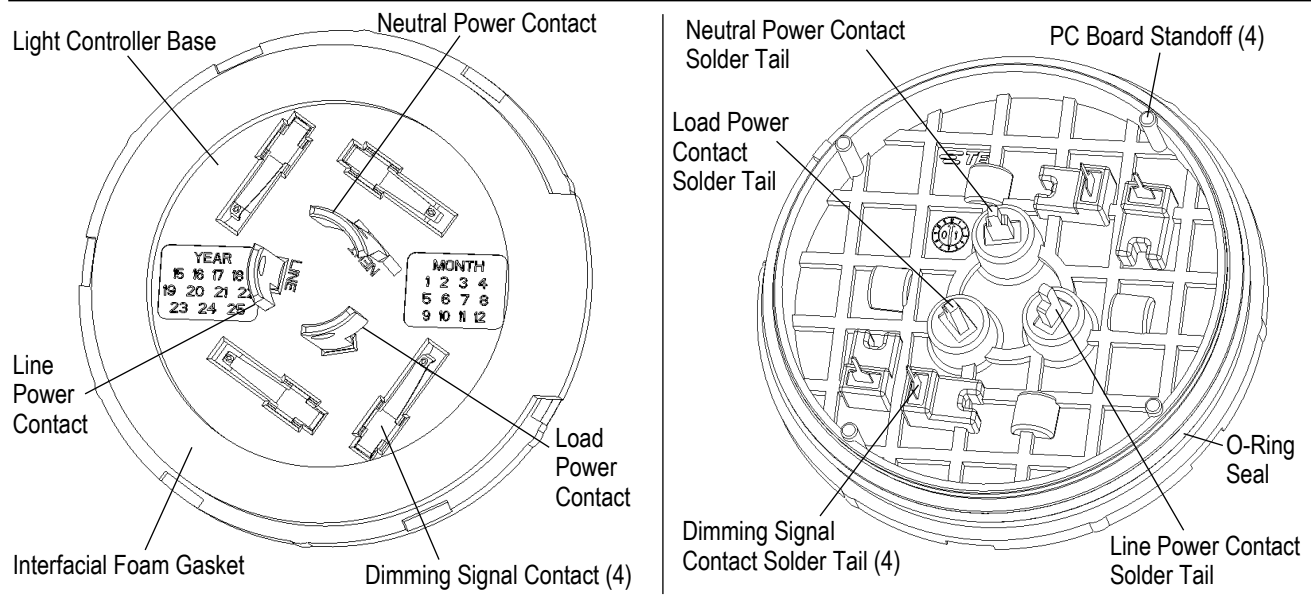


Figure 1

**2. REFERENCE MATERIAL**

**2.1. Revision Summary**

Changed: Section 3.8 to add detail and figures 3a, 3b, and 3c.

Changed: Section 5

**2.2. Customer Assistance**

Reference Product Base Part Number 2336396, 2213730, 2213871, 2213805, and 2213748 and Product Code L937 are representative of the LUMAWISE Endurance N Control Base and Cover. Use of these numbers will identify the product line and help you to obtain product and tooling information when visiting [www.te.com](http://www.te.com) or calling the number at the bottom of this page.

## 2.3. Drawings

Customer drawings for product part numbers are available from [www.te.com](http://www.te.com). Information contained in the customer drawing takes priority.

## 2.4. Specifications

Product Specification [108-32125](#) provides product performance and test results.

## 3. REQUIREMENTS

### 3.1. Safety

Perform all electrical wiring of the mating dimming receptacle with power turned OFF.

### 3.2. Limitations

The connectors are designed to operate in a temperature range of -40° to 85°C [-40° to 185°F].

### 3.3. Material

The base housing and cover are made of UL 94V-0, UV f1 rated thermoplastic. The line voltage contacts are made of brass plated overall with tin. Dimming signal contacts are made of copper alloy with gold plating in contact interface area, tin plated in solder tail area with nickel under-plate on entire contact.

### 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 Light Controller assembly is supplied with the interfacial gasket unassembled; therefore, take precautions not to damage or lose the gasket prior to assembly. Dimming brush contacts are preinstalled in their correct position, therefore, take precautions to not bend or damage the dimming brush contacts during subsequent assembly operations.

### 3.6. Printed Circuit (PC) Board Placement and Soldering

#### A. PC Board Placement

The solder tails are thru-hole type. The pc board thru-hole solder tail pattern may be found on the appropriate TE Connectivity customer drawing. The customers populated pc board shall be first positioned onto the power and dimming signal contact solder tails. The pc board shall be resting on the four pc board standoffs.

#### B. Soldering

Observe guidelines and procedures when soldering contact solder tails. The connectors should be soldered using acceptable hand-soldering techniques. All solder joints should conform to the Workmanship Specification IPC-A-610, "Acceptability of Electronic Assemblies" and IPC J-STD-001, "Requirements for Soldering Electrical and Electronic Assemblies End Item Standards".

### 3.7. Sleeve Assembly

The optional colored sleeve component has a keyway slot that aligns with a raised key on the base. Place the sleeve onto the base, ensuring the sleeve keyway and base key are aligned. Ensure the sleeve is aligned squarely to the base with the base being solidly supported prior to assembly, then press the sleeve onto the base. The sleeve is retained on base with a light press-fit between the sleeve and a raised ring on the base. The sleeve to be fully seated on base. It is recommended that a small press and support fixture be used for assembly. Reference figure 2.

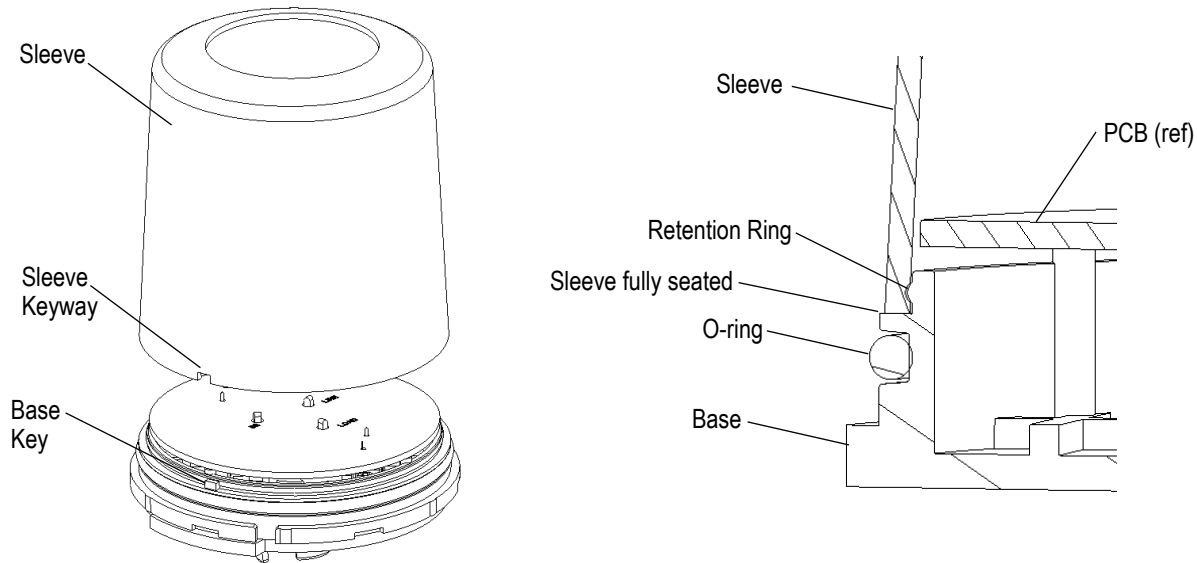


Figure 2

### 3.8. Cover Assembly

**A. Place the cover onto the base, ensuring the cover key and base keyway are aligned. The cover has a raised key which must be properly aligned with a keyway slot on the perimeter of the base. Reference figure 3a.**

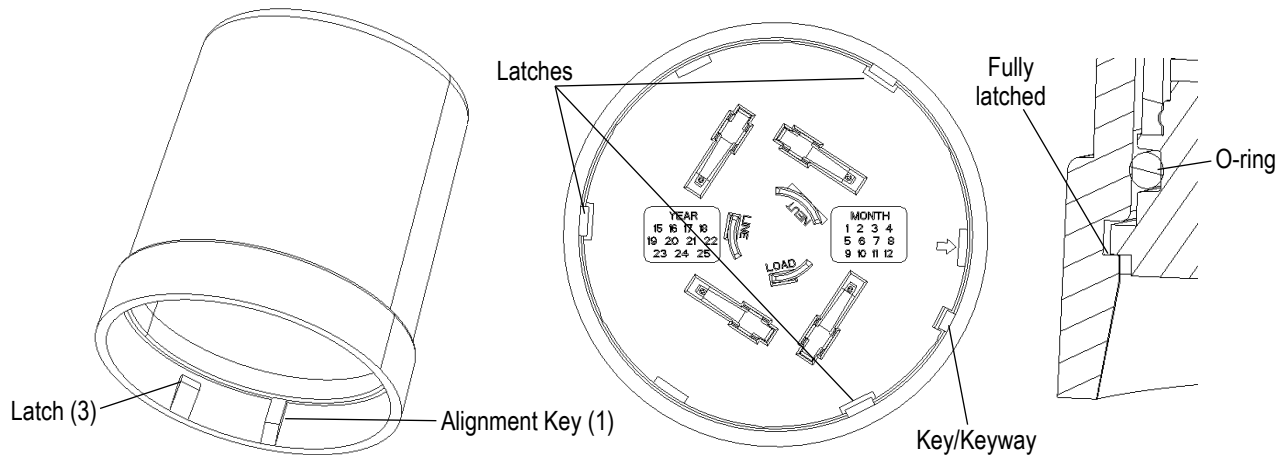


Figure 3a

**B. Press the cover onto the base ensuring that the cover is aligned squarely to the base and the base is solidly supported. Reference figures 3b and 3c.**

- a. TE recommends the use of an assembly fixture (cover nest and push tool) and a small press to ensure that the cover and the base are pressed together squarely. Take precautions not to damage the base assembly or cover during the assembly process.



**CAUTION**

Hand pressing of the cover to the base is not recommended due to not being able to control simultaneous engagement of all 3 latches. Not engaging the latches simultaneously can result in the O-ring being distorted or damaged.

- b. Over time due to handling and/or evaporation the natural lubricant of the O-ring may be removed which could result in difficult assembly. If assembly proves to be difficult it is recommended to lubricate the O-ring with a silicone-based O-ring lubricant (example: Dow Corning 550 fluid) prior to assembling the base to the cover. A small amount of lubricant should just be applied to the O-ring using a lint free swab.

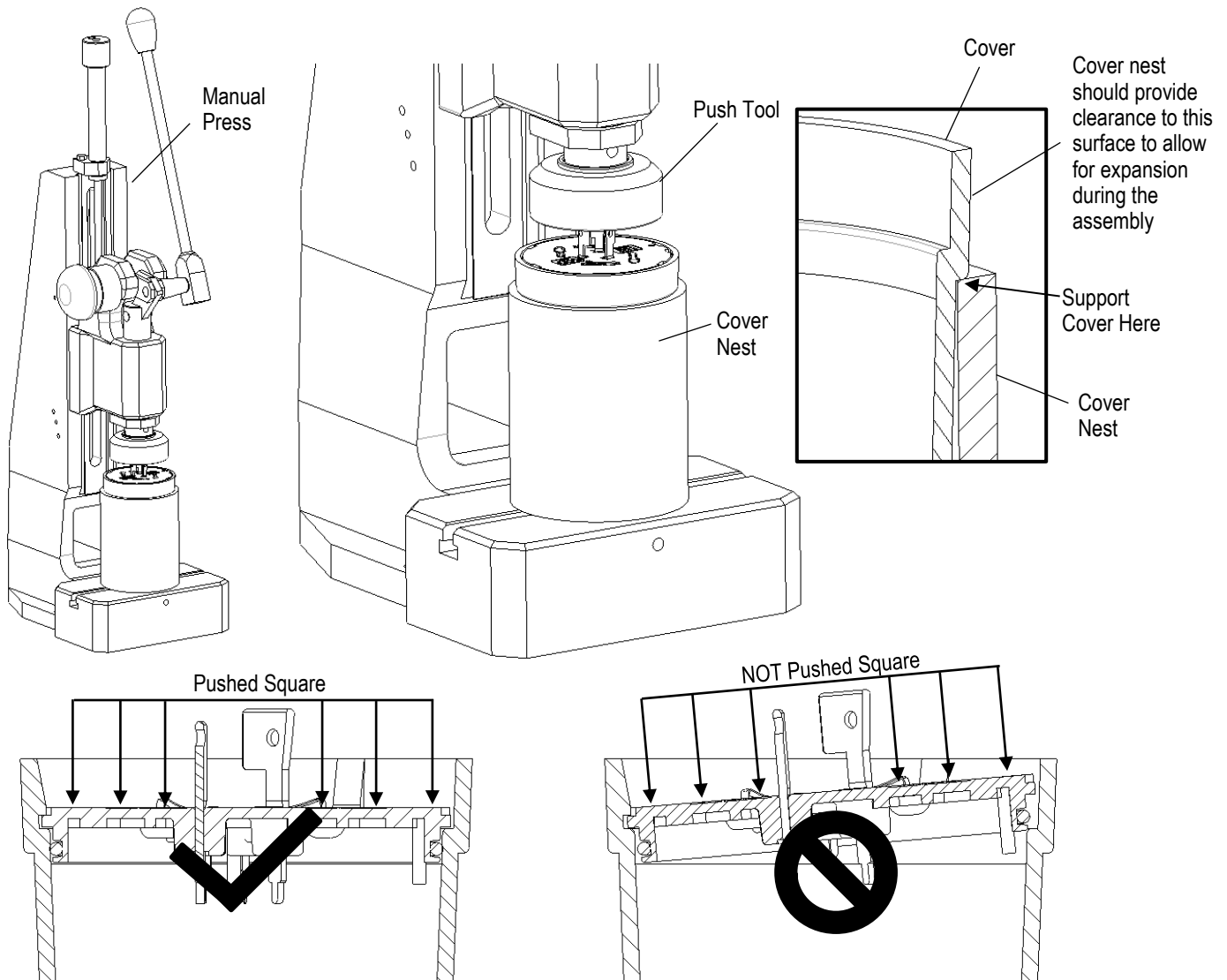


Figure 3b

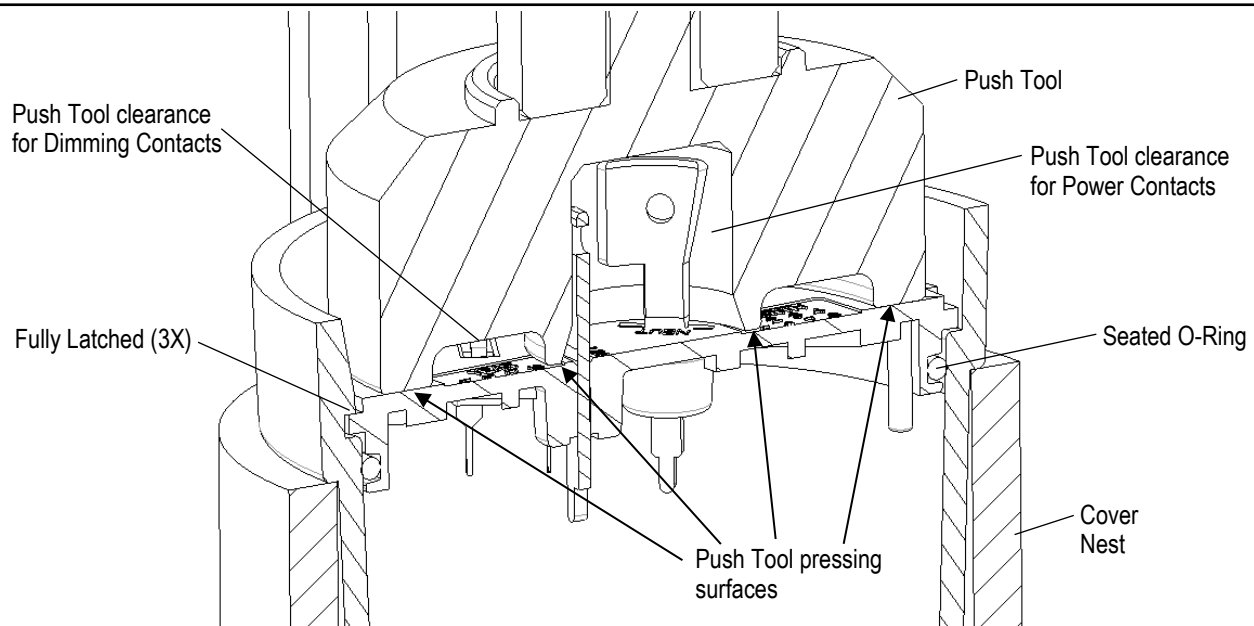


Figure 3c

**C. Inspect the cover/base assembly to ensure the three cover latches are fully latched to the base.**

**D. Inspect the O-ring to ensure it has remained seated in the O-ring groove of the base and is not deformed.**



**CAUTION**

*The O-ring will not properly seal if not fully seated in the O-ring groove after the assembly described in Section 3.8.*

### 3.9. Interfacial Foam Gasket Assembly to Light Controller

To avoid damage to the gasket, it is recommended that gasket assembly is performed as the last assembly step. The gasket is supplied with pressure sensitive adhesive. Remove the paper release liner exposing the adhesive. Place the gasket with the adhesive side of the gasket onto the Light Controller base. The gasket shall be centered within the skirt of the cover, on the 81mm diameter gasket there is a raised ring to assist in aligning the gasket on the base. Then press the gasket against the surface of the base ensuring the gasket is adhered to the base. Inspect the gasket for any damage. See figure 4.

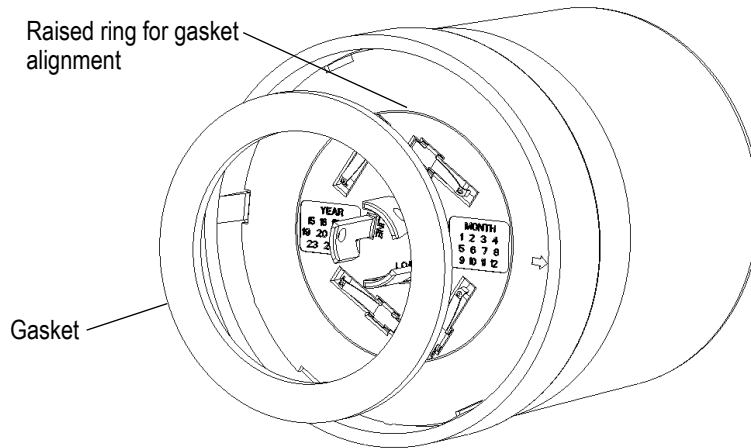


Figure 4

### 3.10. Vented Base Assembly (PN 2336396 series)

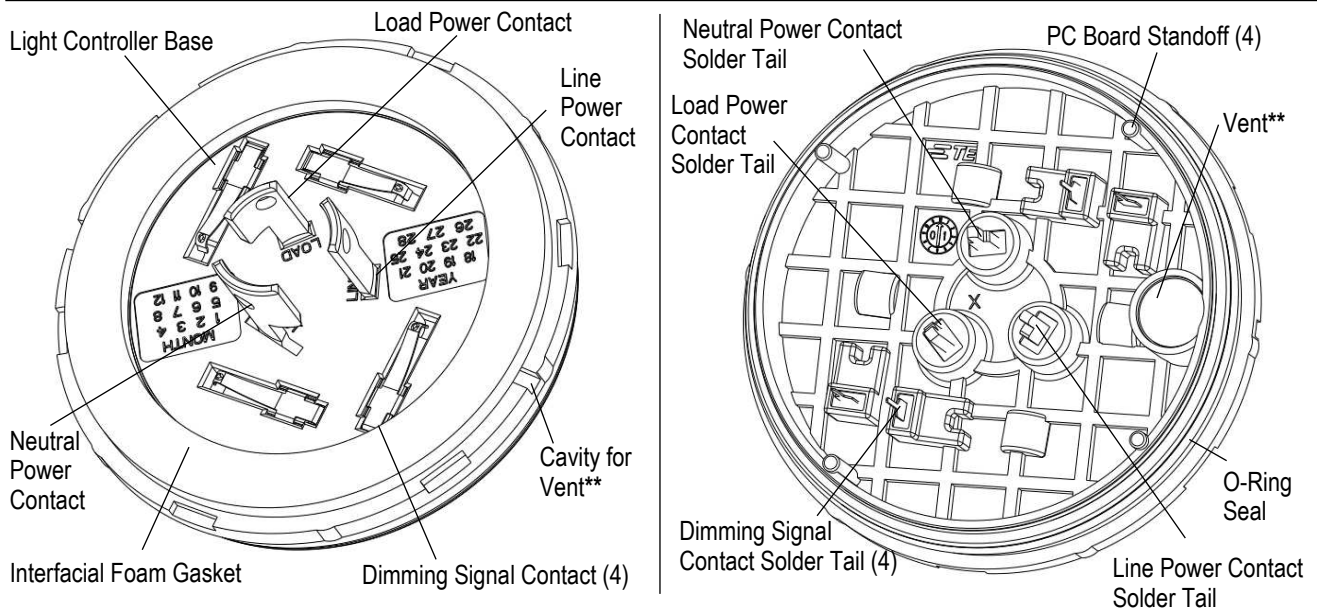


Figure 5

**i NOTE**  
 To ensure the vented features of the PN 2336396 series work properly, do not allow any external features or internal components to touch vented areas shown in Figure 5. It is recommended to leave a minimum gap of at least 1mm between the vent and adjacent components.

**! CAUTION**  
 During handling do not touch the vent. This is to prevent damage to the vent.

### 3.11. Mounting Location and Orientation

The mating luminaire receptacle shall be located on top of the light fixture where artificial light cannot fall on the Dimming Light Controller causing it to turn off or cycle (on and off) at night. If possible, orient the receptacle and Light Controller so the North indicator points North.

### 3.12. Workmanship

The control base must not be damaged in any way. Inspect base assembly for proper contacts and ensure contacts are not damaged or bent. If assembling cover to base, ensure three cover latches are fully latched to base. Inspect interfacial foam seal for proper positioning on base and ensure foam seal is not torn or damaged.

### 3.13. Contact Connections and Diagram

Figure 6 shows the alignment and proper mating of the control base power blades and dimming brush contacts to the mating receptacle power and dimming contacts. All contact color labels are based on the corresponding receptacle contact wire color format, as specified per ANSI C136.41-2013.

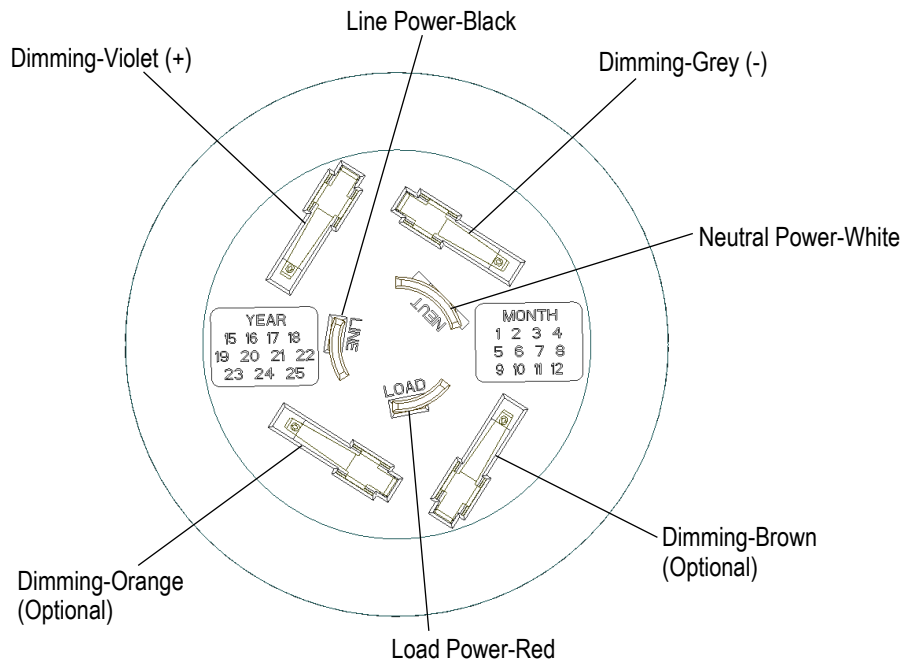


Figure 6

### 3.14. Mating and Un-mating Light Controller to Receptacle

Align LUMAWISE Endurance N Control Base blades with receptacle power contact circuits. Note that the neutral blade is larger than the line and load blades, providing mating polarization. After properly aligning the blades to the receptacle power contact circuits, push downward until the photocell is bottomed on the receptacle's mating surface, slightly compressing gasket of the photocell. Twist the Light Controller in a clockwise direction. The photocell will lock into position, fully mating the Light Controller to the receptacle. To un-mate, twist the Light Controller in a counter-clockwise direction and pull the Light Controller away from the receptacle until the power blades are disengaged from the receptacle.

### 3.15. Replacement and Repair

The contacts and control base are not repairable. DO NOT use a control base with damaged or defective contacts and/or housings. If damaged, replace the control base with a new one.

The control base and cover are not repairable once assembled. Destructive means would be required to remove the cover which would result in damage to either the control base and/or cover.

### 4. QUALIFICATION

LUMAWISE Endurance N Control Bases and Covers Receptacles are Component Recognized by Underwriters Laboratories, Inc. in File E66375, Volume 4, and have been investigated to CSA International by UL.

LUMAWISE Endurance N Control Bases and Covers have been evaluated to IEC-61984 by Underwriters Laboratories, Inc. and is included in CB report certificate US-30977-UL.

### 5. TOOLING

A customer supplied assembly fixture and a small press is recommended to assemble the cover to the base. The press can be mechanical or pneumatic, but it should be adjustable to ensure cover latch engagement is achieved.

### 6. VISUAL AID

The illustration below shows a typical application of LUMAWISE Endurance N Control Base Assembly and Cover. 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.

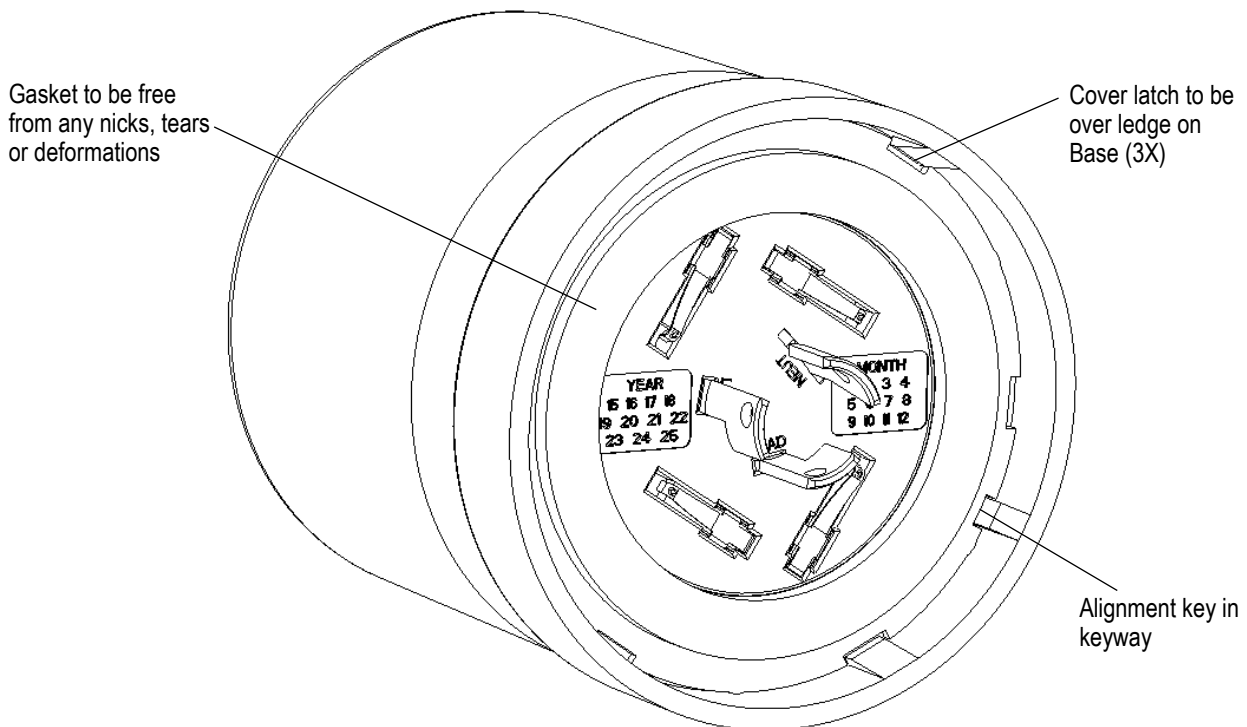


FIGURE 7. VISUAL AID