



**BOURNS®**

## Features

- Small diameter
- Wide resistance range
- Good resolution
- Linear tapers
- Cermet element



Non-RoHS versions are available, but not recommended for new designs.

## 3862 - 1/2 " Diameter Single-Turn Panel Control

### Initial Electrical Characteristics<sup>1</sup>

|   |                                       |
|---|---------------------------------------|
| Standard Resistance Range.....  | 100 ohms to 1 megohm                  |
| Total Resistance Tolerance.....   | (A Taper) ±10 %<br>(H Taper) ±5%      |
| Independent Linearity.....  | ±5 %                                  |
| Absolute Minimum Resistance.....  | 2 ohms maximum                        |
| Effective Electrical Angle.....   | 260° ±10°                             |
| Contact Resistance Variation.....   | ±3 % or 6 ohms (whichever is greater) |
| Dielectric Withstanding Voltage (MIL-STD-202, Method 301)                         |                                       |
| Sea Level.....  | 750 VAC minimum                       |
| 70,000 Feet.....  | 350 VAC minimum                       |
| Insulation Resistance (500 VDC).....  | 1,000 megohms minimum                 |
| Power Rating (Voltage Limited by Power Dissipation or 350 VAC, Whichever is Less) |                                       |
| +70 °C.....   | 1 watt                                |
| +125 °C.....  | 0 watt                                |
| Theoretical Resolution.....   | Essentially infinite                  |

### Environmental Characteristics<sup>1</sup>

|   |                                      |
|---|--------------------------------------|
| Operating Temperature Range.....                            | -40 °C to +125 °C                    |
| Storage Temperature Range.....                              | -65 °C to +125 °C                    |
| Temperature Coefficient Over Storage Temperature Range..... | ±150 ppm/°C                          |
| Vibration.....  | 20 G                                 |
| Total Resistance Shift.....                                 | ±2 % maximum                         |
| Voltage Ratio Shift.....                                    | ±6 % maximum                         |
| Shock.....  | 50 G                                 |
| Total Resistance Shift.....                                 | ±2 % maximum                         |
| Voltage Ratio Shift.....                                    | ±6 % maximum                         |
| Load Life.....  | 1,000 hours                          |
| Total Resistance Shift.....                                 | ±3 % maximum                         |
| Rotational Life (C & N Bushing) No Load.....                | 50,000 cycles                        |
| Total Resistance Shift.....                                 | ±5 % maximum                         |
| Contact Resistance Variation.....                           | ±3 %                                 |
| Moisture Resistance (MIL-STD-202, Method 106, Condition B)  |                                      |
| Total Resistance Shift.....                                 | ±2 % maximum                         |
| Insulation Resistance (500 VDC).....                        | 100 megohms minimum                  |
| Salt Spray.....   | MIL-STD-202, Method 101, Condition A |
| IP Rating.....  | IP 40                                |

### Mechanical Characteristics<sup>1</sup>

|   |  |
|---|--|
| Stop Strength.....                              | 33 N-cm (3 lb.-in.) maximum  |
| Mechanical Angle.....                           | 295° ±3°   |
| Torque  |  |
| Starting and Running.....                       | 3.53 N-cm (5 oz.-in.) maximum  |
| Mounting (Torque on Bushing).....               | 1.7-2.0 N-m (15-18 lb.-in.) maximum  |
| Shaft Locking Torque with Locking Bushings..... | 14.12 N-cm (20 oz.-in.)  |
| Weight (Single Section).....                    | 25 grams maximum   |
| (Each Additional Section).....                  |  |
| Terminals.....                                  | Printed circuit pins or J-Hooks  |
| Soldering Condition.....                        | Recommended hand soldering using Sn85/Ag5 no clean solder, 0.025 " wire diameter<br>Maximum temperature 399 °C (750 °F) for 3 seconds. No wash process to be used with no clean flux.<br>Part can be wave soldered at 260 °C (500 °F) for 5 seconds, no wash process with no clean flux. |
| Marking.....                                    | Manufacturer's trademark, wiring diagram, date code, resistance, manufacturer's part number  |
| Ganging.....                                    | 1 cup maximum  |
| Hardware.....                                   | One lockwasher and one mounting nut is shipped with each potentiometer, except where noted in the part number.   |

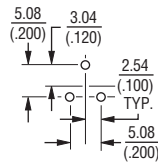
<sup>1</sup> AT ROOM AMBIENT: +25 °C NOMINAL AND 50 % RELATIVE HUMIDITY NOMINAL, EXCEPT AS NOTED.

# 3862 - 1/2" Diameter Single-Turn Panel Control

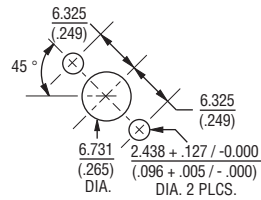
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## Product Dimensions

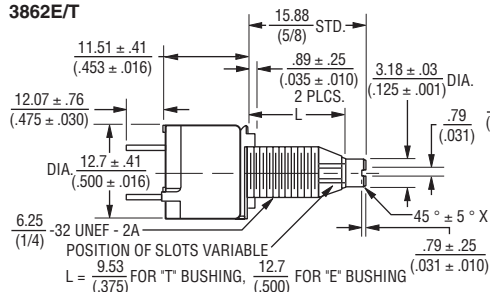
### PCB LAYOUT



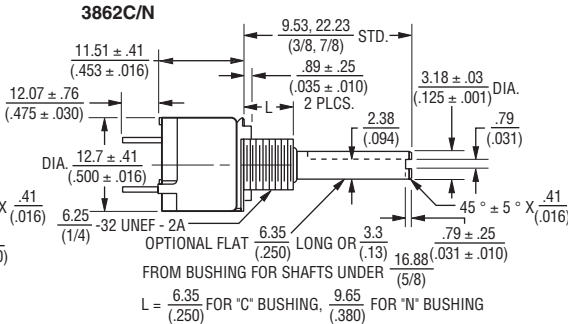
### PANEL LAYOUT



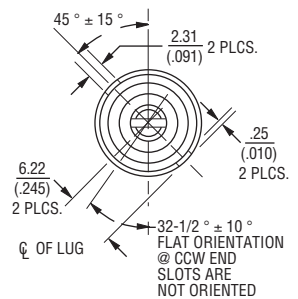
### 3862E/T



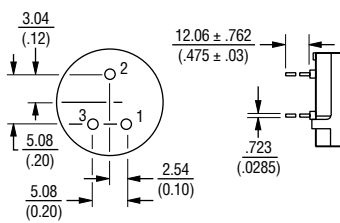
### 3862C/N



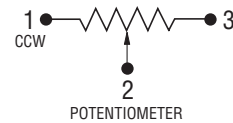
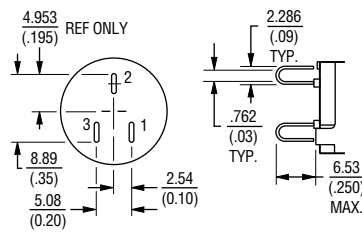
### Shaft End Detail 3862



### PC PIN TERMINAL



### J-HOOK TERMINAL

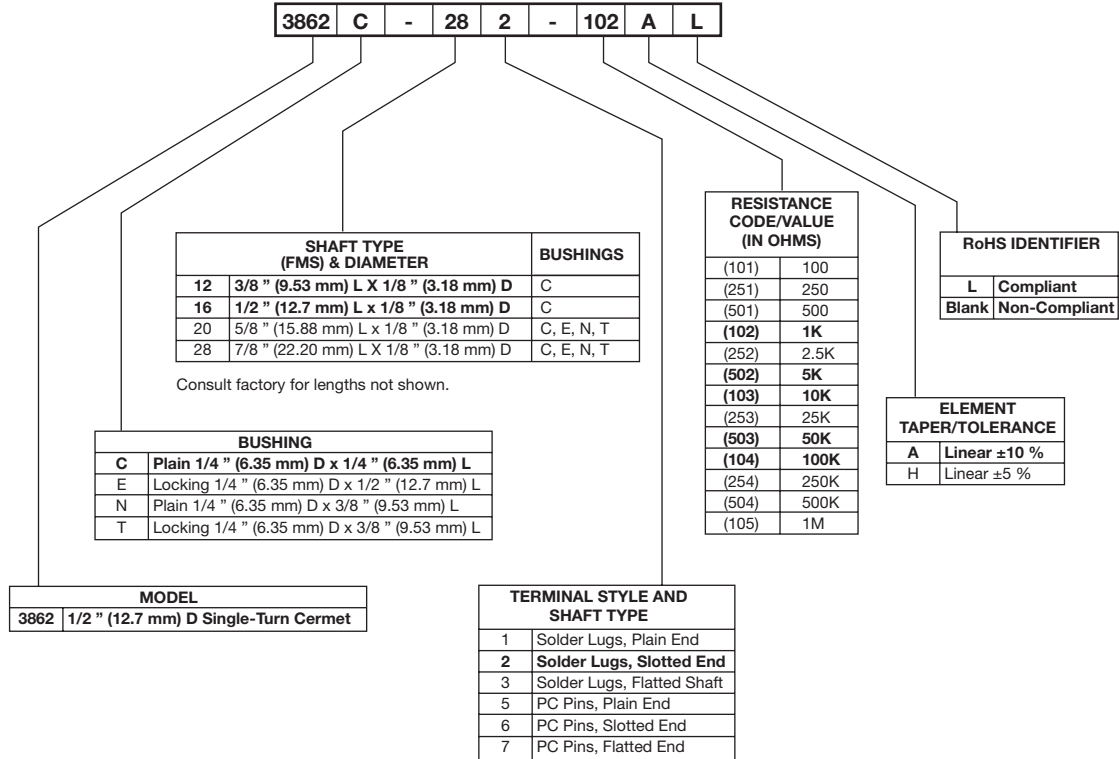


DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$

Specifications are subject to change without notice.  
Customers should verify actual device performance in their specific applications.

# How to Order 3862 Series Panel Controls

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*Boldface features are Bourns standard options. All others are available with higher minimum order quantities.*