



**THE DATASHEET OF  
3862C-202-502AL**





## Features

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

## Additional Information

Click these links for more information:



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

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

Standard Resistance Range.....	1K ohms to 1 megohm
Total Resistance Tolerance.....	(A Taper) ±10 % (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, No Load	
(C & N Bushings).....	50,000 cycles
(E & T Bushings).....	1,000 cycles
Total Resistance Shift.....	±5 % maximum
Contact Resistance Variation.....	±3 % or 6 ohms (whichever is greater)
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
Terminals.....	Printed circuit pins or J-Hooks
Soldering Condition.....	Recommended hand soldering using Sn85/Ag5 no clean solder, 0.025 " wire diameter Maximum temperature 399 °C (750 °F) for 3 seconds. No wash process to be used with no clean flux. 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 (H-37-1) and one mounting nut (H-38-1) is shipped with each potentiometer; locking bushing versions are shipped with one additional locking nut (H-38-3).

<sup>1</sup> ELECTRICAL SPECIFICATIONS TESTED AT 250 RPM, AT ROOM AMBIENT: +25 °C NOMINAL.



**WARNING**  
**Cancer and Reproductive Harm**  
[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

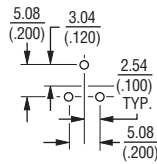
\*RoHS Directive 2015/863, Mar 31, 2015 and Annex.  
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# 3862 – 1/2" Diameter Single-Turn Panel Control

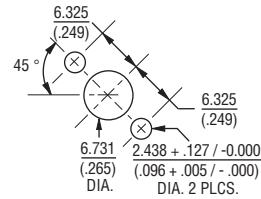
**BOURNS®**

## Product Dimensions

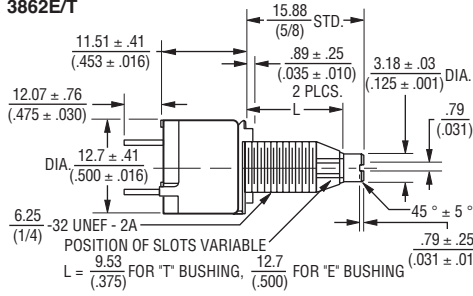
### PCB LAYOUT



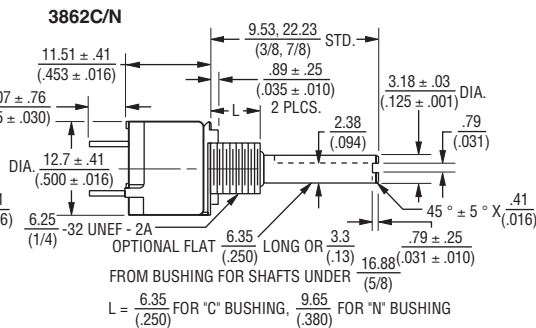
### PANEL LAYOUT



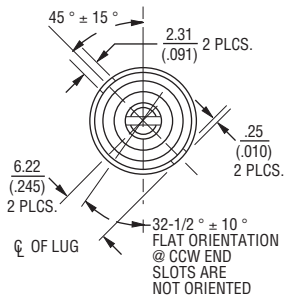
### 3862E/T



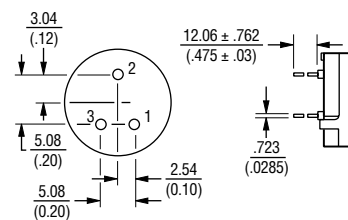
### 3862C/N



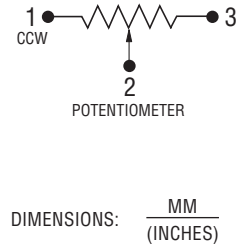
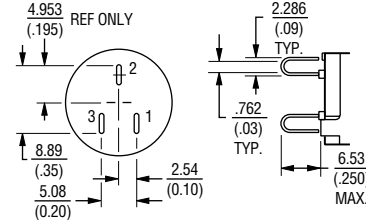
### Shaft End Detail 3862



### PC PIN TERMINAL

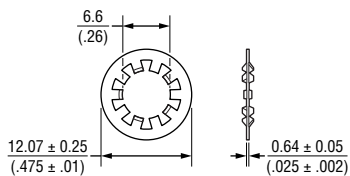


### J-HOOK TERMINAL

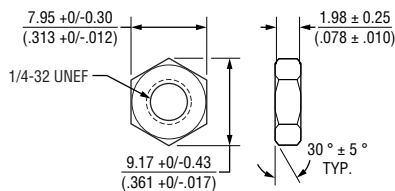


## Hardware

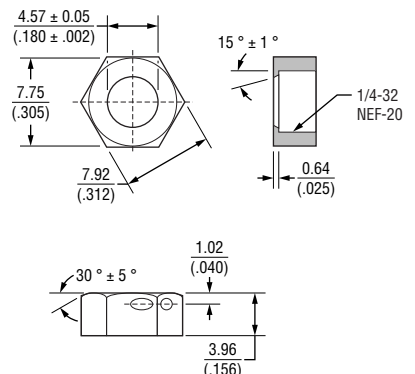
### LOCKWASHER H-37-1



### NUT H-38-1



### LOCKING NUT H-38-3



## Date Code Description

YY WW M

- M = COUNTRY OF MANUFACTURE (MEXICO)
- WW = WEEK NUMBER
- YY = LAST TWO DIGITS OF YEAR MANUFACTURED

DIMENSIONS: MM (INCHES)

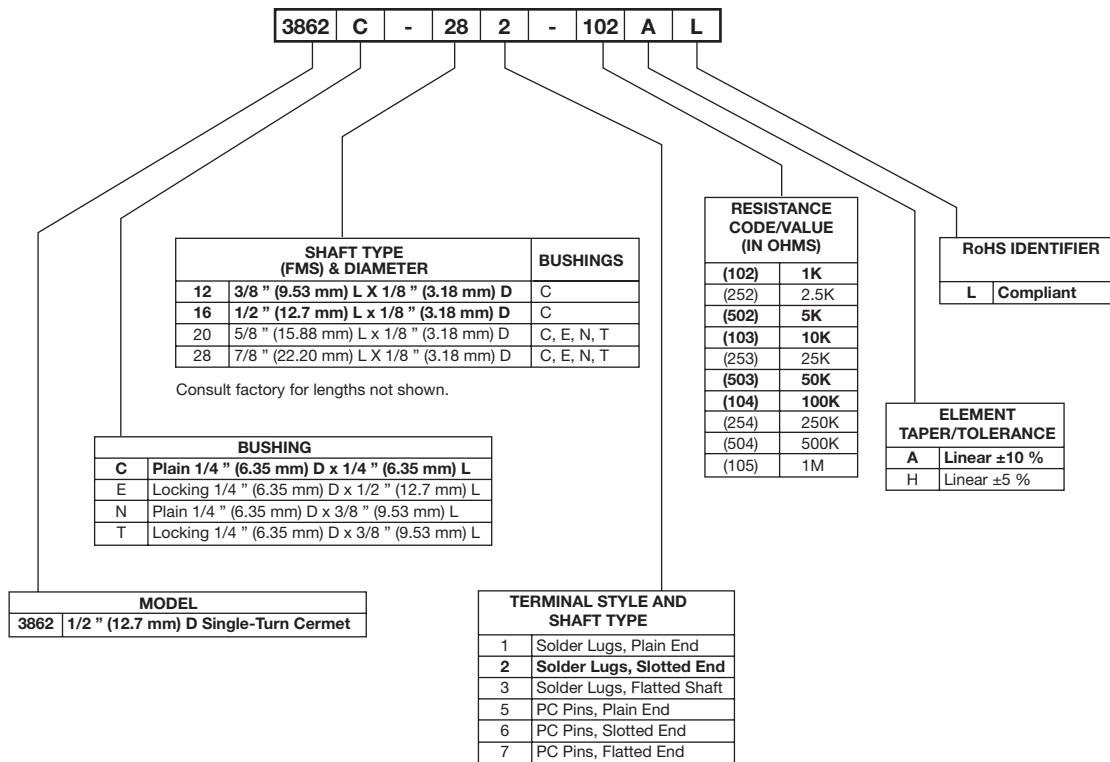
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# How to Order 3862 Series Panel Controls

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

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