



Features

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

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

Initial Electrical Characteristics¹

Standard Resistance Range	100 ohms to 1 megohm
Total Resistance Tolerance	(A Taper) $\pm 10\%$ (H Taper) $\pm 5\%$
Independent Linearity	$\pm 5\%$
Absolute Minimum Resistance	2 ohms maximum
Effective Electrical Angle	$260^\circ \pm 10^\circ$
Contact Resistance Variation	$\pm 3\%$ 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 Characteristics¹

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	$\pm 2\%$ maximum
Voltage Ratio Shift	$\pm 6\%$ maximum
Shock	50 G
Total Resistance Shift	$\pm 2\%$ maximum
Voltage Ratio Shift	$\pm 6\%$ maximum
Load Life	1,000 hours
Total Resistance Shift	$\pm 3\%$ maximum
Rotational Life, No Load	
(C & N Bushings)	50,000 cycles
(E & T Bushings)	1,000 cycles
Total Resistance Shift	$\pm 5\%$ maximum
Contact Resistance Variation	$\pm 3\%$ or 6 ohms (whichever is greater)
Moisture Resistance (MIL-STD-202, Method 106, Condition B)	
Total Resistance Shift	$\pm 2\%$ maximum
Insulation Resistance (500 VDC)	100 megohms minimum
Salt Spray	MIL-STD-202, Method 101, Condition A
IP Rating	IP 40

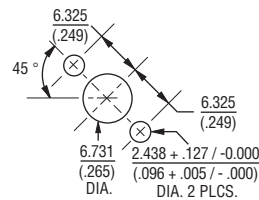
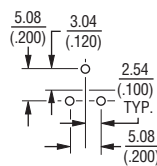
Mechanical Characteristics¹

Stop Strength	33 N-cm (3 lb.-in.) maximum
Mechanical Angle	$295^\circ \pm 3^\circ$
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 and one mounting nut is shipped with each potentiometer, except where noted in the part number.

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

BOURNS®

PANEL LAYOUT



3862E/T

15.88 STD. (5/8)

11.51 ± .41 (4.53 ± .016)

12.07 ± .76 (4.75 ± .030)

12.7 ± .41 (5.00 ± .016)

DIA. (5.00 ± .016)

6.25 (1/4)

32 UNEF - 2A

POSITION OF SLOTS VARIABLE

L = 9.53 (3/75) FOR "T" BUSHING, 12.7 (5/00) FOR "E" BUSHING

15.88 STD. (5/8)

.89 ± .25 (.035 ± .010)

2 PLCS.

3.18 ± .03 (125 ± .001) DIA.

.79 (.031)

45° ± 5° X

.79 ± .25 (.031 ± .010)

3862C/N

11.51 ± .41
(453 ± .016)

1.7 ± .76
(43 ± .030)

DIA. 12.7 ± .41
(500 ± .016)

6.25
(1/4)

.32 UNEF - 2A

OPTIONAL FLAT

6.35
(250)

9.53, 22.23
(3/8, 7/8) STD.

.89 ± .25
(.035 ± .010)

2 PLCS.

2.38
(.094)

3.18 ± .03
(125 ± .001) DIA.

.79
(.031)

45° ± 5° X .41
(.16)

3.3
(13)

16.88
(5/8)

FROM BUSHING FOR SHAFTS UNDER

L = $\frac{6.35}{(250)}$ FOR "C" BUSHING, $\frac{9.65}{(380)}$ FOR "N" BUSHING

Technical drawing of a cross-section of a lug. The drawing shows a circular cross-section with several concentric circles and radial lines. The following dimensions and tolerances are specified:

- Top-left radial dimension: $45^\circ \pm 15^\circ$
- Top-right radial dimension: $\frac{2.31}{(.091)} 2 \text{ PLCS.}$
- Bottom-right radial dimension: $\frac{.25}{(.010)} 2 \text{ PLCS.}$
- Bottom-left radial dimension: $\frac{6.22}{(.245)} 2 \text{ PLCS.}$
- Bottom radial dimension: $32-1/2^\circ \pm 10^\circ$
- Bottom radial dimension: **FLAT ORIENTATION @ CCW END SLOTS ARE NOT ORIENTED**
- Center point: **C OF LUG**

4.953
(.195) REF ONLY

2.286
(.09) TYP.

762
(.03) TYP.

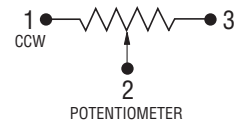
8.89
(.35)

5.08
(0.20)

2.54
(0.10)

6.53
(.250) MAX.

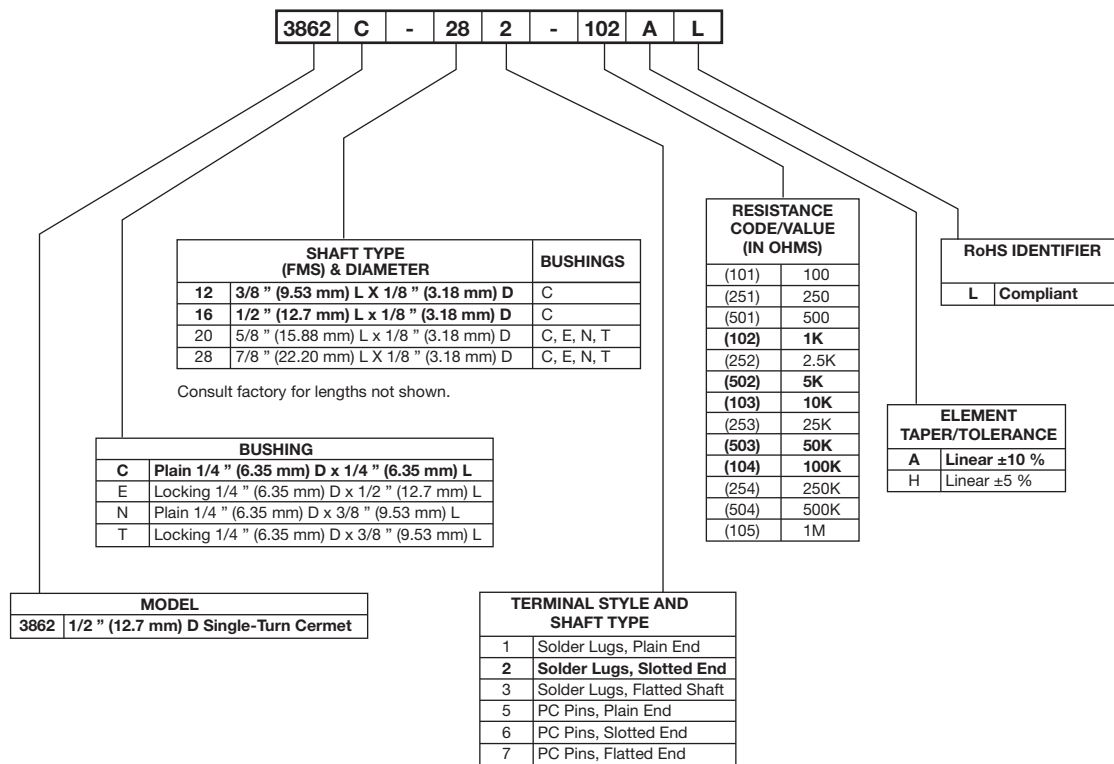
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Specifications are subject to change without notice.
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.
Users should verify actual device performance in their specific applications.

How to Order 3862 Series Panel Controls

BOURNS®



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