



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	$\pm 3\%$ of total resistance
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 (C & N Bushing) No Load	50,000 cycles
Total Resistance Shift	$\pm 5\%$ maximum
Contact Resistance Variation.....	$\pm 3\%$
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

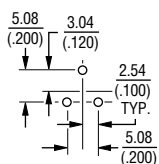
Mechanical Characteristics¹

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
(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 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.

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

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PCB LAYOUT



3862E/T

Technical drawing of a bushing assembly with the following dimensions and tolerances:

- Top horizontal dimension: $15.88 \pm .03$ (5/8) STD.
- Dimension from left face to start of threads: $11.51 \pm .41$ (.453 $\pm$.016)
- Dimension from left face to end of threads: $12.07 \pm .76$ (.475 $\pm$.030)
- Dimension from left face to end of bushing: $12.7 \pm .41$ (.500 $\pm$.016)
- Dimension from end of threads to end of bushing: $.89 \pm .25$ (.035 $\pm$.010) 2 PLCS.
- Dimension from end of threads to end of bushing: $3.18 \pm .03$ (.125 $\pm$.001) DIA.
- Dimension from end of threads to end of bushing: $.79$ (.031)
- Dimension from end of threads to end of bushing: $.79 \pm .25$ (.031 $\pm$.010)
- Thread specification: 6.25 (1/4) -32 UNEF - 2A
- Angle: $45^\circ \pm 5^\circ$ X
- Position of slots variable
- Formula for L: $L = \frac{9.53}{.375}$ FOR "T" BUSHING, $\frac{12.7}{.500}$ FOR "E" BUSHING

3862C/N

Technical drawing of a bushing with the following dimensions and specifications:

- Overall length: $9.53, 22.23$ (3/8, 7/8) STD.
- Inner diameter: $11.51 \pm .41$ (.453 $\pm$.016)
- Outer diameter: $12.07 \pm .76$ (.475 $\pm$.030)
- Thread: $12.7 \pm .41$ (.500 $\pm$.016) DIA. $\times .41$ (.016)
- Thread specification: 6.25 (1/4) $\times$ 32 UNEF $\times$ $2A$
- Optional flat: 6.35 (250)
- Long OR: 3.3 (.13)
- From bushing for shafts under: 16.88 (5/8)
- Angle: $45^\circ \pm 5^\circ \times .41$ (.016)
- Inner diameter: $3.18 \pm .03$ (.125 $\pm$.001) DIA.
- Inner diameter: $.79$ (.031)
- Inner diameter: $.79 \pm .25$ (.031 $\pm$.010)
- Inner diameter: 2.38 (.094)
- Inner diameter: $.89 \pm .25$ (.035 $\pm$.010) 2 PLCS.
- Inner diameter: 6.35 (250)
- Inner diameter: 9.65 (380)

OPTIONAL FLAT

LONG OR

FROM BUSHING FOR SHAFTS UNDER

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

45° ± 15°

6.22
(.245)
2 PLCS.

2.31
(.091) 2 PLCS.

.25
(.010)
2 PLCS.

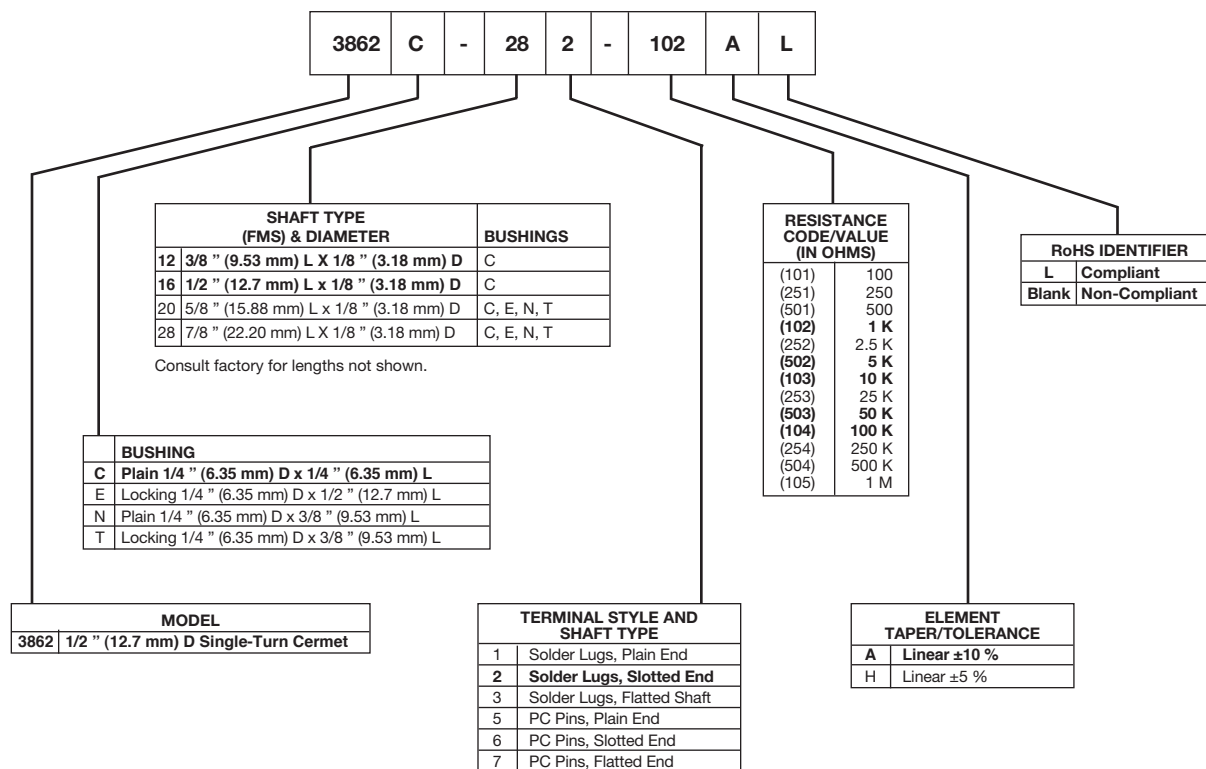
32-1/2° ± 10°
FLAT ORIENTATION
@ CCW END
SLOTS ARE
NOT ORIENTED

C OF LUG

Specifications are subject to change without notice.
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.