

Features

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

Additional Information

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3862 – 1/2 ″ Diameter Single-Turn Panel Control

Initial Electrical Characteristics[1]

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[1]

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[1]

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).

[1] ELECTRICAL SPECIFICATIONS TESTED AT 250 RPM, AT ROOM AMBIENT: +25 °C NOMINAL.

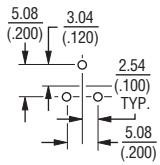
WARNING
Cancer and Reproductive Harm
www.P65Warnings.ca.gov

*RoHS Directive 2015/863, Mar 31, 2015 and Annex.
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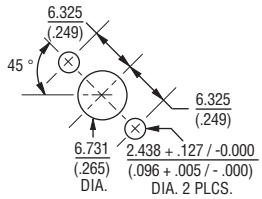
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Product Dimensions

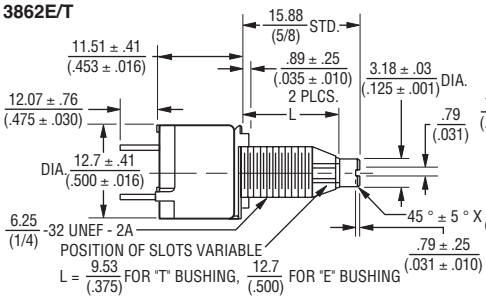
PCB LAYOUT



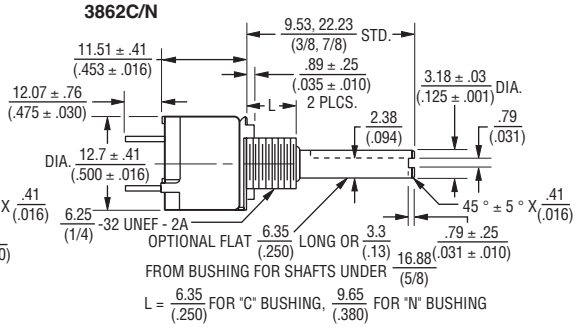
PANEL LAYOUT



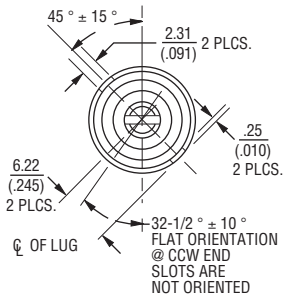
3862E/T



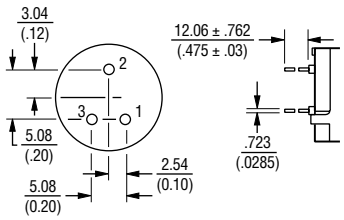
3862C/N



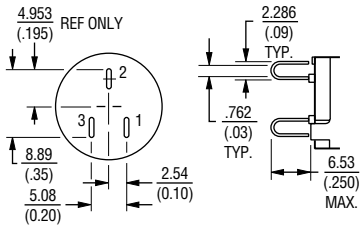
Shaft End Detail 3862

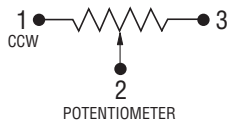


PC PIN TERMINAL



J-HOOK TERMINAL

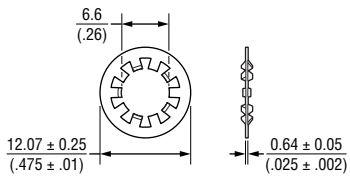




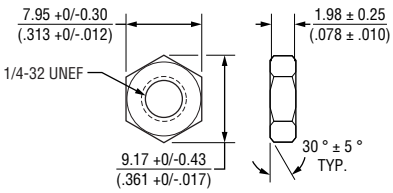
DIMENSIONS: MM / (INCHES)

Hardware

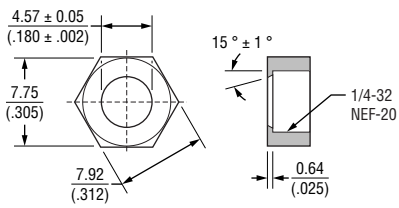
LOCKWASHER H-37-1



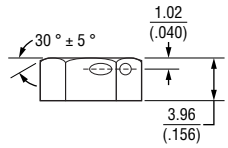
NUT H-38-1



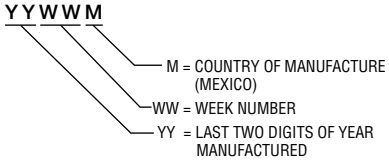
LOCKING NUT H-38-3



DIMENSIONS: MM / (INCHES)



Date Code Description

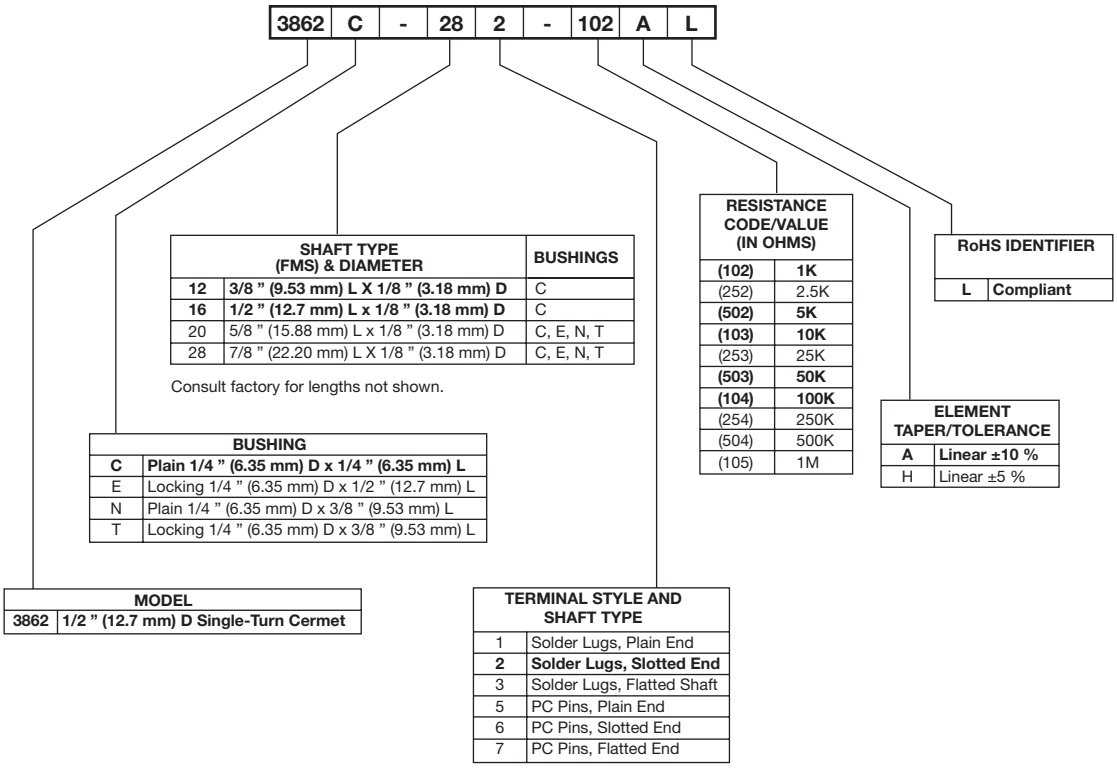


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How to Order 3862 Series Panel Controls

BOURNS®



SHAFT TYPE (FMS) & DIAMETER		BUSHINGS
12	**3/8 ” (9.53 mm) L X 1/8 ” (3.18 mm) D**	C
16	**1/2 ” (12.7 mm) L x 1/8 ” (3.18 mm) D**	C
20	5/8 ” (15.88 mm) L x 1/8 ” (3.18 mm) D	C, E, N, T
28	7/8 ” (22.20 mm) L X 1/8 ” (3.18 mm) D	C, E, N, T

Consult factory for lengths not shown.

BUSHING	
C	**Plain 1/4 ” (6.35 mm) D x 1/4 ” (6.35 mm) L**
E	Locking 1/4 ” (6.35 mm) D x 1/2 ” (12.7 mm) L
N	Plain 1/4 ” (6.35 mm) D x 3/8 ” (9.53 mm) L
T	Locking 1/4 ” (6.35 mm) D x 3/8 ” (9.53 mm) L

MODEL	
3862	**1/2 ” (12.7 mm) D Single-Turn Cermet**

TERMINAL STYLE AND SHAFT TYPE	
1	Solder Lugs, Plain End
2	**Solder Lugs, Slotted End**
3	Solder Lugs, Flatted Shaft
5	PC Pins, Plain End
6	PC Pins, Slotted End
7	PC Pins, Flatted End

RESISTANCE CODE/VALUE (IN OHMS)	
(102)	**1K**
(252)	2.5K
(502)	**5K**
(103)	**10K**
(253)	25K
(503)	**50K**
(104)	**100K**
(254)	250K
(504)	500K
(105)	1M

ELEMENT TAPER/TOLERANCE	
A	**Linear ±10 %**
H	Linear ±5 %

RoHS IDENTIFIER	
L	**Compliant**

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

BOURNS®

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