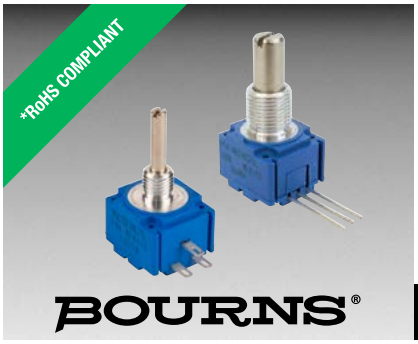


Features

- Available in a variety of pin-out configurations
- Virtually infinite electrical circuit isolation
- Extended rotational life
- RoHS compliant*

Applications

- Test and measurement equipment
- Medical and laboratory equipment
- Avionics controls

Model 91, 92, 93 & 95 – Long Life Series

Initial Electrical Characteristics[1]	Conductive Plastic Element
Standard Resistance Range	1K, 5K, 10K ohms
Total Resistance Tolerance	10 %
Independent Linearity	±2 %
Effective Electrical Angle	240 ° ± 5 °
Output Smoothness	0.15 % maximum
Dielectric Withstanding Voltage (MIL-STD-202, Method 301)	
Sea Level	1,500 VAC minimum
70,000 Feet	500 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 Single Section Assembly	1 watt
+70 °C Multiple Section Assembly	0.5 watt/section
+125 °C	0 watt
Theoretical Resolution	Essentially infinite

Environmental Characteristics[1]	
Operating Temperature Range	-40 °C to +125 °C
Storage Temperature Range	-55 °C to +125 °C
Temperature Coefficient Over Storage Temperature Range	±1,000 ppm/°C
Vibration (Single Section)	15 G
Total Resistance Shift	±2 % maximum
Voltage Ratio Shift	±5 % maximum
Shock (Single Section)	30 G
Total Resistance Shift	±2 % maximum
Voltage Ratio Shift	±5 % maximum
Load Life	1,000 hours
Total Resistance Shift	±10 % maximum
Rotational Life (No Load)	1,000,000 cycles
Total Resistance Shift	±15 % TRS maximum
Moisture Resistance (MIL-STD-202, Method 103, Condition B)	
Total Resistance Shift	±10 % TRS maximum
Insulation Resistance (500 VDC)	100 megohms minimum
IP Rating	IP40 (potentiometer body); IP65 (shaft and bushing interface only)
Moisture Sensitivity Level	1
ESD Classification (HBM)	N/A

Mechanical Characteristics[1]	
Stop Strength (A & R Bushings)	45.19 N-cm (4 lb.-in.)
(C & U Bushings)	33.89 N-cm (3 lb.-in.)
Mechanical Angle	300 ° ±5 °
Torque	
Starting	0.3 max. above average running torque
Running Torque	
Single or Dual Section (A & R Bushings)	0.21 to 1.06 N-cm (0.3 to 1.5 oz.-in.)
Single or Dual Section (C & U Bushings)	0.14 to 1.06 N-cm (0.2 to 1.5 oz.-in.)
Mounting	1.7-2.0 N-m (15-18 lb.-in.) maximum
Variation	0.35 N-cm (0.5 oz.-in.) maximum in 45 ° shaft travel
Weight (Single Section, Metal Bushing)	12.7 grams nominal
(Each Additional Section)	4 grams nominal
Terminals Printed circuit terminals, J-Hooks or solder lugs	
Soldering Condition	Recommended hand soldering using Sn95/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.
Marking	Manufacturer's trademark, date code, resistance, manufacturer's part number.
Ganging (Multiple Section Potentiometers)	2 cups maximum
Hardware	One lockwasher and one mounting nut is shipped with each potentiometer (Bushing A: H-37-2 & H-38-2; Bushing C: H-37-1 & H-38-1; Bushing R: H-37-4 & H-38-9)

NOTE: Performance specifications do not apply to units subjected to printed circuit board cleaning procedures.

[1] Electrical specifications tested at 200 RPM, at room ambient: +25 °C.

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

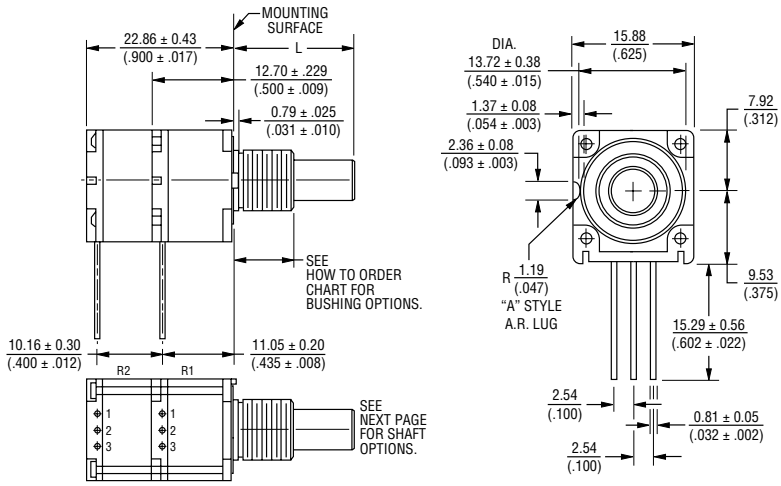
*RoHS Directive 2015/863, Mar 31, 2015 and Annex.

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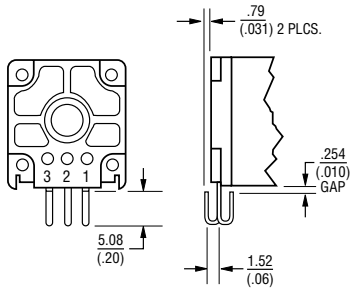
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Product Dimensions

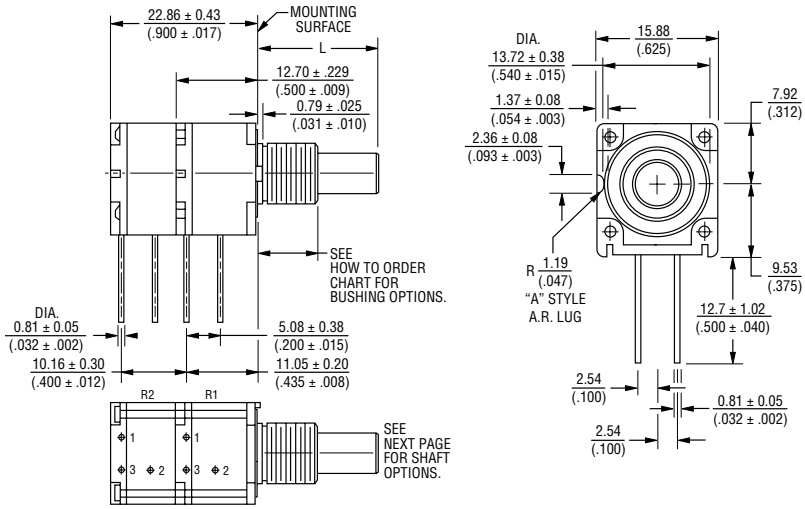
Model 91 PC Pin Terminals, In-Line



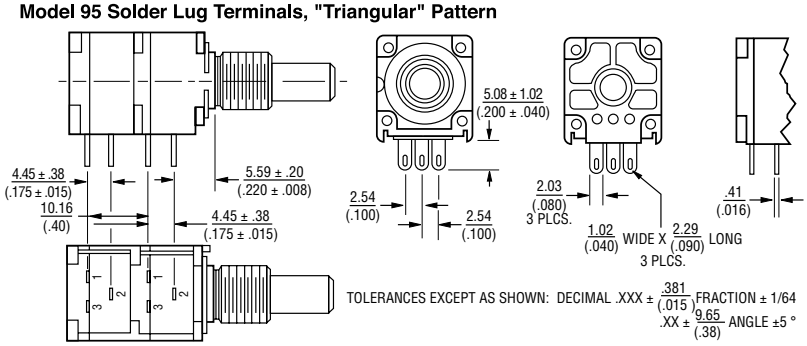
Model 92 J-Hooked Terminals, In-Line



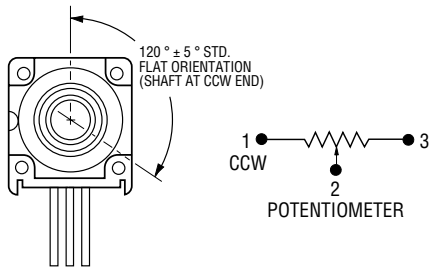
Model 93 PC Pin Terminals, "L" Pattern



Model 95 Solder Lug Terminals, "Triangular" Pattern



Shaft Flat Orientation

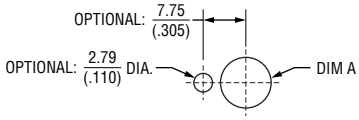


DIMENSIONS: MM / (INCHES)

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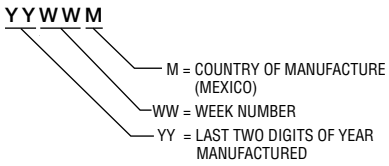
Suggested Panel Layout



BUSHING	DIM A
A	9.91 (.39)
C	6.73 (.265)
R	10.5 (.413)

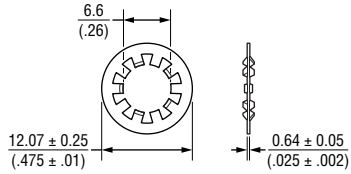
DIMENSIONS: MM (INCHES)

Date Code Description

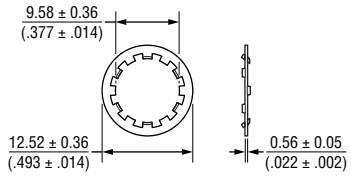


Hardware

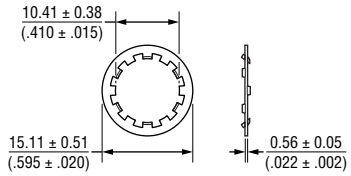
LOCKWASHER H-37-1



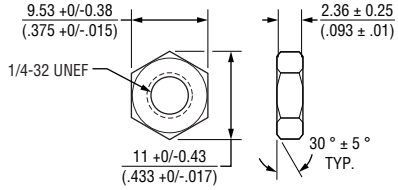
LOCKWASHER H-37-2



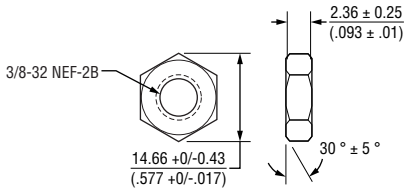
LOCKWASHER H-37-4



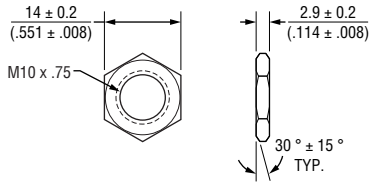
NUT H-38-1



NUT H-38-2



NUT H-38-9



DIMENSIONS: MM (INCHES)

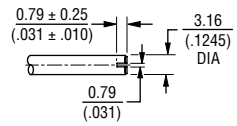
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Product Dimensions

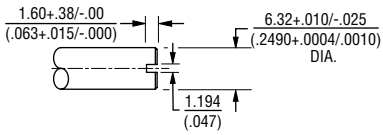
SHAFT TYPE "E" (USES BUSHING C)



STD. LENGTHS:

12.0 (.500)	16.0 (.625)	19.0 (.750)

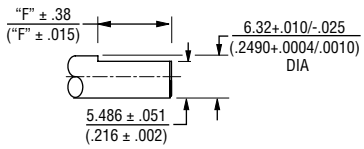
SHAFT TYPE "G" (USES BUSHING A)



STD. LENGTHS:

12.70 (.500)	15.88 (.625)	19.05 (.750)	22.23 (.875)

SHAFT TYPE "H" (USES BUSHING A)



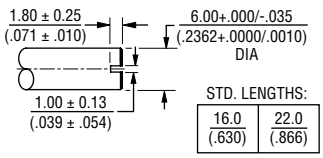
STD. LENGTHS:

19.05 (.750)	22.23 (.875)

FLAT LENGTH "F":

7.95 (.313)	11.13 (.438)

SHAFT TYPE "J" (USES BUSHING R)



STD. LENGTHS:

16.0 (.630)	22.0 (.866)

TOLERANCES EXCEPT AS SHOWN: .XX = ± .02 (.050)
.XXX = ± .005 (.127)
.XXXX = ± .0005 (.0127)

DIMENSIONS: MM / (INCHES)

How to Order

91	A	2	A	-	G	28	-	L	15	/	L	15	L

Part number for multiple section potentiometers must have a taper and resistance value for each section.

MODEL	
91	**Single-Turn, In-Line PC Pins**
92	Single-Turn, In-Line J-Hooks
93	Single-Turn, L-Pattern PC Pins
95	Single-Turn, Triangle-Pattern Solder Lugs

BUSHING	
A	**Metal Plain 3/8 " (9.53 mm) D x 3/8 " (9.53 mm) L**
C	Metal Plain 1/4 " (6.35 mm) D x 1/4 " (6.35 mm) L
R	**Metal Plain 10 mm D x 9 mm L**

# SECTIONS	
1	**Single**
2	Dual

ANTI-ROTATION LUG	
A	**Single .305 " (7.8 mm) R, 90 °CW**
D	**No Lug**

SHAFT LENGTH (FMS)		AVAILABLE ONLY IN BUSHING
Code	Description	Code
16	1/2 " L	A, C
20	5/8 " L	A, C
24	**3/4 " L**	A, C
28	**7/8 "L**	A
32	1 " L	A
METRIC		
16	16 mm L	R
22	**22 mm L**	R

SHAFT TYPE		AVAILABLE ONLY IN LENGTHS (CODE)	AVAILABLE ONLY IN BUSHINGS (CODE)
E	**Metal Single Slotted 1/8 " (3.18 mm) D**	16, 20, 24	**C**
G	**Metal Single Slotted 1/4 " (6.35 mm) D**	16, 20, 24, 28	**A**
H	**Metal Single Flatted 1/4 " (6.35 mm) D**	24, 28	**A**
J	**Metal Single Slotted 6 mm D**	Metric 16, 22	R

ELEMENT TAPER TYPE/TOLERANCE		RESISTANCE CODE VALUE IN OHMS
L	**Long Life Linear C-P ±10 %**	(10) - 1 K (13) - 5 K (15) - 10 K

RoHS IDENTIFIER	
L	**Compliant**

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

REV. 10/20

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