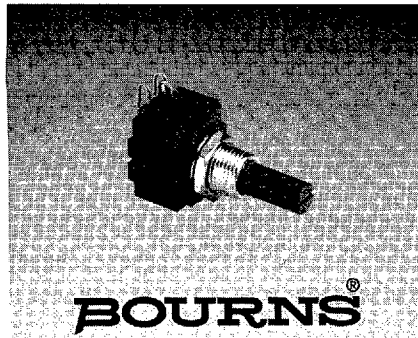




## Features

- Features one-piece molded plastic
- Available in a variety of pin-out shaft and rotor assemblies configurations
- Virtually infinite electrical circuit
- Model 96 sealed for board wash
- Metal shaft available as special feature

## 91, 93, 95, 96 - 5/8" Square Single-Turn

| Initial Electrical Characteristics*                                                  | Conductive Plastic Element                    | Cermet Element                             |
|--------------------------------------------------------------------------------------|-----------------------------------------------|--------------------------------------------|
| Standard Resistance Range                                                            |                                               |                                            |
| Linear Tapers (A, B, E, & H) .....                                                   | (B & E) 150 ohms to 1 megohms .....           | (A & H) 50 ohms to 1 megohms               |
| Audio Tapers (C, D, F, G S, & T) .....                                               | (D, G, S, & T) 1K ohms to 5.0 megohms .....   | (C & F) 1K ohms to 5.0 megohms             |
| Resistance Tolerance .....                                                           | (B, D, & G tapers) $\pm 20\%$ .....           | (A, C, & F tapers) $\pm 10\%$              |
| Independent Linearity .....                                                          | (E, S, & T tapers) $\pm 10\%$ .....           | (H taper) $\pm 5\%$                        |
| Absolute Minimum Resistance .....                                                    | (B & E tapers) $\pm 5\%$ .....                | (A & H tapers) $\pm 5\%$                   |
| Continuity .....                                                                     | 2 ohms maximum .....                          | 2 ohms maximum                             |
| Effective Electrical Angle .....                                                     | Maintained for full mechanical angle .....    | Maintained for full mechanical angle       |
| Contact Resistance Variation .....                                                   | 240° $\pm 5^\circ$ .....                      | 240° $\pm 6^\circ$                         |
| Dielectric Withstanding Voltage .....                                                | $\pm 1\%$ .....                               | $\pm 1\%$ or 3 ohms (whichever is greater) |
| Sea Level .....                                                                      | MIL-STD-202, Method 301 .....                 | MIL-STD-202, Method 301                    |
| 70,000 Feet .....                                                                    | 1,500 VAC minimum .....                       | 1,500 VAC minimum                          |
| Insulation Resistance (500 VDC) .....                                                | 500 VAC minimum .....                         | 500 VAC minimum                            |
| Power Rating (Voltage Limited By Power<br>Dissipation or 350 VAC, Whichever Is Less) | 1,000 megohms minimum .....                   | 1,000 megohms minimum                      |
| +70°C Single Section Assembly .....                                                  | (B & E tapers) 0.5 watt .....                 | (A & H tapers) 2 watts                     |
| +70°C Multiple Section Assembly .....                                                | (D, G, S, & T tapers) 0.25 watt .....         | (C & F tapers) 1 watt                      |
| +125°C .....                                                                         | (B & E tapers) 0.5 watt/section .....         | (A & H tapers) 1 watt/section              |
| Roll-on/Roll-off .....                                                               | (D, G, S, & T tapers) 0.25 watt/section ..... | (C & F tapers) 0.5 watt/section            |
| Theoretical Resolution .....                                                         | 0 watt .....                                  | 0 watt                                     |
|                                                                                      | (B & E tapers) 0.25% maximum .....            | (A & H tapers) 0.5% maximum                |
|                                                                                      | (D & S tapers) 0.1% maximum CCW end .....     | (C taper) 0.1% maximum CCW end             |
|                                                                                      | (G & T tapers) 0.1% maximum CW end .....      | (F taper) 0.1% maximum CW end              |
|                                                                                      | (D & S tapers) 0.5% maximum CW end .....      | (C taper) 1.0% maximum CW end              |
|                                                                                      | (G & T tapers) 0.5% maximum CCW end .....     | (F taper) 1.0% maximum CCW end             |
|                                                                                      | Essentially infinite .....                    | Essentially infinite                       |

| Environmental Characteristics*                     | Conductive Plastic Element                         | Cermet Element                       |
|----------------------------------------------------|----------------------------------------------------|--------------------------------------|
| Operating Temperature .....                        | +1°C to +125°C .....                               | +1°C to +125°C                       |
| Storage Temperature Range .....                    | -55°C to +125°C .....                              | -55°C to +125°C                      |
| Temperature Coefficient                            |                                                    |                                      |
| Over Storage Temperature Range .....               | $\pm 1,000\text{PPM}/^\circ\text{C}$ .....         | $\pm 150\text{PPM}/^\circ\text{C}$   |
| Vibration (Single Section) .....                   | 15G .....                                          | 15G                                  |
| Total Resistance Shift .....                       | $\pm 2\%$ maximum .....                            | $\pm 2\%$ maximum                    |
| Voltage Ratio Shift .....                          | $\pm 5\%$ maximum .....                            | $\pm 5\%$ maximum                    |
| Shock (Single Section) .....                       | 30G .....                                          | 30G                                  |
| Total Resistance Shift .....                       | $\pm 2\%$ maximum .....                            | $\pm 2\%$ maximum                    |
| Voltage Ratio Shift .....                          | $\pm 5\%$ maximum .....                            | $\pm 5\%$ maximum                    |
| Load Life .....                                    | 1,000 hours .....                                  | 1,000 hours                          |
| Total Resistance Shift .....                       | $\pm 10\%$ maximum .....                           | $\pm 5\%$ maximum                    |
| Rotational Life (No Load) .....                    | 100,000 cycles .....                               | 100,000 cycles                       |
| Total Resistance Shift .....                       | (B & E tapers) 10 ohms or $\pm 15\%$ maximum ..... | 10 ohms or $\pm 10\%$ maximum        |
|                                                    | (whichever is greater)                             | (whichever is greater)               |
|                                                    | (D, G, S, & T tapers) $\pm 20\%$ maximum           |                                      |
| Contact Resistance Variation @ 50,000 cycles ..... | (B & E tapers) $\pm 2\%$                           |                                      |
|                                                    | (D, G, S, & T tapers) $\pm 3\%$                    |                                      |
| Moisture Resistance .....                          | MIL-STD-202, Method 103, Condition B .....         | MIL-STD-202, Method 103, Condition B |
| Total Resistance Shift .....                       | (B & E tapers) $\pm 10\%$ maximum .....            | (All tapers) $\pm 5\%$ maximum       |
|                                                    | (D, G, S, & T tapers) $\pm 20\%$ maximum           |                                      |
| Insulation Resistance (500 VDC) .....              | 100 megohms minimum .....                          | 100 megohms minimum                  |

| Mechanical Characteristics*                      | Conductive Plastic Element                                                        | Cermet Element                                                              |
|--------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| Running Torque                                   |                                                                                   |                                                                             |
| Single or Dual Section (A, D & r Bushings) ..... | 0.3 to 1.5 oz.-in. (0.21 to 1.06 Ncm) .....                                       | 0.3 to 1.5 oz.-in. (0.21 to 1.06 Ncm)                                       |
| Single or Dual Section (C & U Bushings) .....    | 0.2 to 1.5 oz.-in. (0.14 to 1.06 Ncm) .....                                       | 0.2 to 1.5 oz.-in. (0.14 to 1.06 Ncm)                                       |
| Starting Torque .....                            | 0.3 maximum above average running torque .....                                    | 0.3 maximum above average running torque                                    |
| Torque Variation .....                           | 0.5 oz.-in. (0.35 Ncm) max. in 45° shaft travel .....                             | 0.5 oz.-in. (0.35 Ncm) max. in 45° shaft travel                             |
| Stop Strength (1/4" D shaft) .....               | 4 in.-lb. (45.19 Ncm) .....                                                       | 4 in.-lb. (45.19 Ncm)                                                       |
| (1/8" D shaft) .....                             | 3 in.-lb. (33.89 Ncm) .....                                                       | 3 in.-lb. (33.89 Ncm)                                                       |
| Mechanical Angle .....                           | 300° $\pm 5^\circ$ .....                                                          | 300° $\pm 5^\circ$                                                          |
| Weight (Single Section) .....                    | 7 grams maximum .....                                                             | 7 grams maximum                                                             |
| Each Additional Section .....                    | 4 grams maximum .....                                                             | 4 grams maximum                                                             |
| Terminals .....                                  | Printed circuit terminals, J-Hooks or solder lugs .....                           | Printed circuit terminals, J-Hooks or solder lugs                           |
| Marking .....                                    | Manufacturer's trademark, date code, resistance, manufacturer's part number ..... | Manufacturer's trademark, date code, resistance, manufacturer's part number |

FOR DIMENSIONAL DRAWINGS SEE PAGE 208.

FOR ORDERING INFORMATION SEE PAGE 209.

NOTE: ALL MODEL 90 PERFORMANCE SPECIFICATIONS DO NOT APPLY TO UNITS SUBJECTED TO PRINTED CIRCUIT BOARD CLEANING PROCEDURES, EXCEPT FOR THE SEALED VERSION (MODEL 96).

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

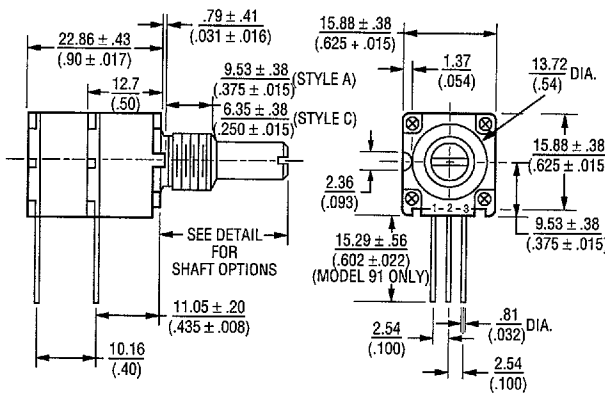
Specifications are subject to change without notice.

D 21F 1556573 0002096 69T

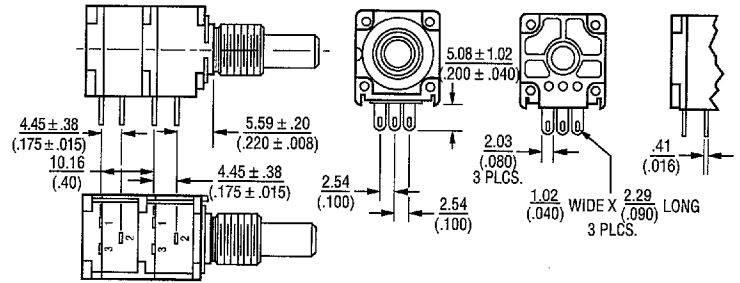
# 91, 93, 95, 96 Dimensions and Tolerances

**BOURNS®**

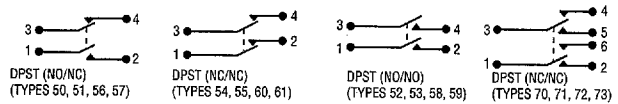
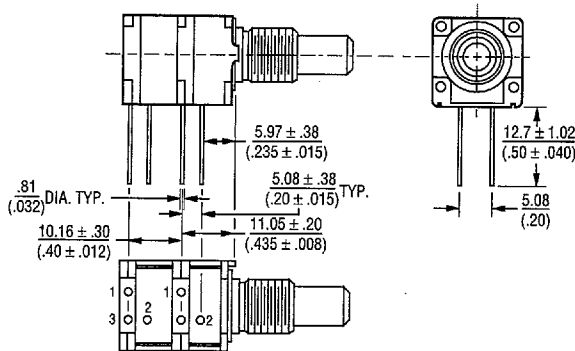
## Model 91 PC Pin Terminals, In-Line



## Model 95 Solder Lug Terminals, "Triangular" Pattern



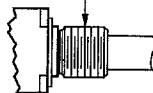
## Model 93 PC Pin Terminals, "L" Pattern



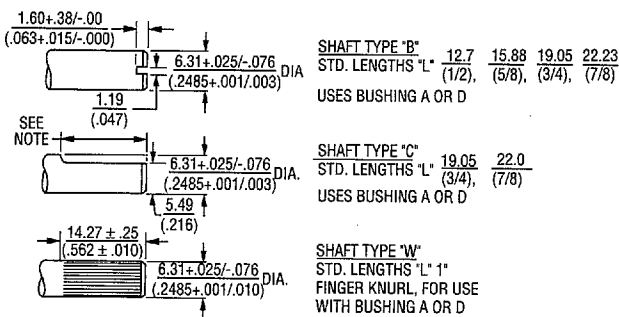
Switch contacts shown in detent position.

## Bushing Styles

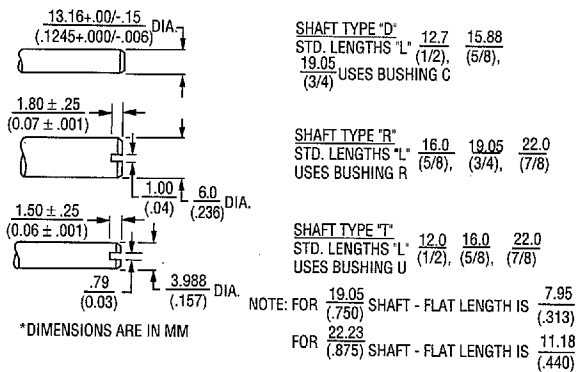
3/8 THREADLESS (9.53mm) (STYLE "D")  
3/8-32 UNEF (9.53mm) (STYLE "A")  
1/4-32 UNEF (6.35mm) (STYLE "C")  
M10 X 0.75-6g (STYLE "R")  
M7 X 0.75-6g (STYLE "U")



## Shaft Styles



TOLERANCES EXCEPT AS SHOWN: DECIMAL .XXX ±  $\frac{.128}{.015}$  FRACTION ± 1/64  
XX ±  $\frac{.005}{.38}$  ANGLE ± 5°

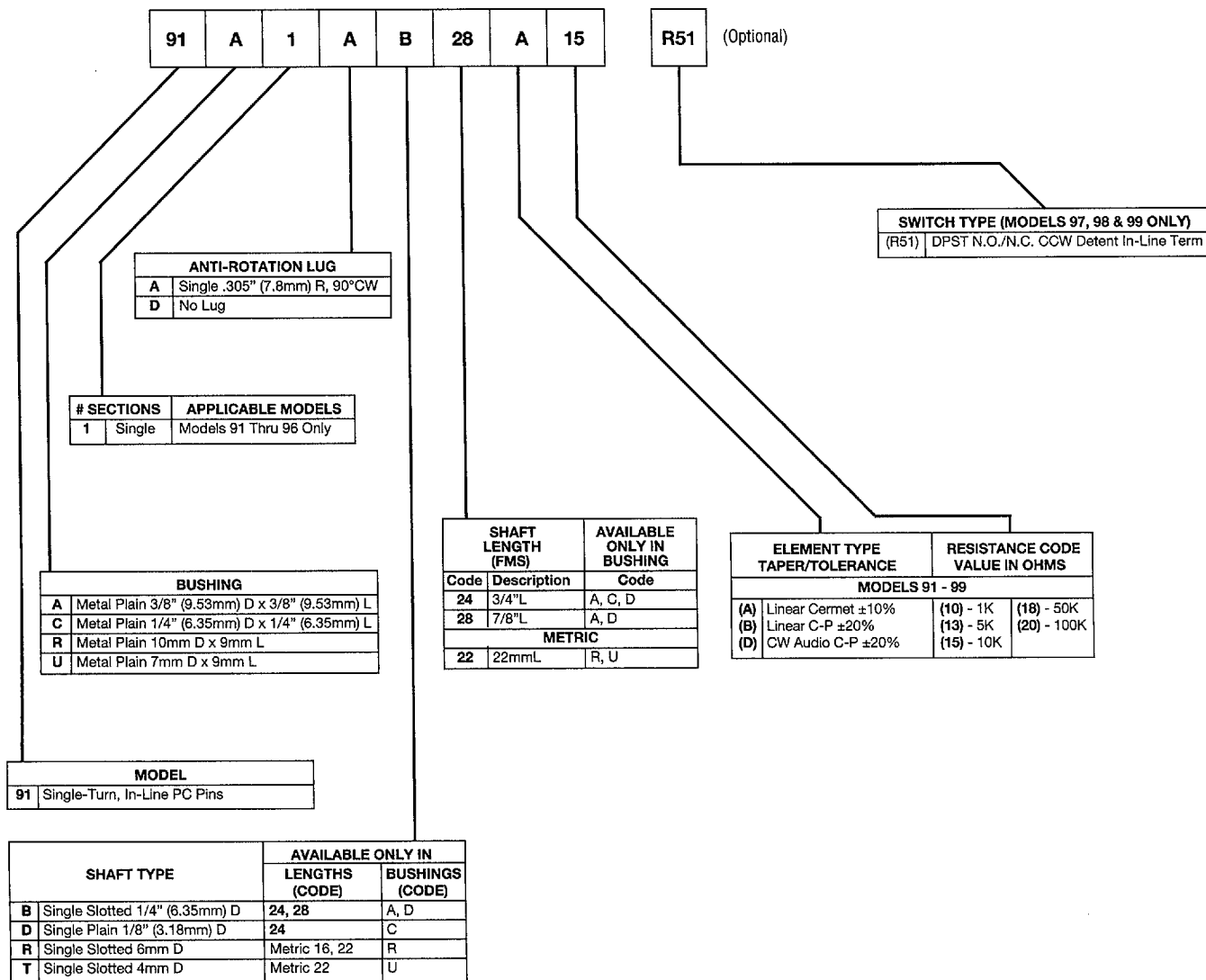


\*DIMENSIONS ARE IN MM

DIMENSIONS ARE: METRIC  
(INCHES)

# 90 Series Panel Controls Dimensions and Tolerances **BOURNS®**

## How To Order



Recommended part numbers.  
For other options contact the factory.  
Boldface listings are in stock and readily available through distribution.

Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «JONHON», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «FORSTAR».



## JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели,  
кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



Телефон: 8 (812) 309-75-97 (многоканальный)

Факс: 8 (812) 320-03-32

Электронная почта: [ocean@oceanchips.ru](mailto:ocean@oceanchips.ru)

Web: <http://oceanchips.ru/>

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А