

Series 282

# **16mm Precision Rotary Potentiometer**

- Conductive Plastic Element
- Extended Rotational Life (2 Million Cycles)
- Precision Linearity (±2%)
- Ingress Protection (IP65 & IP67 Options)
- Wide Operating Temperature Range
- Shaft and Bushing Length Options
- Terminal Options
- Continuous Rotation Available



## Description

The 282 Series robust construction provides the user with a long life, highly reliable precision product in a sealed housing which meets up IP standards. Options include various terminal configurations, shaft and bushing lengths, shaft styles, resistance values and tolerances, and various rotation angles to meet design requirements.

## **Ordering Information**

| Series      | Terminal<br>Styles            | Busł<br>Lengt | hing<br>:h "A" | Shaft<br>Length "L"            | Shaf<br>Trim |       | esistance<br>Code         | Resistan<br>Toleranc | ling | earity |      | P<br>ting | Rotatio<br>Ang |        | A/R Lug<br>Options |
|-------------|-------------------------------|---------------|----------------|--------------------------------|--------------|-------|---------------------------|----------------------|------|--------|------|-----------|----------------|--------|--------------------|
| 282         | Т                             | А             |                | А                              | R            |       | 103                       | А                    | 2    | 2      | 5    |           | В              |        | 1                  |
|             | •                             |               |                | •                              |              |       | •                         |                      |      |        |      | ,         |                |        | •                  |
| Code        | Spec                          |               | Code           | Spec.                          |              | Code  | Resistanc                 | e                    |      | Со     | de   | Spec      |                | Code   | Spec.              |
| Τ           | Solder lug                    | _   -         | 1              | .625" (15.8mm)                 | -   ]        | 102   | 1 kΩ                      |                      |      |        | 5    | IP54      | _              | 1      | Left sid           |
|             | Solder lug                    |               | 2              | .750" (18.4mm)                 |              | 252   | 2.5 kΩ                    |                      |      |        | 5    | IP67      | -              | 1      | (10mm)             |
| S           | formed to                     | _             | 3              | .875" (22.2mm)                 | _   .        | 502   | 5 kΩ                      |                      |      |        |      |           | —              | 2      | Left sid           |
|             | rear<br>PC formed             | -   _         | 4              | 1.000" (25.4mm)                | _   .        | 103   | 10 kΩ                     |                      |      | /      |      |           |                |        | (8mm)              |
| U           | to front                      | -             | 5              | 1.125" (28.5mm)                | _   ]        | 503   | 50 kΩ                     |                      | Code | Spec   |      |           |                | 3      | No lug             |
|             | to none                       | -             | Diamete        |                                |              | 104   | 100 kΩ                    |                      | 2    | ±2%    |      |           |                |        |                    |
|             |                               |               | Length Ir      | ncrement: 1/8"<br>10mm (.393") | -   `        | 504   | 500 kΩ                    |                      |      |        |      |           |                |        |                    |
|             | ¥                             | -             | B              | 15mm (.590")                   | — []         |       |                           |                      |      | •      |      |           |                |        |                    |
| Code        | Spec.                         |               | C              | 20mm (.787")                   |              |       | 4                         |                      | Со   | de S   | pec. | _         |                |        |                    |
| 2           | .250" (6.35mr                 | m)            | D              | 25mm (.984")                   |              | Code  | Spec.                     | Dia.                 | A    | . ±1   | 10%  | _         |                |        |                    |
| 3           | .375" (9.53mr                 | n) _          | E              | 30mm (1.181")                  |              |       | Round                     | 6mm                  | В    | ±      | 20%  | _         |                |        |                    |
| 4           | .500" (12.7mr                 | n)            | Diamete        | r: 6mm<br>ncrement: 5mm        |              | <br>F | Flatted                   | 6mm                  |      |        |      | _         |                |        |                    |
|             | 3/8"- 32UNEF-2<br>ement: 1/8″ | ?A -          | Length         |                                |              | K     | Split Knurl<br>(24 Teeth) | 6mm                  |      |        | С    | ode       | ▼<br>Total     | Electr | ical               |
| А           | 5.0mm (.196"                  | )             |                |                                |              | S     | Slotted                   | 6mm                  |      |        |      | А         | 250°           | 240    | ,°                 |
| В           | 7.5mm (.295"                  | )             |                |                                |              | 0*    | Round                     | .250″                |      |        |      | В         | 300°           | 280    |                    |
| С           | 10.0mm (.393                  | ")            |                |                                |              |       |                           |                      |      |        |      | С         | 360°           | 340    |                    |
| Diameter:   | M9 x .75P                     |               |                |                                |              | L     | Flatted                   | .250″                |      |        |      |           |                |        |                    |
| Length incr | ement: 2.5mm                  |               |                |                                |              | D     | Slotted                   | .250″                |      |        |      |           |                |        |                    |

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## **Electrical Specifications**

| Parameter               | Conditions & Remarks | Min  | Max  | Unit |
|-------------------------|----------------------|------|------|------|
| Desistance Dance        | Linear               | 1k   | 500k | Ω    |
| Resistance Range        | Audio                | 100k | 500k | Ω    |
| Resistance Tolerance    | Standard             | -20  | +20  | %    |
| Resistance rolerance    | Special              | -10  | +10  | %    |
| Dielectric Strength     | 1 minute             |      | 750  | VDC  |
| Power Rating (Standard) | @ 55°C               |      | 0.25 | watt |
| Power Rating (Special)  | @ 75°C               |      | 0.50 | watt |
| Operating Voltage       |                      |      | 500  | VDC  |
| Insulation Resistance   | 500 VDC              | 1000 |      | MΩ   |
| Linearity               |                      | +2   | -2   | %    |

## Mechanical and Environmental

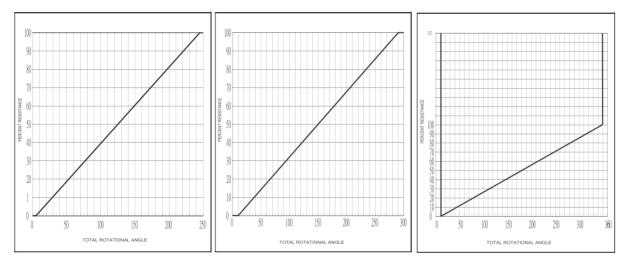
| Parameter   | Conditions & Remarks    | Min       | Max  | Unit   |  |
|---|-------------------------|-----------|------|--------|--|
| Operating Temperature   |                         | -40       | +125 | °C     |  |
| Storage Temperature   |                         | -55       | +150 | °C     |  |
| Rotational Torque   |                         | 20        | 180  | gf-cm  |  |
| Rotational Life   |                         | 2,000,000 |      | cycles |  |
| Stop Strength   |                         | 9         |      | kgf-cm |  |
| Mechanical Angle  | 250°, 300° & 360°       |           |      |        |  |
| Vibration   | 15 G, 10 to 2000 Hz     |           |      |        |  |
| Push-Pull Strength of Shaft                                     | 13.6 kg for 10 seconds  |           |      |        |  |
| Ingress Protection Rating                                       | IP54 & IP67             |           |      |        |  |
| Soldering Condition: Maximum temperature of 350°C for 5 seconds |                         |           |      |        |  |
| Mounting Information  | Bushing mount           |           |      |        |  |
| Packaging:  | Standard tray packaging |           |      |        |  |

All testing is performed at room ambient conditions except as noted. Users should verify device actual performance in their specific applications. This product is compliant to RoHS3 Directive 2015/863 Amendments of Annex II on 31 March 2015, and REACH SVHC Directive EC 1907/2006 Amendments of Annex XIV & Annex XVII on 15 January 2018.

Custom and value-added options available on request. Please contact your sales representative for additional information.

## **Electrical and Mechanical Specifications**

### **Resistance Tapers**



#### TOTAL ROTATIONAL ANGLE: 250

#### TOTAL ROTATIONAL ANGLE: 300°

TOTAL ROTATIONAL ANGLE: 360°

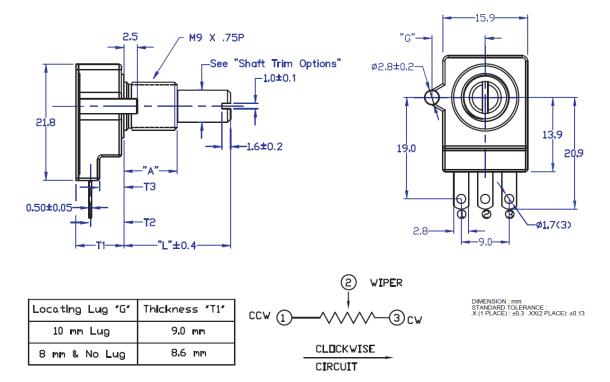
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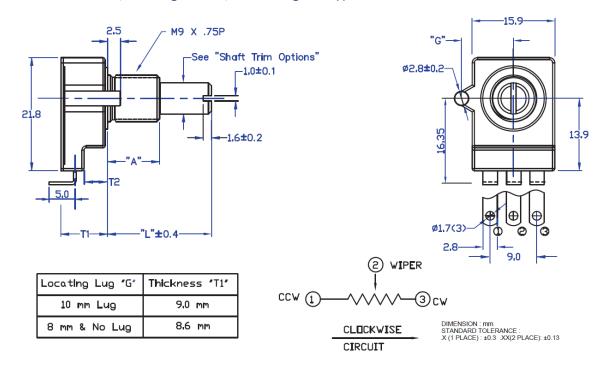
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## **Electrical and Mechanical Specifications**

Series 282T Metal Shaft, Bushing Mount, Solder Lug "T" Type Terminals, 8 mm Locating Lug



Series 282S Metal Shaft, Bushing Mount, Solder Lug "S" Type Terminal Formed to Rear



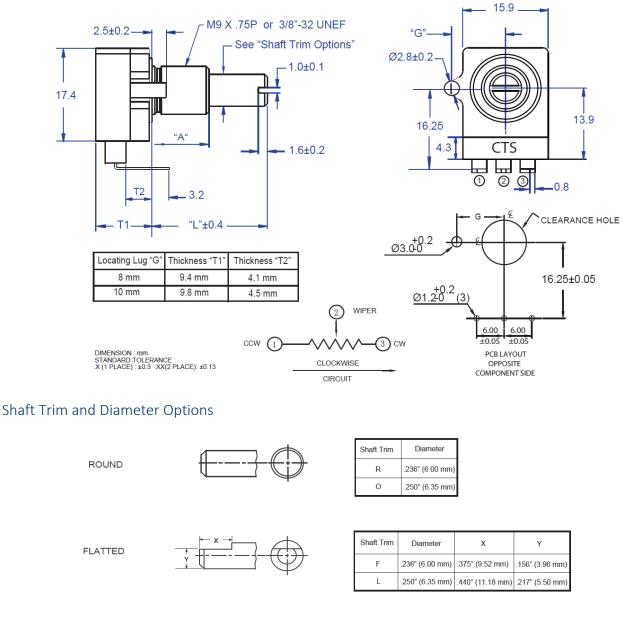
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## **Electrical and Mechanical Specifications**

Series 282U Metal Shaft, Bushing Mount, PC "U" Type Terminal Formed to Front



SLOTTED



| Shaft Trim | Diameter        | х             | Y             |  |
|------------|-----------------|---------------|---------------|--|
| s          | .236" (6.00 mm) | .063" (1.6mm) | .039" (1.0mm) |  |
| D          | .250" (6.35 mm) | .063" (1.6mm) | .039" (1.0mm) |  |



| Ŵ |
|---|

| Shaft Trim | Diameter        | х               | Y               | Z        |
|------------|-----------------|-----------------|-----------------|----------|
| к          | .236" (6.00 mm) | .344" (8.74 mm) | .063" (1.60 mm) | 24 Teeth |

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