

Series 270

16mm Rotary Potentiometer

- 16mm Compact size
- Versatile Mounting Styles
- Single, Tandem, and Concentric Options
- Power Switch Option
- Panel Seal Available
- Low Noise Output



Ordering Information

| Series | Terminal Style | Mounting Style "A" | Shaft Length "L" | Shaft Dia. and Trim | Resistance Code | Resistance Tolerance | Taper | Switch Type | Special Options |
|---------|----------------|--------------------|------------------|---------------------|-----------------|----------------------|-------|-------------|-----------------|
| 270/275 | T | 2 | 20 | R | 103 | B | 1 | A | 1 |

| Code | Spec. |
|------|--------------------|
| T | Solder lug |
| *X | PC |
| *U | PC formed to front |
| V | PC formed to rear |

* Series 275 required

| Code | Spec. |
|------|--------|
| 2 | .250" |
| 3 | .375" |
| 8 | 1.000" |

3/8"-32UNEF-2A
Length Increment: 1/8"

| Code | Spec. |
|------|-----------|
| 1 | Twist tab |
| 0 | Bracket |

| Code | Spec. |
|------|--------|
| 16 | .500" |
| 20 | .625" |
| 24 | .750" |
| 28 | .875" |
| 32 | 1.000" |

Length Increment: 1/32"

| Code | Spec. |
|------|--------------------------------|
| 16 | .500" (trim "U" & "K" only) |
| 28 | .875" (trim "V" only) |
| 32 | .984" (trim "W" only) |

| Code | Spec. |
|------|--------------------------------------|
| A | .125" Dia. round |
| B | .125" Dia. flatted |
| C | .125" Dia. slotted |
| R | .156" Dia. round |
| F | .156" Dia. flatted |
| S | .156" Dia. slotted |
| G | .187" Dia. round |
| H | .187" Dia. flatted |
| J | .187" Dia. slotted |
| X | .236" Dia. round |
| L | .236" Dia. flatted |
| M | .236" Dia. slotted |
| N | .236" Dia. split knurl (18 teeth) |
| P | .250" Dia. round |
| D | .250" Dia. flatted |
| E | .250" Dia. slotted |
| T | .236" Dia. split knurl (24 teeth) |

| Code | Spec. |
|------|---|
| *U | .187" Dia. split knurl (.500" shaft length) |
| **K | .236" Dia. split knurl (.500" shaft length) |
| *V | .187" Dia. flatted (.875" shaft length only) |
| **W | .236" Dia. flatted (.984" shaft length only) |

| Code | Spec. |
|------|-----------|
| A | None |
| B | Rotary |
| C | Momentary |
| D | Push-pull |

| Code | Spec. |
|------|---------------|
| 1 | Linear |
| 2 | 10% Audio |
| 3 | 10% CCW Audio |

| Code | Spec. |
|------|-------|
| A | ±10% |
| B | ±20% |
| C | ±30% |

| Code | Spec. |
|------|--------|
| 501 | 500 Ω |
| 102 | 1 kΩ |
| 252 | 2.5 kΩ |
| 502 | 5 kΩ |
| 103 | 10 kΩ |
| 253 | 25 kΩ |
| 503 | 50 kΩ |
| 104 | 100 kΩ |

| Code | Spec. |
|------|------------------------------------|
| 1 | Left locating lug |
| 2 | Left locating lug with 50% detent |
| 3 | Right locating lug with 50% detent |
| 4 | Right locating lug |
| 5 | No locating lug |

*Not available with switch
**With rotary switch only

Electrical Specifications

| Parameter | Conditions & Remarks | Min | Max | Unit |
|--|-----------------------------|-----|-------|-------|
| Resistance Range | Linear | 500 | 2 Meg | Ω |
| | Audio | 5k | 200k | Ω |
| Resistance Tolerance | Standard | -30 | +30 | % |
| | Special | -20 | +20 | % |
| | Special | -10 | +10 | % |
| Power Rating | @ 55°C, resistances ≤100 kΩ | | 0.25 | watts |
| | @ 55°C, resistances >100 kΩ | | 0.20 | watts |
| Dielectric Strength | 1 minute | | 750 | VAC |
| Insulation Resistance | 250 VDC | 100 | | MΩ |
| Maximum Operating Voltage | | | 500 | VDC |
| Effective Electrical Angle of Rotation | Without switch | | 300 | ° |
| | With switch | | 290 | ° |

Mechanical and Environmental

| Parameter | Conditions & Remarks | Min | Max | Unit |
|------------------------------|---|--------|-----|--------|
| Operating Temperature Range | | -10 | +70 | °C |
| Rotational Life | | 10,000 | | cycles |
| Mechanical Angle | Without switch | | 300 | ° |
| | With switch | | 315 | ° |
| Rotational Torque | | 36 | 360 | gf-cm |
| Stop Strength | | 5.76 | | kgf-cm |
| Push-Pull Strength of Shaft: | 10 kg for 10 seconds | | | |
| Soldering Condition: | Maximum temperature of 260° for 5 seconds | | | |
| Mounting Information: | Bushing, twist tab, solder lug, snap-in PC bracket, PC terminal | | | |
| Packaging: | Standard cardboard box 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

Metal Shaft and Bushing

Single or Dual Section Potentiometer with One Shaft

| Shaft Diameter | | Bushing Diameter | |
|----------------|------|------------------|-----------|
| inch | mm | inch | mm |
| .125 | 3.20 | 1/4" – 32UNEF-2A | M7 X .75P |
| .156 | 4.00 | 1/4" – 32UNEF-2A | M7 X .75P |
| .187 | 4.70 | 3/8" – 32UNEF-2A | M7 X .75P |
| .236 | 6.00 | 3/8" – 32UNEF-2A | M8 X .75P |
| .250 | 6.35 | 3/8" – 32UNEF-2A | M9 X .75P |

Concentric Tandem Potentiometer with Two Shafts

| Outer Shaft Diameter | | Inner Shaft Diameter | | Bushing Diameter | |
|----------------------|------|----------------------|-----|------------------|-----------|
| inch | mm | inch | mm | inch | mm |
| .236 | 6.00 | .156 | 4.0 | 3/8" – 32UNEF-2A | M8 X .75P |
| .250 | 6.35 | .125 | 3.2 | 3/8" – 32UNEF-2A | M9 X .75P |

Molded Shaft and Bushing

Single Section Potentiometer with One Shaft

| Shaft Diameter | | Bushing Diameter | |
|----------------|------|------------------|-----------|
| inch | mm | inch | mm |
| .156 | 4.00 | 1/4" – 32UNEF-2A | M7 X .75P |
| .187 | 4.70 | 3/8" – 32UNEF-2A | M7 X .75P |
| .236 | 6.00 | 3/8" – 32UNEF-2A | M8 X .75P |
| .250 | 6.35 | 3/8" – 32UNEF-2A | M9 X .75P |

Shaft with Twist Tab, Bend Tab, Snap-in PC Bracket, or PC Terminal

All metal or molded shaft diameters can be used except .187"(4.7mm), which can be used with snap-in PC bracket only.

Terminal Information

Standard:

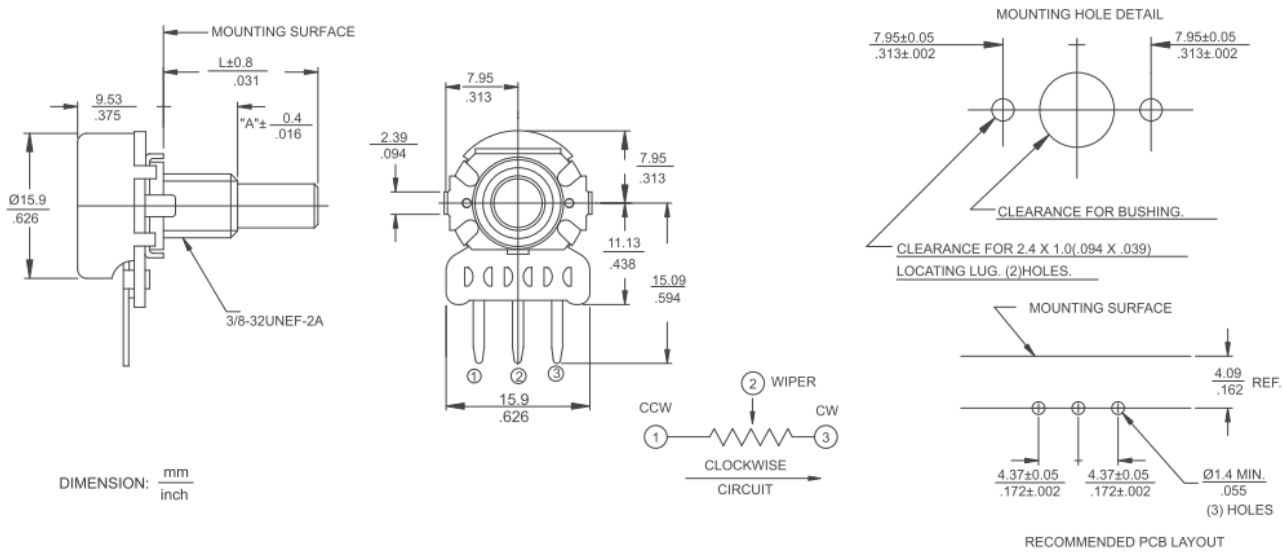
- T: Solder lug formed 90° to the rear on single and multi-section.
- X: PC terminals standard .438" (11.1mm) from center line of control to PC board, straight terminals extend .156" (4.0mm) into PC board.
- U: PC terminals formed 90° forward toward mounting surface. Terminals extend .187" (4.7mm) beyond mounting surface.
- V: PC terminals formed 90° to the rear, away from panel mounting. Terminals extend .442" (11.2mm) from mounting surface.

Special:

- T: Solder lug perpendicular to shaft. Or, solder lug formed 60° to the rear.
- W: Wire wrap terminals — .156" (4.0mm) terminal extension beyond base, formed 60° to the rear.

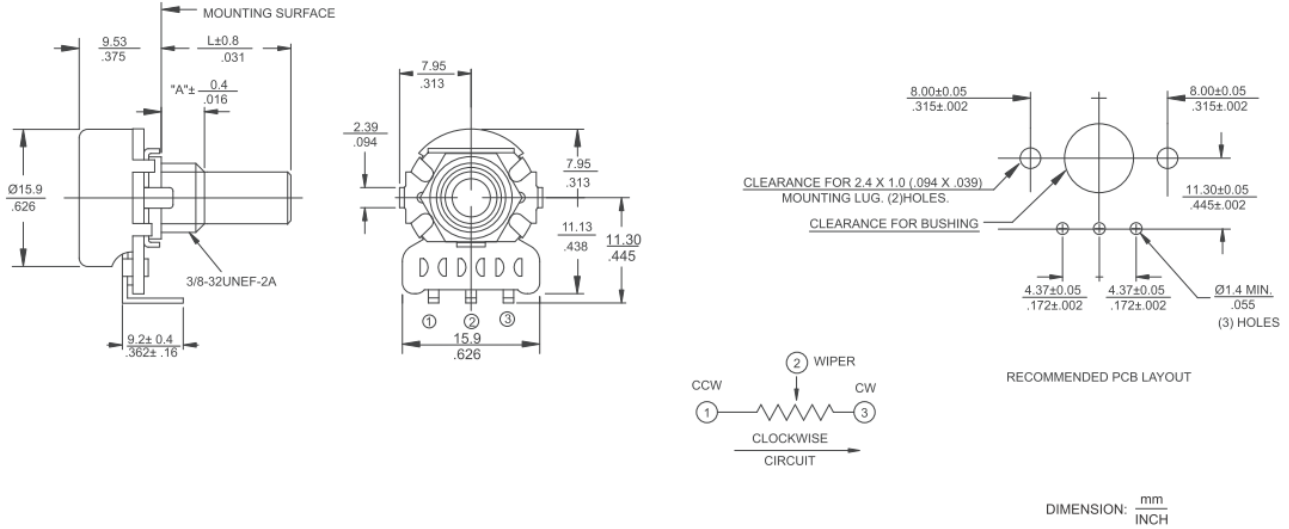
Electrical and Mechanical Specifications

Series 270X Metal Shaft, Bushing Mount, Printed Circuit "X" Type Terminals

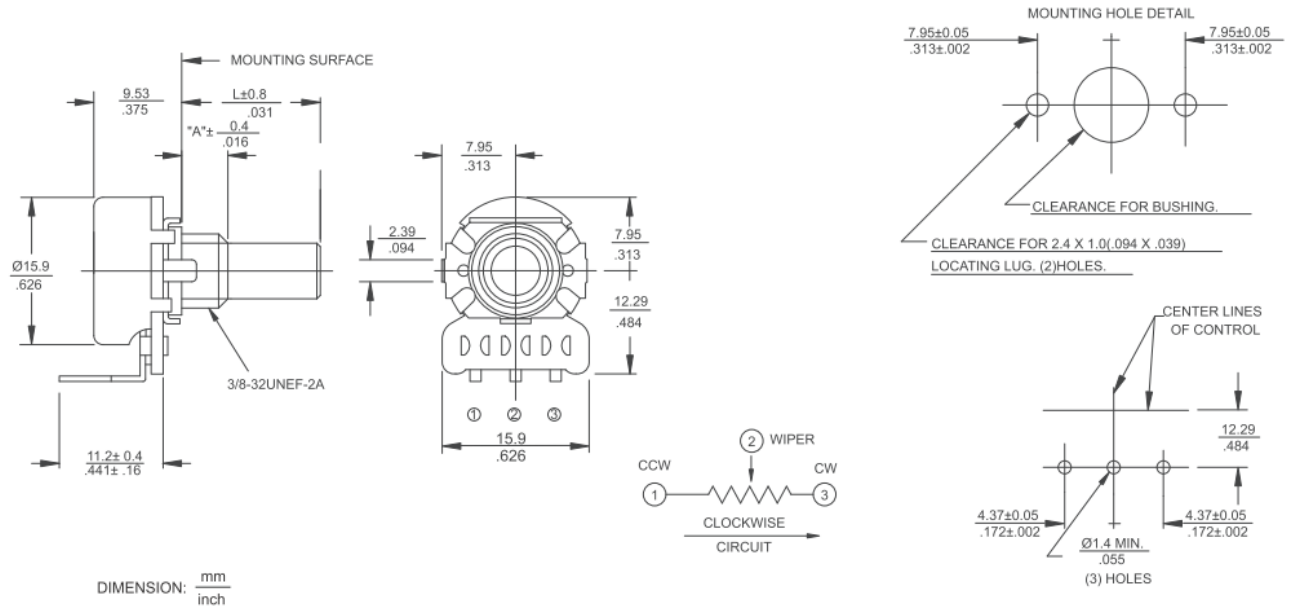


Electrical and Mechanical Specifications

Series 270U Metal Shaft, Bushing Mount, Printed Circuit “U” Type Terminals

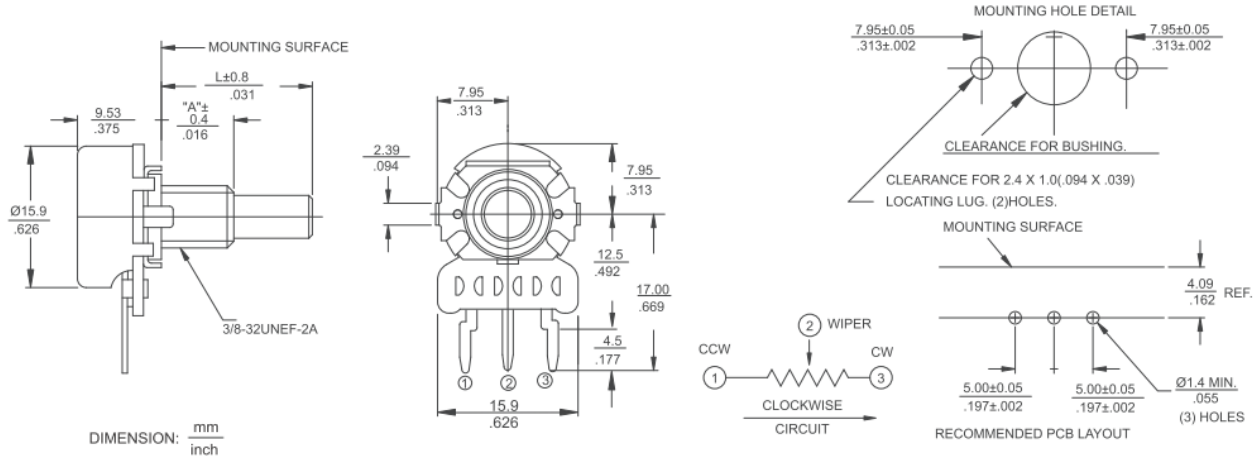


Series 270V Metal Shaft, Bushing Mount, Printed Circuit “V” Type Terminals

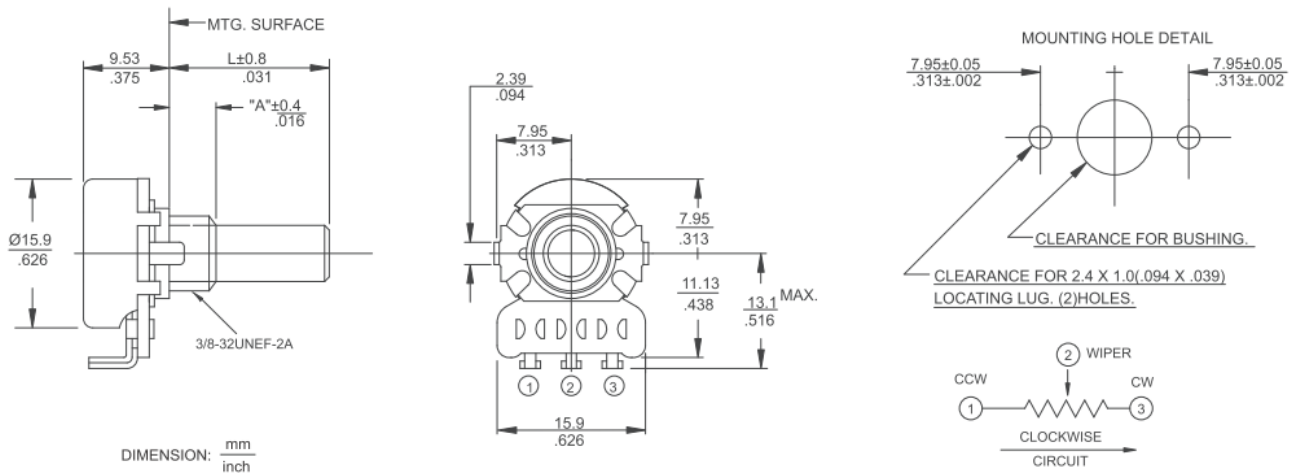


Electrical and Mechanical Specifications

Series 275X Metal Shaft, Bushing Mount, Printed Circuit "X" Type Terminals

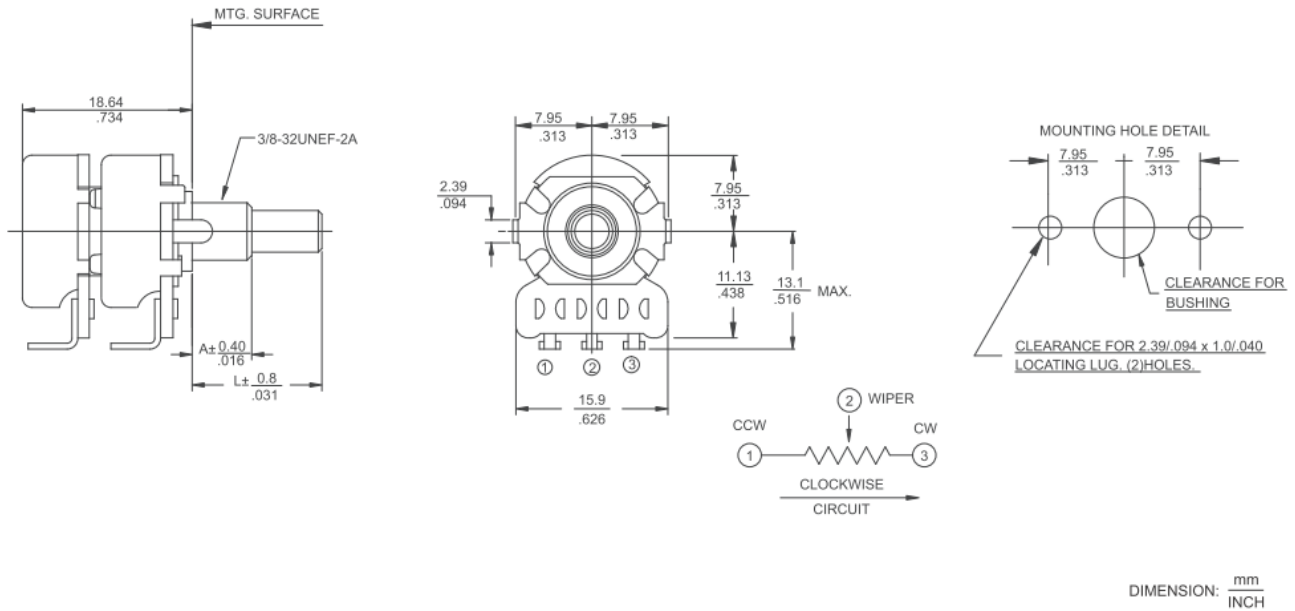


Series 270T Metal Shaft, Bushing Mount, Solder Lug "T" Type Terminals

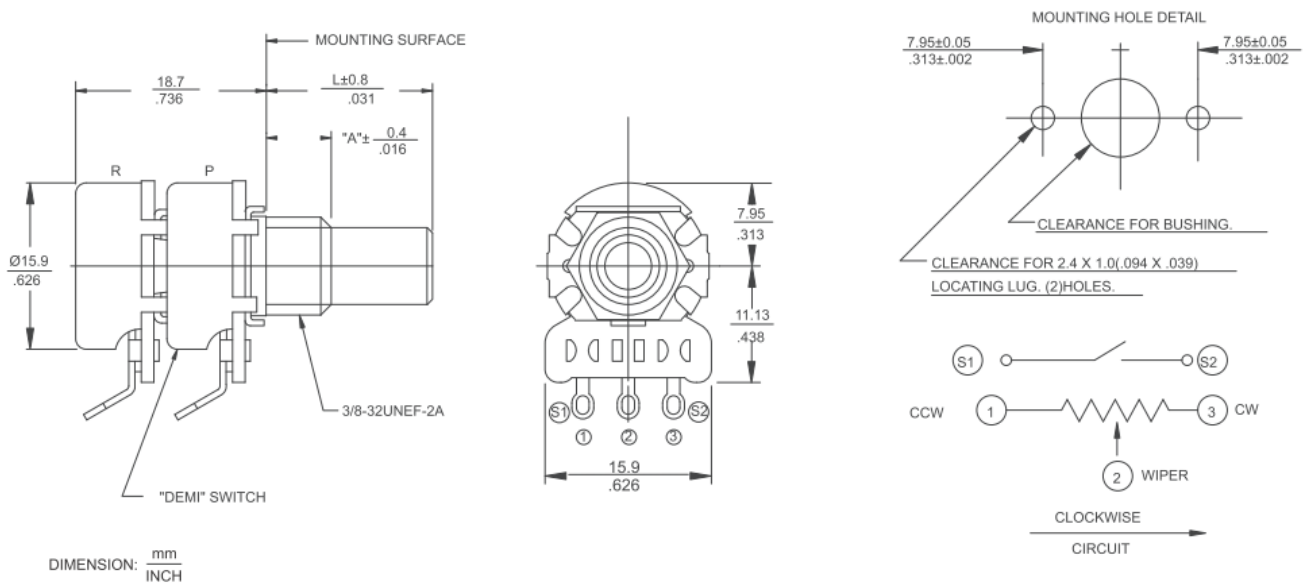


Electrical and Mechanical Specifications

Series 270T-2 Dual Section, Metal Shaft, Bushing Mount, Solder Lug "T" Type Terminals

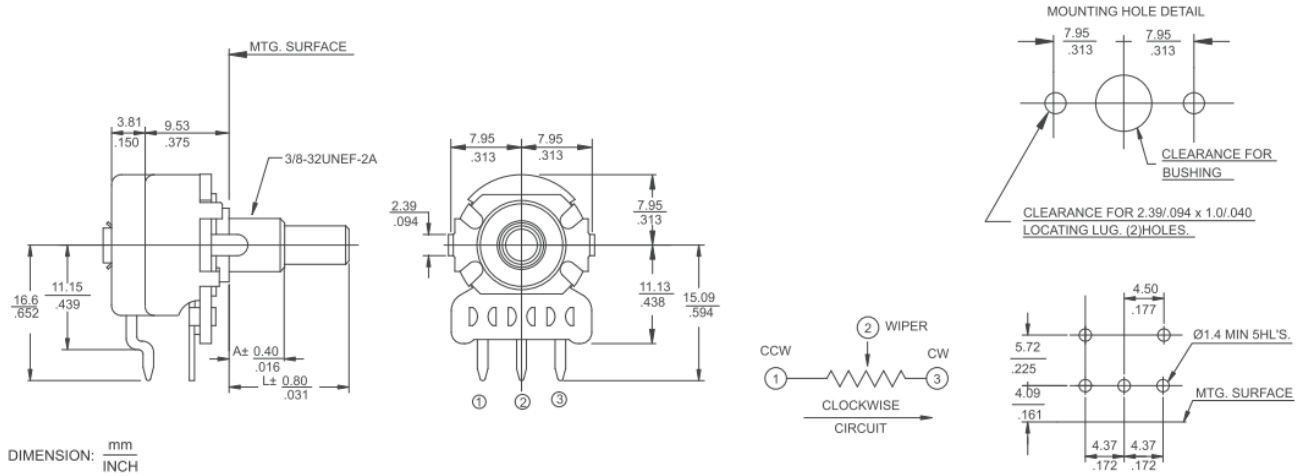


Series 270T-x-C/D Metal Shaft, Bushing Mount, Solder Lug "T" Type Terminals, DEMI Switch



Electrical and Mechanical Specifications

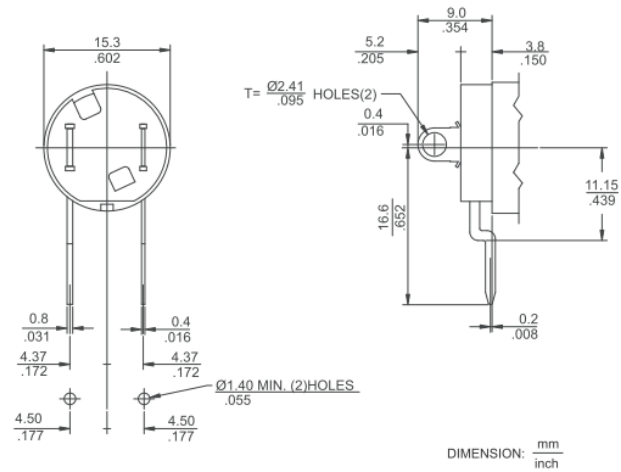
Series 270X-x-B Metal Shaft, Bushing Mount, Printed Circuit "X" Type Terminals, Rotary Switch



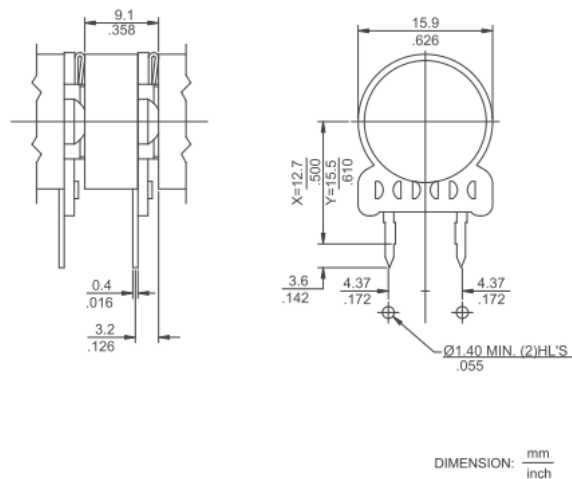
Optional Power Switches (All SPST)

| SERIES | TYPE | ELECTRICAL RATING |
|--------|--------|-------------------------------------|
| 057 | Rotary | 5A @ 20 VDC |
| | | 3A @ 125 VAC (UL&CSA Recognized) |

Switch Actuating Angle -25°
Switch Actuating Torque - 2 to 10 in. oz.
(144 to 720gf-cm)



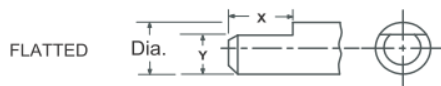
| SERIES | TYPE | ELECTRICAL RATING |
|--------|---------------------------|-------------------|
| DEMI | Push On-Pull Off | 3A @ 20 VDC |
| DEMI | Momentary Contact Push On | 3A @ 20 VDC |



Shaft Diameter and Trim Options

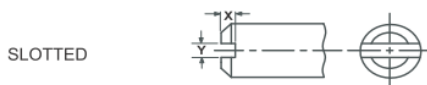


| Type | Diameter |
|------|-----------------|
| A | .125" (3.18 mm) |
| R | .156" (3.96 mm) |
| G | .187" (4.75 mm) |
| X | .236" (6.00 mm) |
| P | .250" (6.35 mm) |

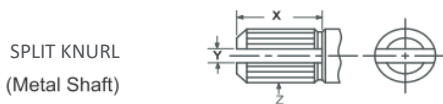


| Type | Diameter | X | Y |
|------|-----------------|-----------------|-----------------|
| B | .125" (3.18 mm) | .250" (6.35 mm) | .109" (2.77 mm) |
| D | .250" (6.35 mm) | .375" (9.52 mm) | .156" (3.96 mm) |
| H | .187" (4.75 mm) | .250" (6.35 mm) | .156" (3.96 mm) |
| F | .156" (3.96 mm) | .250" (6.35 mm) | .109" (2.77 mm) |
| L | .236" (6.00 mm) | .472" (12.0mm) | .177" (4.50 mm) |
| V* | .187" (4.75 mm) | .313" (7.95 mm) | .156" (3.96 mm) |
| W** | .236" (6.00 mm) | .472" (12.0 mm) | .177" (4.50 mm) |

*Molded Shaft, FMS .875" (22.2 mm), not available with switch
 **Molded Shaft, FMS .984" (25.0 mm), with rotary switch only



| Type | Diameter | X | Y |
|------|-----------------|-----------------|-----------------|
| C | .125" (3.18 mm) | .047" (1.19 mm) | .039" (1.00 mm) |
| S | .156" (3.96 mm) | .047" (1.19 mm) | .039" (1.00 mm) |
| J | .187" (4.75 mm) | .047" (1.19 mm) | .039" (1.00 mm) |
| M | .236" (6.00 mm) | .047" (1.19 mm) | .039" (1.00 mm) |
| E | .250" (6.35 mm) | .047" (1.19 mm) | .039" (1.00 mm) |



| Type | Diameter | X | Y | Z |
|------|-----------------|-----------------|-----------------|----------|
| N | .236" (6.00 mm) | .342" (8.70 mm) | .039" (1.00 mm) | 18 Teeth |
| T | .236" (6.00 mm) | .279" (7.10 mm) | .062" (1.57 mm) | 24 Teeth |



| Type | Diameter | X | Y | Z |
|------|-----------------|-----------------|-----------------|----------|
| U* | .187" (4.75 mm) | .062" (1.57 mm) | .046" (1.17 mm) | 18 Teeth |
| K** | .236" (6.00 mm) | .200" (5.08 mm) | .046" (1.17 mm) | 18 Teeth |

*Molded Shaft, FMS .500" (12.7 mm), not available with switch
 **Molded Shaft, FMS .500" (12.7 mm), with rotary switch only

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