

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:

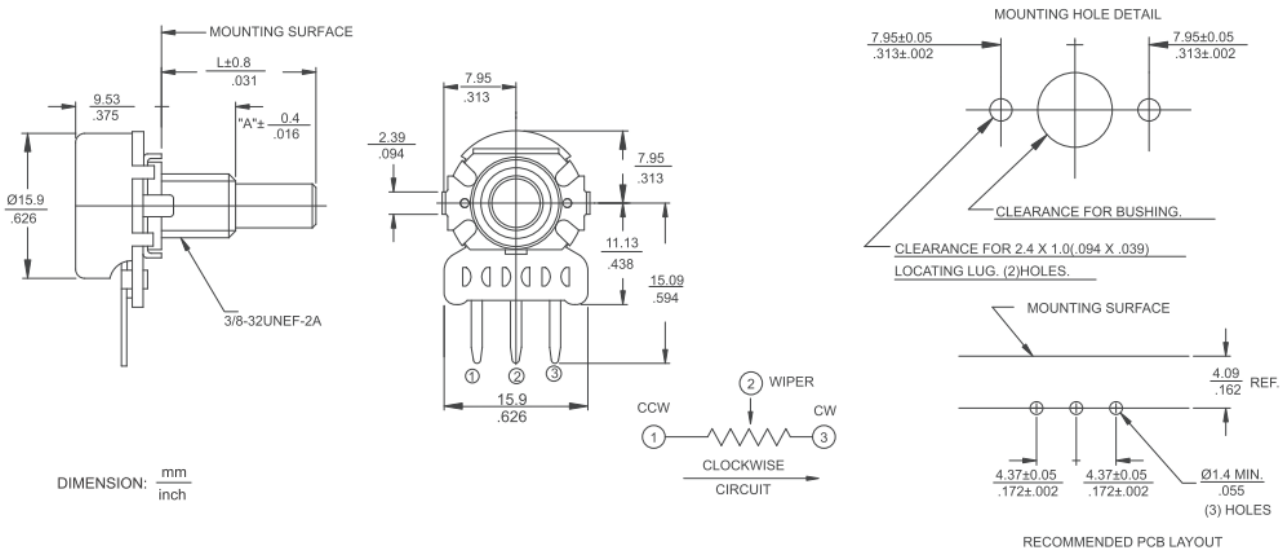
- T: Solder lug formed 90° to the rear on single and multi-section.
- X: PC terminals standard .438" (11.1mm) from center line of control to PC board, straight terminals extend .156" (4.0mm) into PC board.
- U: PC terminals formed 90° forward toward mounting surface. Terminals extend .187" (4.7mm) beyond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

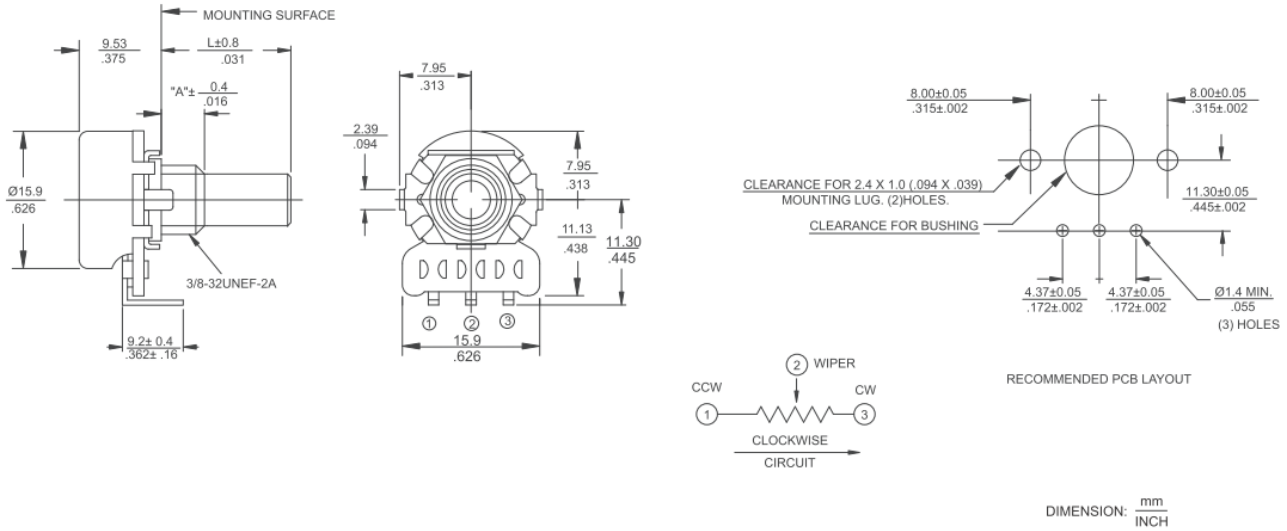
Electrical and Mechanical Specifications

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

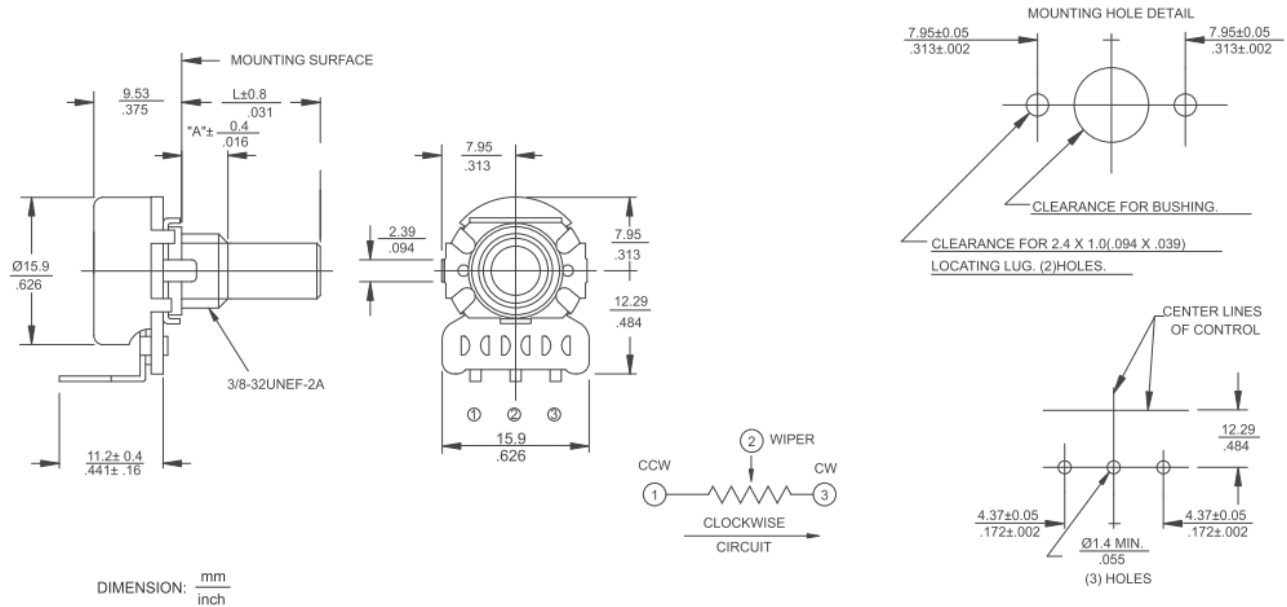


Electrical and Mechanical Specifications

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

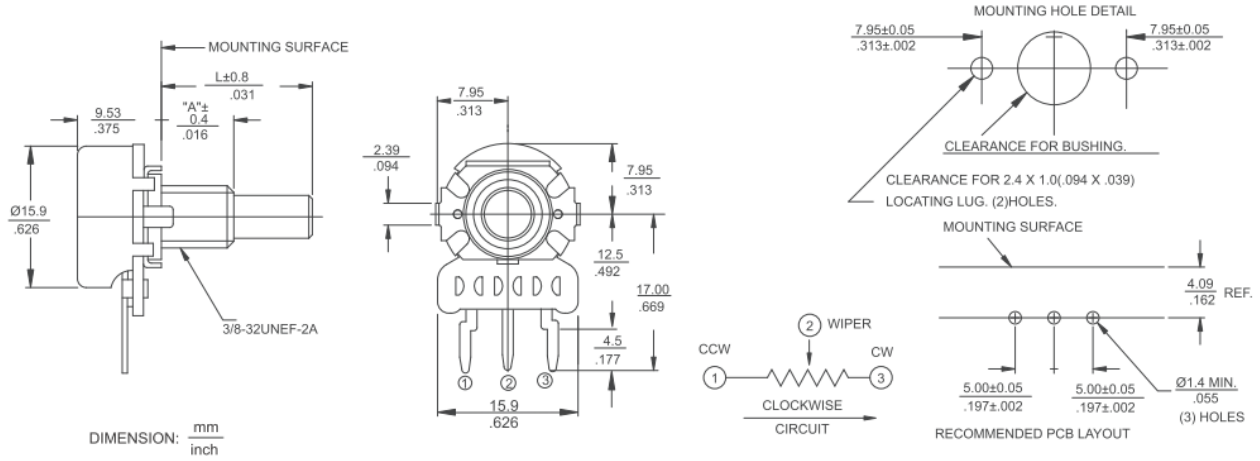


Series 270V Metal Shaft, Bushing Mount, Printed Circuit "V" Type Terminals

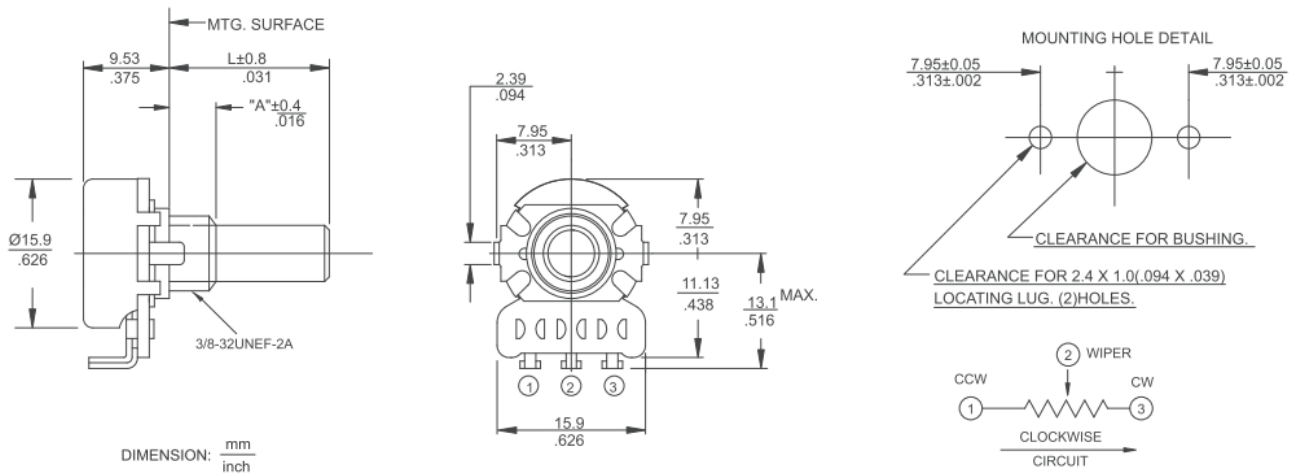


Electrical and Mechanical Specifications

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

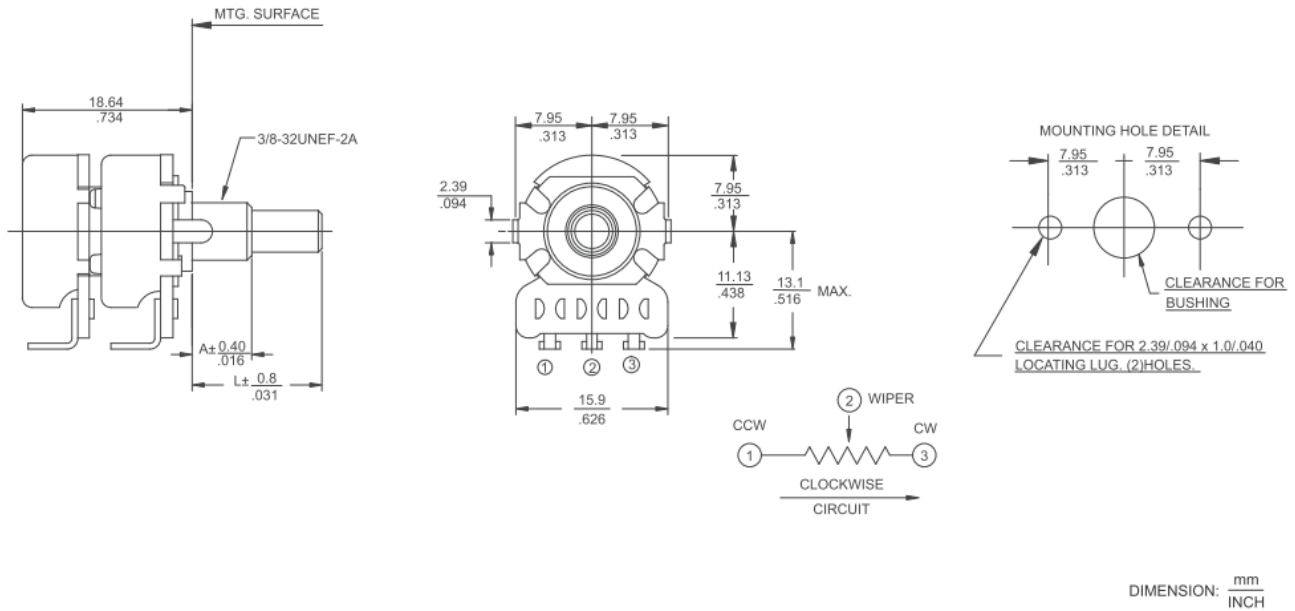


Series 270T Metal Shaft, Bushing Mount, Solder Lug "T" Type Terminals

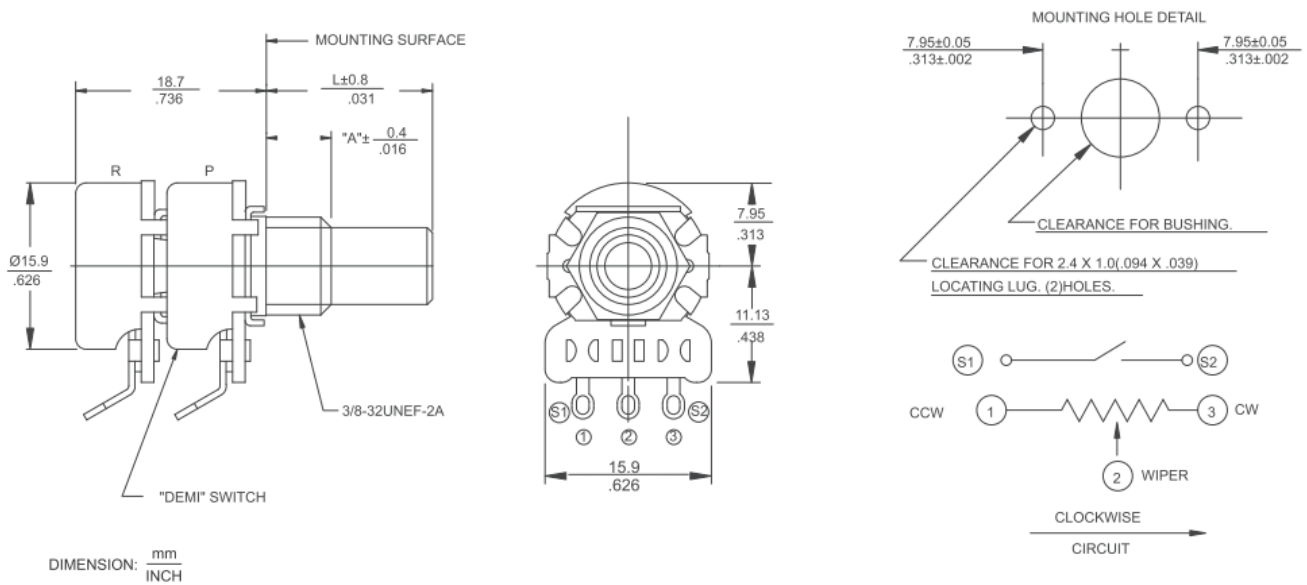


Electrical and Mechanical Specifications

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

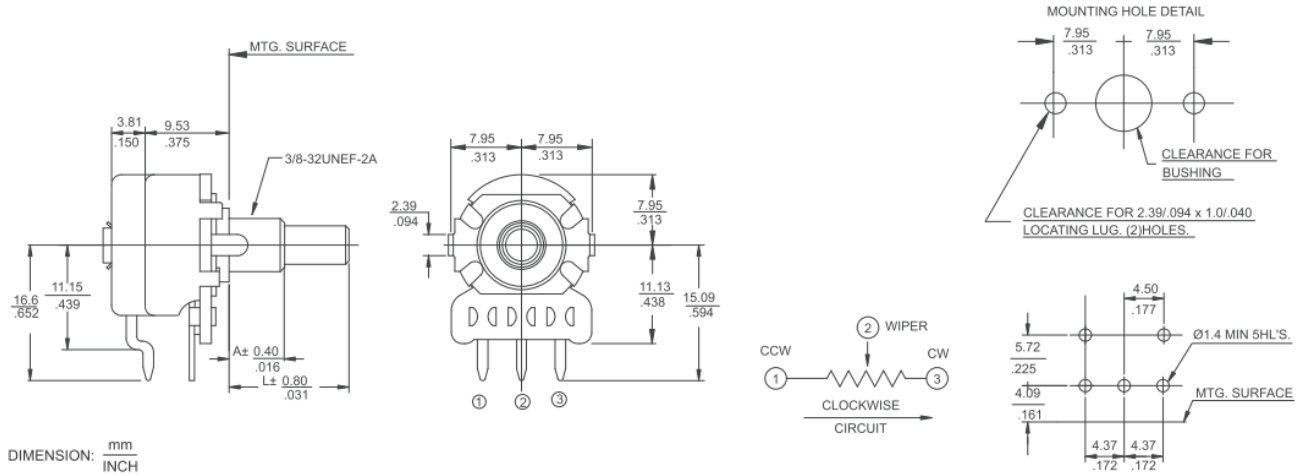


Series 270T-x-C/D Metal Shaft, Bushing Mount, Solder Lug "T" Type Terminals, DEMI Switch



Electrical and Mechanical Specifications

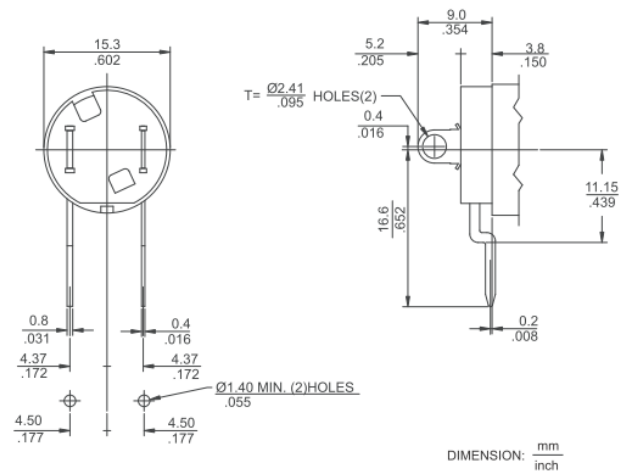
Series 270X-x-B Metal Shaft, Bushing Mount, Printed Circuit "X" Type Terminals, Rotary Switch



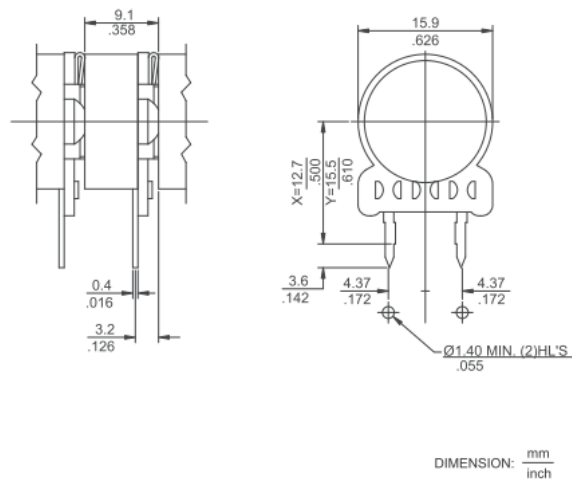
Optional Power Switches (All SPST)

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)



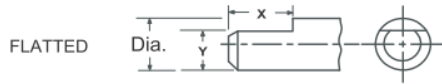
SERIES	TYPE	ELECTRICAL RATING
DEMI	Push On-Pull Off	3A @ 20 VDC
DEMI	Momentary Contact Push On	3A @ 20 VDC



Shaft Diameter and Trim Options



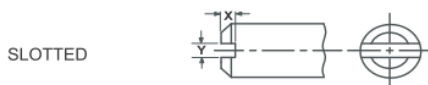
Type	Diameter
A	.125" (3.18 mm)
R	.156" (3.96 mm)
G	.187" (4.75 mm)
X	.236" (6.00 mm)
P	.250" (6.35 mm)



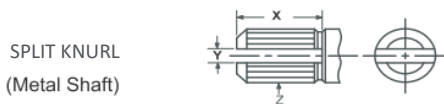
Type	Diameter	X	Y
B	.125" (3.18 mm)	.250" (6.35 mm)	.109" (2.77 mm)
D	.250" (6.35 mm)	.375" (9.52 mm)	.156" (3.96 mm)
H	.187" (4.75 mm)	.250" (6.35 mm)	.156" (3.96 mm)
F	.156" (3.96 mm)	.250" (6.35 mm)	.109" (2.77 mm)
L	.236" (6.00 mm)	.472" (12.0mm)	.177" (4.50 mm)
V*	.187" (4.75 mm)	.313" (7.95 mm)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