



THE DATASHEET OF 450T328S503A1A1



Series 450

24mm Rotary Potentiometer

- Versatile Mounting Styles
- Single, Tandem, and Concentric Options
- Power Switch Available
- Panel Seal Available
- Wide Resistance Range
- Low Noise Output
- Insulated and Metal Shaft Options

Ordering Information

Series	Terminal Style	Mounting Style "A"	Shaft Length "L"	Shaft Trim	Resistance Code	Resistance Tolerance	Taper	Switch Option	A/R Lug Options																																																																																				
450	T	2	20	R	103	B	1	A	1																																																																																				
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Electrical Specifications

Parameter	Conditions & Remarks	Min	Max	Unit
Resistance Range	Linear	500	10 Meg	Ω
	Audio	1k	1 Meg	Ω
Resistance Tolerance	Standard	-30	+30	%
	Special	-20	+20	%
	Special	-10	+10	%
Dielectric Strength	1 minute		1080	VAC
Power Rating	@ 55°C, resistances ≤ 100 k Ω		1/2	watt
	@ 55°C, resistances > 100 k Ω		1/3	watt
Operating Voltage			750	VDC
Insulation Resistance	250 VDC	100		M Ω
Effective Electrical Angle			300	°

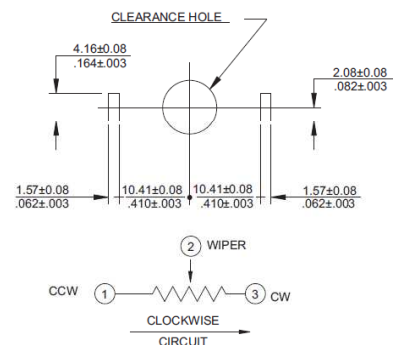
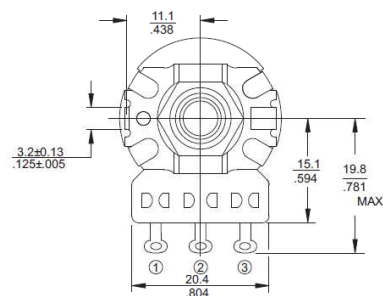
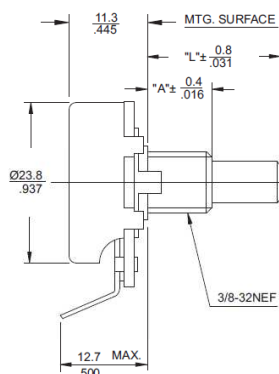
Mechanical and Environmental

Parameter	Conditions & Remarks	Min	Max	Unit
Operating Temperature Range		-10	+80	°C
Rotational Life	Standard	10,000		cycles
	Special	100,000		cycles
	Special	250,000		cycles
Mechanical Angle	Push switch or no switch		300	°
	With rotary switch		320	°
Rotational Torque		54	432	gf-cm
Stop Strength		10.36		kgf-cm
Push-Pull Strength of Shaft:	10 kg for 10 seconds			
Soldering Condition:	Maximum temperature of 260°C for 5 seconds			
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.
Custom and value-added options available on request. Please contact your sales representative for additional information.

Electrical and Mechanical Specifications

Series 450T Metal Shaft, Bushing Mount, Solder Lug "T" Type Terminals



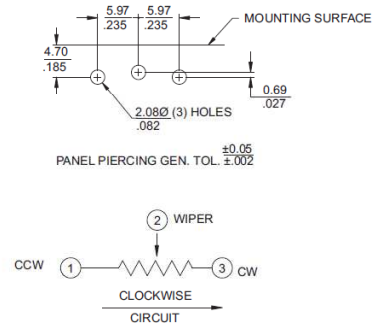
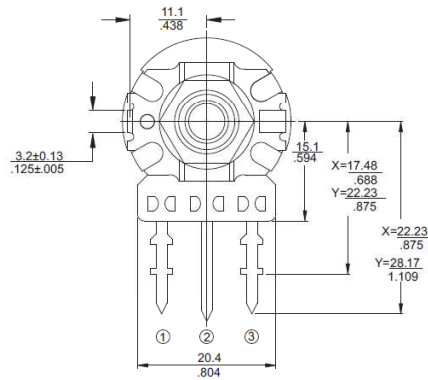
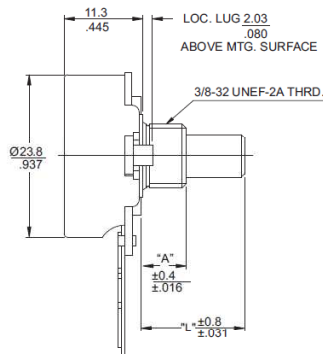
DIMENSION: $\frac{\text{mm}}{\text{inch}}$

Series 450

24mm Rotary Potentiometer

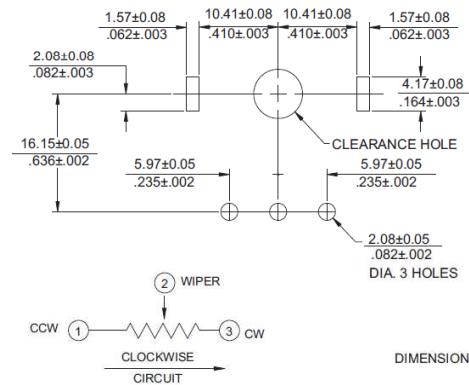
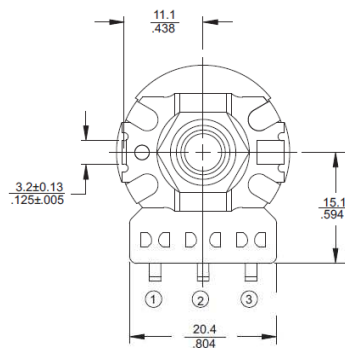
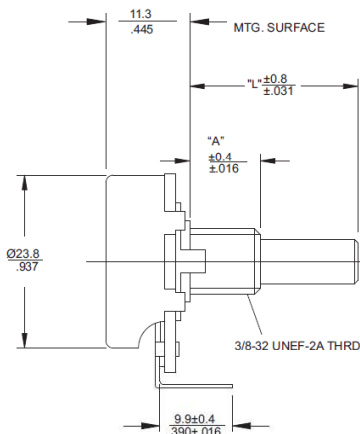
Electrical and Mechanical Specifications

Series 450X/450Y Metal Shaft, Bushing Mount, Printed Circuit "X" or "Y" Type Terminals



DIMENSION: $\frac{\text{mm}}{\text{inch}}$

Series 450U Metal Shaft, Bushing Mount, Printed Circuit "U" Type Terminals



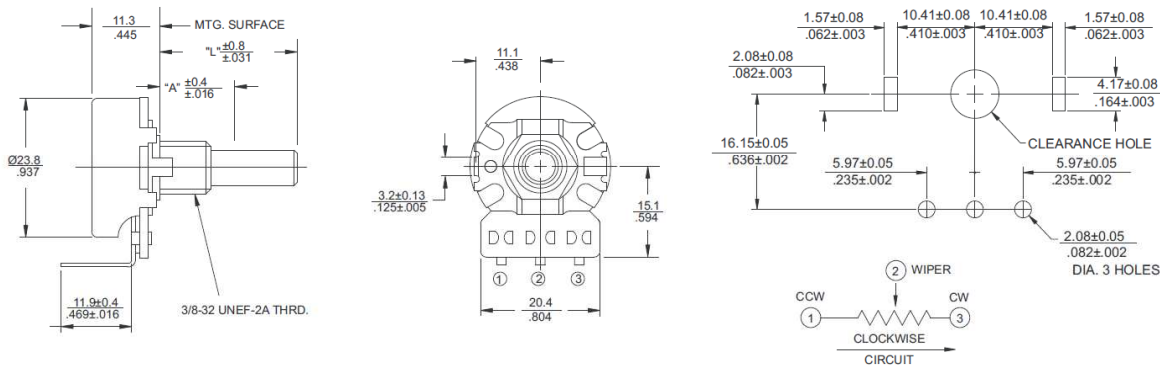
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Series 450

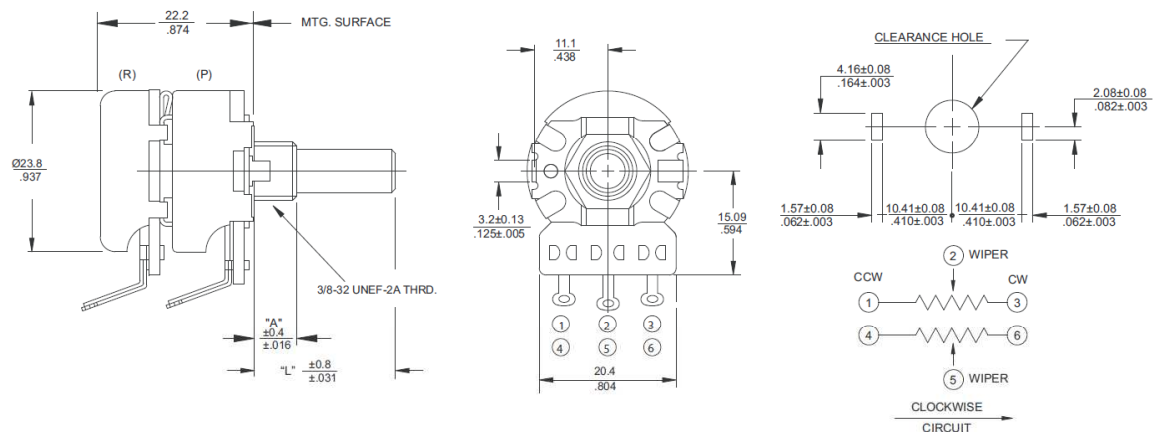
24mm Rotary Potentiometer

Electrical and Mechanical Specifications

Series 450V Metal Shaft, Bushing Mount, Printed Circuit "V" Type Terminals



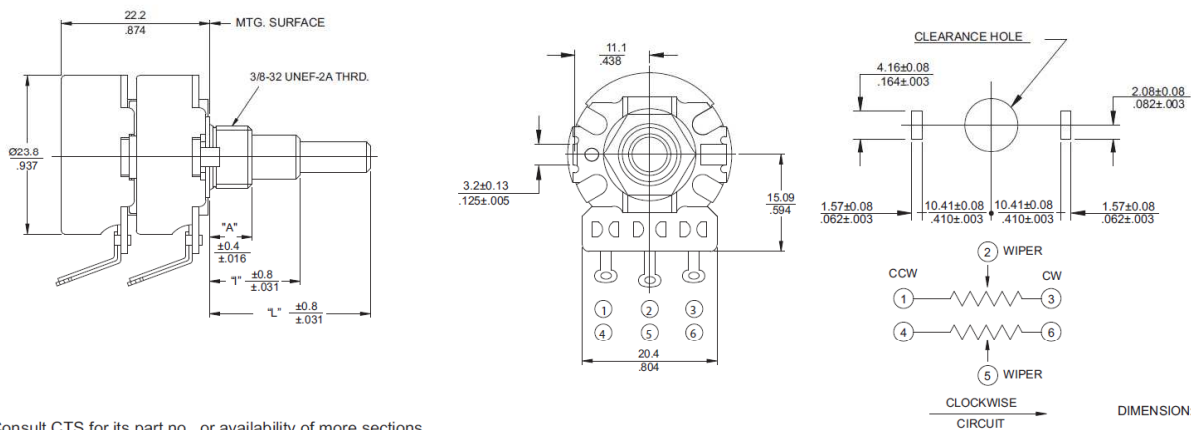
Series 450T-2 Metal Shaft, Dual Section, Bushing Mount, Solder Lug "T" Type Terminals



* Consult CTS for its part no. or availability of more sections

DIMENSION: mm
inch

Series 450T-C2 Concentric Metal Shaft, Dual Section, Bushing Mount, Solder Lug "T" Type Terminals



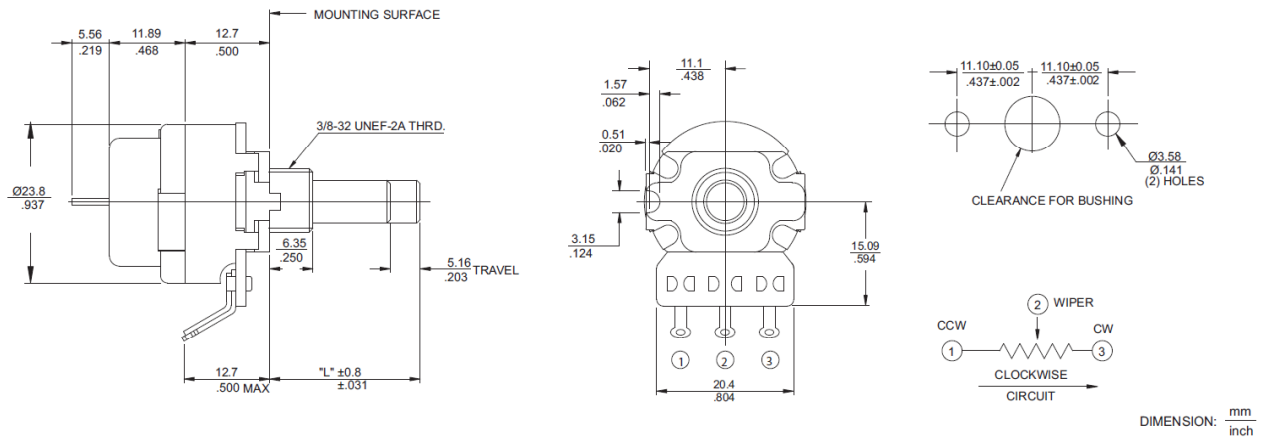
DIMENSION: mm
inch

Series 450

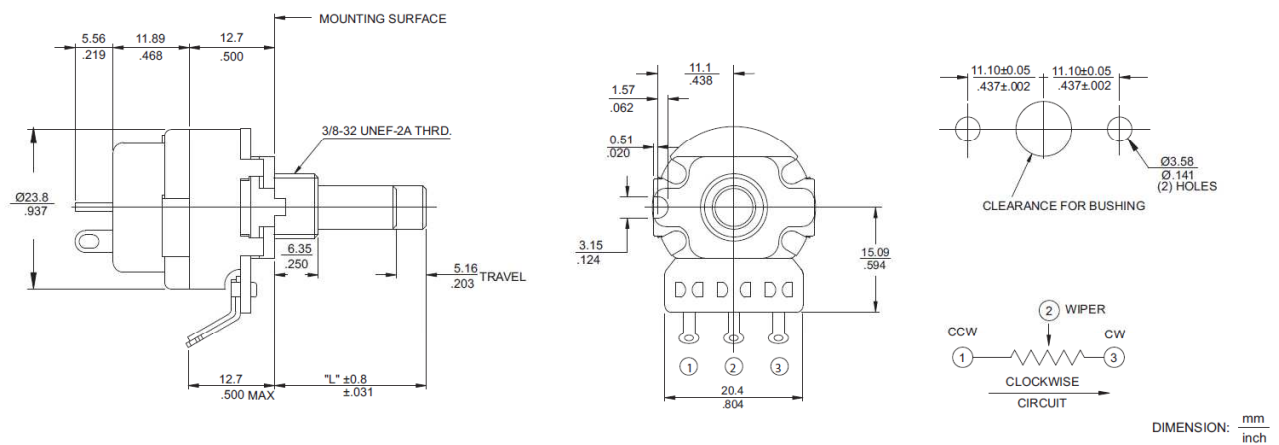
24mm Rotary Potentiometer

Electrical and Mechanical Specifications

Series 450TM-x-G Molded Shaft, Bushing Mount, Solder Lug "T" Type Terminals, 040 Switch Option



Series 450TM-x-H Molded Shaft, Bushing Mount, Solder Lug "T" Type Terminals, 041 Switch Option

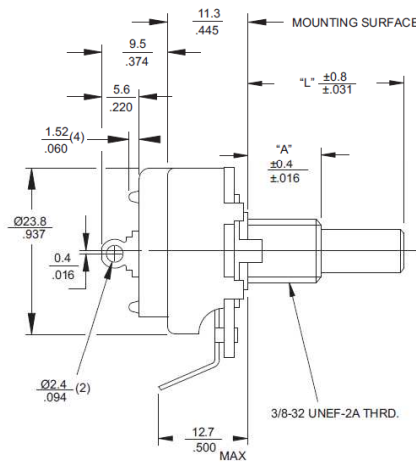


Series 450

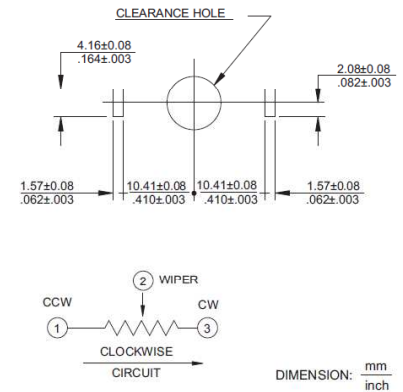
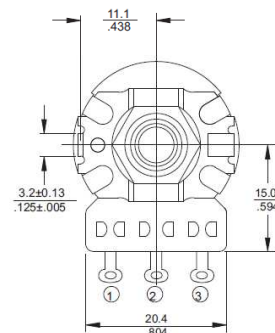
24mm Rotary Potentiometer

Electrical and Mechanical Specifications

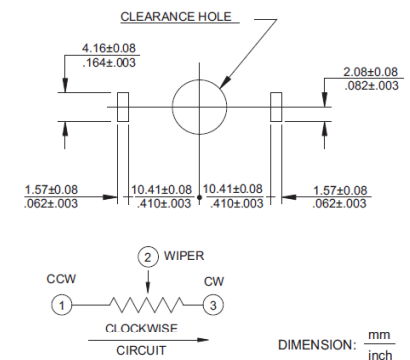
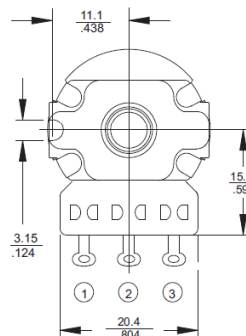
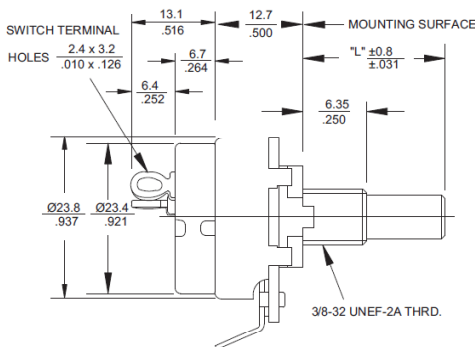
Series 450T-x-B Metal Shaft, Bushing Mount, Solder Lug "T" Type Terminals, 050 Switch Option



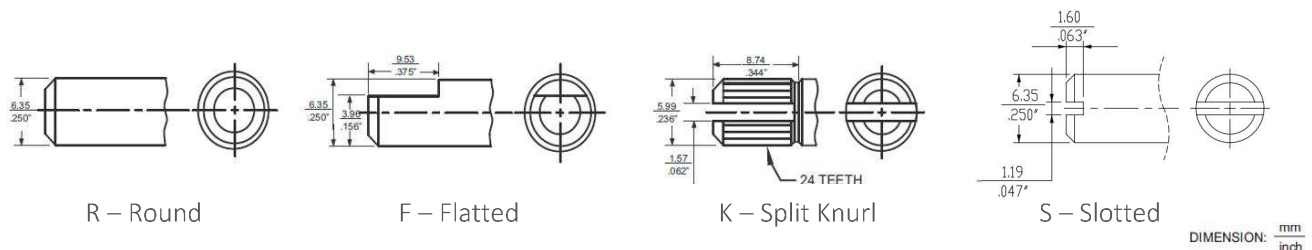
* Refer to Ordering Information for switch details



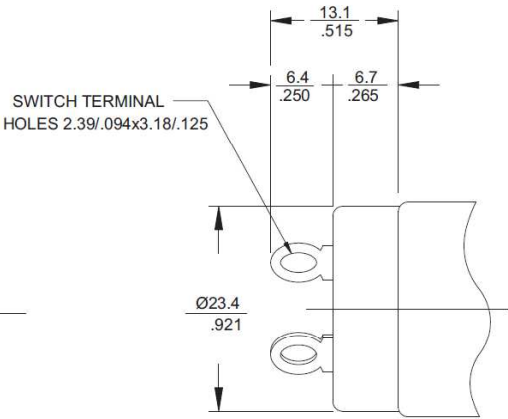
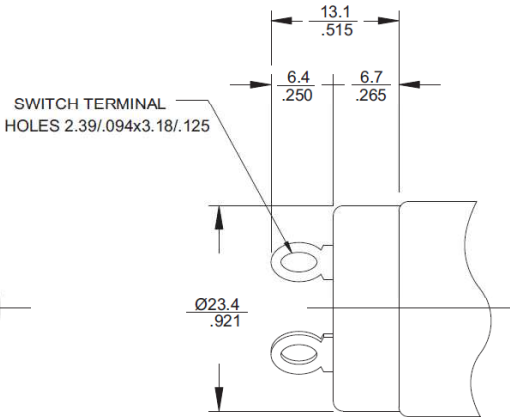
Series 450TM-x-C Metal Shaft, Bushing Mount, Solder Lug "T" Type Terminals, TGC Switch Option



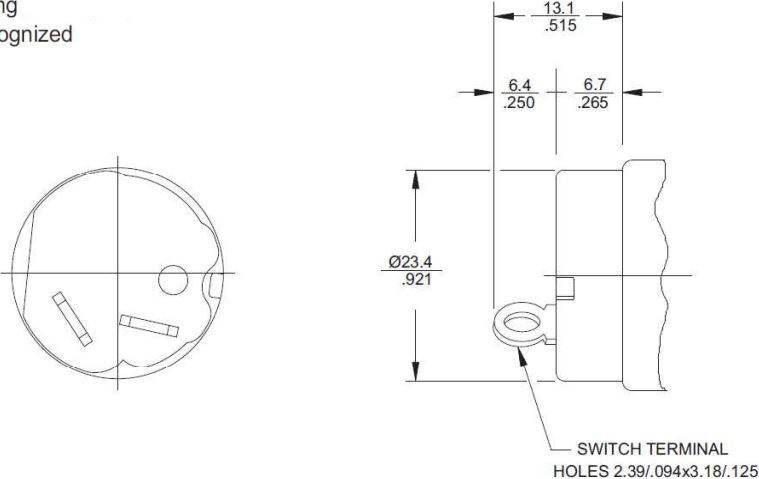
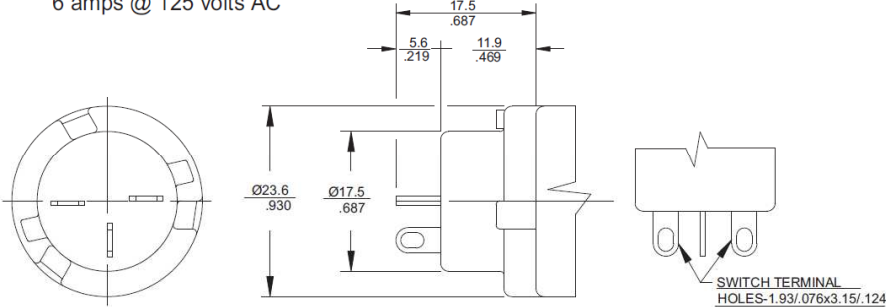
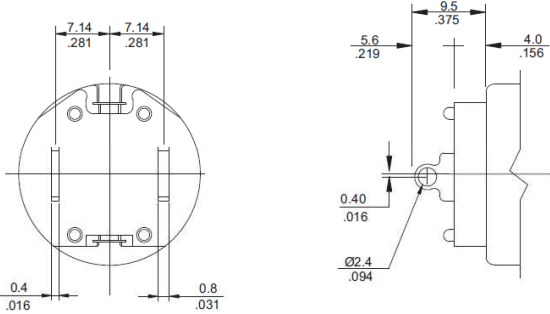
Shaft Diameter and Trim Options



Optional Power Switches

Series	Contact Arrangement	Electrical Rating	Outline Drawing
FR-GC	SPST Rotary	3 amps @ 125 volts, 1 amp @ 250 volts AC CUL Recognized	
GC	SPST Rotary	5 amps @ 20 volts DC (Automotive)	
Actuating Angle – 20° Actuating Torque – 7 to 17 in. oz. (504 to 1225 gf-cm)			
DIMENSION: $\frac{\text{mm}}{\text{inch}}$			
TGC	SPST Rotary	6 amps @ 125 volts AC CUL Recognized	
Actuating Angle – 20° Actuating Torque – 7 to 17 in. oz. (504 to 1225 gf-cm)			
DIMENSION: $\frac{\text{mm}}{\text{inch}}$			

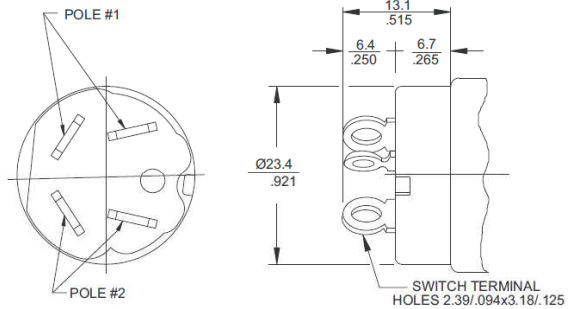
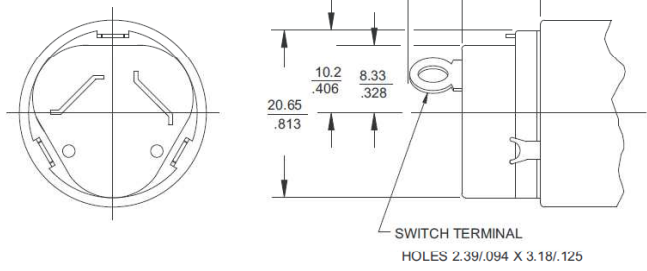
Optional Power Switches

Series	Contact Arrangement	Electrical Rating	Outline Drawing
TV-023	SPST Rotary	TV-5 rating CUL Recognized	 13.1 .515 6.4 .250 6.7 .265 Ø23.4 .921 SWITCH TERMINAL HOLES 2.39/.094x3.18/.125
Actuating Angle – 20° Actuating Torque – 10 to 20 in. oz. (720 to 1441 gf-cm)			
041	SPDT Push-on Push-off	6 amps @ 125 volts AC	 17.5 .687 5.6 .219 11.9 .469 Ø23.6 .930 Ø17.5 .687 SWITCH TERMINAL HOLES-1.93/.076x3.15/.124
Pre-travel 13/64" (5.2mm) Activating Force: 2 to 5 lb (0.9 to 2.3 kgf)			
050	SPST Rotary	3 amps @ 125 volts AC (Shallow construction switch) CUL Recognized 7.5 amps @ 20 volts DC (Automotive)	 7.14 .281 7.14 .281 9.5 .375 5.6 .219 4.0 .156 0.40 .016 Ø2.4 .094 0.4 .016 0.8 .031
Actuating Angle: 25° Actuating Torque: 2 to 15 in. oz. (144 to 1080 gf-cm)			

Optional Power Switches

Series	Contact Arrangement	Electrical Rating	Outline Drawing
FR-027	DPST Rotary	3 amps @ 125 volts, 1 amp @ 250 volts AC CUL Recognized	SWITCH TERMINAL HOLES 2.39/.094 x 3.18/.125
Actuating Angle: 20° Actuating Torque: 10 to 20 in. oz. (720 to 1441 gf-cm)			
DIMENSION: $\frac{\text{mm}}{\text{inch}}$			
TV-020	DPST Rotary	125 volts AC Pole #1, TV-1 rating Pole #2, TV-3 rating CUL Recognized	SWITCH TERMINAL HOLES 2.39/.094x3.18/.125
Actuating Angle: 20° Actuating Torque: 10 to 20 in. oz. (720 to 1440 gf-cm)			
DIMENSION: $\frac{\text{mm}}{\text{inch}}$			
TV-021	SPDT Rotary	TV-4 rating CUL Recognized	SWITCH TERMINAL HOLES 2.39/.094x3.18/.125
Actuating Angle: 20° Actuating Torque: 10 to 20 in. oz. (720 to 1440 gf-cm)			
DIMENSION: $\frac{\text{mm}}{\text{inch}}$			

Optional Power Switches

Series	Contact Arrangement	Electrical Rating	Outline Drawing
FR-028	SPDT Rotary	3 amps @ 125 volts AC CUL Recognized	 POLE #1 POLE #2 SWITCH TERMINAL HOLES 2.39/.094x3.18/.125
	Actuating Angle: 20° Actuating Torque: 10 to 20 in. oz. (720 to 1440 gf-cm)		
DIMENSION:	$\frac{\text{mm}}{\text{inch}}$		
FR-K	SPST Pull-on Push-off	3 amps @ 125 volts AC CUL Recognized	 SWITCH TERMINAL HOLES 2.39/.094 X 3.18/.125
	Pre-travel: 5/32" (3.97mm) Actuating force: 7 to 16 oz. - Single section control (198 to 454 gf) 7 to 20 oz. - Tandem control (198 to 567 gf)		
DIMENSION:	$\frac{\text{mm}}{\text{inch}}$		

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-  Alternative Solution
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