

TF Series Miniature Snap-acting Switches

Features/Benefits

- Broad range of operating forces
- Ratings up to 21 AMPS
- Wide variety of actuator styles
- Quick connect terminations

Typical Applications

- Motor controls
- Thermostatics
- Portable tools



Specifications

CONTACT RATING: From low level* to 21 AMPS @ 277 V AC.
 ELECTRICAL LIFE: 300,000 cycles at 10 AMPS @ 250 V AC, consult Customer Service Center for typical life of higher rated switches.
 INSULATION RESISTANCE: 1,000 M ohm min.
 DIELECTRIC STRENGTH: 1,500 Vrms min. @ sea level.
 OPERATING TEMPERATURE: -40°F to 185°F (-40°C to 85°C).
 OPERATING FORCE: From 15 to 400 grams at actuator button available.
 MOUNTING: Torque screws 2-5 in/lbs.

* Low Level=conditions where no arcing occurs during switching, i.e., 0.4 VA max. @ 20 V AC or DC max. Standard electrical life per UL 1054, rated for 6,000 operations.

Materials

SWITCH HOUSING: Thermoplastic (UL 94V-0).
 ACTUATOR BUTTON: Thermoplastic (UL 94V-0).
 SPRING: Copper alloy.
 PIVOT: Brass alloy.
 MOVABLE CONTACTS: Gold alloy for ratings 1 AMP or less. Fine silver for ratings greater than 1 AMP up to 15 AMPS. Precious metal alloy for ratings greater than 15 AMPS.
 STATIONARY CONTACTS: Gold alloy for ratings 1 AMP or less. Fine silver for ratings greater than 1 AMP.
 TERMINALS: Brass alloy for ratings up to 10 AMPS. Copper alloy for ratings greater than 10 AMPS.

NOTE: Specifications and materials listed above are switches with standard options. For information on specific and custom switches, consult Customer Service Center.

Build-A-Switch

To order, simply select desired option from each category and place in the appropriate box. Available options are shown and described on pages K-6 through K-10. For additional options not shown in catalog, consult Customer Service Center.

<p>Series</p> <p>TF SP, Mom.</p> <p>Operating Force</p> <p>CJ 5.29 oz./150 grams</p> <p>CC .53 oz./15 grams</p> <p>CD .88 oz./25 grams</p> <p>CF 1.76 oz./50 grams</p> <p>CG 2.65 oz./75 grams</p> <p>EC 7.94 oz./225 grams</p> <p>EE 14.11 oz./400 grams</p> <p>Electrical Rating</p> <p>J6 15 A, 277 V AC; 1/2 HP, 125, 250 V AC; 5 A, 125 V AC "L"; 0.5 A, 125 V DC; 0.25 A, 250 V DC</p> <p>F5 1 A, 125 V AC; 1 A, 30 V DC</p> <p>H8 5 A, 277 V AC; 1/10 HP, 125, 250 V AC</p> <p>J3 21 A, 277 V AC; 1 HP, 125 V AC; 2 HP, 250 V AC; 5 A, 125 V AC "L"</p> <p>K6 11 A, 277 V AC; 1/3 HP, 125, 250 V AC; 0.5 A, 125 V DC; 0.25 A, 250 V DC</p> <p>L3 20 A, 250 V AC; 1 HP, 125 V AC; 2 HP 250 V AC</p> <p>V1 1 A, 125 V AC; 1 A, 30 V DC (UL/CSA)</p> <p>V2 5 A, 277 V AC; 1/10 HP, 125, 250 V AC (UL/CSA); 5(2) A, 250 V AC (VDE)</p> <p>V3 11 A, 277 V AC; 1/3 HP, 125, 250 V AC; 0.5 A, 125 V DC; 0.25 A, 250 V DC (UL/CSA); 10(3) A, 250 V AC (VDE)</p> <p>V4 21 A, 277 V AC; 1 HP, 125 V AC; 2 HP, 250 V AC; 5 A, 125 V AC "L"; 16(3) A, 250 V AC (VDE)</p>	<p>Mounting Style</p> <p>S Standard</p> <p>V Metric</p> <p>Actuator</p> <p>P00 Pin plunger</p> <p>A10 .81" lever roller, high force</p> <p>A15 1.34" lever roller, high force</p> <p>A20 1.05" lever roller, low force</p> <p>A25 1.56" lever roller, low force</p> <p>T10 .84" lever, high force</p> <p>T13 1.34" simulated roller, high force</p> <p>T14 1.29" simulated roller, high force</p> <p>T15 1.40" lever, high force</p> <p>T16 2.34" lever, high force</p> <p>T18 2.75" lever, high force</p> <p>T20 1.10" lever, low force</p> <p>T23 1.56" simulated roller, low force</p> <p>T24 1.50" simulated roller, low force</p> <p>T25 1.62" lever, low force</p> <p>T26 2.57" lever, low force</p> <p>T28 2.97" lever, low force</p> <p>WPO Wide pin plunger</p>	<p>Circuitry</p> <p>C SPDT</p> <p>W SPST N.C.</p> <p>Y SPST N.O.</p> <p>Terminations</p> <p>40 .187" quick connect</p> <p>4A .250" quick connect</p> <p>5A .250" offset quick connect</p> <p>5B .187" offset quick connect</p>
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Dimensions are shown: Inch (mm)
 Specifications and dimensions subject to change

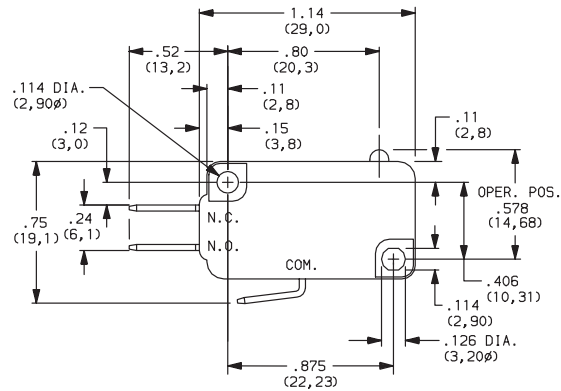
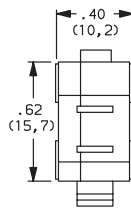


Snap-acting

TF Series Miniature Snap-acting Switches

SERIES

TF MINIATURE SNAP-ACTING SWITCHES – SP MOMENTARY



OPERATING FORCE

OPTION CODE	BASIC SWITCH OPERATING FORCE (OZ./GRAMS)
CC	.53 15
CD	.88 25
CF	1.76 50
CG	2.65 75
CJ	5.29 150
EC	7.94 225
EE*	14.11 400

*Minimums may apply, consult Customer Service Center.

Operating Force option 'CC' not available with 'T18 & T26' Actuator options.
Operating force varies with actuator option, see ACTUATOR option section.

ELECTRICAL RATING

OPTION CODE	RoHS COMPLIANT *	RoHS COMPATIBLE *	CONTACT MATERIAL		ELECTRICAL RATING
			MOVABLE CONTACT	STATIONARY CONTACT	
F5	Yes	Yes	Gold alloy	Gold alloy	From low level* to 1 AMP @ 125 V AC, 1 AMP @ 30 V DC.
H8	Yes	Yes	Fine Silver	Fine Silver	5 AMPS @ 277 V AC; 1/10 HP @ 125 & 250 V AC.
J3	Yes	Yes			21 AMPS @ 277 V AC; 1 HP @ 125 V AC; 2 HP @ 250 V AC; 5 AMPS @ 125 V AC "L".
J6	Yes	Yes			15 AMPS @ 277 V AC; 1/2 HP @ 125 & 250 V AC; 5 AMPS @ 125 V AC "L". 0.5 AMP @ 125 V DC; 0.25 AMP @ 250 V DC.
K6	Yes	Yes			11 AMPS @ 277 V AC; 1/3 HP @ 125 & 250 V AC; 0.5 AMP @ 125 V DC; 0.25 AMP @ 250 V DC.
L3	Yes	Yes	Silver alloy		20 AMPS @ 250 V AC; 1 HP @ 125 V AC; 2 HP @ 250 V AC

* Note: See Technical Data section of this catalog for RoHS compliant and compatible definitions and specifications.

All models with all options, .

Consult Customer Service center for availability and delivery of nonstandard ratings.

* Low Level=conditions where no arcing occurs during switching, i.e., 0.4 VA max. @ 20 V AC or DC max.



Third Angle Projection




Dimensions are shown: Inch (mm)
Specifications and dimensions subject to change



Snap-acting
K

TF Series Miniature Snap-acting Switches

ELECTRICAL RATING

OPTION CODE	RoHS COMPLIANT	RoHS COMPATIBLE	CONTACT MATERIAL		INTERNATIONAL ELECTRICAL RATING   
			MOVABLE CONTACT	STATIONARY CONTACT	
V1	Yes	Yes	Gold alloy	Gold alloy	From low level* to 1 AMP @ 125 V AC; 1 AMP @ 30 V DC (UL/CSA). 0.1 (0.05) AMP @ 250 V-μ T85 50E3 (VDE).
V2	Yes	Yes	Fine Silver	Fine Silver	5 AMPS @ 277 V AC; 1/10 HP @ 125 & 250 V AC (UL/CSA). 5 (2) AMPS @ 250 V-μ T85 50E3 (VDE).
V3	Yes	Yes			11 AMPS @ 277 V AC; 1/3 HP @ 125 & 250 V AC; 0.5 AMP @ 125 V DC; 0.25 AMP @ 250 V DC (UL/CSA). 10 (3) AMPS @ 250 V-μ 50E3 T85 (VDE).
V4	Yes	Yes	Precious metal alloy		21 AMPS @ 277 V AC; 1 HP @ 125 V AC; 2 HP @ 250 V AC; 16 (3) AMPS @ 250 V-μ T85 10E3 (VDE).

* Note: See Technical Data section of this catalog for RoHS compliant and compatible definitions and specifications.

NOTE: V1-V4 ratings available with '5A or 5B' terminal styles only.

INTERNATIONAL RATING SYMBOLS	
μ	Microgap construction (less than 3 mm).
~	Alternating current.
T__	Maximum rated use temperature.
50E3	Cycles over 50,000 at rated current.
10E3	Cycles over 10,000 at rated current.
10(3)	Current Rating: First number represents resistive rating; second number represents inductive (motor) rating.

ELECTRICAL RATING	AMPS (REF)	OPERATING FORCE						
		CC (15)	CD (25)	CF (50)	CG (75)	CJ (150)	EC (225)	EE (400)
F5	1	•	•	•	•	•	•	•
H8	5	•	•	•	•	•	•	•
J3	21	X	X	X	X	•	•	•
J6	15	X	X	X	X	•	•	•
K6	11	X	•	•	•	•	•	•
L3	20	X	X	X	X	•	•	•
V1	1	•	•	•	•	•	X	X
V2	5	X	X	•	•	•	•	•
V3	11	X	X	X	•	•	•	•
V4	16	X	X	X	X	•	•	•

All models   with all options, .

Consult Customer Service center for availability and delivery of nonstandard ratings.

* Low Level=conditions where no arcing occurs during switching, i.e., 0.4 VA max. @ 20 V AC or DC max.

• AVAILABLE

x NOT AVAILABLE

** Available with 4A & 5A terminations only, see page K-10.

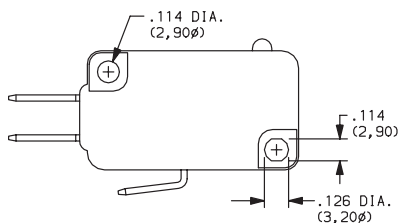


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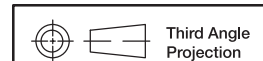
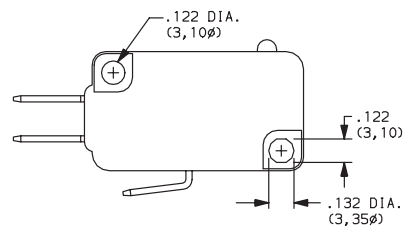
Snap-acting

MOUNTING STYLE

S STANDARD
For 4-40 screw size



V Metric
For 3 mm screw size

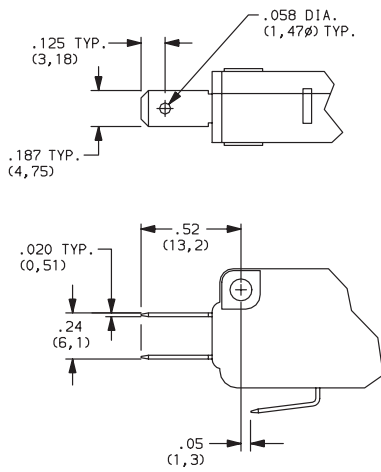


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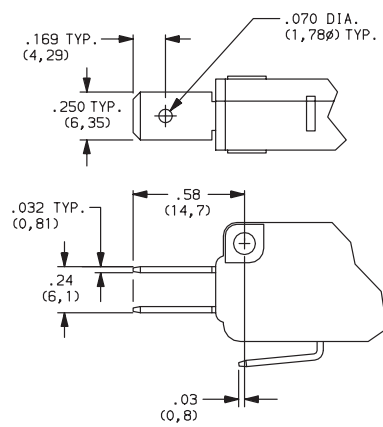
TF Series Miniature Snap-acting Switches

TERMINATIONS

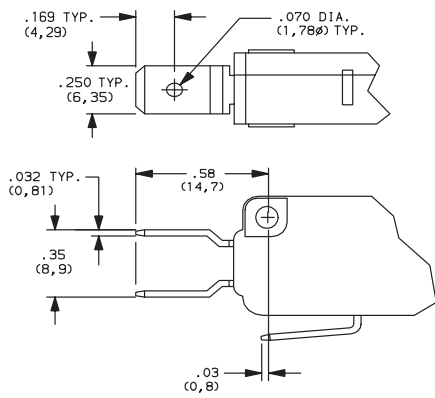
40 .187" QUICK CONNECT



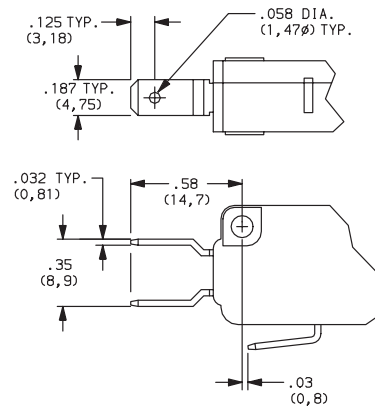
4A .250" QUICK CONNECT



5A OFFSET .250" QUICK CONNECT



5B OFFSET .187" QUICK CONNECT



CIRCUITRY

- C** SPDT (Single Pole, Double Throw)
- W** SPST N.C. (Single Pole, Single Throw, Normally Closed)
- Y** SPST N.O. (Single Pole, Single Throw, Normally Open)



Third Angle
Projection

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Snap-acting