

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.

Snap-acting

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 J-6 through J-11. For additional options not shown in catalog, consult Customer Service Center.



Series

TF SP, Mom.

Operating Force

CJ 5.29 oz./150 grams

CC .53 oz./15 grams

CD .88 oz./25 grams

CF 1.76 oz./50 grams

CG 2.65 oz./75 grams

EC 7.94 oz./225 grams

EE 14.11 oz./400 grams

Electrical Rating

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

F5 1 A, 125 V AC; 1 A, 30 V DC

H8 5 A, 277 V AC; 1/10 HP, 125, 250 V AC

J3 21 A, 277 V AC; 1 HP, 125 V AC; 2 HP, 250 V AC; 5 A, 125 V AC "L"

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

L3 20 A, 250 V AC; 1 HP, 125 V AC; 2 HP 250 V AC

Mounting Style

S Standard

V Metric

Actuator

P00 Pin plunger

A10 .81" lever roller, high force

A15 1.34" lever roller, high force

A20 1.05" lever roller, low force

A25 1.56" lever roller, low force

T10 .84" lever, high force

T13 1.34" simulated roller, high force

T14 1.29" simulated roller, high force

T15 1.40" lever, high force

T16 2.34" lever, high force

T18 2.75" lever, high force

T20 1.10" lever, low force

T23 1.56" simulated roller, low force

T24 1.50" simulated roller, low force

T25 1.62" lever, low force

T26 2.57" lever, low force

T28 2.97" lever, low force

WPO Wide pin plunger

Circuitry

C SPDT

W SPST N.C.

Y SPST N.O.

Terminations

40 .187" quick connect

4A .250" quick connect

5A .250" offset quick connect

5B .187" offset quick connect



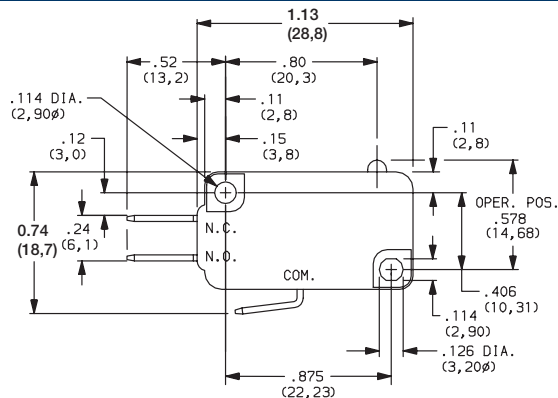
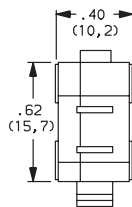
Dimensions are shown: Inch (mm)

Specifications and dimensions subject to change

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

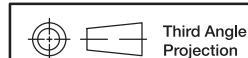
OPTION CODE	RoHS COMPLIANT *	RoHS COMPATIBLE *	CONTACT MATERIAL		ELECTRICAL RATING
			MOVABLE CONTACT	STATIONARY CONTACT	
F5	Yes	Yes	Gold alloy	Gold alloy	From low level* to 1 AMP @ 125 V AC, 1 AMP @ 30 V DC.
H8	Yes	Yes	Fine Silver	Fine Silver	5 AMPS @ 277 V AC; 1/10 HP @ 125 & 250 V AC.
J3	Yes	Yes			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

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: Inches (mm)
Specifications and dimensions subject to change



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ELECTRICAL 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	•	•	•

• AVAILABLE

X NOT AVAILABLE

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

All models  US

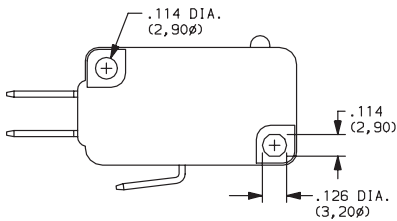
Consult Customer Service center for availability and delivery of nonstandard ratings.

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

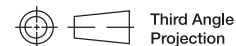
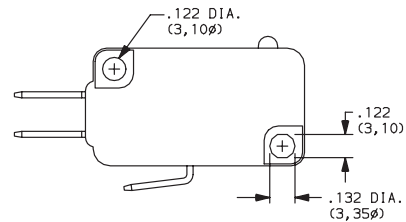
Snap-acting

MOUNTING STYLE

S STANDARD
For 4-40 screw size



V Metric
For 3 mm screw size



Third Angle Projection

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TF Series Miniature Snap-acting Switches

ACTUATOR

OPTION CODE	FIG.	DIM. A	DIM. B	DIM. C	DIM. D
P00	1	.80 (20,3)	—	.578 ± .015 (14,68 ± 0,38)	—
A10	2	.81 (20,6)	.32 (8,1)	.810 ± .020 (20,57 ± 0,51)	.19 dia. (4,8Ø)
A15	2	1.34 (34,0)	.32 (8,1)	.810 ± .030 (20,57 ± 0,76)	.19 dia. (4,8Ø)
A20	2	1.05 (26,7)	.54 (13,7)	.810 ± .050 (20,57) ± 1,27	.19 dia. (4,8Ø)
A25	2	1.56 (39,6)	.54 (13,7)	.810 ± .075 (20,57 ± 1,91)	.19 dia. (4,8Ø)
T10	3	.84 (21,3)	.32 (8,1)	.600 ± .020 (15,24 ± 0,51)	—
T15	3	1.40 (35,6)	.32 (8,1)	.600 ± .040 (15,24 ± 1,02)	—
T16	3	2.34 (59,4)	.32 (8,1)	.600 ± .065 (15,24 ± 1,65)	—
T18	3	2.75 (69,9)	.32 (8,1)	.600 ± .080 (15,24 ± 2,03)	—
T20	3	1.10 (27,9)	.54 (13,7)	.600 ± .050 (15,24 ± 1,27)	—
T25	3	1.62 (41,1)	.54 (13,7)	.600 ± .070 (15,24 ± 1,78)	—
T26	3	2.57 (65,3)	.54 (13,7)	.600 ± .150 (15,24 ± 3,81)	—
T28	3	2.97 (75,4)	.54 (13,7)	.600 ± .187 (15,24 ± 4,75)	—
T13	4	1.34 (34,0)	.32 (8,1)	.810 ± .030 (20,57 ± 0,76)	.19 dia. (4,8Ø)
T14	4	1.29 (32,8)	.32 (8,1)	.730 ± .030 (18,54 ± 0,76)	.19 dia. (6,4Ø)
T23	4	1.56 (39,6)	.54 (13,7)	.810 ± .065 (20,57 ± 1,65)	.19 dia. (4,8Ø)
T24	4	1.50 (38,1)	.54 (13,7)	.730 ± .060 (18,54) ± 1,52	.25 dia. (6,4Ø)
WP0	5	.80 (20,3)	—	.635 ± .015 (16,13 ± 0,38)	—

NOTE: Switch characteristics chart on following page.

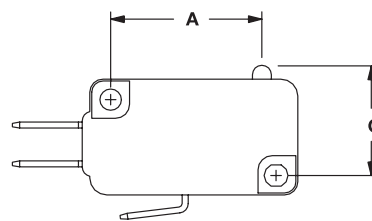


FIG. 1
Pin Plunger

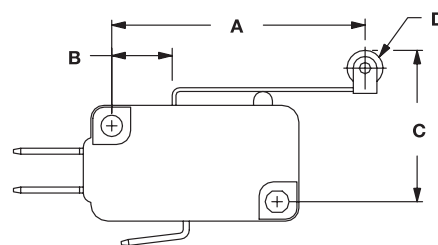


FIG. 2
Lever Roller

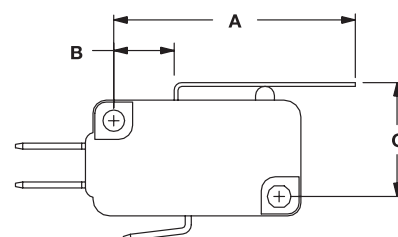


FIG. 3
Lever

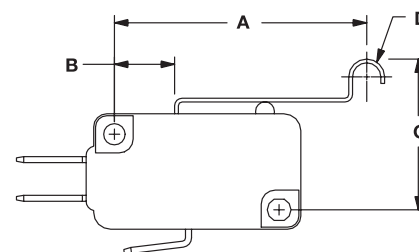


FIG. 4
Simulated Roller

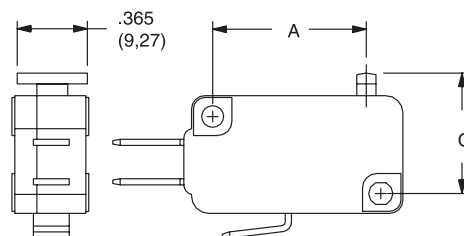


FIG. 5
Wide Pin

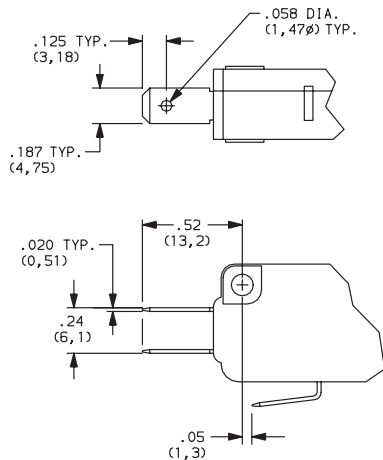


Third Angle
Projection

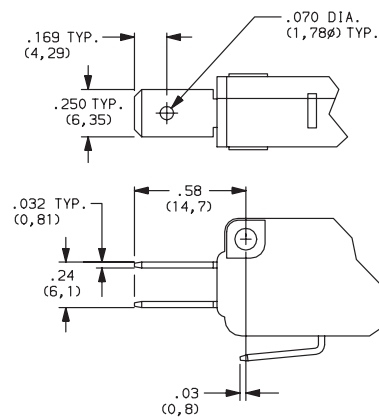
Dimensions are shown: Inches (mm)
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TERMINATIONS

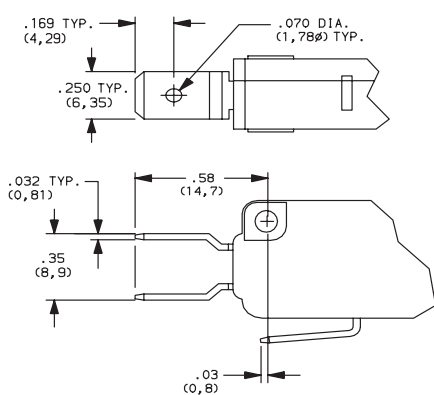
40 .187" QUICK CONNECT



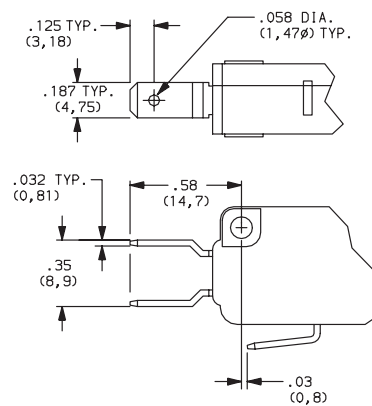
4A .250" QUICK CONNECT



5A OFFSET .250" QUICK CONNECT



5B OFFSET .187" QUICK CONNECT

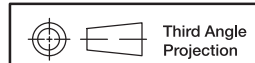


CIRCUITRY

- 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)



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Third Angle
Projection

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