Features/Benefits

- *Broad range of operating forces*
- *Ratings up to 25 AMPS*
- *Wide variety of actuator styles*
- *Quick connect, solder lug, PC and screw terminations*

Typical Applications

- *Motor controls*
- *Thermostatics*
- *Portable tools*

Specifications

CONTACT RATING: From low level* to 25 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 MΩ 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. Silver cadmium oxide 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 J-6 thru J-11. For additional options not shown in catalog, consult Customer Service Center.

Series
TF **(STD.) SP, Mom.**

Operating Force
CJ **(STD.) 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
CH 4.23 oz./120 grams
EC 7.94 oz./225 grams
EE 14.11 oz./400 grams

Electrical Rating
J6 **(STD.) 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
H5 3 A, 277 V AC; 1/10 HP, 125, 250 V AC
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 VAC; 5 A, 125 VAC "L"
K3 10 A, 277 V AC; 1/3 HP, 125, 250 V AC; 0.5 A, 125 V DC; 0.25 A, 250 V DC
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
L1 25 A, 277 V AC; 1.5 HP, 125 V AC; 2 HP, 250 V AC; 5 A, 125 V AC "L"
L3 20 A, 250 V AC; 1 HP, 125 V AC; 2 HP @ 250 V AC
V1 1 A, 125 V AC; 1 A, 30 V DC (UL/CSA)
V2 5 A, 277 V AC; 1/10 HP, 125, 250 V AC (UL/CSA); 5(2) A, 250 V AC (VDE)
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)
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)

Mounting Style
S **(STD.)**
B Stackable cover, metric
C Stackable base, metric
M Stackable cover
N Stackable base
V Metric

Actuator
P00 **(STD.) Pin plunger**
A10 .81" lever roller, high force
A15 1.34" lever roller, high 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
T25 1.62" lever, low force
T26 2.57" lever, low force
WP0 Wide pin plunger

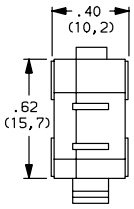
Terminations
40 **(STD.) .187" quick connect**
4A .250" quick connect
5A .250" offset quick connect
5B .187" offset quick connect
60 Screw
73 Formed PC Thru-hole

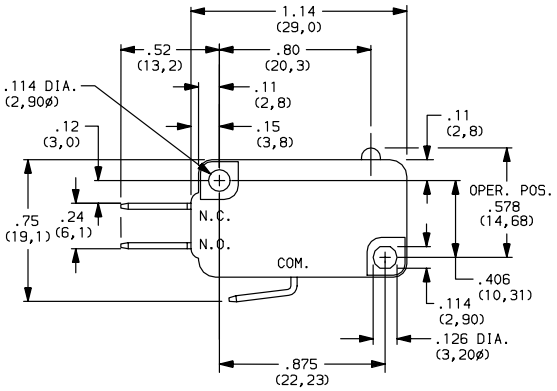
Circuitry
C **(STD.) SPDT**
W SPST N.C.
Y SPST N.O.

C&K TF Series
Miniature Snap-acting Switches

SERIES

TF MINIATURE SNAP-ACTING SWITCHES – SP MOMENTARY





OPERATING FORCE

OPTION CODE	BASIC SWITCH OPERATING FORCE (OZ./GRAMS)
CJ (STD.)	5.29 150
CC	.53 15
CD	.88 25
CF	1.76 50
CG	2.65 75
CH	4.23 120
EC	7.94 225
EE*	14 400

*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	CONTACT MATERIAL		ELECTRICAL RATING
	MOVABLE CONTACT	STATIONARY CONTACT	
F5	Gold alloy	Gold alloy	From low level* to 1 AMP @ 125 V AC; 1 AMP @ 30 V DC.
H5	Fine silver	Fine silver	3 AMPS @ 277 V AC; 1/10 HP @ 125 & 250 V AC.
H8			5 AMPS @ 277 V AC; 1/10 HP @ 125 & 250 V AC.
J3			21 AMPS @ 277 V AC; 1 HP @ 125 V AC; 2 HP @ 250 V AC; 5 AMPS @ 125 V AC "L".
J6 (STD.)			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.
K3			10 AMPS @ 277 V AC; 1/3 HP @ 125 & 250 V AC; 0.5 AMPS @ 125 C DC; 0.25 AMP @ 250 V DC
K6			11 AMPS @ 277 V AC; 1/3 HP @ 125 & 250 V AC; 0.5 AMP @ 125 V DC; 0.25 AMP @ 250 V DC.
L1	Silver cadmium oxide		25 AMPS @ 125 & 277 V AC; 1 1/2 HP @ 125 V AC; 2 HP @ 250 V AC.
L3			20 AMPS @ 250 V AC; 1 HP @ 125 V AC; 2 HP @ 250 V AC.

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: IN (mm)
Dimensions subject to change

ELECTRICAL RATING

OPTION CODE	CONTACT MATERIAL		INTERNATIONAL ELECTRICAL RATING
	MOVABLE CONTACT	STATIONARY CONTACT	
V1	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	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			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	Silver Cadmium Oxide.	Fine silver.	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: 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)	First number represents resistive rating; second number represents inductive (motor) rating.

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 COMBINATIONS

ELECTRICAL RATING	AMPS (REF.)	OPERATING FORCE							
		CC (15)	CD (25)	CF (50)	CG (75)	CH (120)	CJ (150)	EC (225)	EE (400)
F5	1	●	●	●	●	●	●	●	●
H5	3	●	●	●	●	●	●	●	●
H8	5	●	●	●	●	●	●	●	●
J3	21	x	x	x	x	x	●	●	●
J6	15	x	x	x	x	●	●	●	●
K3	10	x	x	●	●	x	●	●	●
K6	11	x	●	●	●	●	●	●	●
L1**	25	x	x	x	x	x	x	●	x
L3	20	x	x	x	x	●	●	●	x
V1	1	●	●	●	●	●	●	x	x
V2	5	x	x	●	●	●	●	●	●
V3	11	x	x	x	●	●	●	●	●
V4	16	x	x	x	x	x	●	●	●

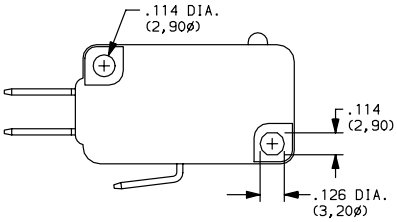
● AVAILABLE

x NOT AVAILABLE

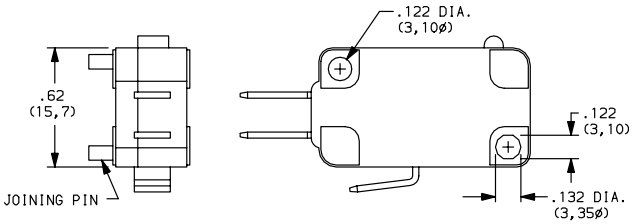
** Available with 4A & 5A terminations only, see page J-11.

MOUNTING STYLE

S **(STD.)**
For 4-40 screw size



B STACKABLE COVER (METRIC)
For 3mm screw size

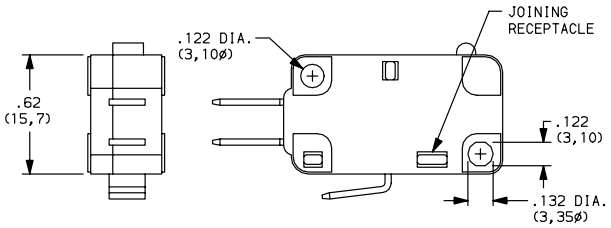


Third Angle Projection

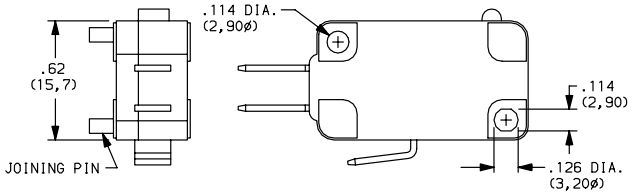
Dimensions are shown: IN (mm)
Dimensions subject to change

MOUNTING STYLE

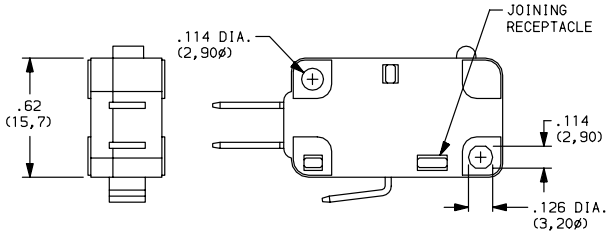
C STACKABLE BASE (METRIC) — For end of stack.
For 3mm screw size



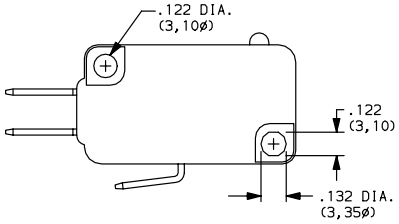
M STACKABLE COVER
For 4-40 screw size



N STACKABLE BASE — For end of stack.
For 4-40 screw size



V (METRIC)
For 3mm screw size



ACTUATOR

OPTION CODE	FIG.	DIM. A	DIM. B	DIM. C	DIM. D
P00 (STD.)	2	.80 (20,3)	—	.578 ± .015 (14,68 ± 0,38)	—
A10	1	.81 (20,6)	.32 (8,1)	.810 ± .020 (20,57 ± 0,51)	.19 dia. (4,8Ø)
A15	1	1.34 (34,0)	.32 (8,1)	.810 ± .030 (20,57 ± 0,76)	.19 dia. (4,8Ø)
A25	1	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)	—

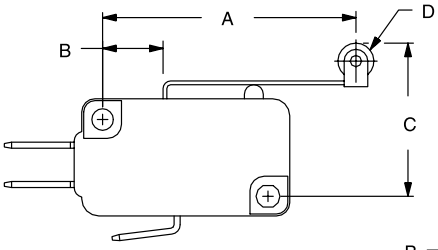


FIG. 1
Lever Roller

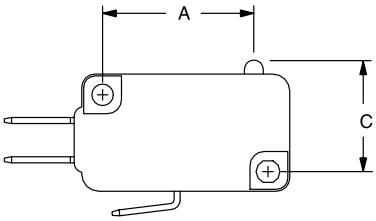


FIG. 2
Pin Plunger

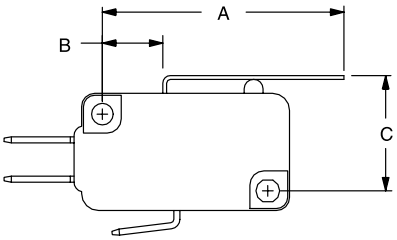


FIG. 3
Lever

Third Angle Projection

Dimensions are shown: IN (mm)
Dimensions subject to change

ACTUATOR

OPTION CODE	FIG.	DIM. A	DIM. B	DIM. C	DIM. D
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)	—
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)	.25 dia. (6,4Ø)
T23	4	1.56 (39,6)	.54 (13,7)	.810 ± .065 (20,57 ± 1,65)	.19 dia. (4,8Ø)
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)	—
WP0	5	.80 (20,3)	—	.635 ± .015 (16,13 ± 0,38)	—

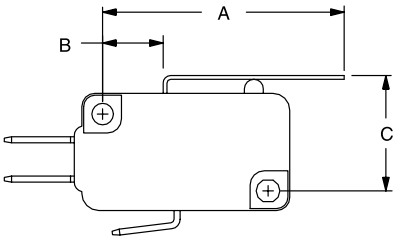


FIG. 3
Lever

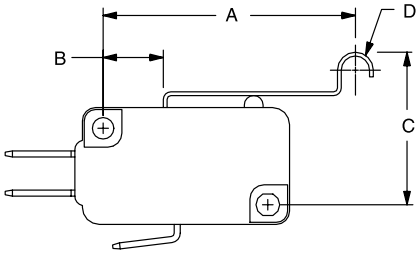


FIG. 4
Simulated Roller

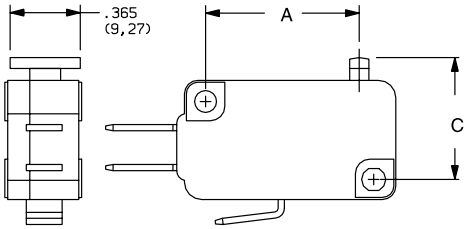


FIG. 5
Wide Pin

SWITCH CHARACTERISTICS

OPTION CODE	MAXIMUM OPERATING FORCE (OZ./GRAMS)								MINIMUM RELEASE FORCE (OZ./GRAMS)								MAXIMUM DIFFERENTIAL TRAVEL	MAXIMUM PRETRAVEL	MINIMUM OVERTRAVEL
	CC	CD	CF	CG	CH	CJ	EC	EE	CC	CD	CF	CG	CH	CJ	EC	EE	ALL FORCES	ALL FORCES	ALL FORCES
A10	.63 18	1.06 30	2.29 65	3.17 90	5.82 165	6.35 180	7.94 225	14.11 400	.21 6	.35 10	.35 10	.53 15	.71 20	.71 20	1.98 56	3.88 110	.015 (0,38)	.060 (1,52)	.030 (0,76)
A15	.28 8	.42 12	1.06 30	1.59 45	2.82 80	3 85	4.59 130	7.94 225	.07 2	.14 4	.14 4	.18 5	.32 9	.35 10	.71 20	2.82 80	.030 (0,76)	.100 (2,54)	.065 (1,65)
A25	.18 5	.28 8	.56 16	.85 24	1.48 42	1.69 48	2.65 75	4.41 125	.04 1	.07 2	.07 2	.07 2	.14 4	.21 6	.35 10	.71 20	.050 (1,27)	.250 (6,35)	.120 (3,05)
P00	.53 15	.88 25	1.76 50	2.65 75	4.23 120	5.29 150	7.94 225	14.11 400	.21 6	.35 10	.35 10	.53 15	.92 26	1.23 35	1.98 56	3.88 110	.010 (0,25)	.047 (1,19)	.050 (1,27)
T10	.63 18	1.06 30	2.29 65	3.17 90	5.11 145	6.35 180	7.94 225	14.11 400	.21 6	.35 10	.35 10	.53 15	.63 18	.71 20	1.98 56	3.88 110	.015 (0,38)	.060 (1,52)	.030 (0,76)
T13	.28 8	.42 12	1.06 30	1.59 45	2.65 75	3 85	4.59 130	7.94 225	.07 2	.14 4	.14 4	.18 5	.28 8	.35 10	.71 20	2.82 80	.030 (0,76)	.100 (2,54)	.065 (1,65)
T14	.28 8	.42 12	1.23 35	1.76 50	2.82 80	3.17 90	4.76 135	7.94 225	.07 2	.14 4	.14 4	.18 5	.28 8	.35 10	.71 20	2.82 80	.030 (0,76)	.100 (2,54)	.060 (1,52)
T15	.25 7	.42 12	1.06 30	1.41 40	2.47 70	2.82 80	4.41 125	7.94 225	.07 2	.14 4	.14 4	.18 5	.25 7	.28 8	.63 18	2.82 80	.030 (0,76)	.110 (2,79)	.065 (1,65)
T16	.18 5	.28 8	.53 15	.78 22	1.27 36	1.59 45	2.47 70	4.23 120	.04 1	.07 2	.07 2	.07 2	.18 5	.28 8	.35 10	.71 20	.045 (1,14)	.250 (6,35)	.125 (3,18)
T18	N/A	.21 6	.42 12	.71 20	1.13 32	1.41 40	2.12 60	3.53 100	N/A	.04 1	.04 1	.07 2	.11 3	.18 5	.28 8	.56 16	.062 (1,57)	.300 (7,62)	.155 (3,94)

NOTE: For basic switch operating forces, see page J-6.

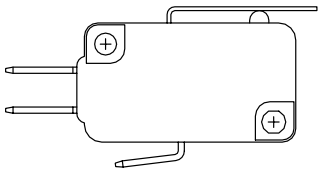
ACTUATOR

SWITCH CHARACTERISTICS

OPTION CODE	MAXIMUM OPERATING FORCE (OZ./GRAMS)								MINIMUM RELEASE FORCE (OZ./GRAMS)								MAXIMUM DIFFERENTIAL TRAVEL	MAXIMUM PRETRAVEL	MINIMUM OVERTRAVEL
	CC	CD	CF	CG	CH	CJ	EC	EE	CC	CD	CF	CG	CH	CJ	EC	EE	ALL FORCES	ALL FORCES	ALL FORCES
T20	.53 15	.71 20	1.41 40	2.12 60	3.53 100	4.23 120	6 170	9.70 275	.07 2	.11 3	.11 3	.18 5	.35 10	.42 12	.71 20	1.41 40	.030 (0,76)	.140 (3,56)	.060 (1,52)
T23	.18 5	.28 8	.56 16	.85 24	1.41 40	1.69 48	2.65 75	4.41 125	.04 1	.07 2	.07 2	.07 2	.14 4	.21 6	.35 10	.71 20	.050 (1,27)	.250 (6,35)	.120 (3,05)
T25	.18 5	.28 8	.53 15	.88 25	1.41 40	1.59 45	2.47 70	4.23 120	.04 1	.07 2	.07 2	.07 2	.14 4	.21 6	.35 10	.99 28	.055 (1,40)	.250 (6,35)	.125 (3,18)
T26	N/A	.14 4	.28 8	.42 12	.71 20	.85 24	1.27 36	2.26 64	N/A	.04 1	.04 1	.05 1.5	.11 3	.12 3.5	.21 6	.39 11	.100 (2,54)	.500 (12,70)	.235 (5,97)
WP0	.53 15	.88 25	1.76 50	2.65 75	4.23 120	5.29 150	7.94 225	14.11 400	.21 6	.35 10	.35 10	.53 15	.92 26	1.23 35	1.97 56	3.88 110	.010 (0,25)	.047 (1,19)	.030 (0,51)

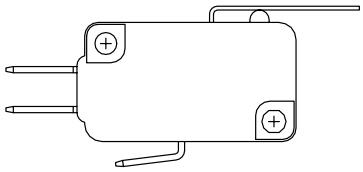
NOTE: For basic switch operating forces, see page J-6.

HIGH FORCE, LOW MOTION PIVOT POSITION



Available with actuators A10, A15, T10, T13, T14, T15, T16 and T18.

LOW FORCE, HIGH MOTION PIVOT POSITION

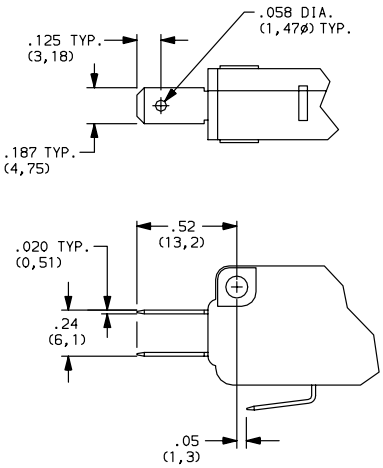


Available with actuators A25, T20, T23, T25 and T26.

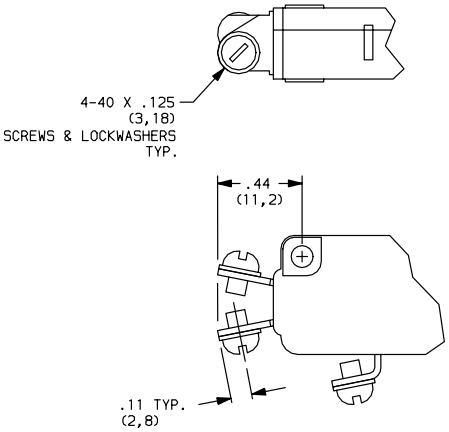
NOTE: Lever actuator options are available in either of two pivot positions.
Levers located in the forward pivot position have lower forces and higher motions.
Levers located in the rear pivot position have higher forces and lower motions.

TERMINATIONS

40 (STD.) .187" QUICK CONNECT



60 SCREW TERMINALS

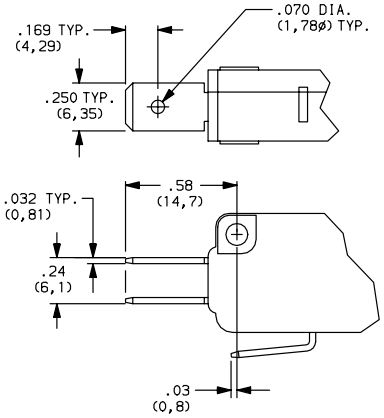


Third Angle Projection

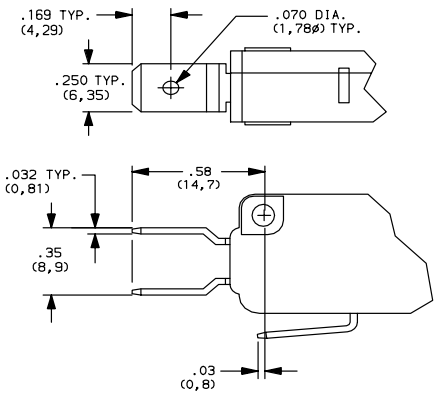
Dimensions are shown: IN (mm)
Dimensions subject to change

TERMINATIONS

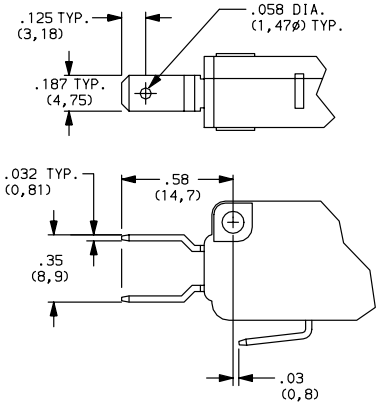
4A .250" QUICK CONNECT



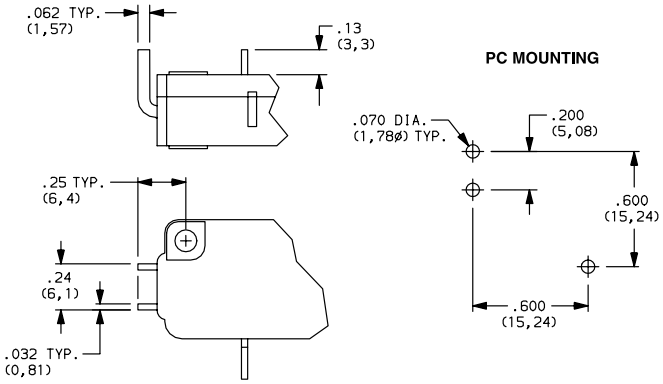
5A OFFSET .250" QUICK CONNECT



5B OFFSET .187" QUICK CONNECT



73 FORMED PC THRU-HOLE



CIRCUITRY

C **(STD.) 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

Dimensions are shown: IN (mm)
Dimensions subject to change