C&K TM Series
Miniature Snap-acting Switches

Features/Benefits

- ***High electrical life up to 15 AMPS***
- ***Broad range of operating forces available***
- ***Wide variety of actuator and terminal styles***
- ***Cost-effective solution***

Typical Applications

- ***Pumps and motors***
- ***White goods***
- ***Consumer appliances***

Specifications

CONTACT RATING: From low level* to 15 AMPS @ 250 V AC.

ELECTRICAL LIFE: 150,000 cycles at 15 AMPS @ 250 V AC, models with 150 grams operating force. 350,000 cycles at 10 AMPS @ 250 V AC, models with 75 grams operating force.

INSULATION RESISTANCE: 1,000 MΩ min.

DIELECTRIC STRENGTH: 1,000 Vrms min. @ sea level.

OPERATING TEMPERATURE: –67°F to 302°F (–55°C to 150°C).

OPERATING FORCE: 50, 75 and 150 grams at actuator available; refer to chart for lever style forces.

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.

Materials

SWITCH HOUSING: Thermoplastic or general purpose phenolic (UL 94V-0).

ACTUATOR BUTTON: Thermoplastic (UL 94V-0).

SPRING: Copper alloy.

PIVOT: Brass alloy.

MOVABLE CONTACTS: Gold alloy for ratings 1 AMP @ 125 V AC or less. Fine silver for ratings greater than 1 AMP @ 125 V AC.

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 @ 250 V AC. Copper alloy for 15 AMPS @ 250 V AC ratings.

NOTE: Specifications and materials listed above are for 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-13 thru J-17. For additional options not shown in catalog, consult Customer Service Center.

Available extended electrical life per UL 1054, rated for 100,000 operations, consult factory.

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

Operating Force
CG **(STD.) 2.65 oz./75 grams**
CJ 5.29 oz.,/150 grams
CF 1.76 oz./50 grams

Electrical Rating
G6 **(STD.) 15 A @ 125 & 250 V AC; 1/4 A @ 250 V DC; 1/2 A @ 125 V DC; 1/2 HP @ 125 & 250 V AC; 3 A @ 125 V AC "L"**
D6 10 A @ 125 & 250 V AC; 1/3 HP @ 125 & 250 V AC; 1/2 A @ 125 V DC; 1/4 A @ 250 V DC
F5 1 A @ 125 V AC; 1 A @ 30 V DC
H3 5 A @ 250 V AC; 1/6 HP @ 125 & 250 V AC

Mounting Style
S **(STD.)**
V Metric

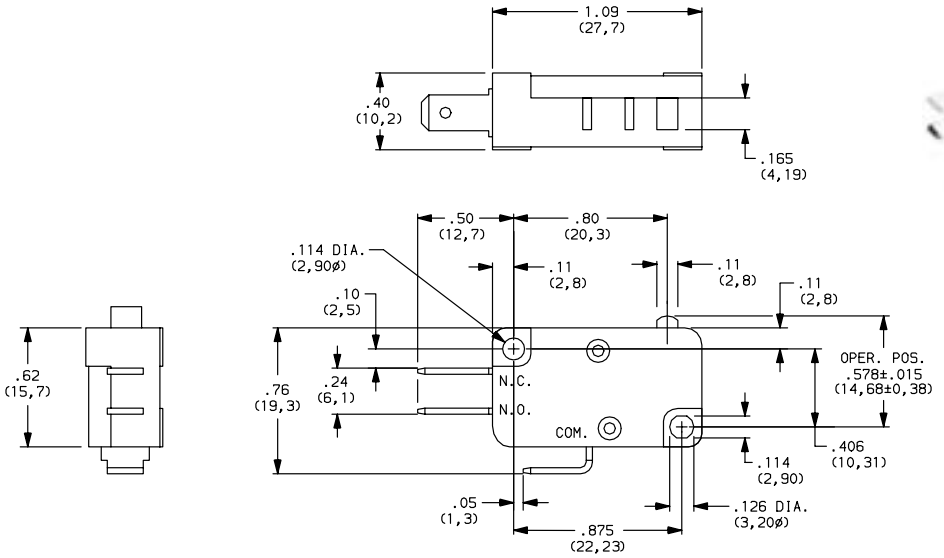
Actuator
P00 **(STD.) Pin plunger**
A10 .81" lever roller, high force
A15 1.34" lever roller, high force
A20 1.02" lever roller, low force
A25 1.56" lever roller, low force
T10 .84" lever, high force
T13 1.34" simulated roller, high force
T14 1.29" simulated roller, high force
T15 1.40" lever, high force
T16 2.34" lever, high force
T17 2.00" lever, high force
T18 2.75" lever, high force
T20 1.06" lever, low force
T23 1.56" simulated roller, low force
T24 1.50" simulated roller, low force
T25 1.62" lever, low force
T27 2.22" lever, low force
T28 2.97" lever, low force

Terminations
40 **(STD.)** .187" quick connect
10 Solder
4A .250" quick connect
60 Screw

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

SERIES

TM (STD.) MINIATURE SNAP-ACTING SWITCHES – SP MOMENTARY



OPERATING FORCE

OPTION CODE	BASIC SWITCH OPERATING FORCE (OZ./GRAMS)
CG (STD.)	2.65 75
CJ	5.29 150
CF	1.76 50

Operating Force option 'CF' not available with 'T18, T27 and T28' actuator options. Operating force varies with actuator option, see ACTUATOR option section.

ELECTRICAL RATING

OPTION CODE	CONTACT MATERIAL		ELECTRICAL RATING
	MOVABLE CONTACT	STATIONARY CONTACT	
D6	Fine silver	Fine silver	10 AMPS @ 125 & 250 V AC; 1/3 HP @ 125 & 250 V AC; 1/2 AMP @ 125 V DC; 1/4 AMP @ 250 V DC.
F5	Gold alloy	Gold alloy	From low level* to 1 AMP @ 125 V AC, 1 AMP @ 30 V DC.
G6 (STD.)	Fine silver	Fine silver	15 AMPS @ 125 & 250 V AC; 0.25 AMP @ 250 V DC; 0.5 AMP @ 125 V DC; 1/2 HP @ 125 & 250 V AC; 3 AMPS @ 125 V AC "L".
H3			5 AMPS @ 250 V AC; 1/6 HP @ 125 & 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

AVAILABLE COMBINATIONS

ELECTRICAL RATING	MAXIMUM OPERATING FORCE (OZ./GRAMS)		
	1.76 50	2.65 75	5.29 150
D6	•	•	•
F5	•	•	•
G6	x	x	•
H3	•	•	•

• AVAILABLE
x NOT AVAILABLE

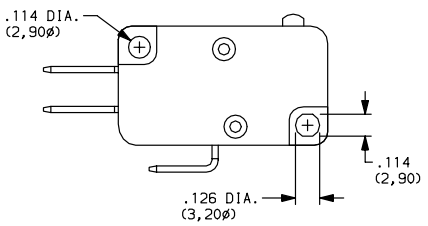
All models ® with all options.

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.

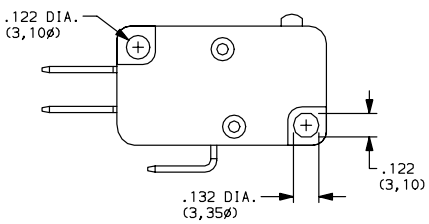
MOUNTING STYLE

S (STD.)



Recommended maximum screw size: 4-40.

V (METRIC)



Recommended maximum screw size: 3 mm.

NOTE: Torque mounting screws 2-5 in/lbs.

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)	.36 (9,1)	.810 ± .020 (20,57 ± 0,51)	.19 dia. (4,8Ø)
A15	1	1.34 (34,0)	.36 (9,1)	.810 ± .040 (20,57 ± 1,02)	.19 dia. (4,8Ø)
A20	1	1.03 (26,2)	.58 (14,7)	.810 ± .050 (20,57 ± 1,27)	.19 dia. (4,8Ø)
A25	1	1.56 (39,6)	.58 (14,7)	.810 ± .080 (20,57 ± 2,03)	.19 dia. (4,8Ø)

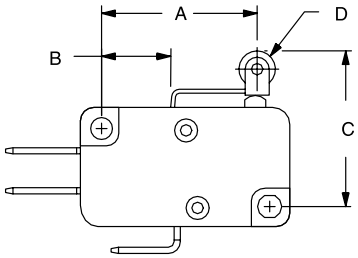


FIG. 1
Lever Roller

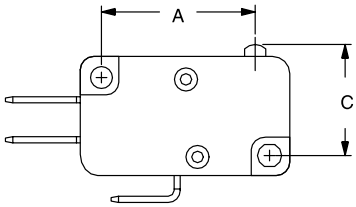


FIG. 2
Pin Roller

Third Angle Projection

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

ACTUATOR

OPTION CODE	FIG.	DIM. A	DIM. B	DIM. C	DIM. D
T10	3	.84 (21,3)	.36 (9,1)	.600 ± .020 (15,24 ± 0,51)	—
T13	4	1.34 (34,0)	.36 (9,1)	.810 ± .040 (20,57 ± 1,02)	.19 dia. (4,8Ø)
T14	4	1.29 (32,8)	.36 (9,1)	.740 ± .050 (18,8 ± 1,3)	.25 dia. (6,4Ø)
T15	3	1.40 (35,6)	.36 (9,1)	.600 ± .040 (15,24 ± 1,02)	—
T16	3	2.34 (59,4)	.36 (9,1)	.600 ± .062 (15,24 ± 1,57)	—
T17	3	2.00 (50,8)	.36 (9,1)	.600 ± .052 (15,24 ± 1,57)	—
T18	3	2.75 (69,9)	.36 (9,1)	.600 ± .093 (15,24 ± 2,36)	—
T20	3	1.06 (26,9)	.58 (14,7)	.600 ± .045 (15,24 ± 1,14)	—
T23	4	1.56 (39,6)	.58 (14,7)	.810 ± .065 (20,57 ± 1,65)	.19 dia. (4,8Ø)
T24	4	1.50 (38,1)	.58 (14,7)	.740 ± .090 (18,80 ± 2,29)	.25 dia. (6,4Ø)
T25	3	1.62 (41,1)	.58 (14,7)	.600 ± .080 (15,24 ± 2,03)	—
T27	3	2.22 (56,4)	.58 (14,7)	.600 ± .125 (15,24 ± 3,18)	—
T28	3	2.97 (75,4)	.58 (14,7)	.600 ± .187 (15,24 ± 4,75)	—

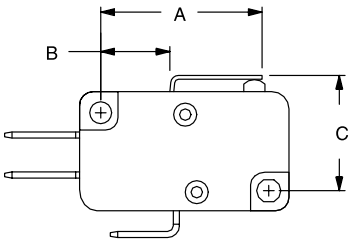


FIG. 3
Lever

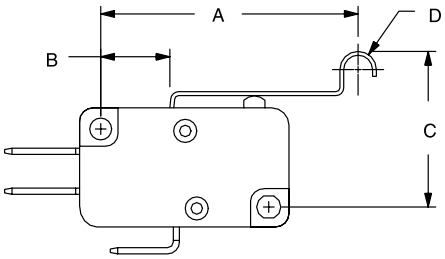


FIG. 4
Simulated Roller

SWITCH CHARACTERISTICS

OPTION CODE	MAXIMUM OPERATING FORCE (OZ./GRAMS)			MINIMUM RELEASE FORCE (OZ./GRAMS)			MINIMUM RETURN FORCE (OZ./GRAMS)			MAXIMUM DIFFERENTIAL TRAVEL	MAXIMUM PRETRAVEL	MINIMUM OVERTRAVEL
	CF	CG	CJ	CF	CG	CJ	CF	CG	CJ	ALL FORCES	ALL FORCES	ALL FORCES
A10	2.12 60	3.17 90	6.35 180	.49 14	.99 28	1.69 48	.25 7	.53 15	1.06 30	.013 (0,33)	.070 (1,78)	.040 (1,02)
A15	1.06 30	1.59 45	2.82 80	.21 6	.35 10	.71 20	.11 3	.14 4	.35 10	.030 (0,76)	.160 (4,06)	.065 (1,65)
A20	1.06 30	1.76 50	3.17 90	.25 7	.35 10	.71 20	.11 3	.18 5	.35 10	.025 (0,64)	.140 (3,56)	.060 (1,52)
A25	.53 15	1.06 30	1.59 45	.11 3	.18 5	.35 10	.04 1	.07 2	.18 5	.070 (1,78)	.312 (7,92)	.125 (3,18)
P00	1.76 50	2.65 75	5.29 150	.71 20	.99 28	2.12 60	.35 10	.53 15	1.06 30	.013 (0,33)	.056 (1,42)	.040 (1,02)

NOTE: For basic switch operating forces, see page J-13.

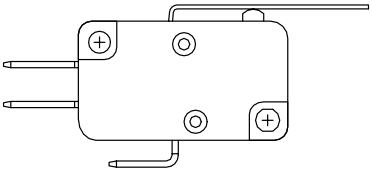
ACTUATOR

SWITCH CHARACTERISTICS

OPTION CODE	MAXIMUM OPERATING FORCE (OZ./GRAMS)			MINIMUM RELEASE FORCE (OZ./GRAMS)			MINIMUM RETURN FORCE (OZ./GRAMS)			MAXIMUM DIFFERENTIAL TRAVEL	MAXIMUM PRETRAVEL	MINIMUM OVERTRAVEL
	CF	CG	CJ	CF	CG	CJ	CF	CG	CJ	ALL FORCES	ALL FORCES	ALL FORCES
T10	2.12 60	3.17 90	6.35 180	.49 14	.99 28	2.12 60	.25 7	.53 15	1.06 30	.013 (0,33)	.080 (2,03)	.040 (1,02)
T13	1.06 30	1.59 45	2.82 80	.21 6	.35 10	.71 20	.11 3	.14 4	.35 10	.030 (0,76)	.160 (4,06)	.065 (1,65)
T14	1.06 30	1.76 50	3.17 90	.25 7	.35 10	.71 20	.11 3	.14 4	.35 10	.050 (1,27)	.140 (3,56)	.062 (1,57)
T15	1.06 30	1.59 45	2.28 80	.21 6	.32 9	.71 20	.11 3	.14 4	.35 10	.032 (0,81)	.160 (4,06)	.075 (1,90)
T16	.53 15	.71 20	1.41 40	.11 3	.18 5	.35 10	.05 1.5	.07 2	.18 5	.090 (2,29)	.312 (7,92)	.140 (3,56)
T17	.71 20	.88 25	1.76 50	.14 4	.21 6	.42 12	.07 2	.07 2	.21 6	.062 (1,57)	.220 (5,59)	.110 (2,79)
T18	N/A	.71 20	1.23 35	N/A	.14 4	.28 8	N/A	.04 1	.14 4	.078 (1,98)	.375 (9,52)	.160 (4,06)
T20	1.06 30	1.59 45	3.17 90	.21 6	.32 9	.71 20	.11 3	.18 5	.35 10	.030 (0,76)	.160 (4,06)	.065 (1,65)
T23	.53 15	1.06 30	1.59 45	.11 3	.18 5	.35 10	.04 1	.07 2	.18 5	.070 (1,78)	.312 (7,92)	.125 (3,18)
T24	.53 15	1.23 35	1.76 50	.11 3	.18 5	.35 10	.05 1.5	.07 2	.18 5	.080 (2,03)	.312 (7,92)	.110 (2,79)
T25	.71 20	1.06 30	1.41 40	.07 2	.14 4	.32 9	.04 1	.07 2	.16 4.5	.070 (1,78)	.330 (8,38)	.100 (2,54)
T27	N/A	.60 17	.88 25	N/A	.11 3	.21 6	N/A	.04 1	.11 3	.125 (3,18)	.500 (12,70)	.200 (5,08)
T28	N/A	.42 12	.63 18	N/A	.07 2	.14 4	N/A	.04 1	.07 2	.187 (4,75)	.750 (19,05)	.280 (7,11)

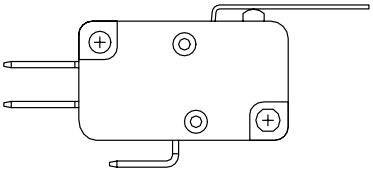
NOTE: For basic switch operating forces, see page J-13.

HIGH FORCE, LOW MOTION PIVOT POSITION



Available with actuators A10, A15, T10, T13, T14, T15, T16, T17 and T18.

LOW FORCE, HIGH MOTION PIVOT POSITION

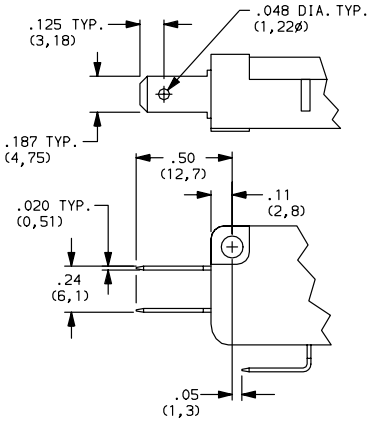


Available with actuators A20, A25, T20, T23, T24, T25, T27 and T28.

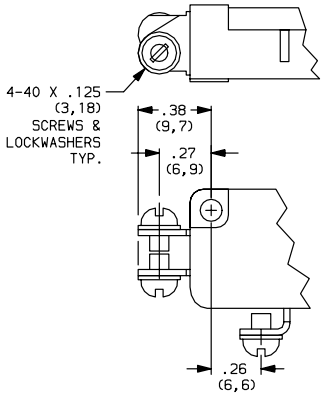
NOTE: Lever actuator options are available in either of two pivot positions.
Levers located in the forward pivot position have lower forces and higher motions.
Levers located in the rear pivot position have higher forces and lower motions.

TERMINATIONS

40 **(STD.) .187" QUICK CONNECT**

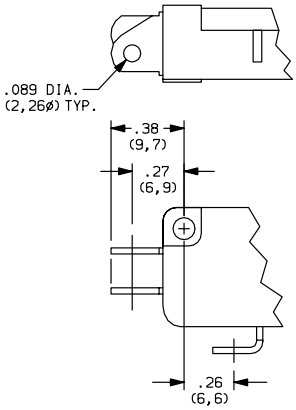


60 SCREW TERMINALS



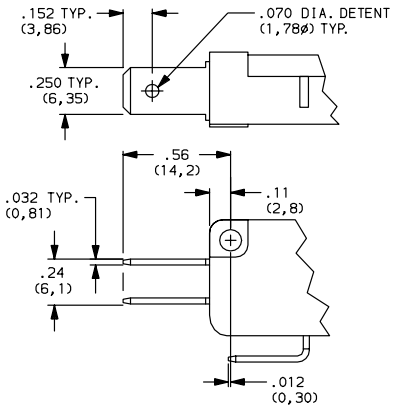
Not available with 'F5' rating option.

10 SOLDER



Not available with 'F5' rating option.

4A .250" QUICK CONNECT



Not available with 'F5' rating option.

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