

C&K F Series Pushbutton Switches



Features/Benefits

- Up to 10 poles per module
- Various contact terminals
- Various mounting & switch ganging configurations
- Mechanical indicator buttons
- Illumination options
- RoHS compliant

Typical Applications

- Audio selection
- Digital equipment interface
- Medical equipment interface



Specifications

SWITCHING POWER: F module max. AC/DC: Silver: 50 VA/15W, Gold: 1 VA/300 mW.

SWITCHING VOLTAGE: F module max. AC/DC: Silver: 125/30V, Gold: 50/30 V.

SWITCHING CURRENT: F module max. AC/DC: Silver: 0.5A/0.5A, Gold: 0.04A/0.01A.

CARRYING CURRENT: Max at \dot{u} = 20C: Silver: < 2A, Gold: <0.5A.

DIELECTRIC STRENGTH (50 Hz, 1 min.): Chassis/contact: \wedge 1500V Between contacts: \wedge 1500V.

OPERATING LIFE "OA/EE" (24V/200mA): $>10^5$ operations "GR": $>3.5 \times 10^4$ operations.

CONTACT RESISTANCE: Initial: Typical %10 m Ω , max. 20 m Ω After operating life: %100 m Ω

INSULATION RESISTANCE: \wedge 10⁹ Ω between open contacts, \wedge 10⁹ Ω between chassis and contacts.

CAPACITANCE (at f = 10 kHz): %0.7 pF between 2 contacts.

TOTAL TRAVEL/LATCHING TRAVEL: 4.7mm/3.3mm (.185 inch/.130 inch).

All models and options are RoHS compliant and compatible.

NOTE: For the latest information regarding RoHS compliance, please go to: www.ittcannon.com/rohs. All models and options are RoHS compliant and compatible.

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

TYPICAL F OPERATING FORCE: 2U: 6.5N (650 grams); 4U: 6.5N (650 grams); 6U: 7.5N (750 grams); 8U: 9.0N (900 grams); 10U: 9.0N (900 grams).

EUROPEAN TYPICAL SF OPERATING FORCE: 2U: 3.5N \pm 0.5N (350 grams \pm 100 grams); 4U: 5N \pm 1N (500 grams \pm 100 grams); 6U: 6.5N \pm 1N (650 grams \pm 100 grams); 8U: 9.0N \pm 1N (900 grams \pm 100 grams).

OPERATING TEMPERATURE RANGE: -40°C to 70°C.

Materials

HOUSING: Polycarbonate UL 94V-0 or polyester UL 94V-0.

ACTUATOR: Polyester UL 94V-0.

MOVABLE CONTACTS: Bimetal brass, silver plated, gold plate over nickel.

STATIONARY CONTACTS & TERMINALS: Brass, silver plated, gold plated.

TERMINAL BOARD: Polyester UL 94V-0.

RETURN SPRING: Music wire.

TERMINAL SEAL: RTV adhesive sealant.

CHASSIS: Steel.

LOCKOUT PIN: Steel.

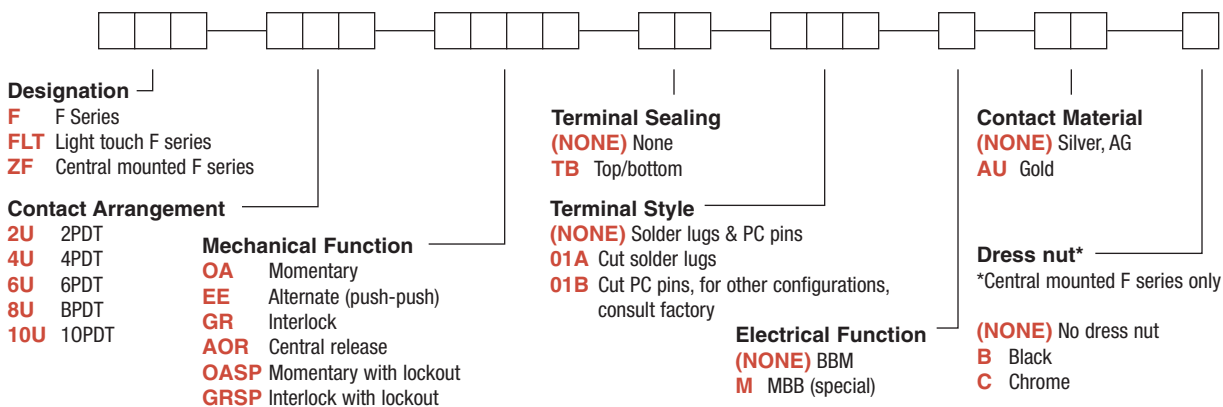
BLOCKERS: Steel.

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 A-90 thru A-98. For additional options not shown in catalog, consult Customer Service Center.

If requesting only a switch, select either a North American or European switch as noted below. Chassis and buttons are sold separately. If multiple stations are selected, we will assume all switches are the same unless noted otherwise.

North American Order Code - Switch Only



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

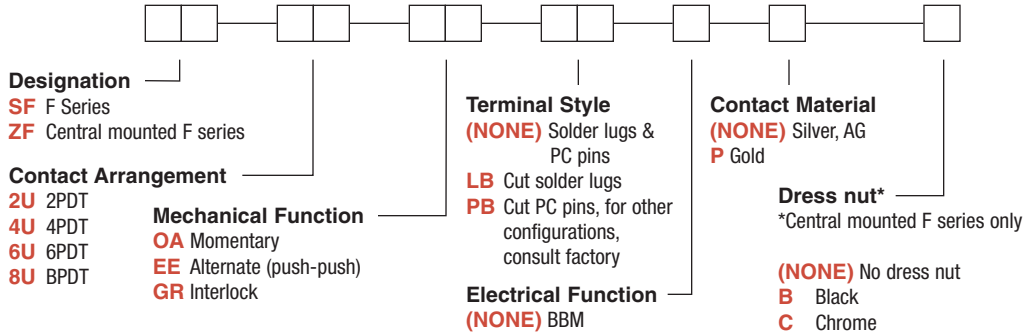


C&K F Series Pushbutton Switches

A

Pushbutton

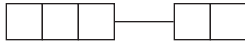
European Order Code - Switch Only



*Minimum order quantities apply.

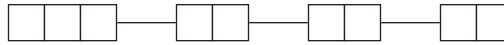
Order Code - Buttons

Solid Buttons



- Style**
F01 FMR
F02 FG*
F12 FSC
F13 FSD
F14 FU12
F15 FSB
F16 FE
F19 FA
F21 F001
- Button Color**
01 Black
02 White
03 Red
04 Light gray

Mechanical Indicator Buttons



- Style**
F01 FA100
F02 FA101
F07 FA120
F08 FA201
F11 FA200*
- Shell Color**
01 Black
- Out Position Color**
01 Black
- In Position Color**
02 White
06 Yellow
07 Blue
08 Green
12 Orange

*Button options for central mounting configurations, use 'FG' for central mount with chrome dress nut, use 'FA200' for central mount with black dress nut.

BUTTON REMOVAL

A button of a push-push switch should only be removed in the "OFF" non-latching position.

C&K F Series Pushbutton Switches



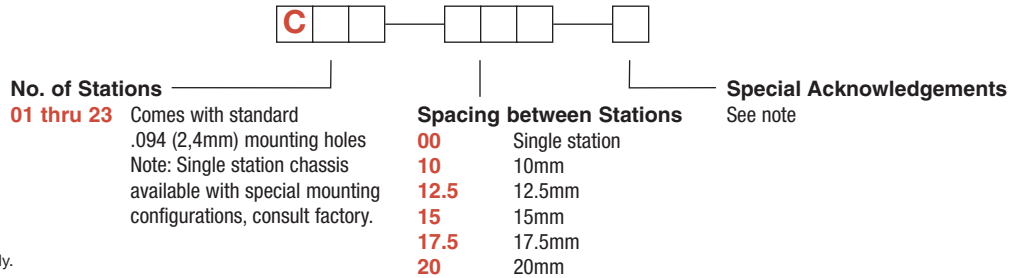
A

Pushbutton

Order Code - Chassis

To order a switch with chassis, create the switch part number listed above and add the Chassis part number configurator information at the end of the part number.

Note: We do not guarantee or recommend interlocking beyond 10 stations.

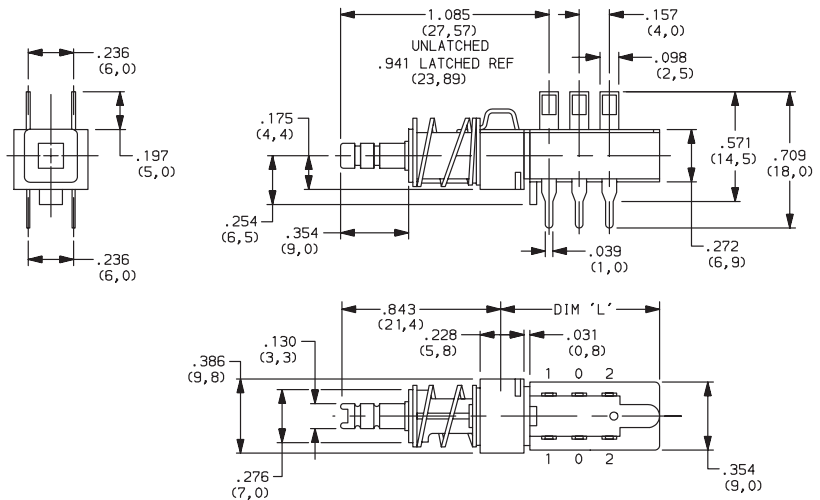


*Minimum order quantities apply.

SWITCHES WITH STANDARD OPTIONS

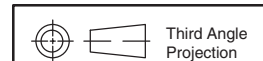
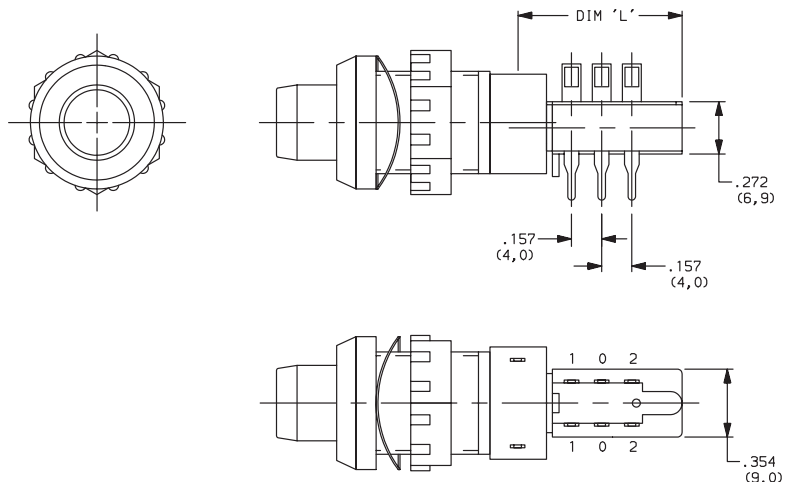
F2UEE

| CONTACT ARRANGEMENT | LENGTH DIM 'L' |
|---------------------|----------------|
| 2U | 0.827 (21,00) |
| 4U | 1.300 (33,00) |
| 6U | 1.770 (45,00) |
| 8U | 2.240 (57,00) |
| 10U | 2.720 (69,00) |



ZF2UEEBF11010108

| CONTACT ARRANGEMENT | LENGTH DIM 'L' |
|---------------------|----------------|
| 2U | 0.827 (21,00) |
| 4U | 1.300 (33,00) |
| 6U | 1.770 (45,00) |
| 8U | 2.240 (57,00) |
| 10U | 2.720 (69,00) |



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



C&K F Series Pushbutton Switches

A

Pushbutton

DESIGNATION

Designation, North America

- F** F Series
- FLT** Light touch F series
- ZF** Central mounted F series

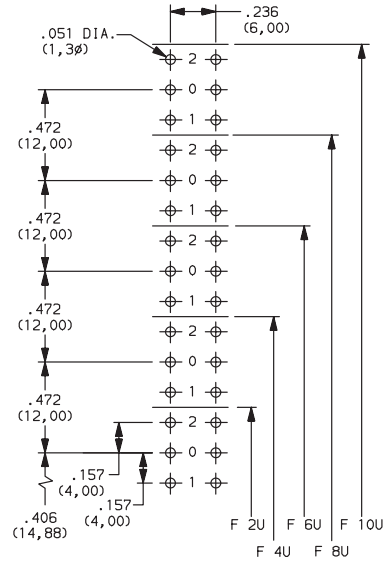
Designation, Europe

- SF** F Series
- ZF** Central mounted F series

CONTACT ARRANGEMENT

| OPTION CODE | NO. OF POLES | SCHEMATIC |
|-------------|--------------|-----------|
| 2U | 2PDT | |
| 4U | 4PDT | 2X |
| 6U | 6PDT | 3X |
| 8U | 8PDT | 4X |
| 10U | 10PDT | 5X |

PC MOUNTING



MECHANICAL FUNCTION

North America

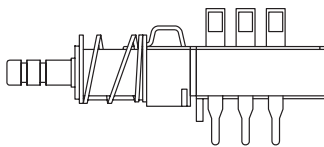
| OPTION CODE | FUNCTION |
|-------------|------------------------|
| OA | Momentary |
| EE | Alternate (push-push) |
| GR | Interlock |
| AOR | Central release |
| OASP | Momentary with lockout |
| GRSP | Interlock with lockout |

Europe

| OPTION CODE | FUNCTION |
|-------------|-----------------------|
| OA | Momentary |
| EE | Alternate (push-push) |
| GR | Interlock |

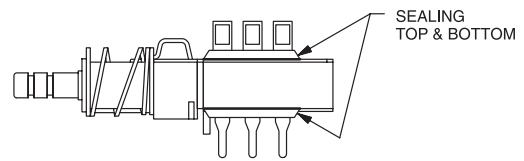
TERMINAL SEALING

(NONE) NO SEAL

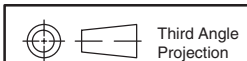


F2UEE shown in example above.

TB TOP & BOTTOM



NOTE: Available for North America only



Dimensions are shown: Inches (mm)
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C&K F Series Pushbutton Switches



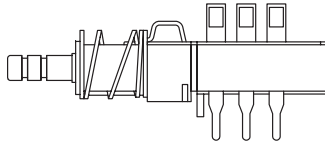
A

Pushbutton

TERMINAL STYLE

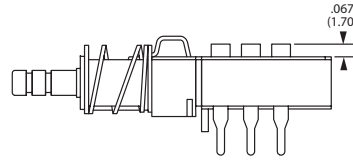


(NONE) SOLDER LUGS & PC PINS



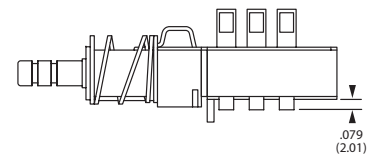
01A CUT SOLDER LUGS (North America)

LB CUT SOLDER LUGS (Europe)



01B CUT PC PINS (North America)

PB CUT PC PINS (Europe)



ELECTRICAL FUNCTION



| OPTION CODE | FUNCTION |
|---------------|-----------------------------------|
| (NONE) | BBM Non-shorting |
| M | MBB Shorting (North America only) |

CONTACT MATERIAL



| NORTH AMERICA OPTION CODE | EUROPE OPTION CODE | RoHS COMPLIANT * | RoHS COMPATIBLE * | MATERIAL | RATING |
|---------------------------|--------------------|------------------|-------------------|------------|------------------------------------|
| (NONE) | (NONE) | YES | YES | SILVER, AG | 50 VA/15 W; 125/30 V; 0.5/0.5 A |
| AU | P | YES | YES | GOLD | 1 VA/300mW; 50/30 V; 0.04 A/0.01 A |

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

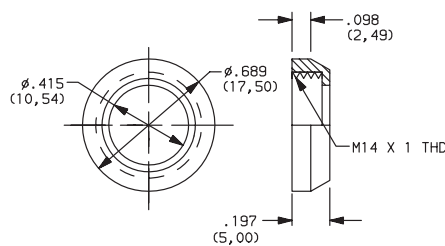
NOTE: For the latest information regarding RoHS compliance, please go to: www.ittcannon.com/rohs.

DRESS NUT

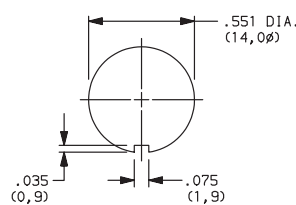


(NONE) NO DRESS NUT FOR F & F/LT DESIGNATIONS

B BLACK

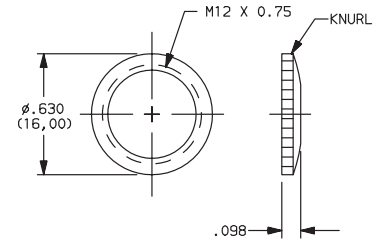


PANEL CUTOUT

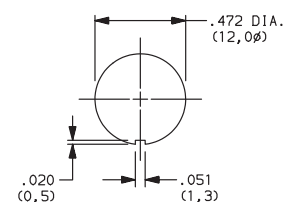


NOTE: Available with ZF designation and FA200 buttons.

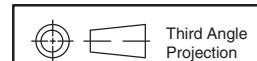
C CHROME



PANEL CUTOUT



NOTE: Available with ZF designation and FG button.



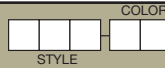
Dimensions are shown: Inches (mm)
Specifications and dimensions subject to change





C&K F Series Pushbutton Switches

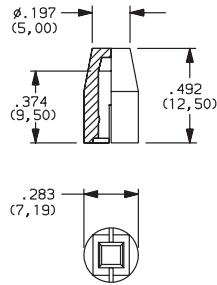
SOLID BUTTON



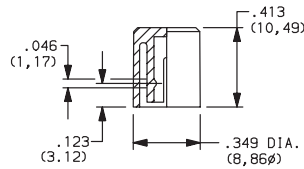
Pushbutton
A

STYLE

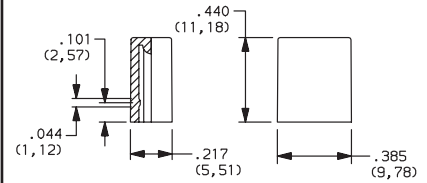
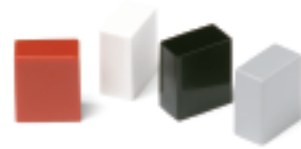
F01 FMR



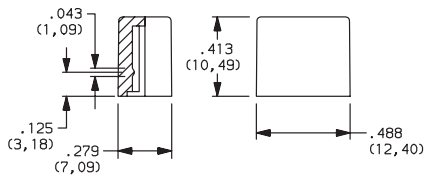
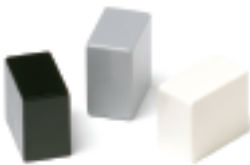
F02 FG



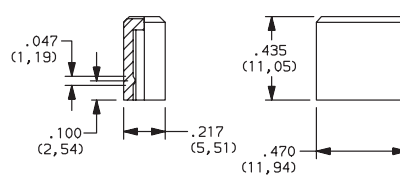
F12 FSC



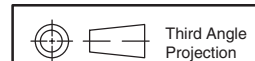
F13 FSD



F14 FU12



| OPTION CODE | COLOR |
|-------------|----------|
| 01 | BLACK |
| 02 | WHITE |
| 03 | RED |
| 04 | LT. GRAY |



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

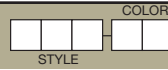
C&K F Series Pushbutton Switches



A

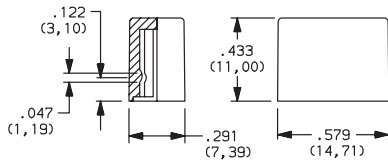
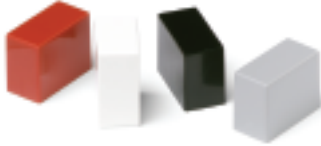
Pushbutton

SOLID BUTTON

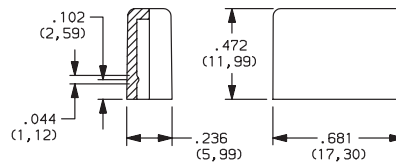


STYLE

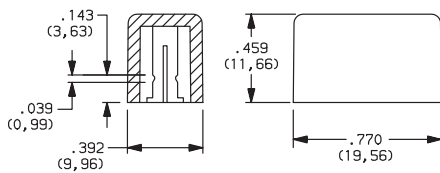
F15 FSB



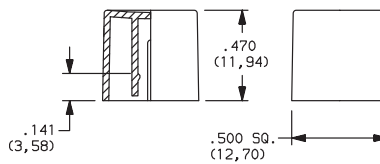
F16 FE



F19 FA

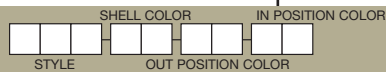


F21 F001



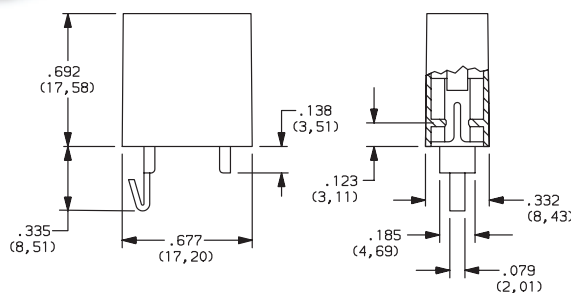
| OPTION CODE | COLOR |
|-------------|----------|
| 01 | BLACK |
| 02 | WHITE |
| 03 | RED |
| 04 | LT. GRAY |

MECHANICAL BUTTON

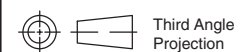
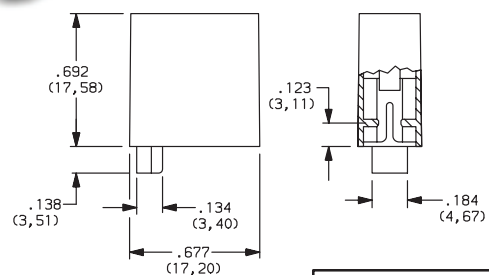


STYLE

F01 FA100



F02 FA101

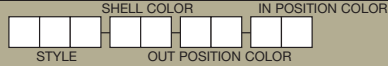


Dimensions are shown: Inches (mm)
Specifications and dimensions subject to change



C&K F Series Pushbutton Switches

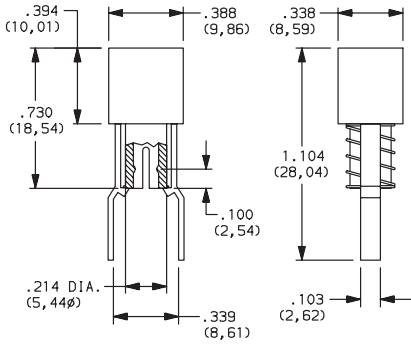
MECHANICAL BUTTON



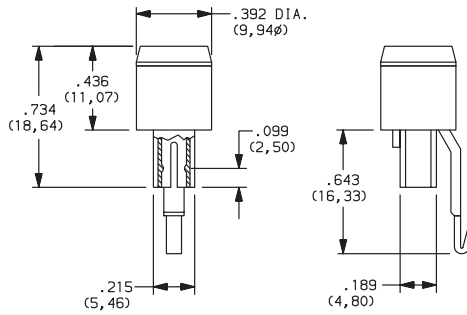
Pushbutton
A

STYLE

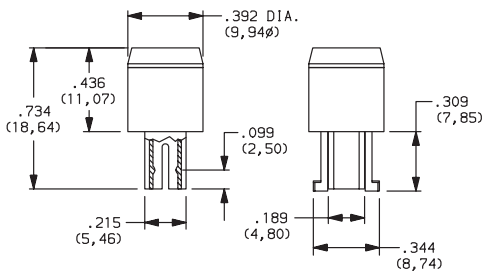
F07 FA120



F08 FA201



F11 FA200



SHELL COLOR

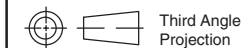
01 BLACK

OUT POSITION COLOR

01 BLACK

IN POSITION COLOR

| OPTION CODE | COLOR |
|-------------|--------|
| 02 | WHITE |
| 06 | YELLOW |
| 07 | BLUE |
| 08 | GREEN |
| 12 | ORANGE |

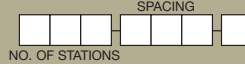


Dimensions are shown: Inches (mm)
 Specifications and dimensions subject to change

C&K F Series Pushbutton Switches



CHASSIS



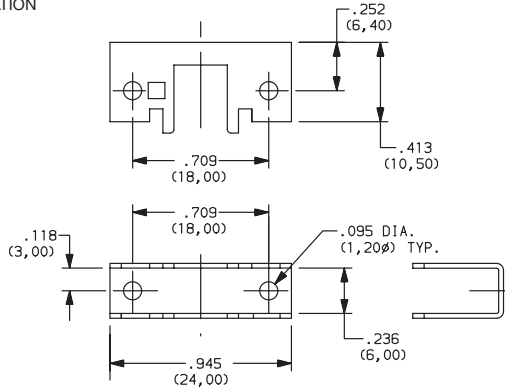
NUMBER OF STATIONS

C00 Thru C10 Comes with standard 0.094 (2,44mm) mounting holes

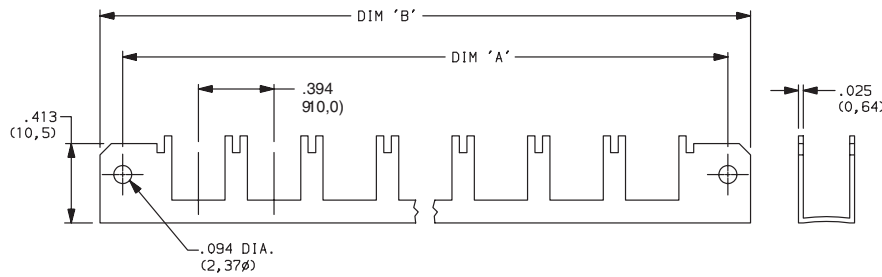
NOTE: Single station chassis available with mounting configurations, consult factory.

SPACING

00 SINGLE STATION

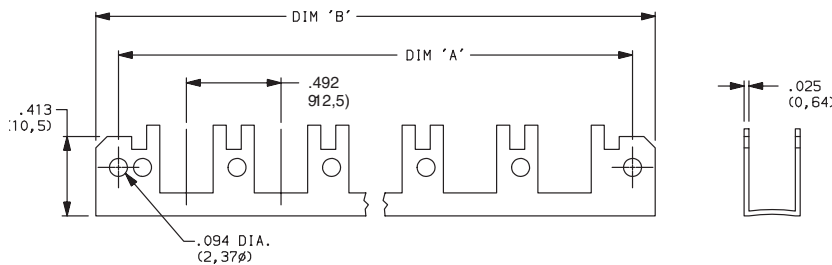


10 10mm

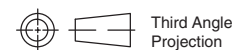


| No. of Stations | Dim. 'A' | Dim. 'B' | Tolerance |
|-----------------|-------------------|-------------------|-----------|
| 2 | 1.182 (30,02) | 1.418 (36,02) | 0.005 |
| 3 | 1.575 (40,01) | 1.811 (46,00) | 0.010 |
| 4 | 1.969 (50,01) | 2.205 (56,01) | 0.010 |
| 5 | 2.363 (60,02) | 2.599 (66,01) | 0.010 |
| 6 | 2.757 (70,03) | 2.993 (76,02) | 0.015 |
| 7 | 3.150 (80,01) | 3.386 (86,00) | 0.015 |
| 8 | 3.544 (90,02) | 3.780 (96,01) | 0.015 |
| 9 | 3.938 (100,03) | 4.174 (106,02) | 0.015 |
| 10 | 4.331 (110,01) | 4.567 (116,00) | 0.015 |

12.5 12.5mm



| No. of Stations | Dim. 'A' | Dim. 'B' | Tolerance |
|-----------------|-------------------|-------------------|-----------|
| 2 | 1.200 (30,48) | 1.436 (36,47) | 0.005 |
| 3 | 1.692 (42,98) | 1.928 (48,97) | 0.010 |
| 4 | 2.184 (55,47) | 2.420 (61,47) | 0.010 |
| 5 | 2.676 (67,97) | 2.912 (73,96) | 0.010 |
| 6 | 3.169 (80,49) | 3.405 (86,49) | 0.015 |
| 7 | 3.661 (92,99) | 3.897 (98,98) | 0.015 |
| 8 | 4.153 (105,49) | 4.389 (111,48) | 0.015 |
| 9 | 4.645 (117,98) | 4.881 (123,98) | 0.015 |
| 10 | 5.137 (130,48) | 5.373 (136,47) | 0.015 |



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



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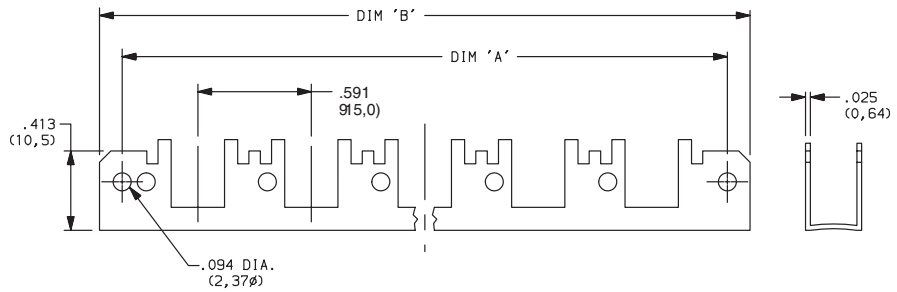


Pushbutton
A

SPACING

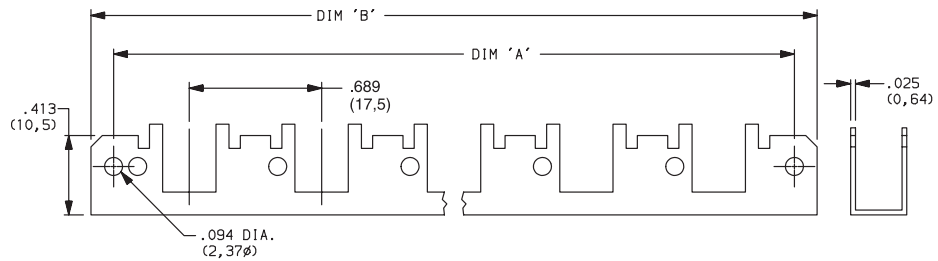
15 15mm

| No. of Stations | Dim. 'A' | Dim. 'B' | Tolerance |
|-----------------|-------------------|-------------------|-----------|
| 2 | 1.374 (34,90) | 1.615 (41,02) | 0.005 |
| 3 | 1.969 (50,01) | 2.205 (56,01) | 0.010 |
| 4 | 2.560 (65,02) | 2.796 (71,02) | 0.010 |
| 5 | 3.150 (80,01) | 3.386 (86,00) | 0.010 |
| 6 | 3.741 (95,02) | 3.977 (101,02) | 0.015 |
| 7 | 4.332 (110,03) | 4.568 (116,03) | 0.015 |
| 8 | 4.922 (125,02) | 5.158 (131,01) | 0.015 |
| 9 | 5.513 (140,03) | 5.749 (146,02) | 0.015 |
| 10 | 6.103 (155,02) | 6.339 (161,01) | 0.015 |



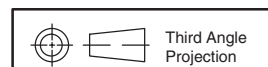
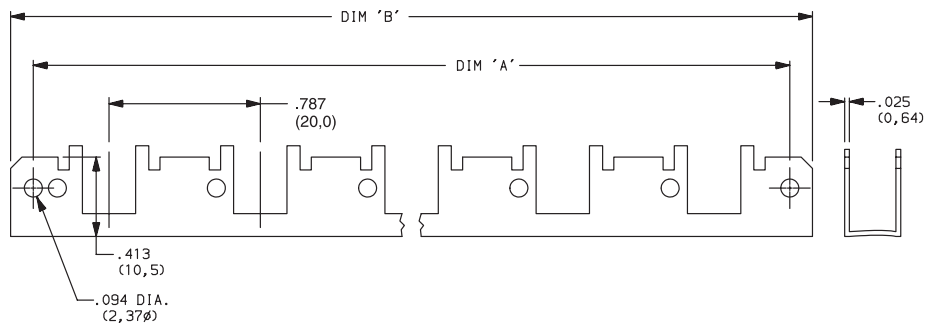
17.5 17.5mm

| No. of Stations | Dim. 'A' | Dim. 'B' | Tolerance |
|-----------------|-------------------|-------------------|-----------|
| 2 | 1.477 (37,52) | 1.713 (43,51) | 0.005 |
| 3 | 2.166 (55,02) | 2.402 (61,01) | 0.010 |
| 4 | 2.855 (75,52) | 3.091 (78,51) | 0.010 |
| 5 | 3.544 (90,02) | 3.780 (96,01) | 0.010 |
| 6 | 4.233 (107,52) | 4.469 (113,51) | 0.015 |
| 7 | 4.922 (125,02) | 5.158 (131,01) | 0.015 |
| 8 | 5.611 (142,52) | 5.847 (148,51) | 0.015 |
| 9 | 6.300 (160,02) | 6.536 (166,01) | 0.015 |
| 10 | 6.989 (177,52) | 7.225 (183,52) | 0.015 |



20 20mm

| No. of Stations | Dim. 'A' | Dim. 'B' | Tolerance |
|-----------------|-------------------|-------------------|-----------|
| 2 | 1.575 (40,01) | 1.811 (46,00) | 0.005 |
| 3 | 2.363 (60,02) | 2.599 (66,01) | 0.010 |
| 4 | 3.150 (80,01) | 3.386 (86,00) | 0.010 |
| 5 | 3.938 (100,03) | 4.174 (106,02) | 0.010 |
| 6 | 4.725 (120,02) | 4.961 (126,01) | 0.015 |
| 7 | 5.512 (140,00) | 5.748 (146,00) | 0.015 |
| 8 | 6.300 (160,02) | 6.536 (166,01) | 0.015 |
| 9 | 7.087 (180,01) | 7.323 (186,00) | 0.015 |
| 10 | 7.875 (200,03) | 8.111 (206,02) | 0.015 |



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

