



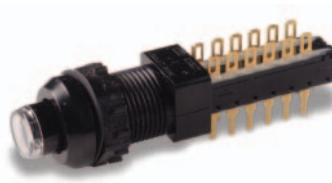
# F Series Pushbutton Switches

## Features/Benefits

- Up to 10 poles per module
- Various contact terminals
- Various mounting & switch ganging configurations
- Mechanical indicator buttons
- 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 du = 20C: Silver: < 2A, Gold: <0.5A.

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

OPERATING LIFE "OA/EE" (24V/200mA): >10<sup>5</sup> operations "GR": >3.5 x 104 operations.

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

INSULATION RESISTANCE: ^10<sup>9</sup> Ω between open contacts, ^10<sup>9</sup> 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:** 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±0.5N (350 grams±100 grams); 4U: 5N±1N (500 grams±100 grams); 6U: 6.5N±1N (650 grams±100 grams); 8U: 9.0N±1N (900 grams±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-89 thru A-97. 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



### Designation

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

### Contact Arrangement

<b>2U</b> 2PDT	<b>4U</b> 4PDT	<b>6U</b> 6PDT	<b>8U</b> SPDT	<b>10U</b> 10PDT	<b>Mechanical Function</b>
<b>OA</b> Momentary	<b>EE</b> Alternate (push-push)	<b>GR</b> Interlock	<b>AOR</b> Central release	<b>OASP</b> Momentary with lockout	<b>GRSP</b> Interlock with lockout

### Terminal Sealing

**(NONE)** None  
**TB** Top/bottom

### Terminal Style

**(NONE)** Solder lugs & PC pins  
**01A** Cut solder lugs  
**01B** Cut PC pins, for other configurations, consult factory

### Electrical Function

**(NONE)** BBM Break-Before-Make  
**M** MBB (special) Make-Before-Break

### Contact Material

**(NONE)** Silver, AG  
**AU** Gold

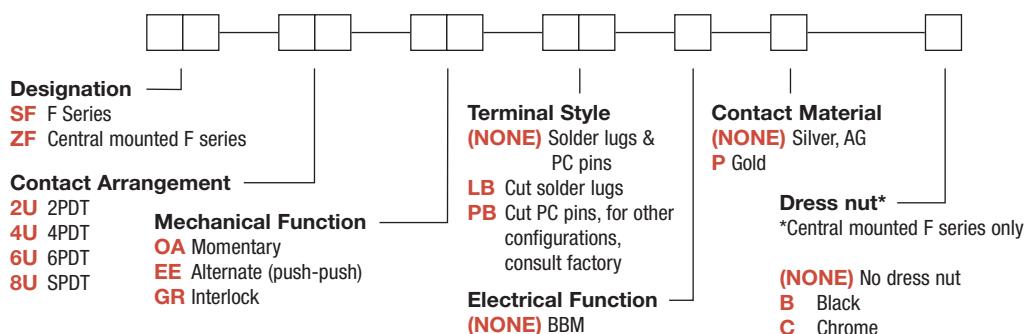
### Dress nut\*

\*Central mounted F series only

**(NONE)** No dress nut  
**B** Black  
**C** Chrome



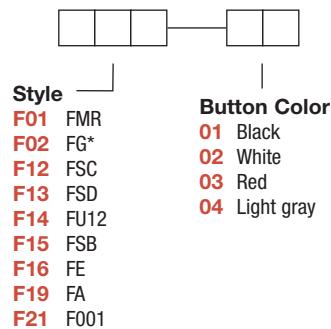
## European Order Code - Switch Only



\*Minimum order quantities apply.

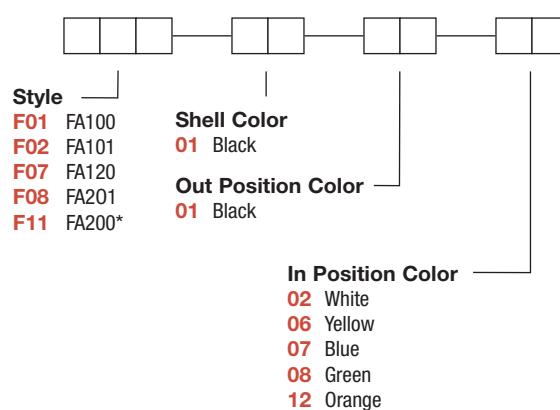
## Order Code - Buttons

### Solid Buttons



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

### Mechanical Indicator Buttons



### BUTTON REMOVAL

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



# F Series

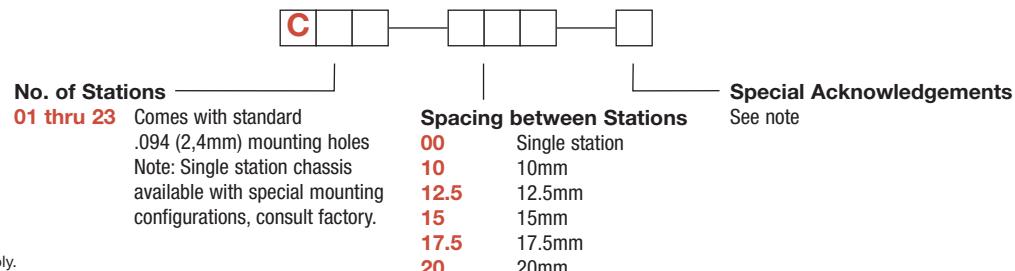
## Pushbutton Switches

A

### 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.

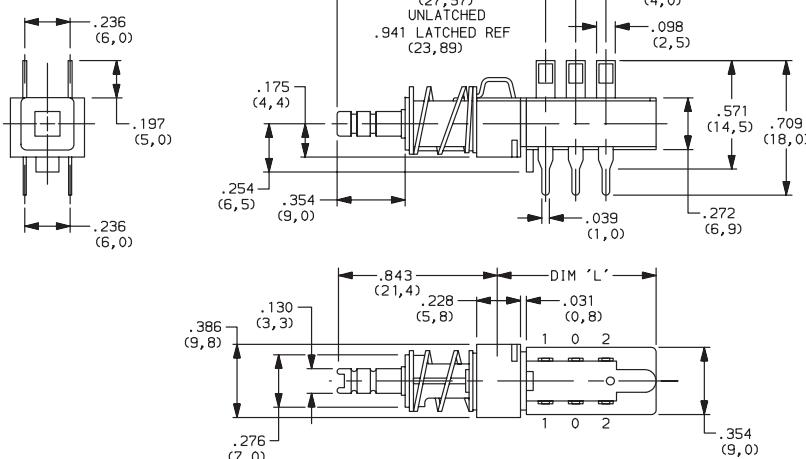


\*Minimum order quantities apply.

### SWITCHES WITH STANDARD OPTIONS

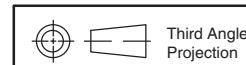
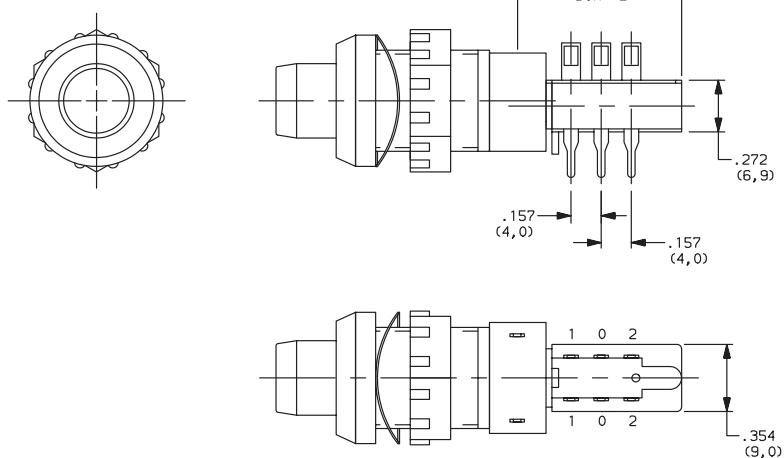
**F2UEE**

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

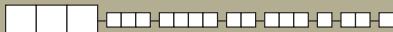
**C&K**

# F Series Pushbutton Switches



A

## DESIGNATION



### Designation, North America

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

### Designation, Europe

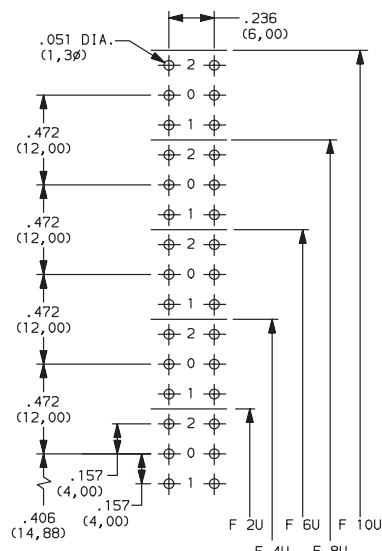
- SF** F Series
- ZF** Central mounted F series

## CONTACT ARRANGEMENT



OPTION CODE	NO. OF POLES	SCHEMATIC
<b>2U</b>	2PDT	
<b>4U</b>	4PDT	
<b>6U</b>	6PDT	
<b>8U</b>	8PDT	
<b>10U</b>	10PDT	

### PC MOUNTING



## MECHANICAL FUNCTION



### North America

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

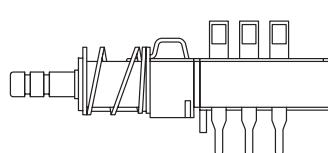
### Europe

OPTION CODE	FUNCTION
<b>OA</b>	Momentary
<b>EE</b>	Alternate (push-push)
<b>GR</b>	Interlock

## TERMINAL SEALING

**(NONE)**

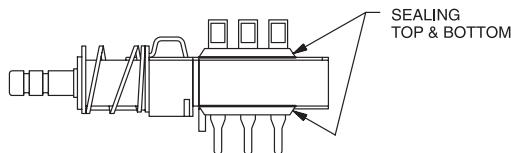
NO SEAL



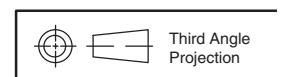
F2UEE shown in example above.

**TB**

TOP & BOTTOM



NOTE: Available for North America only



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

**C&K**

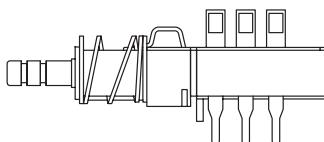


# F Series Pushbutton Switches

Pushbutton

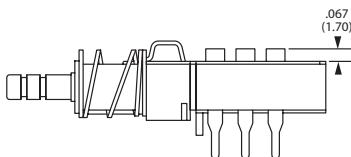
## TERMINAL STYLE

**(NONE)** SOLDER LUGS & PC PINS



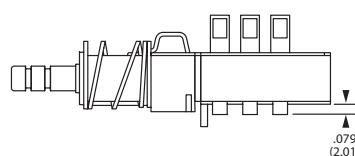
**01A** CUT SOLDER LUGS (North America)

**LB** CUT SOLDER LUGS (Europe)



**01B** CUT PC PINS (North America)

**PB** CUT PC PINS (Europe)



## ELECTRICAL FUNCTION

OPTION CODE	FUNCTION
<b>(NONE)</b>	BBM Non-shorting
<b>M</b>	MBB Shorting (North America only)

## CONTACT MATERIAL

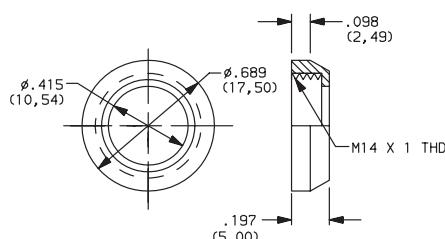
NORTH AMERICA OPTION CODE	EUROPE OPTION CODE	RoHS COMPLIANT *	RoHS COMPATIBLE *	MATERIAL	RATING
<b>(NONE)</b>	<b>(NONE)</b>	YES	YES	SILVER, AG	50 VA/15 W; 125/30 V; 0.5/0.5 A
<b>AU</b>	<b>P</b>	YES	YES	GOLD	1 VA/300mW; 50/30 V; 0.04 A/0.01 A

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

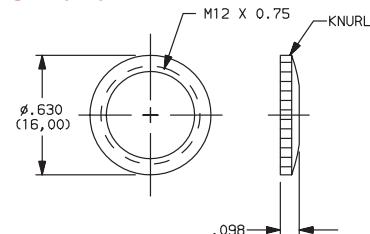
## DRESS NUT

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

**B** BLACK

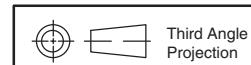


**C** CHROME



NOTE: Available with ZF designation and FA200 buttons.

NOTE: Available with ZF designation and FG button.



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

**C&K**

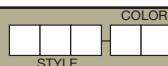
# F Series Pushbutton Switches



**A**

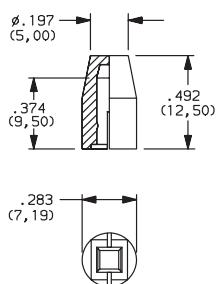
Pushbutton

## SOLID BUTTON

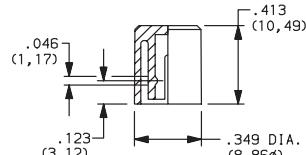


### STYLE

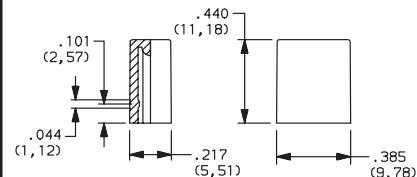
**F01** FMR



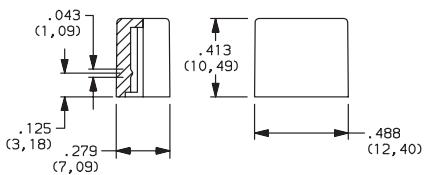
**F02** FG



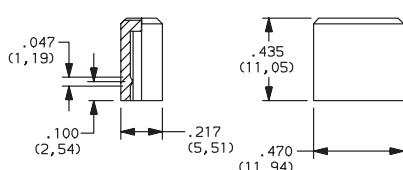
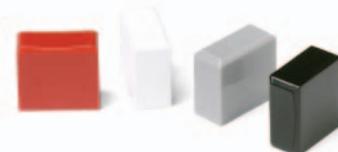
**F12** FSC



**F13** FSD



**F14** FU12



OPTION CODE	COLOR
<b>01</b>	BLACK
<b>02</b>	WHITE
<b>03</b>	RED
<b>04</b>	LT. GRAY

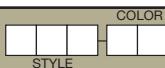


## Pushbutton

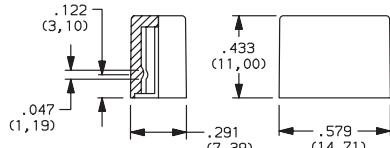
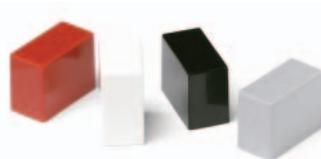
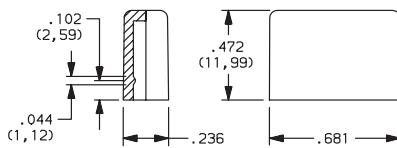
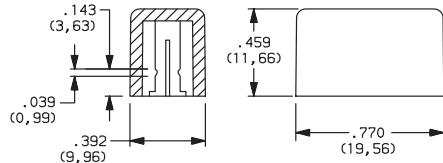
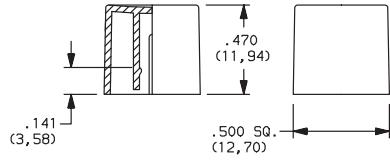
# F Series Pushbutton Switches

**A**

### SOLID BUTTON

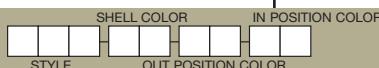


#### STYLE

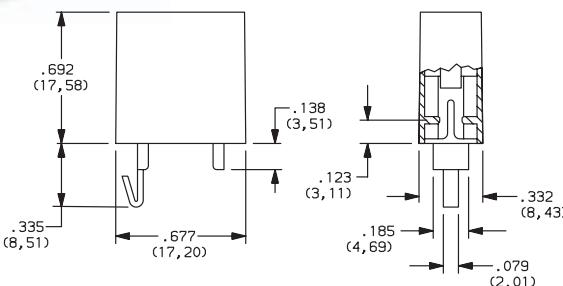
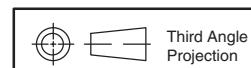
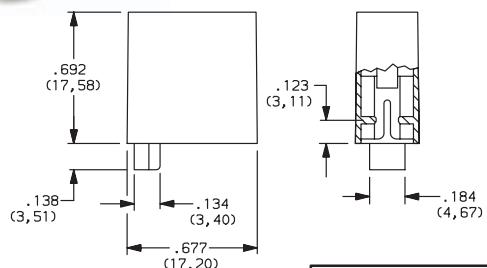
**F15** FSB**F16** FE**F19** FA**F21** F001

OPTION CODE	COLOR
<b>01</b>	BLACK
<b>02</b>	WHITE
<b>03</b>	RED
<b>04</b>	LT. GRAY

### MECHANICAL BUTTON



#### STYLE

**F01** FA100**F02** FA101

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

**C&K**

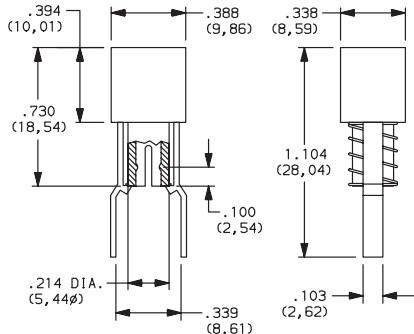
# F Series Pushbutton Switches



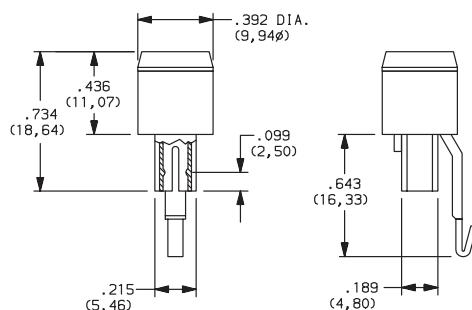
**A**

## STYLE

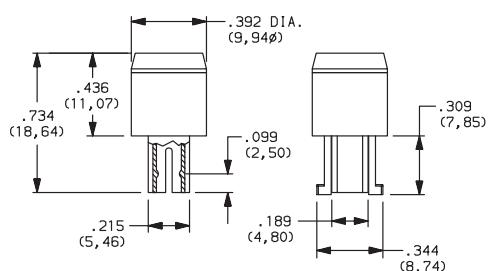
**F07** FA120



**F08** FA201



**F11** FA200



## SHELL COLOR

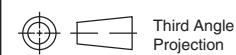
**01** BLACK

## OUT POSITION COLOR

**01** BLACK

## IN POSITION COLOR

OPTION CODE	COLOR
<b>02</b>	WHITE
<b>06</b>	YELLOW
<b>07</b>	BLUE
<b>08</b>	GREEN
<b>12</b>	ORANGE



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

**C&K**



# F Series Pushbutton Switches

CHASSIS SPACING  
NO. OF STATIONS

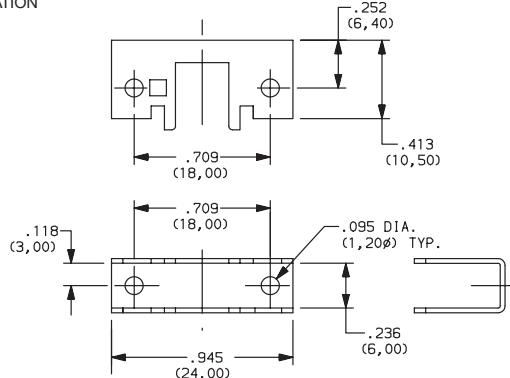
## NUMBER OF STATIONS

**C00 Thru C10** Comes with standard 0.094 (2.44mm) mounting holes

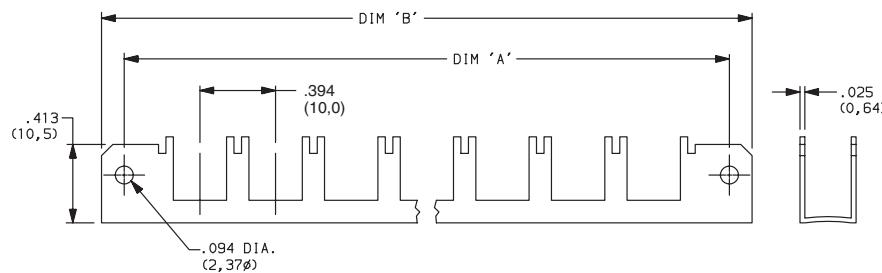
NOTE: Single station chassis available with mounting configurations, consult factory.

## SPACING

**00** SINGLE STATION

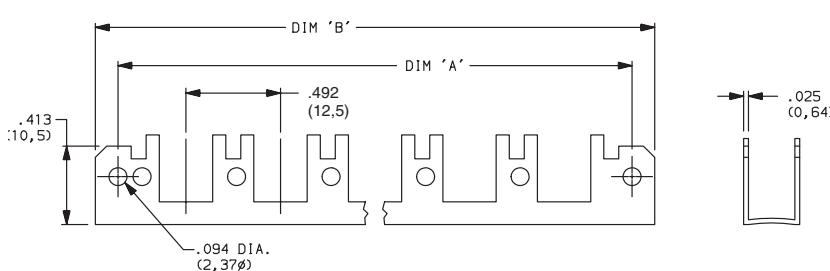


**10** 10mm

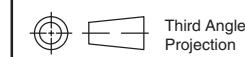


No. of Stations	Dim. 'A'	Dim. 'B'	Tolerance
2	1.182 (30.02)	1.418 (36.02)	0.005
3	1.575 (40.01)	1.811 (46.00)	0.010
4	1.969 (50.01)	2.205 (56.01)	0.010
5	2.363 (60.02)	2.599 (66.01)	0.010
6	2.757 (70.03)	2.993 (76.02)	0.015
7	3.150 (80.01)	3.386 (86.00)	0.015
8	3.544 (90.02)	3.780 (96.01)	0.015
9	3.938 (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

# F Series Pushbutton Switches



A

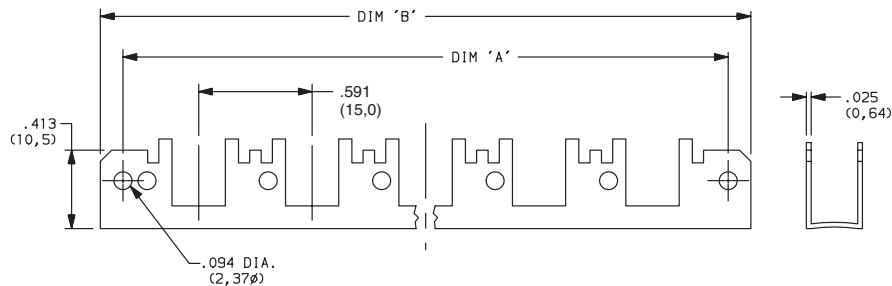
Pushbutton

## CHASSIS SPACING

### SPACING

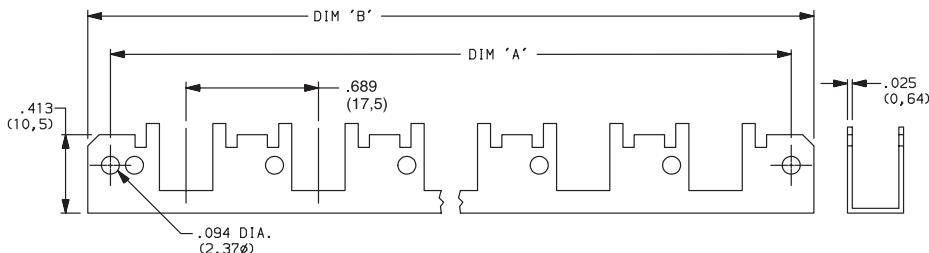
**15** 15mm

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



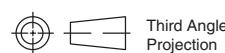
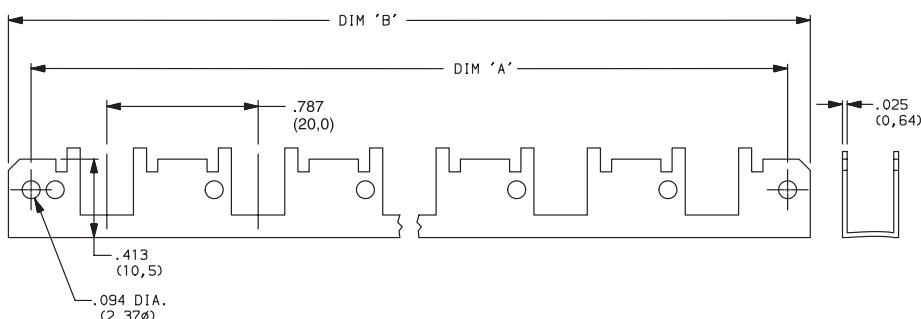
**17.5** 17.5mm

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

**C&K**

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

C&K Components:

[115-0058-001](#) [F0102](#) [F0104](#) [F0202](#) [F0204](#) [F1203](#) [F1201](#) [F1204](#) [F0203](#) [F1202](#)