F Series
Pushbutton Switches

## Features/Benefits

- Up to 10 poles per module
- Various contact terminals
- Various mounting \& switch ganging configurations
- Mechanical indicator buttons


## Typical Applications

## - Audio selection

- Digital equipment interface
- Medical equipment interface

- RoHS compliant


## 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: $<2 \mathrm{~A}$, Gold: $<0.5 \mathrm{~A}$.
DIELECTRIC STRENGTH ( $50 \mathrm{~Hz}, 1 \mathrm{~min}$.): Chassis/contact: ^1500V Between contacts: ^1500V.
OPERATING LIFE "OA/EE" $(24 \mathrm{~V} / 200 \mathrm{~mA})$ : $>10^{5}$ operations "GR": >3.5 x 104 operations.
CONTACT RESISTANCE: Initial: Typical $\% 10 \mathrm{~m} \Omega$, max. $20 \mathrm{~m} \Omega$ After operating life: $\% 100 \mathrm{~m} \Omega$
INSULATION RESISTANCE: $\wedge 10^{9} \Omega$ between open contacts, $\wedge 10^{9} \Omega$ between chassis and contacts.
CAPACITANCE (at $\mathrm{f}=10 \mathrm{kHz}$ ): \%0.7 pF between 2 contacts.
TOTAL TRAVEL/LATCHING TRAVEL: $4.7 \mathrm{~mm} / 3.3 \mathrm{~mm}(.185 \mathrm{inch} /$ .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:
$2 \mathrm{U}: 3.5 \mathrm{~N} \pm 0.5 \mathrm{~N}$ ( 350 grams $\pm 100$ grams); $4 \mathrm{U}: 5 \mathrm{~N} \pm 1 \mathrm{~N}$ (500 grams $\pm 100$ grams); $6 \mathrm{U}: 6.5 \mathrm{~N} \pm 1 \mathrm{~N}$ ( 650 grams $\pm 100$ grams); 8 U : $9.0 \mathrm{~N} \pm 1 \mathrm{~N}$ ( 900 grams $\pm 100$ grams).
OPERATING TEMPERATURE RANGE: $-40^{\circ} \mathrm{C}$ to $70^{\circ} \mathrm{C}$.

## 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



## 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
(Order Code - Chassis

## 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.


## SWITCHES WITH STANDARD OPTIONS

## F2UEE

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



## ZF2UEEBF11010108

| CONTACT <br> ARRANGEMENT | LENGTH <br> DIM ' $\mathrm{L}^{\prime}$ |
| :---: | :---: |
| 2 U | $0.827(21,00)$ |
| 4 U | $1.300(33,00)$ |
| 6 U | $1.770(45,00)$ |
| 8 U | $2.240(57,00)$ |
| 10 U | $2.720(69,00)$ |



## F Series <br> Pushbutton Switches




## MECHANICAL FUNCTION

\section*{$\square-$| $\square$ |  | $\square \square \square \square-\square \square \square \square$ |
| :--- | :--- | :--- |}

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.

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## F Series

Pushbutton Switches

| TERMINAL STYLE |  |  |
| :---: | :---: | :---: |
| (NONE) soueausereceme | 01A CUT SOLDER LUGS (North America) LB CUT SOLDER LUGS (Europe) | 01B CUT PC PINS (North America) PB CUT PC PINS (Europe) |
|  |  | $\operatorname{col}\left\\|\\|^{\text {P/ }}\right.$ |
|  |  |  |


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

## CONTACT MATERIAL $\square+\square$

| NORTH AMERICA <br> OPTION CODE | EUROPE <br> OPTION CODE | RoHS <br> COMPLIANT * | RoHS <br> COMPATIBLE * | MATERIAL | RATING |
| :---: | :---: | :---: | :---: | :---: | :---: |
| (NONE) | (NONE) | YES | YES | SILVER, AG | $50 \mathrm{VA} / 15 \mathrm{~W} ; 125 / 30 \mathrm{~V} ; 0.5 / 0.5 \mathrm{~A}$ |
| AU | P | YES | YES | GOLD | $1 \mathrm{VA} / 300 \mathrm{~mW} ; 50 / 30 \mathrm{~V} ; 0.04 \mathrm{~A} / 0.01 \mathrm{~A}$ |

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


## DRESS NUT $\square \square \square \square \square \square \square \square \square \square$

(NONE) NO DRESS NUT FOR F \& F/LT designations


NOTE: Available with ZF designation and FA200 buttons.


PANEL CUTOUT


NOTE: Available with ZF designation and FG button.

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

# F Series <br> Pushbutton Switches 



F Series
Pushbutton Switches
SOLID BUTTON $\square_{\text {SNE }}^{\square \square}$

\section*{STYLE <br> 

## STYLE

F01 FA100


## F Series Pushbutton Switches



## F08 <br> FA201



F11 fazoo


## SHELL COLOR

01 вLACK

## OUT POSITION COLOR

01
BLACK

IN POSITION COLOR

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

## NUMBER OF STATIONS

## C00 Thru C10 Comes with standard $0.094(2,44 \mathrm{~mm})$ mounting holes

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

## SPACING

00 single station


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

12.5


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

Dimensions are shown: Inches (mm) Specifications and dimensions subject to change
www.ck-components.com

## SPACING

## CHASSIS <br> $\square$ anduca

15 15mm

$17.5^{17.5 \mathrm{~mm}}$


20 20mm

| No. of Stations | Dim. 'A' | Dim. 'B' | Tolerance |
| :---: | :---: | :---: | :---: |
| 2 | 1.575 <br> $(40,01)$ | 1.711 <br> $(46,00)$ | 0.005 |
| 3 | 2.363 <br> $(60,02)$ | 2.599 <br> $(66,01)$ | 0.010 |
| 4 | 3.150 <br> $(80,01)$ | 3.386 <br> $(86,00)$ | 0.010 |
| 5 | 3.938 <br> $(100,03)$ | 4.174 <br> $(106,02)$ | 0.010 |
| 6 | 4.725 <br> $(120,02)$ | 4.961 <br> $(126,01)$ | 0.015 |
| 7 | 5.512 <br> $(140,00)$ | 5.748 <br> $(146,00)$ | 0.015 |
| 8 | 6.300 <br> $(160,02)$ | 6.536 <br> $(166,01)$ | 0.015 |
| 9 | 7.087 <br> $(180,01)$ | 7.323 <br> $(186,00)$ | 0.015 |
| 10 | 7.875 <br> $(200,03)$ | 8.111 <br> $(206,02)$ | 0.015 |



G\&K

