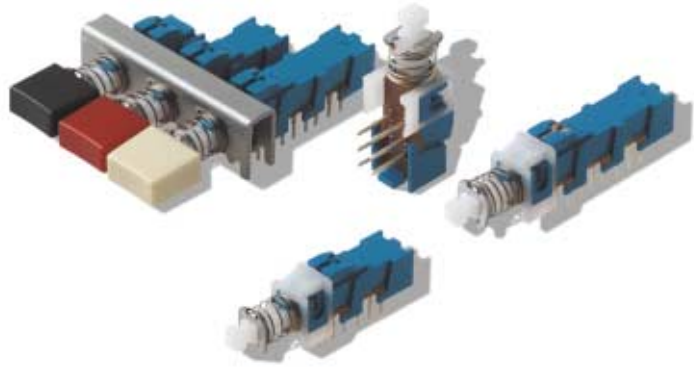


PHA Short Stroke Push-Button Switch



The push-button switch PHA with small dimensions make it the ideal choice for today's demanding switch requirements

- PC pins in the module grid of 2.5×2.5 mm (0.0984 \times 0.0984). Chassis on request.
- Operating force only 170 cN (170 grams) (with 2 poles)
- Sealed, designed for flow soldering
- 2, 4 or 6 pole, double throw switching
- Optionally momentary (OA) or push-push (EE) function and interlocking (GR) in a chassis. A mixture of these different functions is possible
- Single module with chassis: see next page

Button Removal

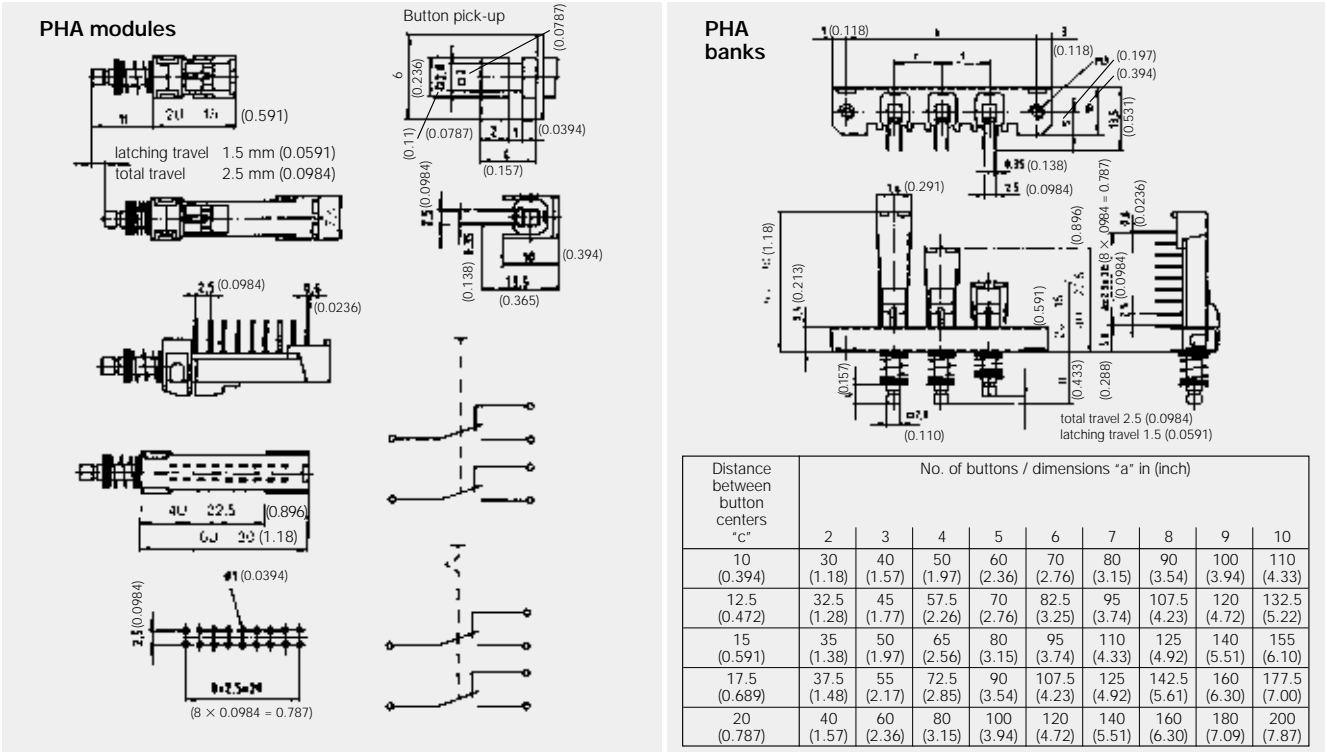
A button of a push-push button switch is only allowed to be removed in "OFF" (non-latching) position.

| Construction | |
|---|--|
| Function | Momentary (OA), push-push (EE) or interlocking (GR) |
| Number of modules in a chassis | 1 up to 10 |
| Contact arrangement | 2U, 4U or 6U (U = changeover) |
| Mode of switching | Non-shorting |
| Distance between button centers | 10, 12.5, 15, 17.5, 20 mm (0.394, 0.492, 0.591, 0.689, 0.787 inch) |
| Contacts | PC pins in module grid 2.5×2.5 mm (0.0984 \times 0.0984 inch) |
| Electrical data | |
| Switching power max. | 3 W DC |
| Switching voltage max. | 30 V DC |
| Switching current max. | 100 mA DC |
| Dielectric strength (50 Hz/1 Min.) | 500 V between open contacts 1500 V between chassis and contacts |
| Operating life impulse/momentary (OA) | $\cong 10^4$ operations |
| latching (EE) | $\cong 10^4$ operations |
| Contact resistance new | $\cong 20$ m Ω |
| after 10^5 operations | $\cong 40$ m Ω |
| Insulation resistance | $\cong 10^{10}$ Ω |
| Capacitance | $\cong 1.5$ pF |
| Contact bounce | $\cong 2$ ms |
| Operating speed 200 mm/s (7.87 inch/s) | |
| Mechanical data | |
| Total travel/latching travel | 2.5 mm/1.5 mm (0.0984 inch/0.0591 inch) |
| Operating force | for 2U: 170 cN \pm 50 cN (170 grams \pm 50 grams) 4U: 230 cN \pm 70 cN (230 grams \pm 70 grams) 6U: 300 cN \pm 100 cN (300 grams \pm 100 grams) |
| Sealing | Sealed contacts |
| Further data | |
| Contact material | AG |
| Insulation material of housing and actuator | Thermoplastic |
| Max. soldering time and temperature | 5 s at 260°C |
| Operating temperature | - 10°C to + 60°C |

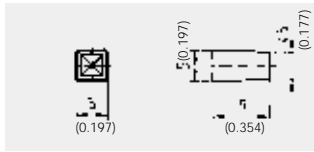
Ordering code: see next page.

PHA Short Stroke Push-Button Switch

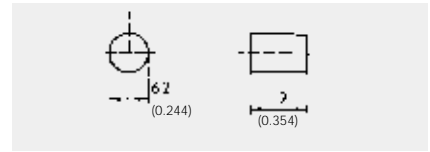
Dimensional Drawings



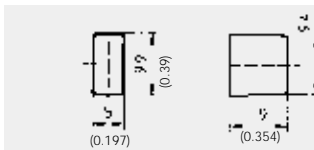
Button G001 indexed spacing min. 10 mm (0.394 inch)



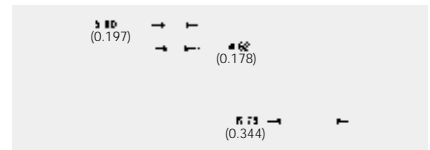
Button G003 round spacing min. 10 mm (0.394 inch)



Button G002 rectangular spacing min. 10 mm (0.394 inch)



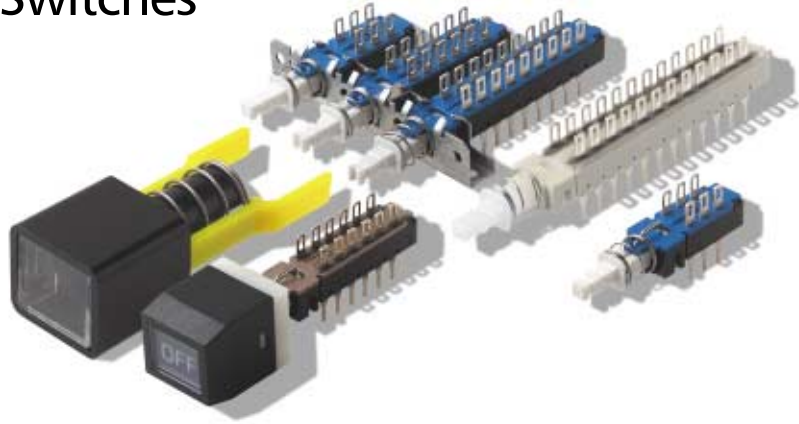
Button G004 square spacing min. 10 mm (0.394 inch)



Button colors: black, grey, red, ivory, blue

| Ordering code | | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---------------|--|---------------------------------------|---|---|---|---|---|---|
| | | Example: 2×PHA 12.5 G01 RD 4U GR ChM3 | | | | | | |
| 1 | Designation: PHA = module without chassis, 1 × PHA to 10 × PHA = bank with 1 to 10 modules | → | → | → | → | → | → | → |
| 2 | Spacing in mm: 10, 12.5, 15, 17.5, 20 (0.394, 0.492, 0.591, 0.689, 0.787 inch), none = module | → | → | → | → | → | → | → |
| 3 | Button type: G01 = indexed, G02 = rectangular, G03 = round, G04 = square | → | → | → | → | → | → | → |
| 4 | Button color: BK = black, IY = ivory, GY = grey, RD = red, BU = blue | → | → | → | → | → | → | → |
| 5 | Contact arrangement: 2U = 2 changeovers, 4U, 6U, shorting: add KS (e.g. 2UKS) | → | → | → | → | → | → | → |
| 6 | Mechanical function: OA = momentary, EE = push-push, GR = interlocking | → | → | → | → | → | → | → |
| 7 | Chassis: on request | → | → | → | → | → | → | → |

F and SF Push-Button Switches



The essential features of the F and SF push-button switch are the bridge contact and the many mechanical functions. The contact bridge is spring loaded which guarantees a constant pressure on the contacts.

- Up to 10 poles per module
- Various contact terminals
- Standard mounting frame with max. 23 positions
- Spacing optionally 10, 12.5, 15, 17.5 or 20 mm
- Independent interlocking groups in one bank possible
- Mechanical indicator buttons
- Configurations with illuminated push-buttons

Mechanical functions

- OA** Momentary returning to normal "OFF" position
- EE** Push-push function
- GR** Interlocking
- GR1+ GR2** Two independent interlocking groups in one bank
- AOR** Release push-button for a bank, not latching

Button Removal

A button of a push-push button switch is only allowed to be removed in "OFF" (non-latching) position.

| Construction | | | |
|--|----------------------|---|--------------------------------|
| Function | | Momentary (OA), push-push (EE), further functions: see table to the left | |
| Number of buttons | | 1 up to 23 | |
| Contact arrangement (U = changeover contact) | | Series F: 2U, 4U, 6U, 8U, 10U Series SF: 2U, 4U, 6U, 8U | |
| Mode of switching | | Non-shorting | |
| Illumination | | See: indicator and illuminated push-buttons | |
| Spacing | | 10, 12.5, 15, 17.5 or 20 mm (0.394, 0.492, 0.591, 0.689 or 0.787 inch) | |
| Terminals (see next page) | | PC pins and soldering lugs or only PC pins | |
| Electrical data | | F-Silver | F-Gold |
| Switching power | F module max. AC/DC | 50 VA/15 W | 1 VA/300 mW |
| Switching voltage | F module max. AC/DC | 125/30 V | 50/30 V |
| Switching current | F module max. AC/DC | 0.5/0.5 A | 0.04 A/0.01 A |
| Carrying current max. at $\delta u = 20^\circ\text{C}$ | | < 2 A | < 0.5 A |
| Dielectric strength (50 Hz, 1 Min.) | Chassis/contact | $\cong 1500$ V | $\cong 1500$ V |
| | Between contacts | $\cong 1500$ V | $\cong 1500$ V |
| Operating life ¹⁾ "OA/EE" (24 V/200 mA) | | > 10^5 operations | |
| "GR" | | > 3.5×10^4 operations | |
| Contact resistance | initial | Typical ≤ 10 m Ω , max. 20 m Ω | |
| | after operating life | ≤ 100 m Ω | |
| Insulation resistance | | $\cong 10^9$ Ω between open contacts | |
| | | $\cong 10^9$ Ω between chassis and contacts | |
| Capacitance at f = 10 kHz | | $\cong 0.7$ pF between 2 contacts | |
| Mechanical data | | | |
| Total travel/latching travel | | 4.7 mm/3.3 mm (0.185 inch/0.130 inch) | |
| 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 50 grams) 4U = 5N \pm 1N (500 grams \pm 100 grams) 6U = 6.5N \pm 1N (650 grams \pm 100 grams) 8U = 9N \pm 1N (900 grams \pm 100 grams) | |
| Further data | | Contacts | Housing |
| Contact and insulation material | | Silver with Ni-junction Gold with Ni-junction | Thermoplastic Thermoplastic |
| Max. soldering time and temperature | | 5 s at 260°C · hand soldering 3 s at 350°C | |
| Operating temperature | | - 40°C to + 70°C | |

¹⁾ 25 – 30 operations/Min.

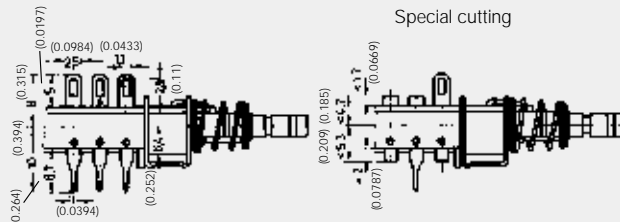
Ordering code: see page C-15.

F and SF Push-Button Switches

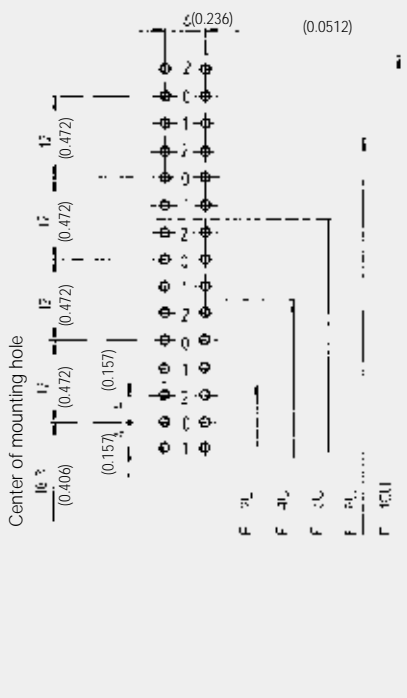
Contact Styles

Standard arrangement

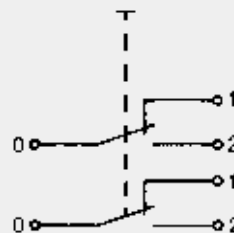
Solder lugs top,
PC pins bottom



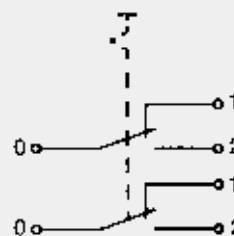
PC board layout



Circuit diagram: momentary



Circuit diagram: push-push



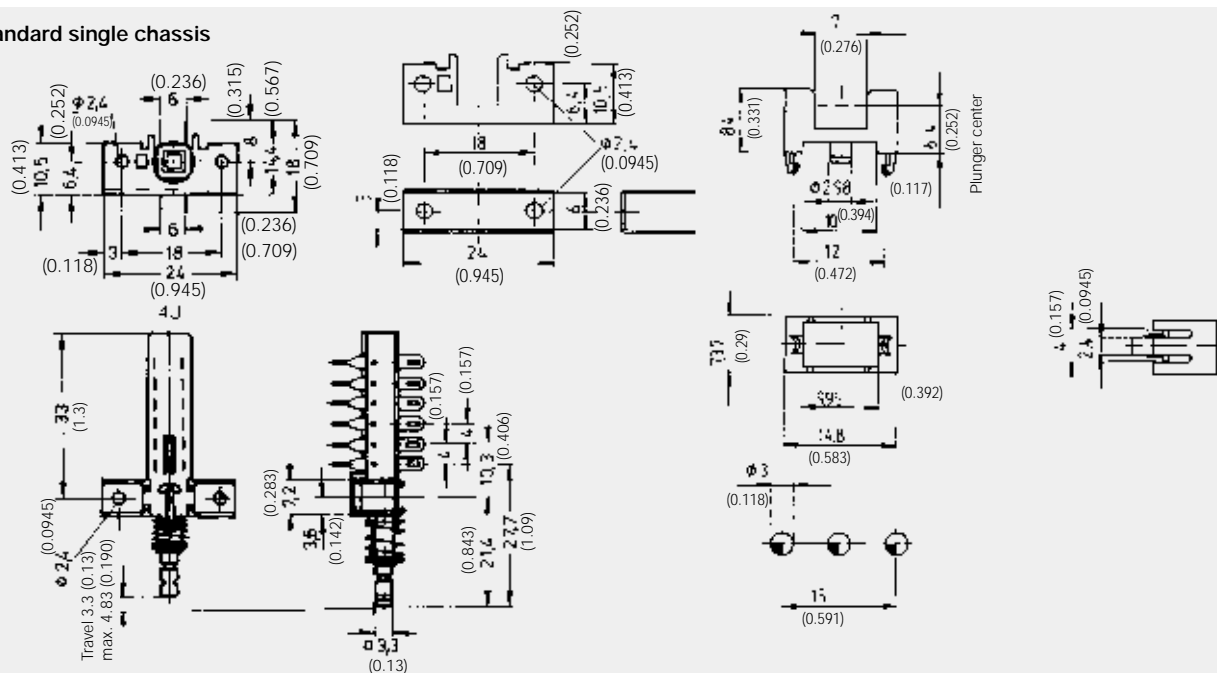
Standard chassis: see page C-15, non-standard chassis: consult factory.

| Terminal Code | US | Europe |
|--------------------------------------|-----|--------|
| Solder Lug & P.C. Pins (standard) | 01 | |
| Cut Solder Lugs | 01A | P |
| Cut PC Pins | 01B | L |

Chassis for F Push-Button Switches, NE18 and NE18CTII Mains Switches

Dimensional Drawings

Standard single chassis



| Ordering code - Europe | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|------------------------|--|---|---|---|---|---|---|---|---|---|----|----|
| | | Example: 10×F A 17.5 FA110 BK OG 4U 72 EE | | | | | | | | | | |
| 1 | Designation: F = module (without chassis), 1 to 23 × F = bank (with chassis) | → | → | → | → | → | → | → | → | → | → | → |
| 2 | Indication, illumination: none = without, A = indicating, L1, L2, L3 = lampholder for illuminated button | → | → | → | → | → | → | → | → | → | → | → |
| 3 | Spacing: 10, 12.5, 15, 17.5 or 20 mm (0.394, 0.492, 0.591, 0.689 or 0.787 inch) | → | → | → | → | → | → | → | → | → | → | → |
| 4 | Button: none = without, FMR, FG, FSC, FSD, FSB, FE, FA, FSA, FSR, FVB, FVRB, FA100, FA101, FA110, FA120, FA201 | → | → | → | → | → | → | → | → | → | → | → |
| 5 | Color of button housing: BK = black, further colors: see following pages | → | → | → | → | → | → | → | → | → | → | → |
| 6 | Color of illuminated button cap: (only illuminated buttons with L1, L2 or L3): RD = red, OG = orange, GN = green, YE = yellow, BU = blue, CL = clear/colorless | → | → | → | → | → | → | → | → | → | → | → |
| 7 | Color on ON-position of indicating buttons: RD = red, OG = orange, GN = green, YE = yellow, BU = blue | → | → | → | → | → | → | → | → | → | → | → |
| 8 | Contact arrangement (U = changeover): 2U, 4U, 6U, 8U, 10U | → | → | → | → | → | → | → | → | → | → | → |
| 9 | Terminal style: 01 = solder lugs top and PC pins bottom, for additional configuration consult factory. | → | → | → | → | → | → | → | → | → | → | → |
| 10 | Contact material: none = AG with Ni-junction (standard), P = AU with Ni-junction, Macrolon | → | → | → | → | → | → | → | → | → | → | → |
| 11 | Mechanical function: OA = momentary, EE = push-push, GR = interlocking, GR + Sp = interlocking with blocking | → | → | → | → | → | → | → | → | → | → | → |

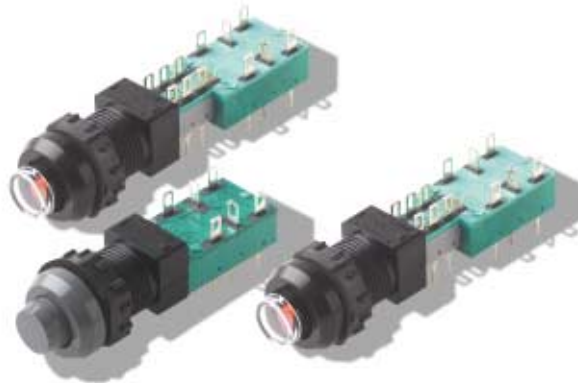
Note: Ordering of not mounted F buttons: ordered separately and delivered separately.

NE18 and NE18CTII Mains Switches

| Ordering code - USA | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | |
|---------------------|---|-----------------|---|------|----|----|----|----|---------|---|----|----|----|----|----|----------------|
| | | Example: | F | 17.5 | 06 | 4U | EE | TB | F210103 | N | 01 | B | AU | 1 | 01 | Station 2 = OA |
| 1 | Designation: F, F/LT | → | | | | | | | | | | | | | | |
| 2 | Spacing (if required for chassis ¹⁾): 10 = 10 mm (0.394 inch), 12.5 = 12.5 mm (0.492 inch), 15 = 15 mm (0.590 inch), 17.5 = 17.5 mm (0.689 inch), 20 = 20 mm (0.787 inch) | → | | | | | | | | | | | | | | |
| 3 | Number of stations: 00 = no chassis, 01 thru 23 | → | | | | | | | | | | | | | | |
| 4 | Number of poles: 2U = 2PDT, 4U = 4PDT, 6U = 6PDT, 8U = 8PDT, 10U = 10PDT | → | | | | | | | | | | | | | | |
| 5 | Mechanical function: GR = interlock, OA = momentary, EE = push-push, AOR = central release, OA + SP = momentary/lockout, ²⁾ GR + SP = interlock/lockout, ²⁾ X = mixed (see page C-12) | → | | | | | | | | | | | | | | |
| 6 | Terminal sealing: TB = top/bottom, N = none | → | | | | | | | | | | | | | | |
| 7 | Button style and color: see pages C-18 to C-20 or C-21 for coding | → | | | | | | | | | | | | | | |
| 8 | Power switches: see page D-13 | → | | | | | | | | | | | | | | |
| 9 | Terminal style: 01 = solder lugs top and PC pins bottom, for additional configuration consult factory. | → | | | | | | | | | | | | | | |
| 10 | Electrical function: B = BBM | → | | | | | | | | | | | | | | |
| 11 | Contact material: AU = gold, AG = silver | → | | | | | | | | | | | | | | |
| 12 | Lamp holder style: see page C-21 | → | | | | | | | | | | | | | | |
| 13 | Lamp type incandescent: 01 = 6 V, 02 = 12 V, 03 = 24 V | → | | | | | | | | | | | | | | |
| 14 | Special acknowledgements: if all stations are not identical, please state requirements | → | | | | | | | | | | | | | | |

¹⁾ If option not required: fill in with an N ²⁾ lockout available with 10,15 and 17.5 mm spacing. ³⁾ Switch Orientation: Plunger toward you, solder lugs up, station #1 far left.

Central Mounted F-Modules



Single modules of the F Series including mains/power modules NE18 and NE18CTII are available with central mounting.

Standard Designs:

- ZF12 with threaded mounting M 12 × 0.75 and a metal knurled nut.
- ZF with threaded mounting M 14 × 1 optional with threaded plastic front panel or with knurled nut.
- ZFA like ZF but with indication button FA200.
- ZFL like ZF but with illuminated push-buttons FLB or FLC or FLC-LED.
ZFL: you can select among these three illumination possibilities.

US F11 Europe FA200



F24 F200



F25 FLC

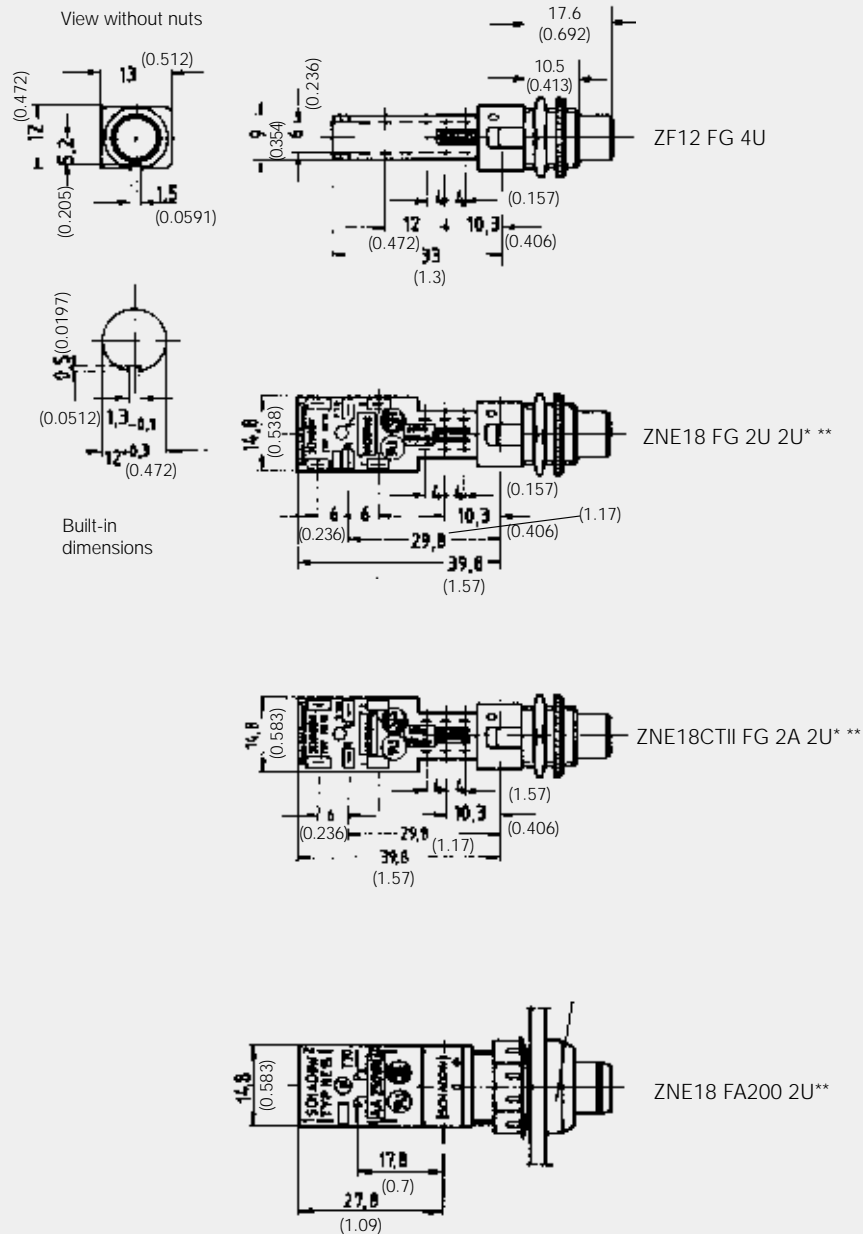


Ordering code: see next page.



Dimensional Drawings

With FG button: hole \varnothing 12 mm (.472 inch)



* with auxiliary contacts
** consult factory for availability

ZF, ZG, ZNE18, ZNE18CTII with button FG (12 mm (0.472) diameter)

Cannon

Dimensions are shown in mm (inch)
Dimensions subject to change

www.ittcannon.com

Central Mounted F-Modules

Button styles

| | |
|-------------|--|
| Series ZF12 | With button FG Ø 12 mm (0.472) |
| Series ZF | With button F200 Ø 14 mm (0.551) |
| Series ZFA* | With button FA200 Ø 14 mm (0.551) |
| Series ZFL* | With button FLB, FLC, FLC-LED You can select among these three illumination possibilities |

* Please indicate color of button and indicator.

Illuminated buttons

| | |
|--------------|---|
| Type FLB | With filament lamp |
| Button shell | Black, white, grey |
| Cap | Red, yellow, green, white |
| Lamps | 12 V/40 mA |
| Type FLC | With Neon lamp |
| Button shell | Black, white, grey |
| Cap | Red, white, green, chrome, yellow |
| Lamps | Neon glow lamp Z-300-GL2 ¹⁾ |
| Type FLD | With LED |
| Button shell | Black, white, grey |
| Cap | Red, green, yellow |
| LED | Red, green, yellow |

¹⁾ Recommended series resistors:

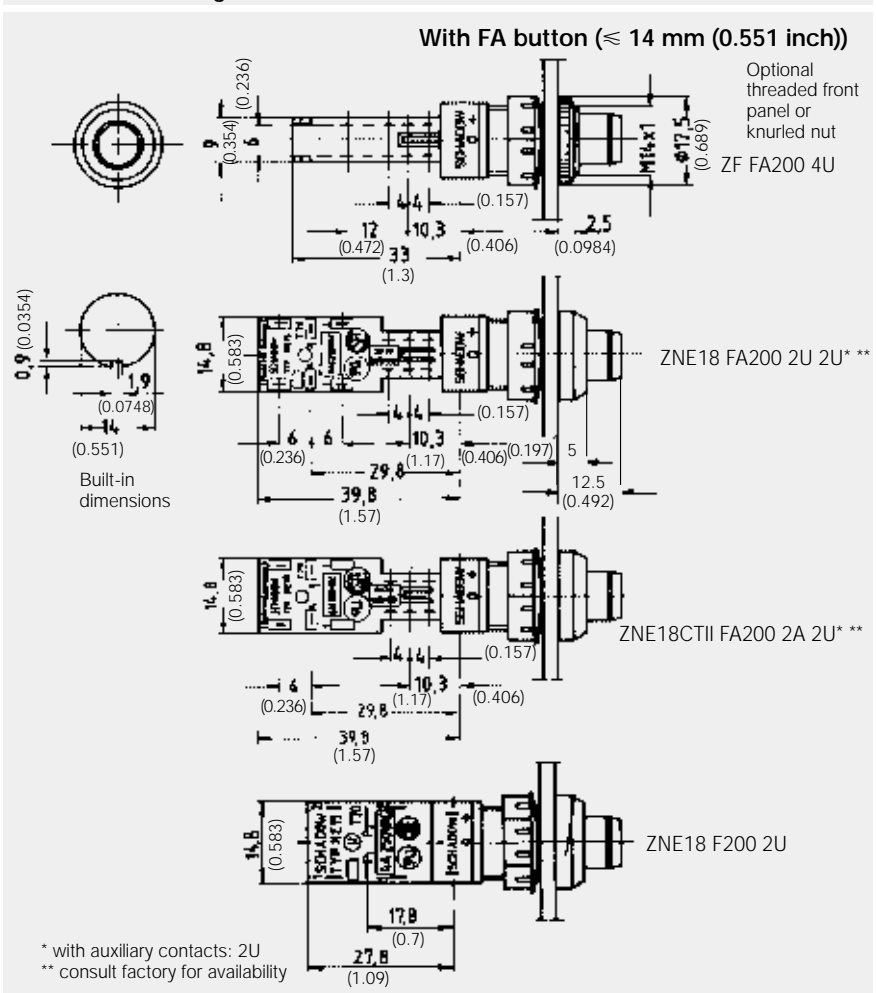
for 110 V 56 kΩ
for 220 V 150 kΩ

Lampholders

Type LZ1
Illumination with push-button in depressed position.

Type LZ2
Illumination independent from button position.

Dimensional Drawings



Push-button switches with central mounting: ZF, ZNE18 and ZNE18CTII with F200 or FA200 button (14 mm (0.551) diameter)

| Ordering code | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------------|---|----|-----|-----|----|----|---|----|----|------|
| | Example: | ZF | LZ1 | FLB | WH | RD | | 2U | EE | 12 V |
| 1 | Designation: ZF, ZNE18, ZNE18CTII, ZF12 (only with FG button), ZFA = indicating push-button | → | → | → | → | → | → | → | → | → |
| 2 | Indication, illumination: none = without, none = indicating, LZ1 = illuminated in depressed position, LZ2 = illuminated independent from button position | → | → | → | → | → | → | → | → | → |
| 3 | Button: F200, FA200 = for indicating buttons, FG = only for ZF12, FLB (with filament lamp), FLC (with neon lamp), FLC-LED (with LED) = illuminated buttons | → | → | → | → | → | → | → | → | → |
| 4 | Color of button housing: BK = black, WH = white, GY = grey | → | → | → | → | → | → | → | → | → |
| 5 | Color of illuminated button cap: RD = red, GN = green; additionally: FLB: WH = white, FLC: WH = white, | → | → | → | → | → | → | → | → | → |
| 6 | Color on ON-position of indicating buttons: WH = white, YE = yellow, OG = orange, GN = green | → | → | → | → | → | → | → | → | → |
| 7 | Contact arrangement (U = changeover, A = make-contact): 2U, 2A, with additional 2 auxiliary contacts on request, 2U2U, 2A2U | → | → | → | → | → | → | → | → | → |
| 8 | Mechanical function: OA = momentary (LZ2 only OA), EE = latching/push-push (LZ1 and ZFA only EE) | → | → | → | → | → | → | → | → | → |
| 9 | Lamp voltage of illuminated buttons: 12 V | → | → | → | → | → | → | → | → | → |

F-Buttons

Non-illuminated Buttons for F Series, PVF, Mains/Power Switches NE18 and NE18CTII

Overview of F-Buttons

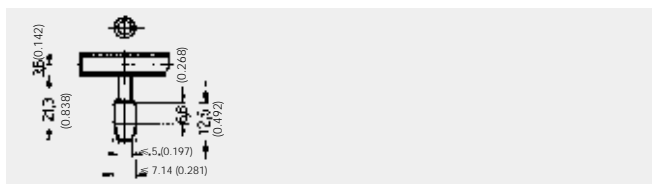
| Designation | F | Mains Switches NE18, NE18CTII | Mounting on chassis |
|-------------------------------|-----------------|----------------------------------|------------------------|
| FMR | X | X | |
| FG | X | X | |
| F1.12-H-4 | X ³⁾ | X | |
| F1.15-H-4 | X ³⁾ | X | |
| F1.12-H-5 | X ³⁾ | X | |
| FSC | X | X | |
| FSD | X | X | |
| FSB | X | X | |
| FE | X | X | |
| FA | X | X | |
| FSA | X | X | |
| FSR illuminated ¹⁾ | X ³⁾ | X ²⁾ | |
| FVRB illuminated | X ³⁾ | X ²⁾ | |
| FA100 indicating | X ³⁾ | X | X |
| FA101 indicating | X ³⁾ | X | X |
| FA110 indicating | X ³⁾ | X | X |
| FA120 indicating | X ³⁾ | X | X |
| FA201 indicating | X ³⁾ | X | X |

¹⁾ Vertical mounting only ²⁾ With auxiliary contacts (2U or 4U) only ³⁾ Not for PVA

Dimensional Drawings

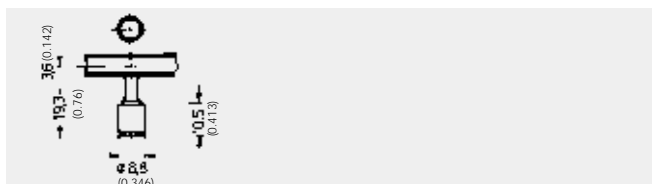
Designation: FMR

| | |
|---------------|---|
| Diameter | 7.2 mm |
| Length | 12.5 mm |
| Pitch c. min. | 10.0 mm |
| Colors | Black (BK), white (WH), grey (GY), orange (OG) |



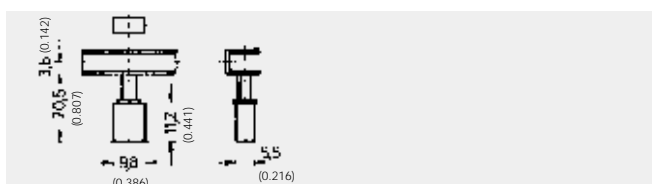
Designation: FG

| | |
|---------------|---|
| Diameter | 8.8 mm |
| Length | 10.5 mm |
| Pitch c. min. | 10.0 mm |
| Colors | Black (BK), white (WH), grey (GY), red (RD), green (GN), blue (BU) |



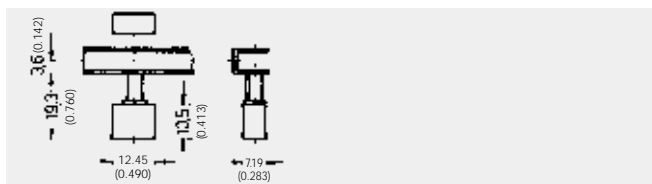
Designation: FSC

| | |
|---------------|--|
| Width | 9.8 mm |
| Height | 5.5 mm |
| Length | 11.2 mm |
| Pitch c. min. | 10.0 mm |
| Colors | Black (BK), white (WH), grey (GY), red (RD) |



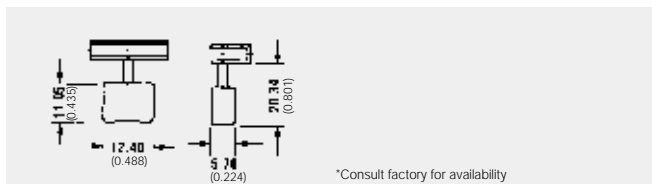
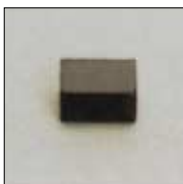
Designation: FSD, also for PVA

| | |
|-----------------------------|--|
| Width | 12.3 mm |
| Height | 7.0 mm |
| Length | 10.5 mm |
| Pitch c. min. ¹⁾ | 12.5 mm/10.0 mm |
| Colors | Black (BK), white (WH), grey (GY), red (RD) |



Designation: FU12

| | |
|-----------------------------|--|
| Width | 12.4 mm |
| Height | 5.7 mm |
| Length | 11.05 mm |
| Pitch c. min. ¹⁾ | 12.5 mm |
| Colors | Black (BK), white (WH), grey (GY), red (RD) |



*Consult factory for availability

F-Buttons

Non-illuminated Buttons for F Series, PVA, Mains/Power Switches NE18 and NE18CTII

Designation: FSB, also for PVA

| | |
|-----------------------------|--|
| Width | 14.7 mm |
| Height | 7.4 mm |
| Length | 11.0 mm |
| Pitch c. min. ¹⁾ | 15.0 mm/10.0 mm |
| Colors | Black (BK), white (WH), grey (GY), red (RD) |

Designation: FE

| | |
|-----------------------------|--|
| Width | 17.3 mm |
| Height | 6.0 mm |
| Length | 12.0 mm |
| Pitch c. min. ¹⁾ | 17.5 mm/10.0 mm |
| Colors | Black (BK), white (WH), grey (GY), red (RD) |

Designation: FSA, also for PVA

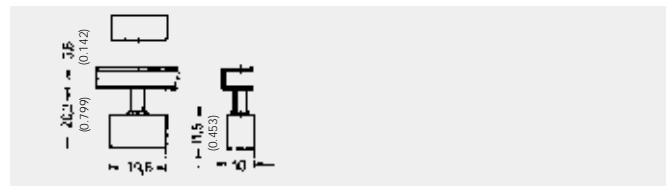
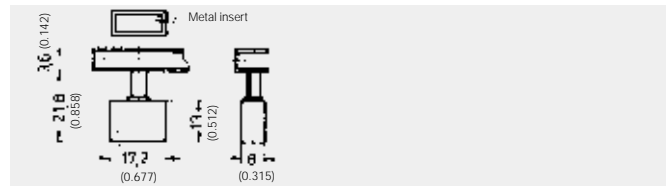
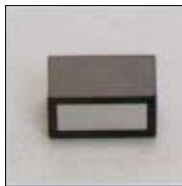
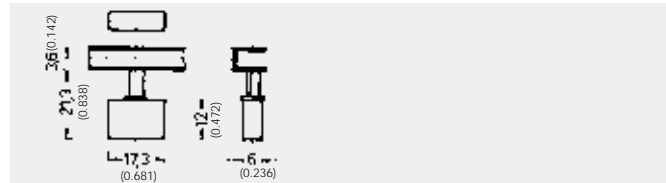
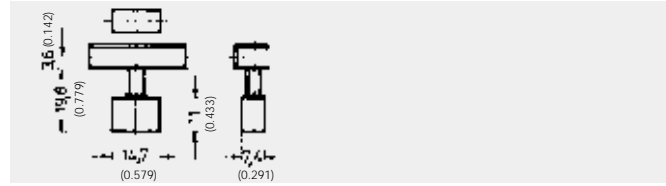
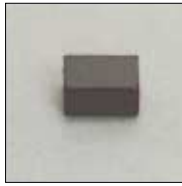
| | |
|-----------------------------|-----------------------------------|
| Width | 17.2 mm |
| Height | 8.0 mm |
| Length | 13.0 mm |
| Pitch c. min. ¹⁾ | 17.5 mm/10.0 mm |
| Body | Black (BK), white (WH), grey (GY) |
| Insert | Silver (SR) |

Designation: FA

| | |
|-----------------------------|--|
| Width | 19.6 mm |
| Height | 10.0 mm |
| Length | 11.5 mm |
| Pitch c. min. ¹⁾ | 20.0 mm/12.5 mm |
| Colors | Black (BK), white (WH), grey (GY), red (RD) |

¹⁾ Rectangular buttons can be mounted horizontally or vertically according to center to center spacing of buttons.

Dimensional Drawings



F Indicating Buttons

For F Series, Mains/Power Switches NE18 and NE18CTII

Designation: FA100

| | |
|----------------|---|
| Width | 17.3 mm |
| Height | 8.5 mm |
| Length | 17.5 mm |
| Pitch c min. | 17.5 mm |
| Housing colors | Black (BK), white (WH), grey (GY) |
| Indicator "ON" | White (WH), orange (OG), yellow (YE), green (GN), blue (BU) |
| "OFF" | Housing colors |

Designation: FA101

| | |
|----------------|---|
| Width | 8.5 mm |
| Height | 17.3 mm |
| Length | 17.5 mm |
| Pitch c min. | 17.5 mm/10.0 mm |
| Housing colors | Black (BK), white (WH), grey (GY) |
| Indicator "ON" | White (WH), orange (OG), yellow (YE), green (GN), blue (BU) |
| "OFF" | Housing colors |

Designation: FA110

| | |
|----------------|---|
| Width | 17.2 mm |
| Height | 17.2 mm |
| Length | 22.0 mm |
| Pitch c min. | 17.5 mm |
| Housing colors | Black (BK), white (WH), grey (GY) |
| Indicator "ON" | Black (BK), white (WH), grey (GY) |
| "OFF" | Blue (BU), orange (OG), yellow (YE), green (GN) |
| "ON" and "OFF" | Colors can be combined differently |

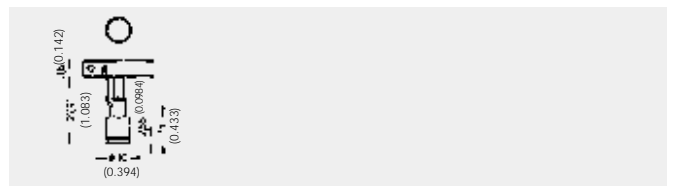
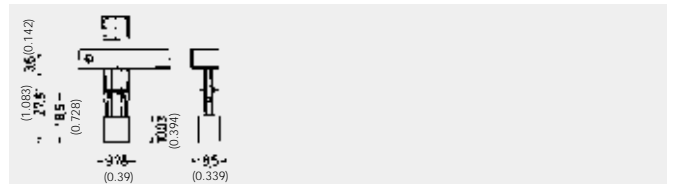
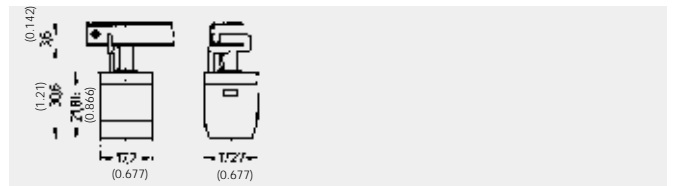
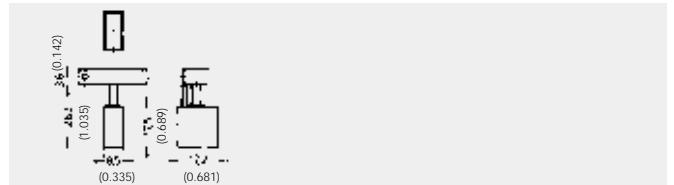
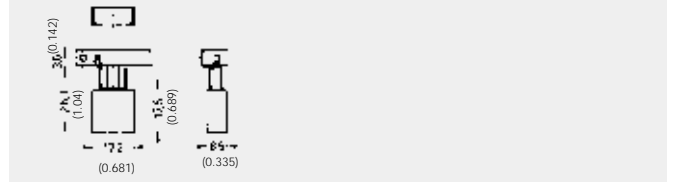
Designation: FA120

| | |
|----------------|---|
| Width | 9.9 mm |
| Height | 8.6 mm |
| Length | 10.0 mm |
| Pitch c min. | 10.0 mm |
| Housing colors | Black (BK), grey (GY) |
| Indicator "ON" | White (WH), orange (OG), yellow (YE), green (GN), blue (BU) |
| "OFF" | Housing colors |

Designation: FA201

| | |
|----------------|---|
| Diameter | 10.0 mm |
| Height | 11.0 mm |
| Pitch c min. | 12.5 mm |
| Housing colors | Black (BK), white (WH), grey (GY) |
| Indicator "ON" | White (WH), orange (OG), yellow (YE), green (GN), blue (BU) |
| "OFF" | Housing colors |

Dimensional Drawings



Style and color availability - US orders only

| Color | Shell | | | | | | OUT position | | | | | | | | | IN position | | | | | | | | | | | |
|------------|-------|-------|------------|-----------|--------|------|--------------|-------|------------|-----------|--------|------|-------|------|--------|-------------|-------|-------|------------|-----------|--------|------|-------|------|--------|-------|---|
| | Black | White | Light grey | Dark grey | Chrome | Gold | Black | White | Light grey | Dark grey | Yellow | Blue | Green | Gold | Orange | Amber | Black | White | Light grey | Dark grey | Yellow | Blue | Green | Gold | Orange | Amber | |
| Color code | 01 | 02 | 04 | 05 | 00 | 10 | 01 | 02 | 04 | 05 | 06 | 07 | 08 | 10 | 12 | 15 | 01 | 02 | 04 | 05 | 06 | 07 | 08 | 10 | 12 | 15 | |
| Style code | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F01 | X | X | | X | X | X | X | X | | X | X | | | | | X | X | | | | X | X | X | | X | X | |
| F02 | X | X | | X | X | X | X | X | | X | X | | | | | X | X | | | | X | X | X | | X | X | |
| F05 | X | X | | X | | | X | X | | X | X | X | X | | X | | X | X | | | X | X | X | X | | X | |
| F07 | X | | | X | | | X | | | X | | | | | | | | X | | | | X | X | X | | X | |
| F08/F11 | X | X | | X | X | | X | X | | X | | | | | | | | X | | | | X | X | X | X | X | X |

Note: Other colors available on special request. **Example: F05010112**
 An FA110 style button with a black shell, black "OUT" indicator and orange "IN" indicator.



Dimensions are shown in mm (inch)
 Dimensions subject to change