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 **Goto Electrical**

Product Overviews 2023~2024



The Company reserves the right to change the specifications without prior notice.

The S series Metal push button switches & Pilot lamps are a innovative

Vandal-proof control units & Indicator lamp.

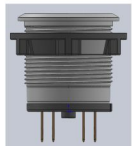
The practicability, reliability and stability of the product are considered in the design. With the development of emerging industries, for the application requirements of various special environments.

The S series control unit uses new materials and new processing technology, applied to a variety of functional components, combined with design-oriented new industrial applications, can be widely used in a variety of control panels, as well as special equipment and other industrial fields.

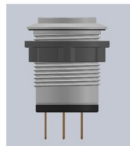
Key Feature:

- Rugged Design: Vandal-resistant to IK10, front protection up to IP68
- Compact Design: The S series is the shortest in the industry, only 16mm deep behind the panel. Reduces the size of machines and control panels
- Devices flush mounting and raised mounting are available
- A variety of diameter of mounting available.
Φ12mm, Φ16mm, Φ19mm, Φ22mm, Φ25mm, Φ30mm
- All illuminated units feature two lens styles,
one is ring, the other is lens
- PCB mount, Solder terminals or plug are available.
- The lenses can be marked by engraving and made either from plastic or metal. Specific symbols and markings are available on request.
- Full illumination of Single or Multi-LEDs are available
- Silver/Gold-plated silver contacts available for low voltages and currents
- Excellent operating feedback
- Long life > 1 million cycles of operation

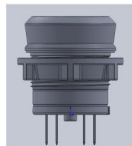
* Shape view



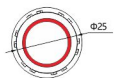
Flat style (F)



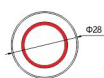
Flat/raised (R)



Raised style (E)



Flat (F)



Flat/wide-brimmed (G)*

* Only for the S22 series

□ General technical data

Standards

IEC/EN60947-5-1
GB13048.5

Environmental Conditions

Operating temperature
-25°C~+55°C(No Freezing)
Storage temperature
-40°C~+75°C(No Freezing)
Operating Humidity
40~85%RH(No condensation)
Vibration resistant:
5~55Hz, Amplitude 0.5mm
Shock resistant:
1000m/s²
Protection degree
Ip67 front side
as per EN IEC 60529

Material

Actuator & operating parts
SUS304
Aluminum anodize (Mushroom)
Zinc alloys, Iron(key switch)

Lens
PC

Switching housing

Plastic PA66/PBT

Contact

Silver / Gold-plated silver

Switching element

Action type

Momentary & Maintained

Contacts

1NO
1NC
1NO+1NC
2NO
2NC

Electrical Characteristics

Rated voltage Ui:
250V

Rated current Ith:
5A

Electric strength:
1500VAC 50Hz/60Hz 1Minutes
between all terminals and earth

Insulation Resistance:
≥100 MΩ

Contact Resistance:
< 25 mΩ

Switch rating

Silver contact	24V	110V	220V
AC-15	2A	1A	0.5A
DC-13	0.7A	0.2A	0.1A

Gold-plated Silver contact

24V	110V	220V	
AC-15	2A	1A	0.5A
DC-13	0.7A	0.2A	0.1A
5VACDC*1mA	250VAC*0.5A		

The usable range depends on the use condition and the load type

Mechanical characteristics

Actuating force

4N...7N

Actuating travel

3mm

Tightening torque

for fixing nut max.12N

Terminal

Soldering /Tab terminal 110#: 2.8x0.5mm²
PC board Terminal: 1.2x0.5mm
Quickly connector

Lifetime

Mechanical lifetime

Momentary ≥20X10⁵
Maintained ≥10X10⁵
Mixed ≥20X10⁵

Electrical lifetime

≥10×10⁴ (220V AC 0.5A)



□ Illuminated units

Front view



Lens(D)



Ring(U)



Standby(M)

LED rating

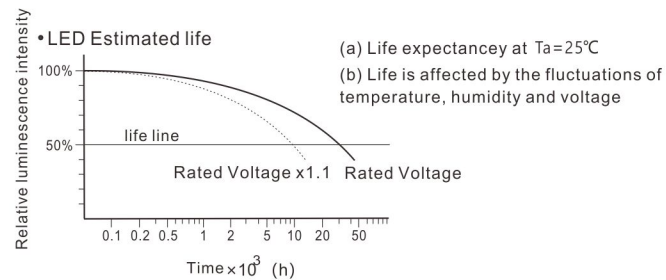
Color(Single-LED)
Red, Green, Yellow, Blue,
White, Amber

Color (Multi-LED)
Bi-color
Tri-color

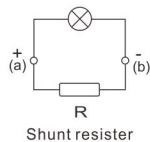
Rated Voltage	Rated Current
5V	-
12V	6.2~6.8mA
24V	7~7.5 mA
110V	1.4~1.7 mA
220V	1.2~1.7 mA
Voltage range	±10%

Light life

30000h (the brightness reduce to 50% of the initial value)



LED countermeasures against dim lighting

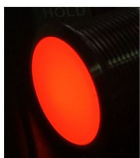


• LED dim lighting

Leakage currents through transistors or a contact protection circuit may cause the LED lamp to illuminated dimly even when the output is off

• Countermeasures

When the Light is illuminated by a transistor output, take the following measure, leakage current shunt resistor allotment table



□ Model Specification

S □ □ □ - □ □ □ □ □ □ □ □
① ② ③ ④ ⑤ ⑥ ⑦ ⑧

1. Diameter

16	Ø16mm
19	Ø19mm
22	Ø22mm
25	Ø25mm
30	Ø30mm

2. Bezel

F	Flat design
E	Raised design
G	Flat /wide-brimmed
R	Flat/Extended
FMR	Flat/Mushroom-head

3. Lens/Illumination

	Non-illuminated
U	Ring-illuminated
D	Lens-illuminated
M	Standby-illuminated
H	Lens convexe
I	Illuminated

4. Contacts

11	1NO+1NC
20	2NO
02	2NC
22	2NO+2NC

6. Switching action

	Momentary
T	Maintained

5. Function

	Pushbuttons
D	Pilot lamp
X	Selector switch
Y	Key switch
Z	Emergency switch
F	Buzzer
Fl	Buzzer with lamp

8. LED voltage

6	6V AC/DC
12	12V AC/DC
24	24V AC/DC
110	110V AC/DC
220	220V AC/DC

7. Terminal

L	Solder/Plug-in (2.8*0.5T)
S	PCB (1.2*0.5T)
M	M12 QC

9. LED Color

R	Red	B	Blue
G	Green	W	White
Y	Yellow	A	Amber



S16 Pilot lamp



16FH

- $\Phi 16\text{mm}$
- Translucent face appears gray when off, to avoid false indication from ambient light
- Si-color, Bi-color, Tri-color are available
- Models rated to IP68 and IP69K for use in harsh environments
- Multiple colors available
- Available with PNP or NPN input, depending on model

Color②

R= Red	Y= Yellow
G= Green	W= White
B= Blue	A= Amber
RG= Red/Green	RY= Red/Yellow
YG= Yellow/Green	RB= Red/Blue
GB= Green/Blue	
RGY= Red/Green/Yellow	
RGB= Red/Yellow/Blue	

Mounting dimensions and styles

16FH=16mm Flat/convexe

Voltage①

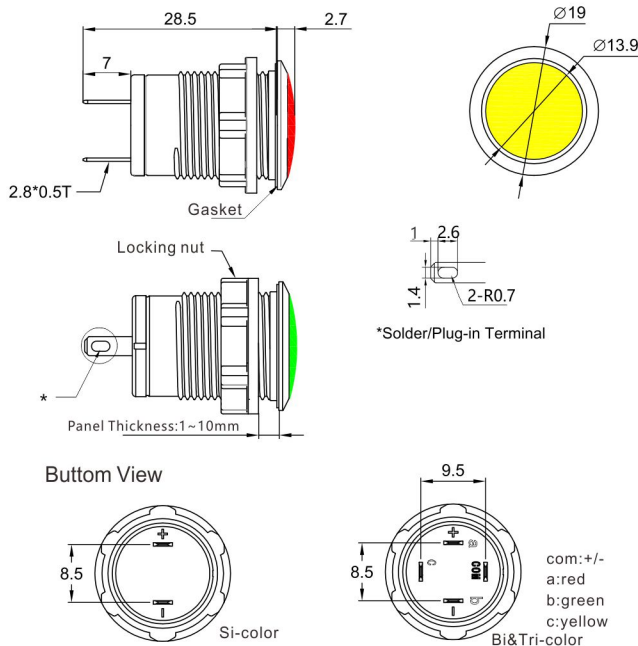
06=6VAC/DC	110=110VAC/DC
12=12VAC/DC	220=220VAV/DC
24=24VAC/DC	

Ordering code

Shape	Lens/Illumination	Terminal	Code	Note
Flat	Convexe	Sold/Plug-in	S16FH-L①②	Reference the tables ①②

PS: Except for the listed products models, Special and Customized Products are available. please consult the factory for more details.

Outline Dimensional drawing_{mm}



• Mounting Hole Layout & Mini Mounting spacing Reference P32

S16 Mushroom switches



16FMR

- $\Phi 16\text{mm}$
- Action: Momentary; Maintained
- Terminal: Solder/Plug-in 2.8*0.5
- Silver alloy/Gold plated silver alloy
- Contact : 1NO+1NC
- IP67
- IEC/EN 60947-5-1, IEC/EN 60073, IEC/EC 60529

Contact arrangement①

11=1NO+1NC

Mounting dimensions and styles

16FMR= $\Phi 16\text{mm}$ +Mushroom head

Switching action②

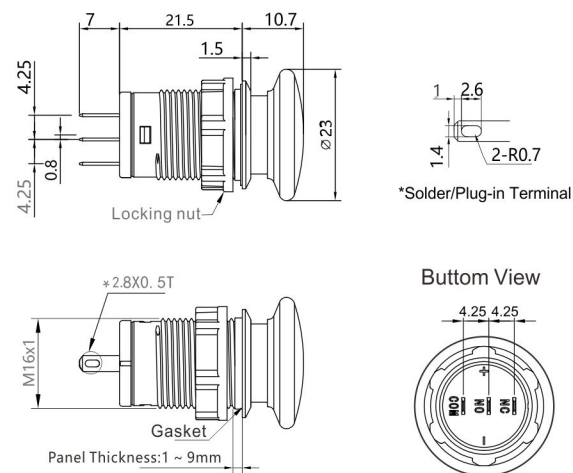
Blank =Momentary T=Maintained

Ordering code

Shape	Switching action	Contact	Code	Note
Mushroom head (FMR)	Momentary	1NO+1NC	S16FMR-11L	
	Maintained	1NO+1NC	S16FMR-11TL	

PS: Except for the listed products models, Special and Customized Products are available. please consult the factory for more details.

Outline Dimensional drawing_{mm}



- Mounting Hole Layout & Mini Mounting spacing Reference P32
- Quick connector and wire length is possible.

S16
Pushbutton

- $\Phi 16\text{mm}$
- Front Bezel : Flat, Flat/Exten, Raised
- Action: Momentary; Maintained
- Terminal: Solder/Plug-in 2.8×0.5
- Silver alloy/Gold plated silver alloy
- Contact : 1NO+1NC
- IP67
- IEC/EN 60947-5-1,
IEC/EN 60073, IEC/EC 60529

Mounting Dimensions and styles

16F=16mm +Flat
16R=16mm +Flat/Extended
16E=16mm + Raised

Contact arrangement①

11=1NO+1NC

Switching action②

Blank =Momentary T=Maintained

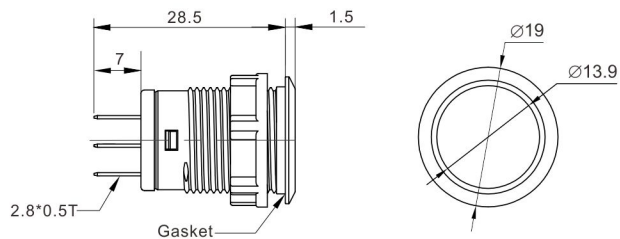
Ordering code

Shape	Switching action	Contact	Code	Note
Flat (F)	Momentary	1NO+1NC	S16F-11L	
	Maintained	1NO+1NC	S16F-11TL	
Flat/Extended (R)	Momentary	1NO+1NC	S16R-11L	
	Maintained	1NO+1NC	S16R-11TL	
Raised (E)	Momentary	1NO+1NC	S16E-11L	
	Maintained	1NO+1NC	S16E-11TL	

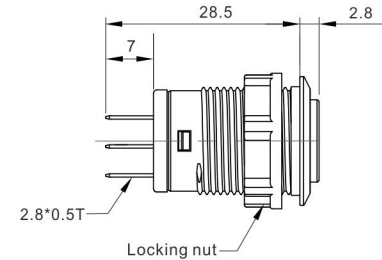
PS: Except for the listed products models, Special and Customized Products are available. please consult the factory for more details.

Outline Dimensional drawing_{mm}

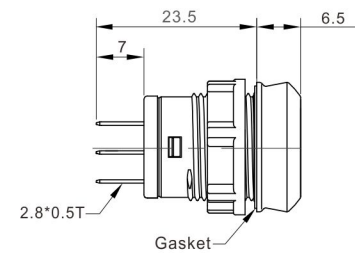
Flat Style



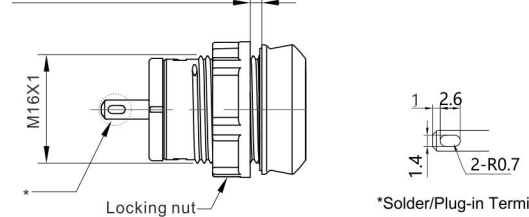
Flat/Extended style



Raised style



Panel Thickness: 1 ~ 8mm



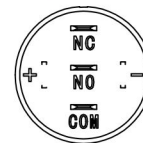
*Solder/Plug-in Terminal

(Bottom View)



Terminal Arrangement

1NO+1NC(11)



- Mounting Hole Layout & Mini Mounting spacing Reference P32
- Quick connector and wire length is possible.

S16
Illuminated Pushbutton

- Φ 16mm
- Front Bezel: Flat, Flat/Exten, Raised
- Illuminated style: Lens; Ring; Standby
- Action: Momentary; Maintained
- Terminal: Solder/Plug-in 2.8*0.5
- Silver alloy/Gold plated silver alloy
- Customised markings
- IP67
- IEC/EN 60947-5-1, IEC/EN 60073, IEC/EC 60529

Switching action

Blank = Momentary T = Maintained

Contact arrangement

11 = 1NO + 1NC

Voltage

06=6VAC/DC	110=110VAC/DC
12=12VAC/DC	220=220VAV/DC
24=24VAC/DC	

Mounting Dimensions and styles

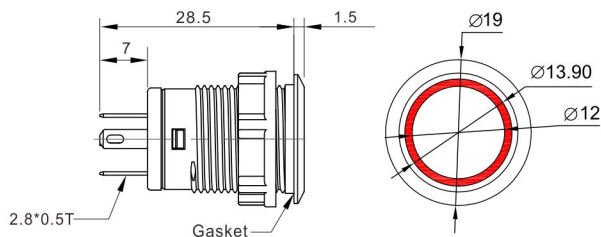
16FU=16mm+Flat+ring
 16RU=16mm +Flat/Extended+ring
 16FM=16mm+Flat+Standby
 16EU=16mm+Raised+ring
 16EM=16mm +Raised+Standby

Color

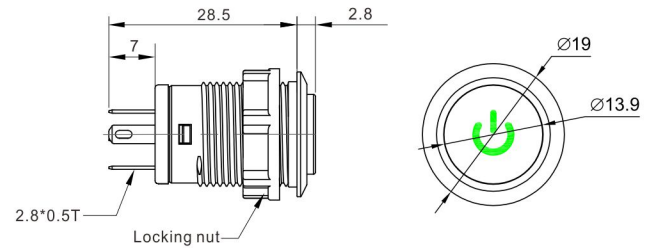
R= Red	Y= Yellow
G= Green	W= White
B= Blue	A= Amber

Outline Dimensional drawing_{mm}

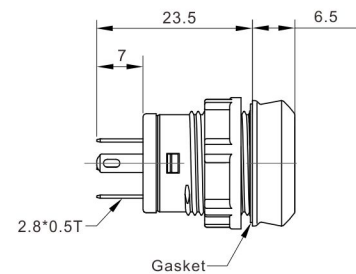
Flat Style



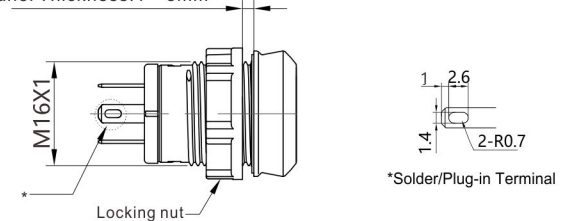
Flat/Extended style



Raised style

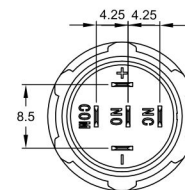


Panel Thickness: 1 ~ 8mm



*Solder/Plug-in Terminal

(Bottom View)



Terminal Arrangement

1NO+1NC(11)

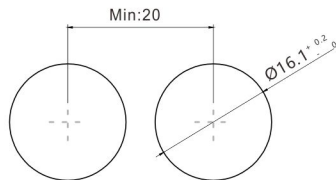


Ordering code


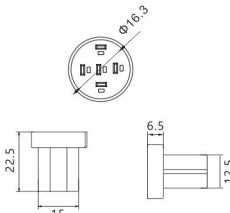
Shape	Switching action	Contact	Code	Note
Flat +Ring (FU)	Momentary	1NO+1NC	S16FU-11L①②	Color and Voltage Reference the tables ①②
	Maintained	1NO+1NC	S16FU-11TL①②	
Flat/Extended +Ring (RU)	Momentary	1NO+1NC	S16RU-11L①②	
	Maintained	1NO+1NC	S16RU-11TL①②	
Flat+Standby (FM)	Momentary	1NO+1NC	S16FM-11L①②	
	Maintained	1NO+1NC	S16FM-11TL①②	
Raised+Ring (EU)	Momentary	1NO+1NC	S16EU-11L①②	
	Maintained	1NO+1NC	S16EU-11TL①②	
Raised +Standby (EM)	Momentary	1NO+1NC	S16EM-11L①②	
	Maintained	1NO+1NC	S16EM-11TL①②	

PS: Except for the listed products models, Special and Customized Products are available. please consult the factory for more details.

Mini Mounting hole layout (mm)



Accessories

Name/Shape	Part No.	Specifications	Outline Dimensions
connector 	S16-B	<ul style="list-style-type: none"> for S16 series The length of wire are available. 	

S16
Key Switches

- $\varnothing 16\text{mm}$
- Material: SUS304
- Switch rating: 3A for 250VAC
- Contact: 1NO+1NC
- 2 Position
- IP67
- IEC/EN 60947-5-1,
IEC/EN 60073, IEC/EC 60529

Contact arrangement①

11=1NO+1NC

Switching action②

Blank =Momentary T=Maintained

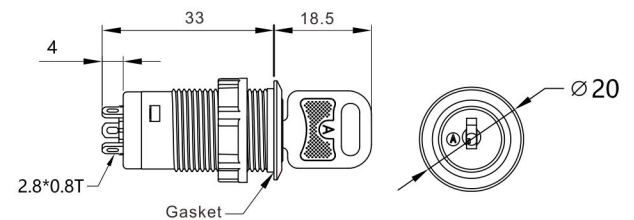
Mounting Dimensions and styles

16F= $\varnothing 16\text{mm}$ +Flat

Ordering code

Shape	Switching action	Contact	Code	Note
Flat (F)	Momentary	1NO+1NC	S16F-11Y	
	Maintained	1NO+1NC	S16F-11YT	

PS: Except for the listed products models, Special and Customized Products are available. please consult the factory for more details.

Outline Dimensional drawing_{mm}

Panel Thickness: 1 ~ 10mm

