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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.

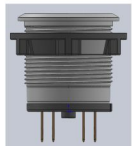
The practicability, reliability and stability of the product are considered in the design. With the development of emerging industries, for the application requirements of various special environments.

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.

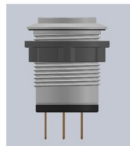
Key Feature:

- 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

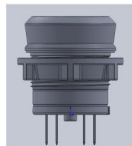
* Shape view



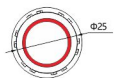
Flat style (F)



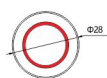
Flat/raised (R)



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
DC-13	0.7A	0.2A
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

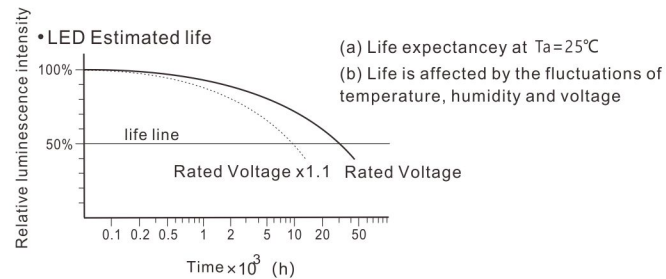
Color(Single-LED)
Red, Green, Yellow, Blue,
White, Amber

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

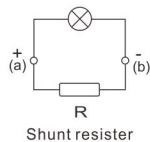
Rated Voltage	Rated Current
5V	-
12V	6.2~6.8mA
24V	7~7.5 mA
110V	1.4~1.7 mA
220V	1.2~1.7 mA
Voltage range	±10%

Light life

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



LED countermeasures against dim lighting

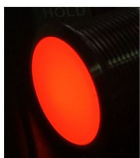


•LED dim lighting

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
FI	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



S19
Illuminated Pushbutton

- $\Phi 19\text{mm}$
- Front Bezel : Flat, Flat/Exten, Raised
- Illuminated style: Lens; Ring; Standby
- Action: Momentary; Maintained
- Terminal: Solder/Plug-in 2.8*0.5
- Gold contacts available for low-level applications
- Customised markings
- IP67
- IEC/EN 60947-5-1, IEC/EN 60073, IEC/EC 60529

Mounting Dimensions and styles

- 19FU=19mm+Flat+ring
- 19RU=19mm +Flat/Extended+ring
- 19FM=19mm+Flat+Standby
- 19EU=19mm+Raised+ring
- 19EM=19mm +Raised+Standby

Switching action

Blank =Momentary T=Maintained

Contact arrangement

11=1NO+1NC 22=2NO+2NC

Voltage①

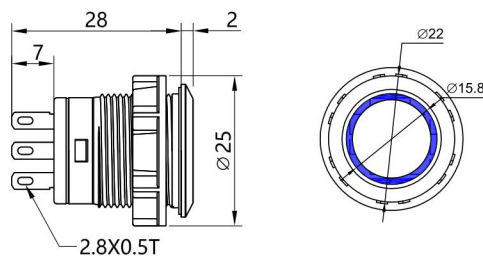
- 06 =6VAC/DC
- 12 =12VAC/DC
- 24 =24VAC/DC
- 110 =110VAC/DC
- 220=220VAV/DC

Color②

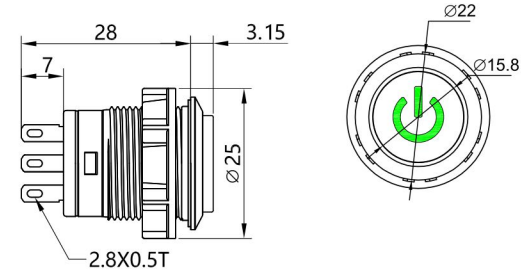
- | | |
|----------|-----------|
| R= Red | Y= Yellow |
| G= Green | W= White |
| B= Blue | A=Amber |

Outline Dimensional drawing_{mm}

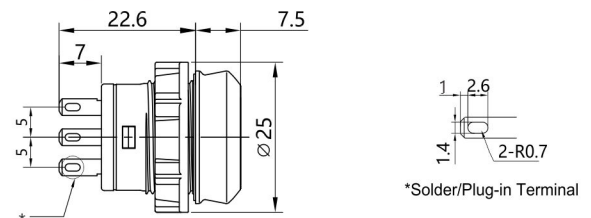
Flat Style



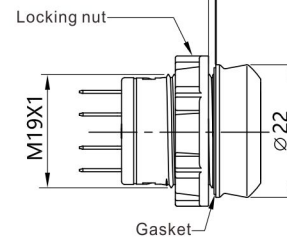
Flat/Extended style



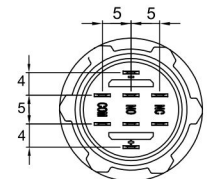
Raised style



Panel Thickness: 1 ~ 9mm

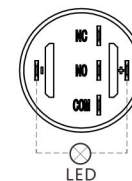


(Bottom View)

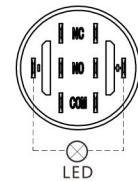


Terminal Arrangement

1NO+1NC(11)



2NO+2NC(22)



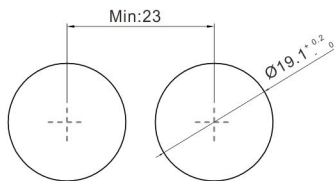
- Mounting Hole Layout & Mini Mounting spacing Reference P32
- Quick connector and wire length is possible.

Ordering code

Shape	Switching action	Code		Note
		1NO+1NC	2NO+2NC	
Flat+Ring (FU)	Momentary	S19FU-11L①②	S19FU-22L①②	Color and Voltage Reference the tables①②
	Maintained	S19FU-11TL①②	S19FU-22TL①②	
Flat/Extended +Ring (RU)	Momentary	S19RU-11L①②	S19RU-22L①②	
	Maintained	S19RU-11TL①②	S19RU-22TL①②	
Flat+Standby (FM)	Momentary	S19FM-11L①②	S19FM-22L①②	
	Maintained	S19FM-11TL①②	S19FM-22TL①②	
Raised+Ring (EU)	Momentary	S19EU-11L①②	S19EU-22L①②	
	Maintained	S19EU-11TL①②	S19EU-22TL①②	
Raised +Standby (EM)	Momentary	S19EM-11L①②	S19EM-22L①②	
	Maintained	S19EM-11TL①②	S19EM-22TL①②	


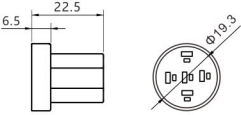
PS: Except for the listed products models, Special and Customized Products are available. please consult the factory for more details.

Mini Mounting hole layout (mm)



Note: The limit size of the shell is available.

Accessories

Name/Shape	Part No.	Specifications	Outline Dimensions
connector 	S19-B	<ul style="list-style-type: none"> for S19 series The length of wire are available. 	

S19
Key Switches

- $\Phi 19$ 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

Mounting Dimensions and styles

19F = $\Phi 19$ mm + Flat

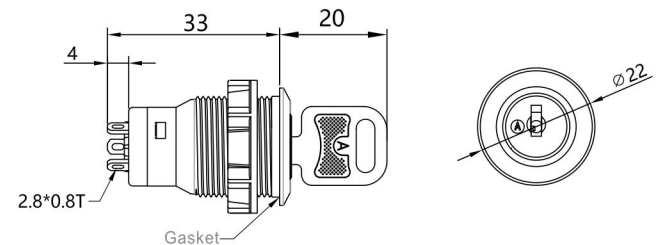
Switching action②

Blank = Momentary T = Maintained

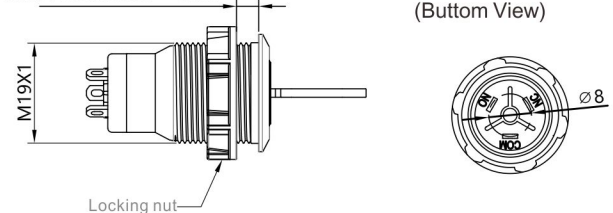
Ordering code

Shape	Switching action	Contact	Code	Note
Flat (F)	Momentary	1NO+1NC	S19F-11Y	
	Maintained	1NO+1NC	S19F-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 ~ 9mm



(Bottom View)

S22

Illuminated pushbuttons (Standby-LED symbol)



- Illuminated-Standby
- SUS316L stainless steel are available
- High resistance to vibration and impact
- Quickly connector and PCB connector are available
- Laser Markings are available for any symbol or text in any language
- High IP67/69K protection
- Oiltight model are available
- Single or bi-color LEDs available
- CE RoHS

Mounting Dimensions and styles

22FM=Φ22-Flat+Standby
22EM=Φ22-Raised+Standby
22GM=Φ22-Flat/wide-brimmed+Standby

Switching Action

Blank =Momentary T =Maintained

Contact

11=1NO+1NC 10=1NO
20=2NO 01=1NC
02=2NC

Terminal

L=Solder/Tab #110 (2.8*0.5)
S= PC Board (1.2*0.7)

Voltage①

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

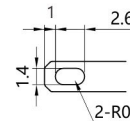
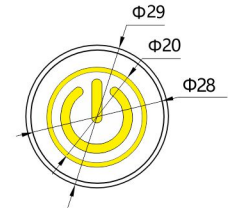
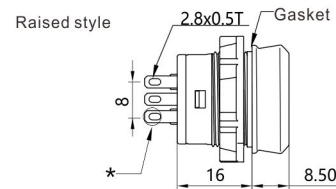
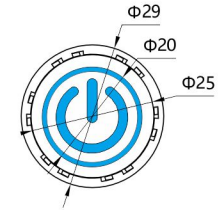
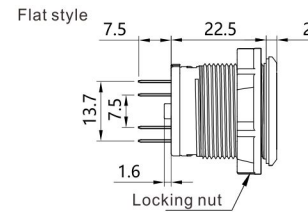
Color②

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

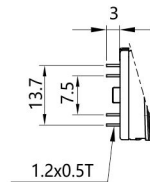
Ordering code

Shape	Switching action	Contact	Part No.	Terminal	Note
Flat+ Standby (FM)	Momentary	1NO+1NC	S22FM-11□①②	●In place of □ insert terminal as follows: L:Solder/Tab#110 S:PC Board	In place of ① insert voltage and ② Led color from tab
		2NO	S22FM-20□①②		
		2NC	S22FM-02□①②		
	Maintained	1NO+1NC	S22FM-11T□①②		
		2NO	S22FM-20T□①②		
		2NC	S22FM-02T□①②		
Raised+ Standby (EM)	Momentary	1NO+1NC	S22EM-11□①②		
		2NO	S22EM-20□①②		
		2NC	S22EM-02□①②		
	Maintained	1NO+1NC	S22EM-11T□①②		
		2NO	S22EM-20T□①②		
		2NC	S22EM-02T□①②		
Flat/wide-brimmed +Standby (GM)	Momentary	1NO+1NC	S22GM-11□①②		
		2NO	S22GM-20□①②		
		2NC	S22GM-02□①②		
	Maintained	1NO+1NC	S22GM-11T□①②		
		2NO	S22GM-20T□①②		
		2NC	S22GM-02T□①②		

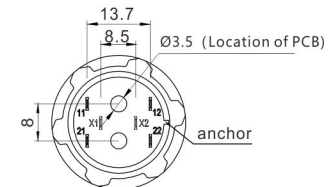
Outline Dimensional drawing_{mm}



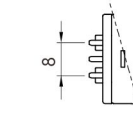
* Solder/Plug-in Terminal



Bottom View



PCB Terminal

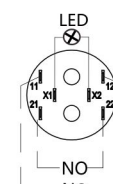


- Mounting Hole Layout & Mini Mounting spacing Reference P32
- Quick connection are available ,The wire length of quick connection on request.

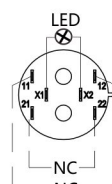
Terminal Arrangement



1NO+1NC(11)



2NO (20)



2NC(02)

S22
Illuminated Selector Switches



- Ring-illuminated
- SUS316L stainless steel are available
- High resistance to vibration and impact
- 2-position or 3 position options
- High IP67/69K protection
- Oiltight model are available
- Single or bi-color LEDs available
- Quickly connector and PCB connector are available
- TÜV CE RoHS

Mounting Dimensions and styles

- 22F=Φ22Flat+Ring
- 22E=Φ22Raised+Ring
- 22G=Φ22Flat/wide-brimmed+Ring

Switching Action

Blank =Momentary T =Maintained

Contact

- 11=1NO+1NC 10 =1NO
- 20 =2NO 01 =1NC
- 02 =2NC

Terminal□

- L=Solder/Tab #110 (2.8*0.5)
- S= PC Board (1.2*0.7)

Voltage①

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

Color②

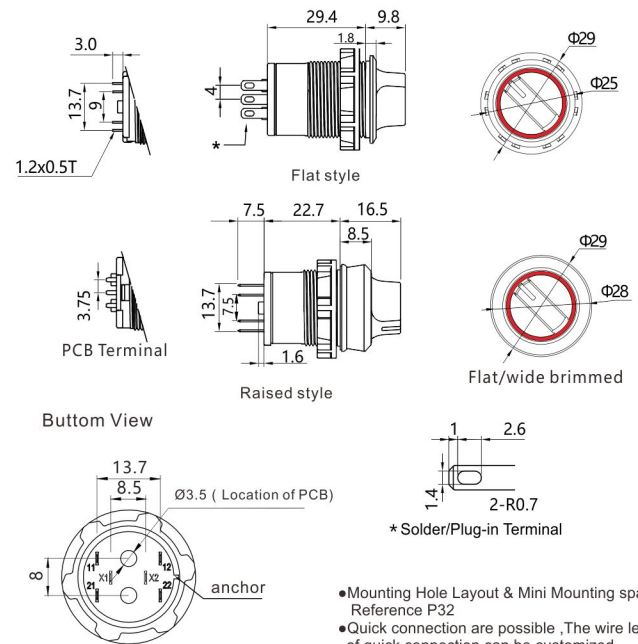
- R= Red Y= Yellow
- G= Green W= White
- B= Blue A= Amber

Ordering code

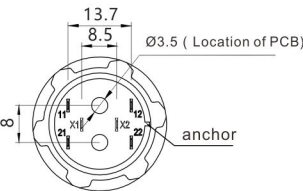
Shape	Switching Action	Contact	Part No.		Terminal
Flat+Ring (FU)	Momentary	1NO+1NC	S22FU-11X2□①②	S22FU-11X3□①②	•In place of □ insert terminal as follows: L:Solder/Tab#110 S:PC Board
		2NO	S22FU-20X2□①②	S22FU-20X3□①②	
		2NC	S22FU-02X2□①②	S22FU-02X3□①②	
	Maintained	1NO+1NC	S22FU-11X2T□①②	S22FU-11X3T□①②	
		2NO	S22FU-20X2T□①②	S22FU-20X3T□①②	
		2NC	S22FU-02X2T□①②	S22FU-02X3T□①②	
Raised+ Ring (EU)	Momentary	1NO+1NC	S22EU-11X2□①②	S22EU-11X3□①②	
		2NO	S22EU-20X2□①②	S22EU-20X3□①②	
		2NC	S22EU-02X2□①②	S22EU-02X3□①②	
	Maintained	1NO+1NC	S22EU-11X2T□①②	S22EU-11X3T□①②	
		2NO	S22EU-20X2T□①②	S22EU-20X3T□①②	
		2NC	S22EU-02X2T□①②	S22EU-02X3T□①②	
Flat/wide-brimmed +ring (GU)	Momentary	1NO+1NC	S22GU-11X2□①②	S22GU-11X3□①②	
		2NO	S22GU-20X2□①②	S22GU-20X3□①②	
		2NC	S22GU-02X2□①②	S22GU-02X3□①②	
	Maintained	1NO+1NC	S22GU-11X2T□①②	S22GU-11X3T□①②	
		2NO	S22GU-20X2T□①②	S22GU-20X3T□①②	
		2NC	S22GU-02X2T□①②	S22GU-02X3T□①②	

1. in place of ① insert voltage table
2. in place of ② insert color table

Outline Dimensional drawing mm



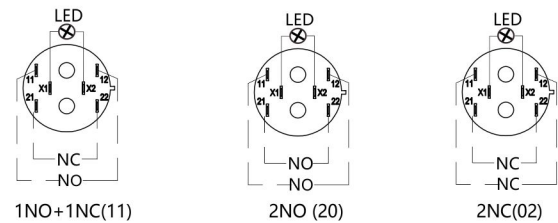
Bottom View



* Solder/Plug-in Terminal

- Mounting Hole Layout & Mini Mounting spacing Reference P32
- Quick connection are possible ,The wire length of quick connection can be customized

Terminal Arrangement



□ Operators position

Positions	code	operators style	Handles position
code X2	T	Maintained	
		Blank	
code X3	T	Maintained	
		Blank	

S22 Buzzer, Buzzer with lamp



- $\Phi 22\text{mm}$
- Housing made of SUS 304 stainless steel
- High resistance to vibration and impact
- Continuous sound and intermittent sound are available
- Illuminated Buzzer are available
- Optional 85dB / 1M

Mounting Dimensions and styles

22F= $\Phi 22$ + Flat
22E= $\Phi 22$ + Raised
22G= $\Phi 22$ + Flat/wide-brimmed

Terminal

L=Solder/Plug-in (2.8*0.5)
S=PCB (1.2*0.7)

Voltage①

12=12VAC/DC 24=24VAC/DC

LED color②

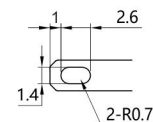
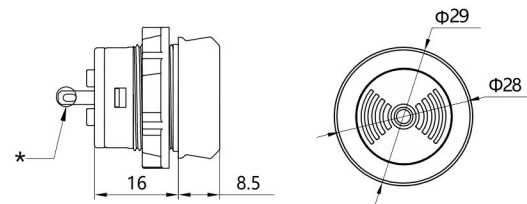
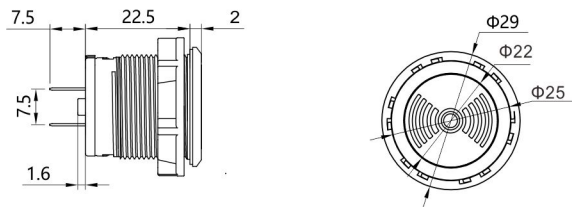
R = Red

Ordering code

Shape	LED	Part No.	Terminal	Note
Flat (F)	without LED	S224F-F□①	In place of □ insert terminal as follows:	In place of ① insert voltage from table
Raised (E)		S224E-F□①		
Flat/wide-brimmed (G)		S224G-F□①		
Flat (F)	with LED	S224F-FI□①R	L:Solder/ Tab#110 S:PC Board	
Raised(E)		S224E-FI□①R		
Flat/wide-brimmed(G)		S224G-FI□①R		

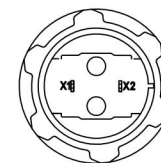
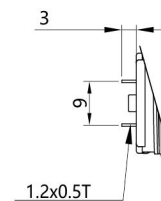
PS: Except for the listed products models, Special and Customized Products are available. please consult the factory for more details.

Outline Dimensional drawing_{mm}



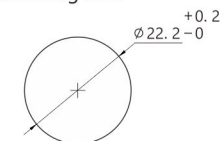
* Solder/Plug-in Terminal

Bottom View



PCB Terminal

Mounting size



* Optional limit hole

