

Operation Instructions

Read and understand these instructions before installing, operating, or maintaining the equipment.



⚠ DANGER

Hazardous voltage.
Will cause death or serious injury.
Turn off and lock out all power supplying this device before working on this device.

CAUTION

Reliable functioning of the equipment is only ensured with certified components.

Mounting

Mounting dimensions Fig. I (units:mm)

The mounting dimensions see the below table

pushbutton types	a	b
flush pushbutton	≥50	≥32
raised pushbutton		
illuminated pushbutton		
30mm mushroom actuator		
short selector switch		
key switch		
indicator		
40mm mushroom actuator	≥50	≥42
long selector switch		
E-stop		
60mm mushroom actuator		
60mm mushroom actuator	≥62	≥62

Formal dimensions Fig. II

1) The formal dimensions of pushbutton see the below table

pushbutton types	a	b
flush pushbutton	Φ29	13
raised pushbutton	Φ29	19
selector switch	Φ29	26.5
key switch	Φ29	41.1
30mm mushroom actuator	Φ30	25
40mm mushroom actuator	Φ40	25
60mm mushroom actuator	Φ60	26
pull to release E-stop	Φ40	29
30mm twist to release E-stop	Φ32	32.5
40mm twist to release E-stop	Φ40	34.2
30mm key to release E-stop	Φ32	51.5
40mm key to release E-stop	Φ40	52.5

2) The formal dimensions of indicator see Fig.III

Mounting steps Fig. IV

- Put the sealing washer on the actuator and push it to the position (close to metal component) which the Fig. show.
- Insert the actuator to the hole of front plate, then screw the installed base to the propriety position and fasten in the other side of the front plate (please do not push the pusher out of the actuator).
- Evenly screw the installed base fastening screw firmly, torque on the metal holder ≤1Nm; torque on the plastic holder ≤ 0.8Nm. the tight standard: use 30N radial strength swag the actuator, the actuator and the metal holder are not shake.
- Insert the contact module to the metal holder, and insure the hasp completely buckled. If install illumination module, buckle the illumination module in the middle of the metal holder.
- Installation test, operate the pushbutton several times without locked, or else adjust the metal holder fastening screw to even firmly.

Mounting instructions

The thickness of front plate is 1~6mm to pushbutton, and 1~7mm to indicator. Maximum 2 layers, 6 contact modules can be mounted. The 1st layer connection is finished, then install the 2nd layer contact modules. The illumination module is only installed in the middle of the 1st layer and no contact modules after the illumination module (maximum 4 contact modules are installed for the illuminated pushbutton). When connect the wire, the torque of the terminal screw is 0.8 ~ 1.0 Nm. Every buttons and selector switches have the limit operation strength, so please don't overexert which cut down the operation force life or ruin the components. Installation

angle on contact modules≤15°

Terminal connector type

Screw connection type, the Combination screw size is M3.5×6-7.8×7.8.

Conductor cross-sections

- Finely stranded cable with end sleeves: 2 x 0.5~1.5mm²
- Solid Conductor: 2 x 1~2.5mm²
- Solid Conductor with end sleeves: 2 x 0.5~0.75mm²
- Finely stranded cable with end sleeves: 2 x 1~1.5mm² (for compact variants)

Tightening torque

The metal holder ≤1Nm; The plastic holder ≤ 0.8Nm .

Tightening torque for screw on the terminal: 0.8~1.2Nm .

Mounting on XK series Enclosure/control box, PB1-F-M is recommend, mounting toeques≤ 0.3Nm.

Size of screwdriver

Philips H2 Φ6 is recommended.

Technical parameters

Ambient temperature

- In operation: -25℃~70℃.
- Storage and transportation temperature: -40℃ ~ +80℃.

Altitude

Installation Altitudes≤ 2000m.

Humidity of ambient atmosphere

If the temperature is +40℃, the ambient atmosphere humidity is less than 50%. In the lower temperature, allow the higher the ambient atmosphere humidity. In the most humid month of the year, the highest average ambient atmosphere humidity is 90%, at the same time the lowest average temperature is +25℃, must take the action when there is some dew which is produced by the temperature change .

Pollution severity, class 3

If the working voltage is greater than 500V, the contact module pollution class is 2.

Installation class

Installation class of Pushbutton is II .

Degree of protection

actuator: IP65 .

Contact module and illumination module: IP20 .

Dielectric properties

Clearance≥5.5mm, Creepage distance≥10mm.

Power-frequency withstand voltage

1890V AC effective value 50Hz · 5s.

Rated impulse withstand voltage Uimp

6000V

Illumination module EMC

EFT anti-interference ability: 2KV/5KHz, duration≥1min.

Control system-surge immunity: 2KV to GND, 1KV wire to wire, pulse intermission 1min.

Fundamental parameter

1) Ui: AC600V

2) Ith: 10A

3) Operational class: AC-15、DC-13、AC-12、DC-12

Rated operational current Ie for rated operational voltage Ue see the below table

Operational class	Ue	440V	380V	220V	110V	24V
AC-15	Ie	4A	4A	6A	6A	6A
AC-12	Ie	10A	10A	10A	10A	10A
Operational class	Ue	220V	110V	48V	24V	/
DC-13	Ie	0.4A	1.2A	4A	6A	/
DC-12	Ie	1A	3.5A	8A	10A	/

4) Color and rated voltage of the illumination module:

Red, green, yellow, blue, white

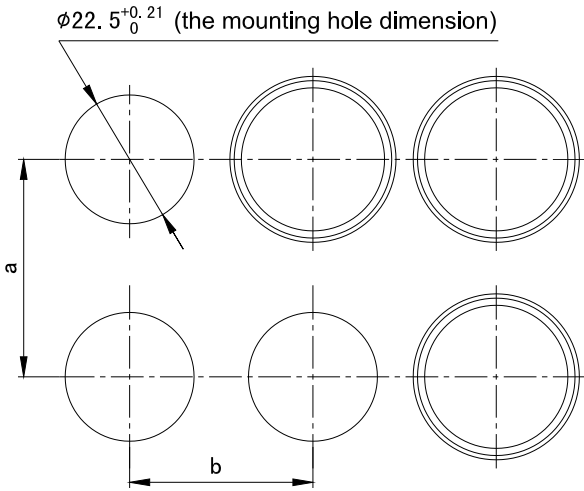
Rated voltage and current of the illumination module see the below table

电源	额定电压	额定电流	额定电压	额定电流
AC/DC	5V	≤30mA	15V	≤20mA
	6V	≤30mA	30V	≤20mA
	12V	≤30mA	36V	≤20mA
	24V	≤20mA	63V	≤20mA
	48V	≤20mA	75V	≤20mA
	110V	≤20mA	150V	≤20mA
AC	127V	≤20mA	220V	≤20mA
	220V	≤20mA	230V	≤20mA
	240V	≤20mA	250V	≤20mA
	380V	≤15mA	270V	≤15mA

5) Color and rated voltage of the indicator:
 Red, green, yellow, blue, white
 Rated voltage and current of the indicator as the below list

电源	额定电压	额定电流	额定电压	额定电流
AC/DC	5V	≤45mA	6V	≤45mA
	12V	≤45mA	15V	≤20mA
	24V	≤20mA	36V	≤20mA
	30V	≤20mA	63V	≤20mA
	48V	≤20mA	110V	≤15mA
	75V	≤20mA	150V	≤15mA
	127V	≤15mA		
AC	220V	≤20mA	230V	≤20mA
	240V	≤20mA	250V	≤20mA
	270V	≤20mA	380V	≤20mA
	440V	≤20mA		
DC	220V	≤15mA		

Fig. I



※ Lamps and LED modules are intended only for use in combination with SIEMENS commanding and signaling devices. They are not suitable for household room illumination.

Fig. II

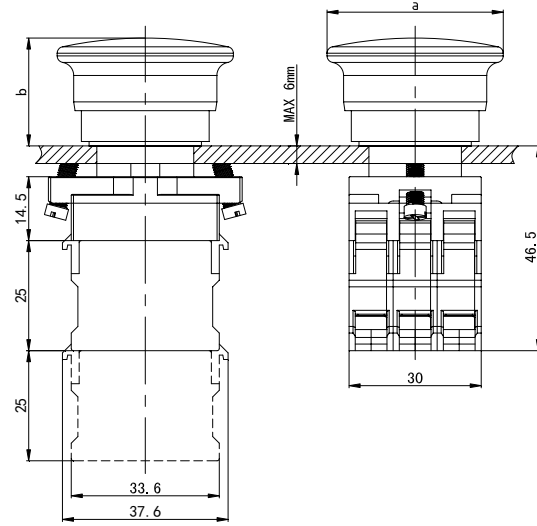
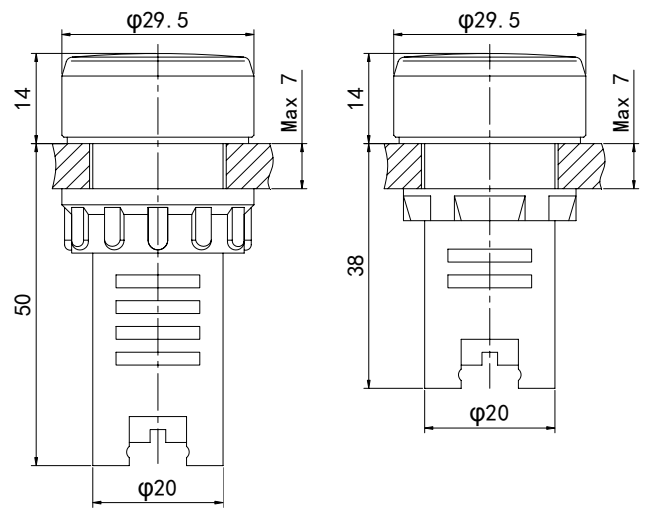


Fig. III



※ The DC220V indicator is long shell, the others are the short shell

The more parameter and accessories refer to the stylebook.

