Principle characteristics

PS470 series digital pressure relay High precision diffused silicon measuring core, full electronic structure, accurate real-time pressure measurement, and has high accuracy, good long-term stability. Simple operation, easy installation, flexible product use. The product shell is made of 304 stainless steel material, good structural stability, good shock resistance, and can measure water pressure, air pressure, oil pressure, hydraulic pressure and other non-corrosive media of stainless steel. Suitable for equipment supporting, pressure protection, constant pressure control and other pressure monitoring and protection conditions.

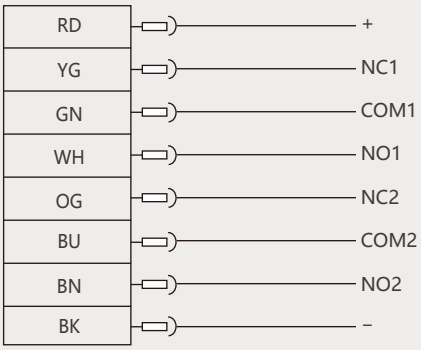
- Highlighted LED real-time pressure display
- Super resistance to overpressure design, prevent the instrument from overpressure damage
- International pressure unit conversion

Technical parameter

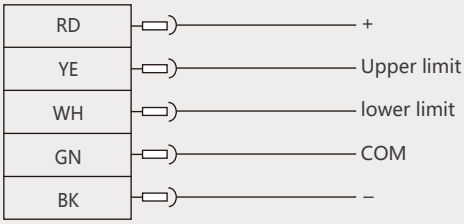
- ◇ Measuring range: -100kPa ~ 0... 0 ~ 5kPa... 100MPa
- ◇ Accuracy level: 1% (default), 0.5%
- ◇ Power supply voltage: 24VDC/220VAC optional
- ◇ Pressure type: gauge pressure (default), absolute pressure, negative pressure
- ◇ Display mode: 4-digit LED display
- ◇ Display range: -1999 ~ 9999
- ◇ Sampling frequency: 10ms
- ◇ Operating temperature: -20 ~ 70℃
- ◇ Long-term stability: ±0.2%FS/ year
- ◇ Material:
  ABS shell,
  304 stainless steel joint,
  316L stainless steel isolation diaphragm

Wiring diagram

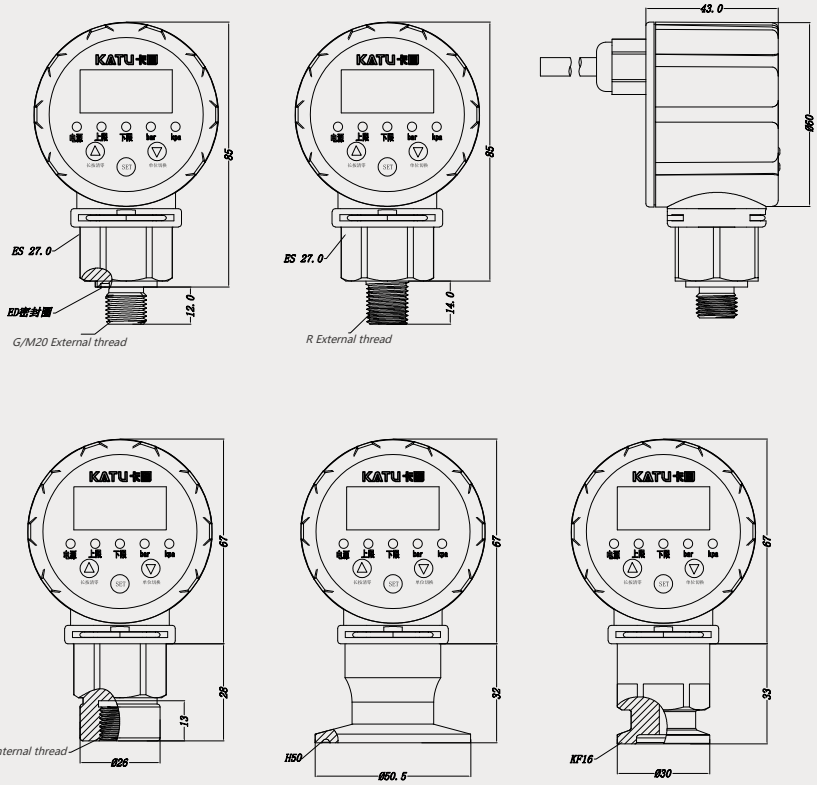
Double relay connection



Relay connection



Dimension drawing (mm)



Thread		Thread height(H)	Seal
External thread	G1/4	12	ED Seal
	G1/2	12	
	M20*1.5	12	
	R1/4	14	NO
	R1/2	14	
Internal thread	R1/4	13	
	G1/4	13	

Range code

Standard range	Gauge pressure code	Absolute pressure code
0...50mbar	B005	A005
0...100mbar	B01	A01
0...350mbar	B035	A035
0...600mbar	B06	A06
0...1bar	B1	A1
0...2bar	B2	A2
0...6bar	B6	A6
0...10bar	B10	A10
0...25bar	B25	A25

Standard range	Gauge pressure code
0...60bar	B60
0...100bar	B100
0...160bat	B160
0...250bar	B250
0...400bar	B400
0...600bar	B600
0...1000bar	B1000

Standard range	Range code
-10...10KPa	F10
-50...50KPa	F50
-100...100KPa	F100
-100...0KPa	F110
-100...500KPa	F150
-100...900KPa	F190

Selection list

PS470-	D	DC	B	M20M	-	Elaborate
PS470-						PS470 digital pressure relay
	D					Output mode: Single relay (5-core wire)
	S					Output mode: Dual relays (8-core wire)
		DC				Power supply mode: 24 VDC direct current
		AC				Power supply mode: 220 VAC alternating current
			-			See the range table
				M20M		Process connection: M20*1.5 external thread (default installation thread)
				G14M		Process connection: G1/4 external thread
				G12M		Process connection: G1/2 external thread
				R14M		Process connection: R1/4 external thread
				R12M		Process connection: R1/2 external thread
				R14K		Process connection: R1/4 internal thread
				G14K		Process connection: G1/4 internal thread
				KP50		Process connection: 1.5-inch (outer diameter 50.5mm) metal flat film type chuck (standard pressure resistance 1.6MPa)
				KF16		Process connection: KF16 vacuum chuck type
					-	Measurement accuracy: 1% (factory default)
					05	Measurement accuracy: 0.5%

Ceramic pressure relay PS470A

Principle characteristics

The PS470A series ceramic pressure relay features a high-precision measurement core, an all-electronic structure, capable of accurately and in real time measuring pressure. It also boasts high precision and excellent long-term stability. The operation is simple, installation is convenient and the product is flexible to use. The product shell is made of ABS material, featuring excellent structural stability and shock resistance. It can measure water pressure, air pressure, oil pressure, hydraulic pressure and other media that do not corrode stainless steel. It is applicable to various pressure monitoring and protection working conditions such as equipment matching, pressure protection, and constant pressure control.

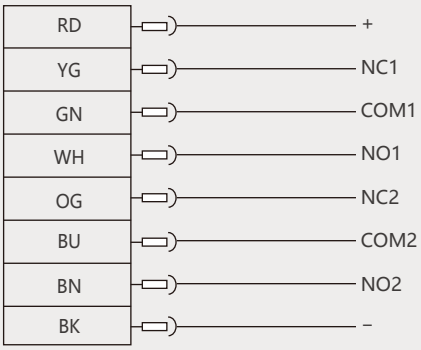
- High-brightness LED real- time pressure display
- Super strong overvoltage resistance design to prevent the instrument from being damaged due to overvoltage
- Conversion of internationally recognized pressure units

Technical parameter

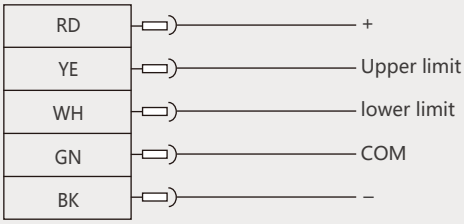
◇ Measuring range: See the range table	◇ Sampling frequency: 10ms
◇ Accuracy level: 0.5%	◇ Operating temperature: -20 ~ 70℃
◇ Power supply voltage: 24VDC/220VAC optional	◇ Long-term stability: ±0.2%FS/ year
◇ Pressure type: gauge pressure (default),	◇ Material:
absolute pressure, negative pressure	ABS shell,
◇ Display mode: 4-digit LED display	304 stainless steel joint,
◇ Display range: -1999 ~ 9999	316L stainless steel isolation diaphragm

Wiring diagram

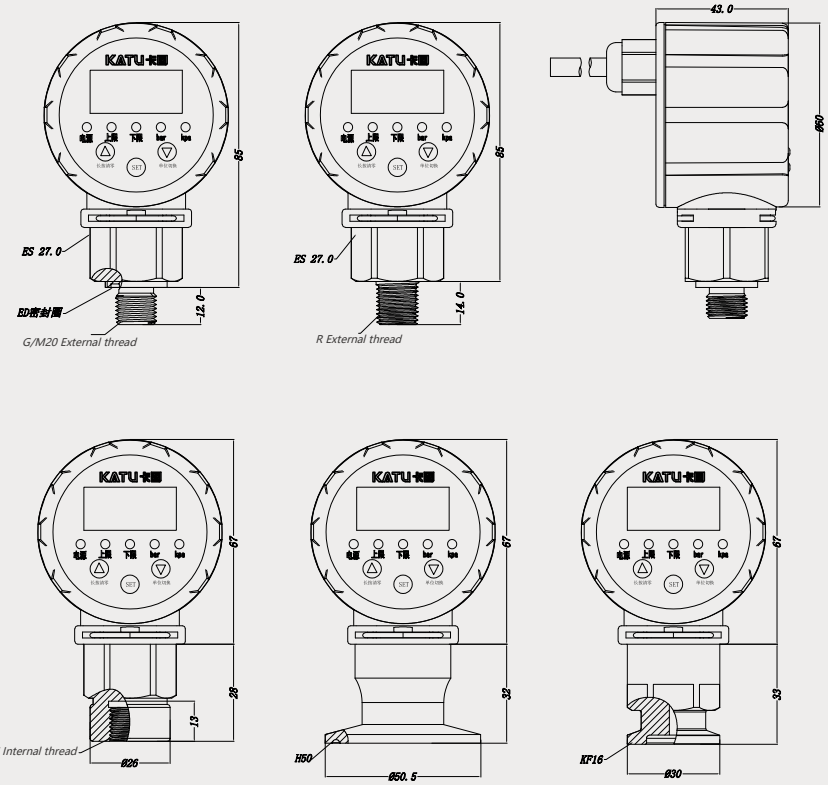
Double relay connection



Relay connection



Dimension drawing (mm)



Thread		Thread height(H)	Seal
External thread	G1/4	12	ED Seal
	G1/2	12	
	M20*1.5	12	
	R1/4	14	NO
	R1/2	14	
Internal thread	R1/4	13	
	G1/4	13	

Range code

Standard range	Gauge pressure code	Absolute pressure code
0...50mbar	B005	A005
0...100mbar	B01	A01
0...350mbar	B035	A035
0...600mbar	B06	A06
0...1bar	B1	A1
0...2bar	B2	A2
0...6bar	B6	A6
0...10bar	B10	A10
0...25bar	B25	A25

Standard range	Gauge pressure code
0...60bar	B60
0...100bar	B100
0...160bat	B160
0...200bar	B200

Selection list

PS470A-	D	DC	B	M20M	Elaborate
PS470A-					PS470A Ceramic type pressure relay
	D				Output mode: Single relay (5-core wire)
	S				Output mode: Dual relays (8-core wire)
		DC			Power supply mode: 24 VDC Direct current
		AC			Power supply mode: 220 VAC Alternating current
			-		See the range table
				M20M	Process connection: M20*1.5 external thread (default installation thread)
				G14M	Process connection: G1/4 external thread
				G12M	Process connection: G1/2 external thread
				R14M	Process connection: R1/4 external thread
				R12M	Process connection: R1/2 external thread
				R14K	Process connection: R1/4 internal thread
				G14K	Process connection: G1/4 internal thread
				KP50	Process connection: 1.5-inch (outer diameter 50.5mm) metal flat film type chuck (standard pressure resistance 1.6MPa)
				KF16	Process connection: KF16 vacuum chuck type

Principle characteristics

The PS470B series digital strain gauge pressure relay features a high-precision measurement core, an all-electronic structure that can accurately measure pressure in real time. It also has the characteristics of high precision and good long-term stability. The operation is simple, installation is convenient and the product is flexible to use. The product shell is made of 304 stainless steel, featuring excellent structural stability and shock resistance. It can measure water pressure, air pressure, oil pressure, hydraulic pressure and other media that do not corrode stainless steel. It is applicable to various pressure monitoring and protection working conditions such as equipment matching, pressure protection, and constant pressure control.

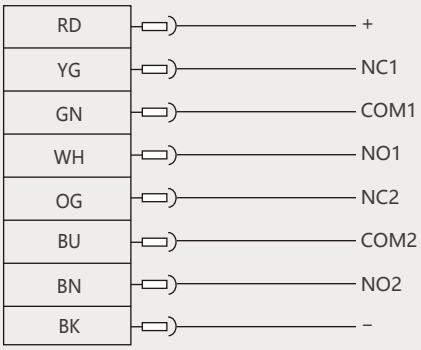
- Highlighted LED real-time pressure display
- Super resistance to overpressure design, prevent the instrument from overpressure damage
- International pressure unit conversion

Technical parameter

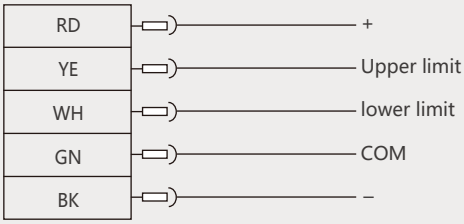
- ◇ Measuring range: See the selection table
- ◇ Accuracy level: 0.5%
- ◇ Power supply voltage: 24VDC/220VAC optional
- ◇ Pressure type: gauge pressure (default), absolute pressure, negative pressure
- ◇ Display mode: 4-digit LED display
- ◇ Display range: -1999 ~ 9999
- ◇ Sampling frequency: 10ms
- ◇ Operating temperature: -20 ~ 70℃
- ◇ Long-term stability: ±0.2%FS/ year
- ◇ Material: ABS shell, 304 stainless steel joint, 316L stainless steel isolation diaphragm

Wiring diagram

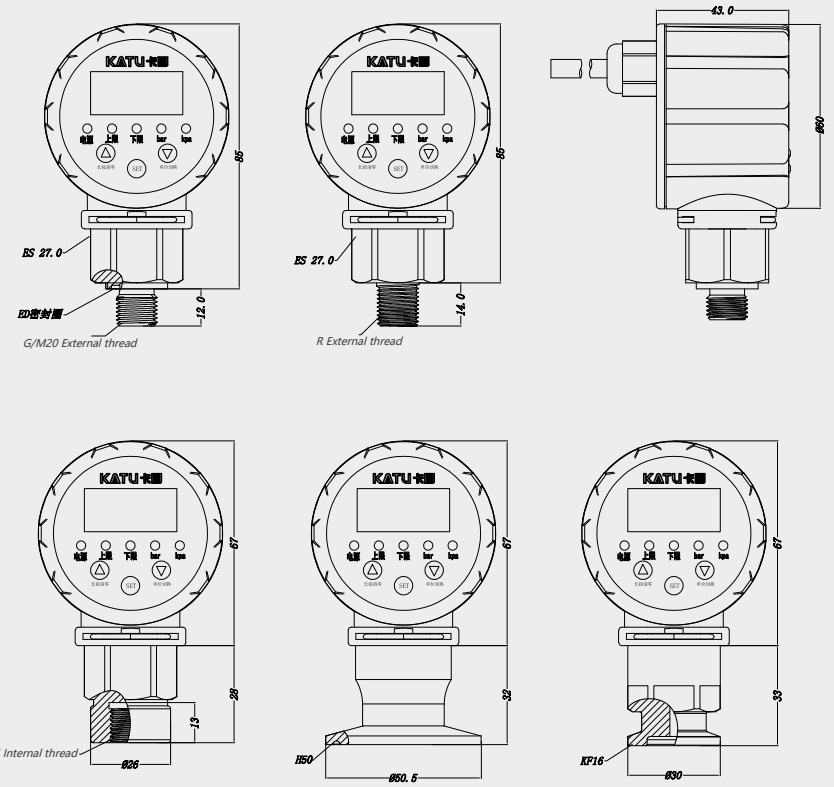
Double relay connection



Relay connection



Dimension drawing (mm)



Thread		Thread height(H)	Seal
External thread	G1/4	12	ED Seal
	G1/2	12	
	M20*1.5	12	
	R1/4	14	NO
	R1/2	14	
Internal thread	R1/4	13	
	G1/4	13	

Range code

Pressure range	bar	100	160	250	400	600	1000	1500	2000
	psi	1500	2300	3600	6000	9000	14500	21800	29000
Max overload pressure		×2		×1.5		×1.3	×1.2		
Min damage pressure		×3		×2		×1.6	×1.5		

Selection list

PS470B-	D	DC	B100	M20M	Elaborate
PS470B-					PS470B strain pressure relay
	D				Output mode: Single relay (5-core wire)
	S				Output mode: Dual relays (8-core wire)
		DC			Power supply mode: 24 VDC direct current
		AC			Power supply mode: 220 VAC alternating current
			B100		Measurement range: 0... 100bar
			B160		Measurement range: 0... 160bar
			B250		Measurement range: 0... 250bar
			B400		Measurement range: 0... 400bar
			B600		Measurement range: 0... 600bar
			B1000		Measurement range: 0... 1000bar
			B1500		Measurement range: 0... 1500bar
			B2000		Measurement range: 0... 2000bar
				M20M	Process connection: M20*1.5 external thread (default installation thread)
				G14M	Process connection: G1/4 external thread
				G12M	Process connection: G1/2 external thread
				R14M	Process connection: R1/4 external thread
				R12M	Process connection: R1/2 external thread
				R14K	Process connection: R1/4 internal thread
				G14K	Process connection: G1/4 internal thread
				KP50	Process connection: 1.5-inch (outer diameter 50.5mm) metal flat film type chuck (standard pressure resistance 1.6MPa)
				KF16	Process connection: KF16 vacuum chuck type

Sensor and controller

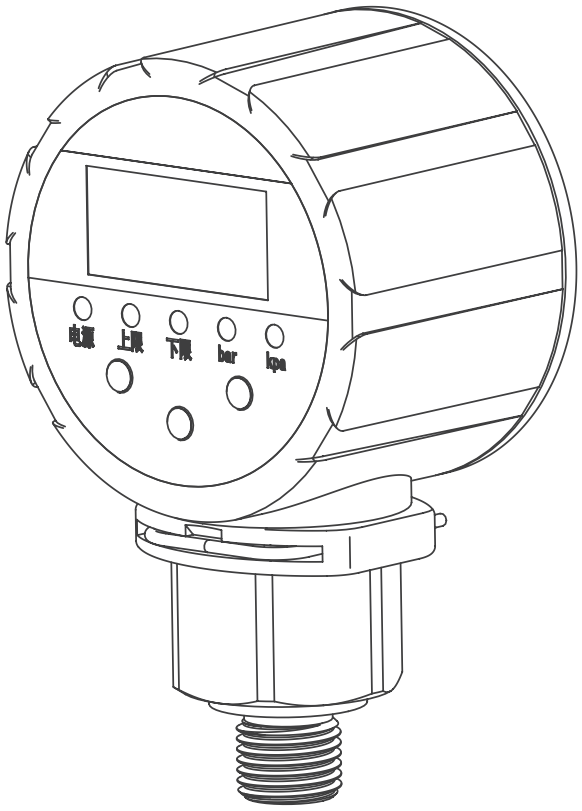
■ Flow ■ pressure ■ temperature ■ level ■ position

KATU 卡图

Operation instruction

Digital pressure relay

PS470 series



Purpose of product application

The 500 Series sensor (switch) has two switch outputs and one analog output.

danger

The sensor (switch) can only be used in the specified application range.
The temperature range must be within the permissible range. Do not exceed the rated pressure and power load value.
Assembly, commissioning and operation must be carried out in accordance with applicable national and local safety instructions.
The switch is designed to be used as a safety device for pressurizing the system in accordance with "Pressure Equipment Directive 97/23 / EC(PED)".

Standard

The standards applied during development, manufacturing and configuration are listed in the CE Compliance and manufacturer declarations.

Quality assurance

Our scope of delivery and service is subject to legal warranties and warranty periods.

Warranty clause

We guarantee that the functions and materials of the dual pressure switch meet the statutory requirements under normal operation and maintenance conditions.

Security of loss

Such as:

- Incorrect use,
- Incorrect installation
- Incorrect operation or operation in violation of the provisions of this operation manual.

No liability shall be assumed for any damage resulting therefrom or consequential.

Safety instruction

Safety instructions are intended to protect users from dangerous situations and /or prevent material damage.
In the operating instructions, the severity of the potential risk can be indicated by the following signal words:

danger

An imminent danger to the user. Failure to comply may result in fatal injury.

warning

An identifiable hazard.

Failure to comply may result in fatal injury and damage to equipment or plant parts.

caution

It means a danger.

Non-compliance may result in minor injury and material damage to the sensor (switch) and/or plant.

important

Information that is important to the user.

Deal with

Sensors (switches) must be handled correctly in accordance with national or local regulations for electrical/electronic equipment.

Sensors (switches) cannot be disposed of with household waste!

Principle characteristics

The PS470 series digital pressure relay is of all-electronic structure, capable of accurately measuring pressure in real time, and features high precision and good long-term stability. The operation is simple, installation is convenient, and the product is flexible to use. The product shell is made of ABS material, featuring excellent structural stability and shock resistance. It can measure water pressure, air pressure, oil pressure, and other media that do not corrode stainless steel. It is applicable to various pressure monitoring and protection working conditions such as equipment matching, pressure protection, and constant pressure control.

- High-brightness LED real-time pressure display
- Super strong overpressure resistance design to prevent the instrument from being damaged by overpressure
- Conversion of internationally recognized pressure units

Technical parameter

◇ Measurement range: For details, please refer to the product label

◇ Accuracy class: 0.5 grade (default), 0.25 grade

◇ Power supply voltage: 24VDC/220VAC is selectable

◇ Pressure types: Gauge pressure (default), absolute pressure, negative pressure

◇ Display mode: 4-digit LED display

◇ Display range: -1999 to 9999

◇ Sampling frequency: 10ms

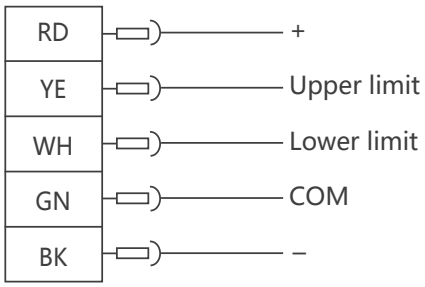
◇ Operating temperature: -20 to 70℃

◇ Long-term stability: ±0.2%FS/ year

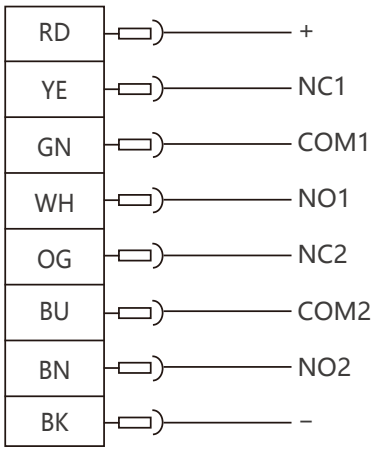
◇ Product material: ABS shell, 304 stainless steel joint,
316L stainless steel isolation diaphragm

Connection mode

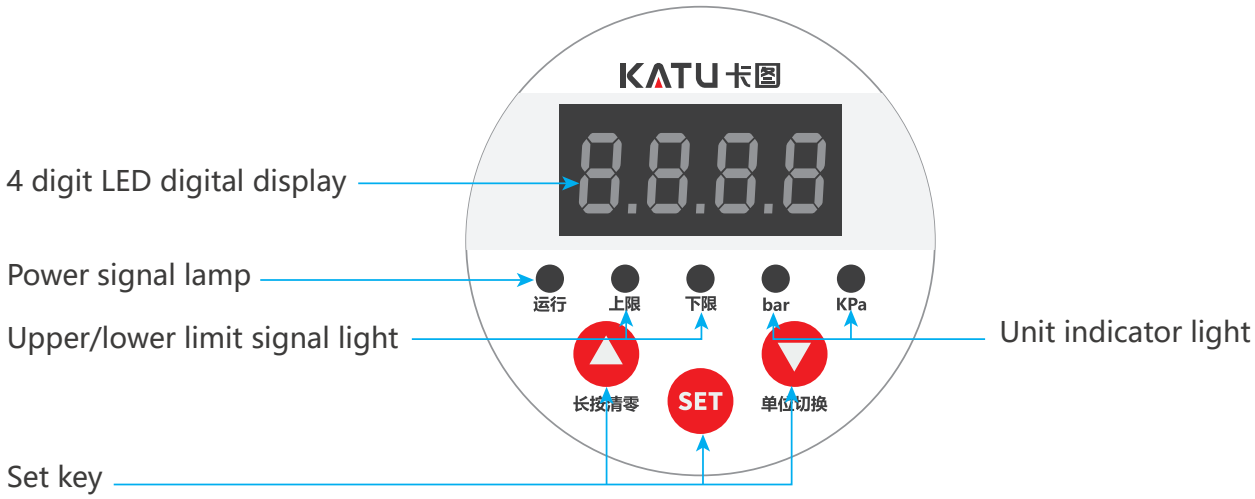
Single relay



Double relay



Panel description

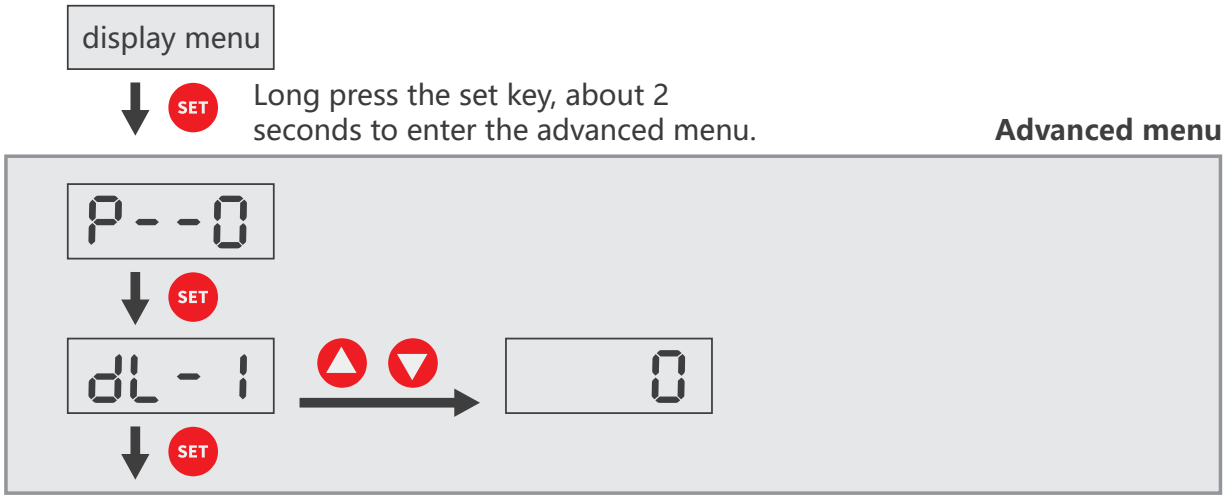


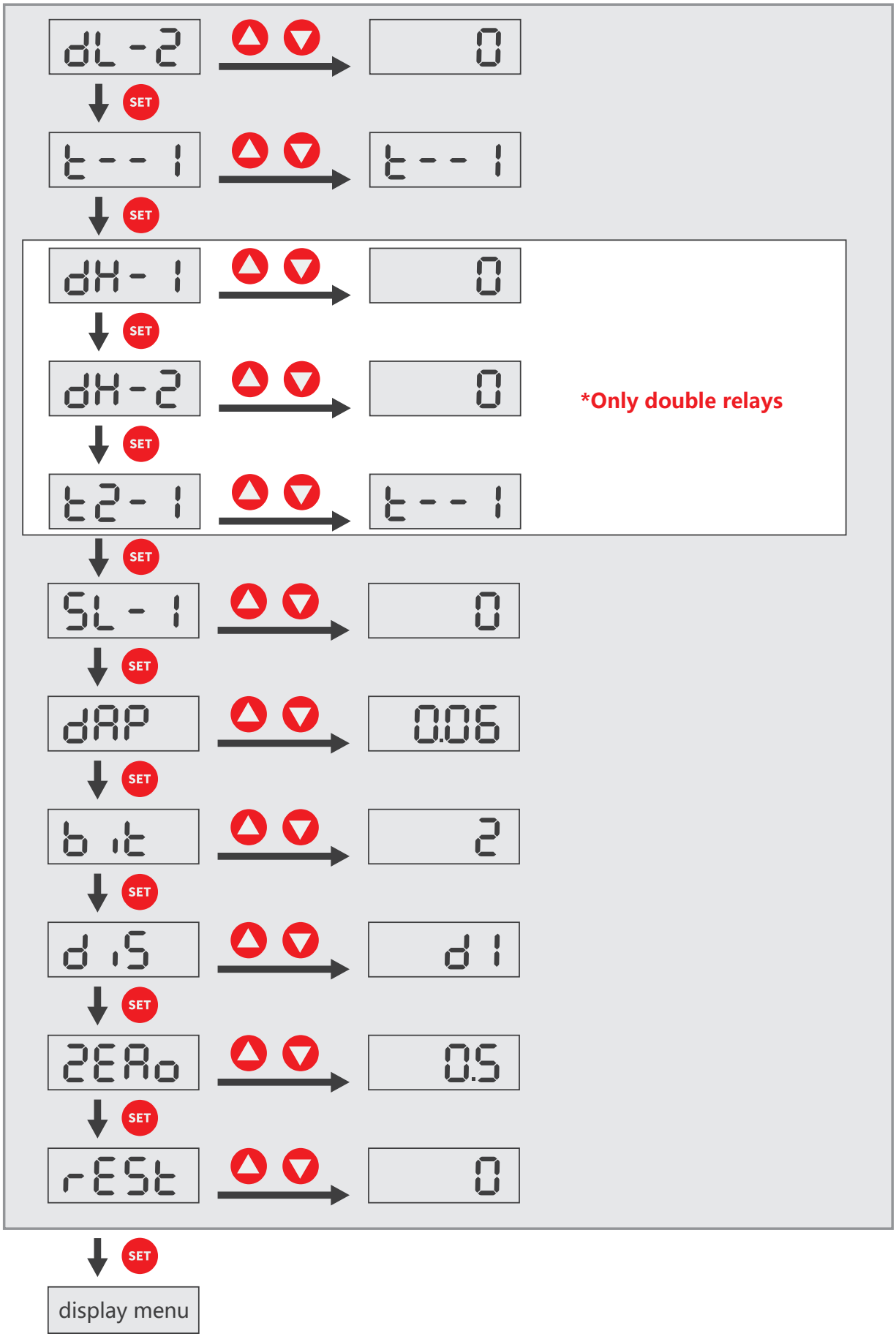
Unit switching	When the operation is off, press and hold ▼ for about 1 second to switch.
Pressure clearing	When the operation is off, press and hold ▲ for about 2 seconds to reset the pressure to zero (* Operate under zero pressure).
Relay Set the lower limit /upper limit	**Lower limit setting** When the operation is off, press the SET key briefly. The screen will flash and the lower limit signal light will come on. You can SET the lower limit value through ▲ or ▼. After setting is completed, press the SET key briefly. The setting of the lower limit is subject to the upper limit.
	Upper limit setting: When the operation is off, briefly press the SET key. The screen will flash until the upper limit signal light is on. You can SET the upper limit value through ▲ or ▼. After setting is completed, briefly press the SET key.
	Lower limit 2 setting: (* Only dual relays) When the operation is off, press the SET key briefly. The screen will flash and the lower limit signal light will come on. You can SET the lower limit value through ▲ or ▼. After setting is completed, press the SET key briefly. The setting of the lower limit is subject to the upper limit.
	Upper limit 2 setting: (* Only dual relays) When the operation is off, briefly press the SET key. The screen will flash until the upper limit signal light is on. You can SET the upper limit value through ▲ or ▼. After setting is completed, briefly press the SET key.
Advanced Menu	When the running state is off, press and hold the SET key for about 2 seconds to enter the advanced menu.

Debugging/Operation (relay)

Advanced Menu		
P--1	To disable the running key password lock :0 is the disabled lock. Change it to a non-0 value to enable the lock. The password is the modified value (/ If you forget the password, press ↓ to change the value. 9999 is the universal password).	
dL-1	Lower limit delay (After being turned on, the relay delays for dL-1 time before closing) (Default: 0 seconds)	
	Press the ▲ or ▼ key briefly to enter and display the previously set delay time, which can be set from 0 to 999 seconds	
dL-2	Upper limit delay (After being turned on, the relay delays for dL-2 time before disconnecting) (Default: 0 seconds)	
	Press the ▲ or ▼ key briefly to enter and display the previously set delay time, which can be set from 0 to 999 seconds	
t--1	Reverse control (when activated, the relay's low voltage is open and high voltage is closed) Default off (default t--1) t--1: Start at low voltage and stop at high voltage; t--0: Start with high voltage and stop with low voltage; FNO: window is always open; HNC: window is always closed.	
	Press the ▲ or ▼ keys briefly to switch	
dH-1	Lower limit delay (After being turned on, the relay delays for dH-1 time before closing) (Default: 0 seconds)	Only double relays Channel
	Press the ▲ or ▼ key briefly to enter and display the previously set delay time, which can be set from 0 to 999 seconds	
dH-2	Upper limit delay (After being turned on, the relay delays dH-2 time before disconnecting) (Default: 0 seconds)	
	Press the ▲ or ▼ key briefly to enter and display the previously set delay time, which can be set from 0 to 999 seconds	
t2-1	Reverse control (when activated, the relay's low voltage is open and high voltage is closed) Default off (default t--1) t--1: Start at low voltage and stop at high voltage; t--0: Start with high voltage and stop with low voltage; FNO: window is always open; HNC: window is always closed.	
	Press the ▲ or ▼ keys briefly to switch	

sL-1	Intelligent pressure detection (default 0 indicates off) E--1: When the pressure exceeds the preset time but has not yet reached the upper limit, the relay disconnects and displays E--1. LLLL: If the pressure exceeds the preset time and has not yet reached the under-voltage protection value, the relay will disconnect and display LLLL. HHHH: The current pressure exceeds the product's range. (This code may also be displayed if the sensor is damaged.
	Press the ▲ or ▼ key briefly to enter, and the previous Settings will be displayed. It takes 0 to 999 seconds to set
dap	Signal damping (The smaller the number, the faster the response) (Default 0.06)
	Press the ▲ or ▼ key briefly to enter, and the previously set delay time will be displayed. The setting range is 0.01-2.00
bit	The number of decimal points (the number after the decimal point can be selected from 0 to 2 (Note: Actual number is subject to selection))
	Press the ▲ or ▼ key briefly to enter, and then modify it through ▲ or ▼
dis	Display screen refresh rate (d1:100ms; d2:500ms d3:1000ms (default d1)
	Press the ▲ or ▼ key briefly to enter, and then modify it through ▲ or ▼
zero	Zero cut-off value (reset to zero when the value is less than the set value) (Default 0.5 (range 0.5%))
	Press the ▲ or ▼ key briefly to enter, and then cut through the zero position of ▲ or ▼
rest	Restore factory Settings (Automatically restore factory Settings after entering the password 0123)
	Press the ▲ or ▼ key briefly to enter, and then use ▲ or ▼ to modify the value to 0123




dL-2
0
SET
t--1
t--1
SET
dH-1
0
SET
dH-2
0
*Only double relays
SET
t2-1
t--1
SET
SL-1
0
SET
dAP
0.06
SET
bit
2
SET
dis
d1
SET
2EAo
0.5
SET
rESt
0
SET
display menu

Maintenance/cleaning

Sensors (switches) do not require maintenance.

warning

Periodically check whether the switch is working properly.

If the switch does not work properly, stop the operation immediately.

caution

Use of improper cleaning agent may damage the switch.
The following cleaning agents can be used to clean polycarbonate: mild soap or detergent Isopropyl alcohol
Immediately after cleaning, rinse with water. Do not leave cleaner on the surface of the product. Do not clean products in high heat or direct sunlight.
The following cleaning agents are known to affect the integrity of polycarbonate components and should not be used: ZEP Fast 505, Pinesol, Formula 409
Halogenated solvents (benzene, gasoline, acetone or carbon tetrachloride)
Strong alkalinity
Methyl ethyl ketone
Abrasive substance

disassemble

danger

Only remove the switch in case of power failure (electrical, hydraulic/pneumatic).

Switch disconnection from pressure and power supply must be performed by trained or directed personnel in accordance with the most advanced standards.

warning

Be aware that the surface of the shell may become very hot if the operating temperature is higher!

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