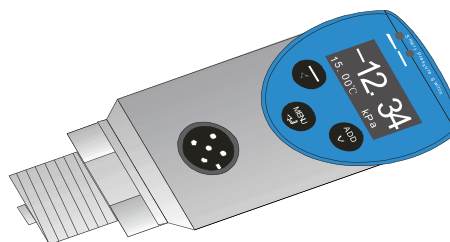


SPS

## SPS Smart Electronic Pressure Switch



**SPS-electronic pressure switch , transmitter and display in one device.**

SPS pressure switch is designed for pressure monitoring and measurement in liquid and gaseous media. The SPS is suited for general industrial applications such as mechanical manufacturing, machine tool systems, hydraulic and pneumatic systems, pressure monitoring and

control, pumps and compressors. It is pressure switch, transmitter and display in one device. In its standard configuration it has optional two switching outputs (PNP or NPN), an analog output signal (0...20mA | 4...20 mA or 0...5V | 0...10 V) as well as with RS485 Link.

### Product features:

- Gas and liquid pressure measurement
- PNP switching, voltage and current outputs
- Switching points settable
- Switching can be set normally open / normally closed
- Supporting switching delay
- Various analog output ways available
- Displaying pressure peak value and environment temperature
- Analog output span settable
- High light switch indicating
- OLED self-luminous display
- Display reversing 180°
- Housing with electrical connection against process connection rotatable 330°
- Industrial touch button
- Various display pressure units
- Parameters setting up for password protection
- Support Modbus communication

The pressure switch SPS takes the high integrated ARM industrial-grade MCU as the core. And by combining high-precision AD switch, high stable pressure sensor and carefully adjustment, the SPS ensures fast-speed and precise pressure measurement and switch movement. The setup using the three big back-lighted buttons and the display on machine make it very easy for on-site parameters setting.

There is a large number of measurement ranges available from a smallest measurement range of -0.1...0.1MPa to 60MPa. In addition, the SPS offers absolute, gage and negative ranges. The zero point can be adjusted by buttons. The SPS has a circularly welded stainless steel membrane without internal sealing elements, thus it is well suited for a large variety even of corrosive media. And there are various optional processing connectors.

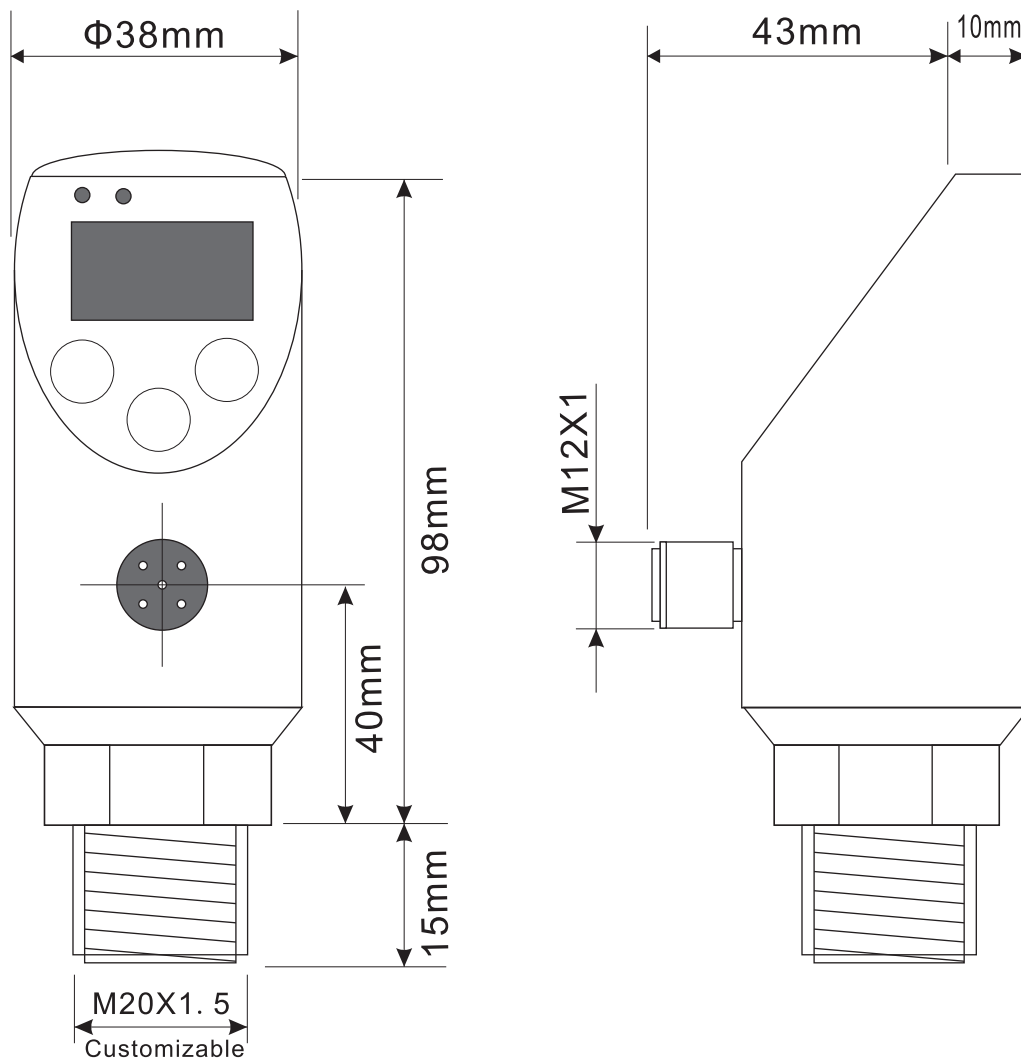
Supporting standard MODBUS, the SPS provides possibility of remote data collection and parameters setting, free customers from buying extra communication adapters. For electrical connection the SPS has an M12x1 connector.

The SPS is compactly designed, housing with electrical connection against processing connection rotatable 330°, display against housing turnable 180°, making it very easy for on-site installation and monitoring.

## Technical parameters:

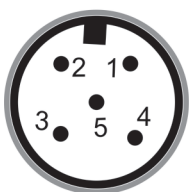
Pressure range	-0.1...0.1MPa to 60MPa
Accuracy	≤0.5%FS
Supply power range	12...30VDC
Temperature error within rated temperature range	±0.02%FS/°C (Zero/full span)
Long-term stability	±0.3%FS/year
Analog output accuracy	±0.2%FS
Measurement media	Gas and liquid
<hr/>	
Output configurations	
switching+voltage+ communication	2×PNP + 0V~5VDC/10VDC + MODBUS
switching+current+ communication	2×PNP + 0mA/4mA~20mADC + MODBUS
Switching current	1.0A(Max.)
Switching type	normally open , normally closed
Switching respond time	<10ms
Switching delay	0.00s~1000.0s
Switching motion mode	delay or windows mode
<hr/>	
Analog signal output and maximum ohmic load RL	
Current output	0/4...20mA , 20...4/0mA RL≤0.5kΩ
Voltage output	0...5/10V , 5/10...0V RL>10kΩ
<hr/>	
Screen display	OLED
Menu language	English, Chinese
Switching instruction	2X red LED
Displaying pressure units	psi、bar、mbar、Pa、kPa、MPa
Buttons	3X blue back-lighted touch buttons
Displaying supplementary variables	environment temperature, analog output value, maximum pressure peak value, minimum pressure peak value
Supplementary variables displaying mode	fixed displaying or INFO button Switching display
<hr/>	
Working temperature	-30℃ ~ 80℃
Media temperature	-30℃ ~ 80℃
Storage temperature	-40℃ ~ 80℃
Electromagnetism compatible	GB/T 17626.2/3/4-2006
Shock resistance	≤10g/10Hz...500Hz(IEC 60068-2-6-2007)
Vibration resistance	≤50g/11ms(IEC 60068-2-27-2008)
IP rating	IP65

## Dimensions:



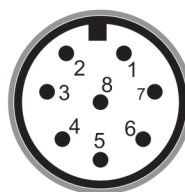
## Electrical Connection:

### M12X1 5-Pin



- 1: VCC (Power+)
- 2: K1 (Switch 1)
- 3: GND (Power-)
- 4: K2 (Switch 2)
- 5: AO (Analog output)

### M12X1 8-Pin



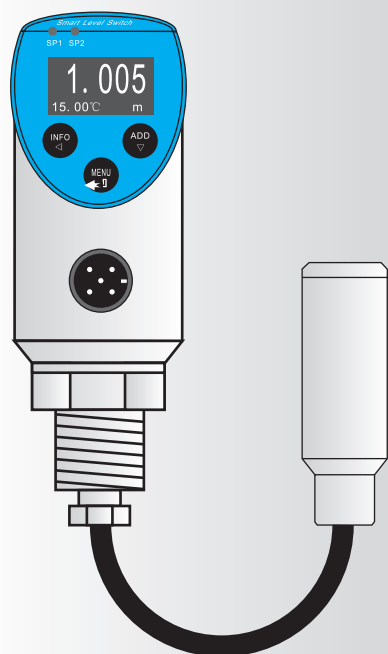
- 1: VCC (Power+)
- 2: K1 (Switch 1)
- 3: GND (Power-)
- 4: K2 (Switch 2)
- 5: AO (Analog output)
- 6: A (RS485-A)
- 7: B (RS485-B)
- 8: NC

## Type code

<b>Pressure Type</b>						
<div>G</div>	Gauge					
<div>A</div>	Absolute					
<b>Units</b>						
<div>P</div>	Pa					
<div>K</div>	kPa					
<div>M</div>	MPa					
<div>S</div>	psi					
<div>B</div>	bar					
<div>N</div>	mbar					
<div>G</div>	kg/cm <sup>3</sup>					
<b>Pressure Range</b>						
<div>R1</div>	-10...10kPa					
<div>R2</div>	-100...100kPa					
<div>R3</div>	-0.1...1MPa					
<div>R4</div>	-0.1...10MPa					
<div>R5</div>	-0.1...60MPa					
<b>Process Connection</b>						
<div>M1</div>	M20X1.5 male					
<div>M2</div>	M20X1.5 female					
<div>G1</div>	G1/2 male					
<div>G2</div>	G1/2 female					
<div>G3</div>	G1/4 male					
<div>G4</div>	G1/4 female					
<div>N1</div>	1/2NPT male					
<div>N2</div>	1/2NPTfemale					
<div>N3</div>	1/4NPT male					
<div>N4</div>	1/4NPTfemale					
<div>S0</div>	customize					
<b>Analog Output</b>						
<div>A</div>	0/4...20mA or 20...0/4mA					
<div>V</div>	0...5/10V or 5/10...0V					
<b>Electrical Connector</b>						
<div>C5</div>	M12×1	5-pin ( without RS485 communication)				
<div>C8</div>	M12×1	8-pin ( with RS485 communication)				

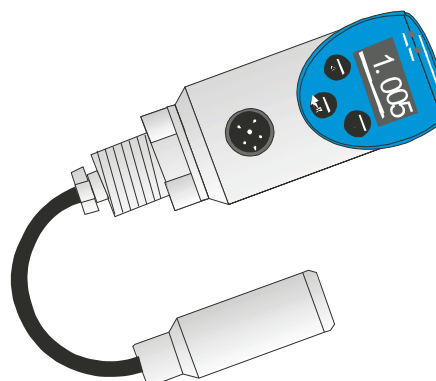
  

SPS-						
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SLS

## SLS Smart Electronic Level Switch



**SLS – electronic level switch, transmitter and display in one device.**

SLS is designed for level monitoring and measurement of liquid and oil media. It is applied to general industry such as tank, case, liquid cell and deep well. It is level switch, transmitter and display in one device. In its standard

configuration it has optional two switching outputs (PNP or NPN), an analog output signal (0...20mA| 4...20 mA or 0...5V| 0...10 V) as well as with RS485 Link.

### Product features:

- Liquid and oil media level measurement
- PNP switching, voltage and current outputs
- Switching points settable
- Switching can be set normally open / normally closed
- Supporting switching delay
- Various analog output ways available
- Displaying pressure peak value and environment temperature
- Analog output span settable
- High light switch indicating
- OLED self-luminous display
- Display turnable 180°
- Housing with electrical connection against process connection rotatable 330°
- Industrial touch button
- Various display pressure units
- Media density settable
- Parameters setting up for password protection
- Support MODBUS communication

The level switch SLS takes the high integrated ARM industrial-grade MCU as the core. It ensures fast-speed and precise level measurement and switch movement by carefully adjustment and combining high-precision AD switch and high stable pressure sensor. The setup using the three big back-lighted buttons and the display on machine make it very easy for on-site parameters setting.

There is a large number of measurement ranges available from a smallest measurement range of -0...1m H<sub>2</sub>O to 100mH<sub>2</sub>O. The zero point can be adjusted by buttons. The connection elements are consist of stainless steel and airway cable with a blowhole in the core. Hence, it has high sealing performance and is well suited for a large variety even of corrosive media. Supporting standard MODBUS, the SLS makes it possible to remote data collection and parameters setting, free customers from buying extra communication adapters. For electrical connection the SLS has an M12x1 connector.

The SLS is compactly designed with housing with electrical connection against process connection rotatable 330°, display against housing turnable 180°, making it very easy for on-site installation and monitoring.

## Technical parameters:

Measuring range	0...1mH <sub>2</sub> O to 100mH <sub>2</sub> O
Accuracy	≤0.5%FS
Supply Power	12...30V DC
Temp. Error	±0.02%FS/°C(Zero/ Full span)
Long-term Stability	±0.3%FS/Year
Analog output accuracy	±0.2%FS
Measuring Media	Water, mineral-based hydraulic fluid and Synthetic oil
Wetted material	Stainless steel, Nitrile Butadiene Rubber and PTFE

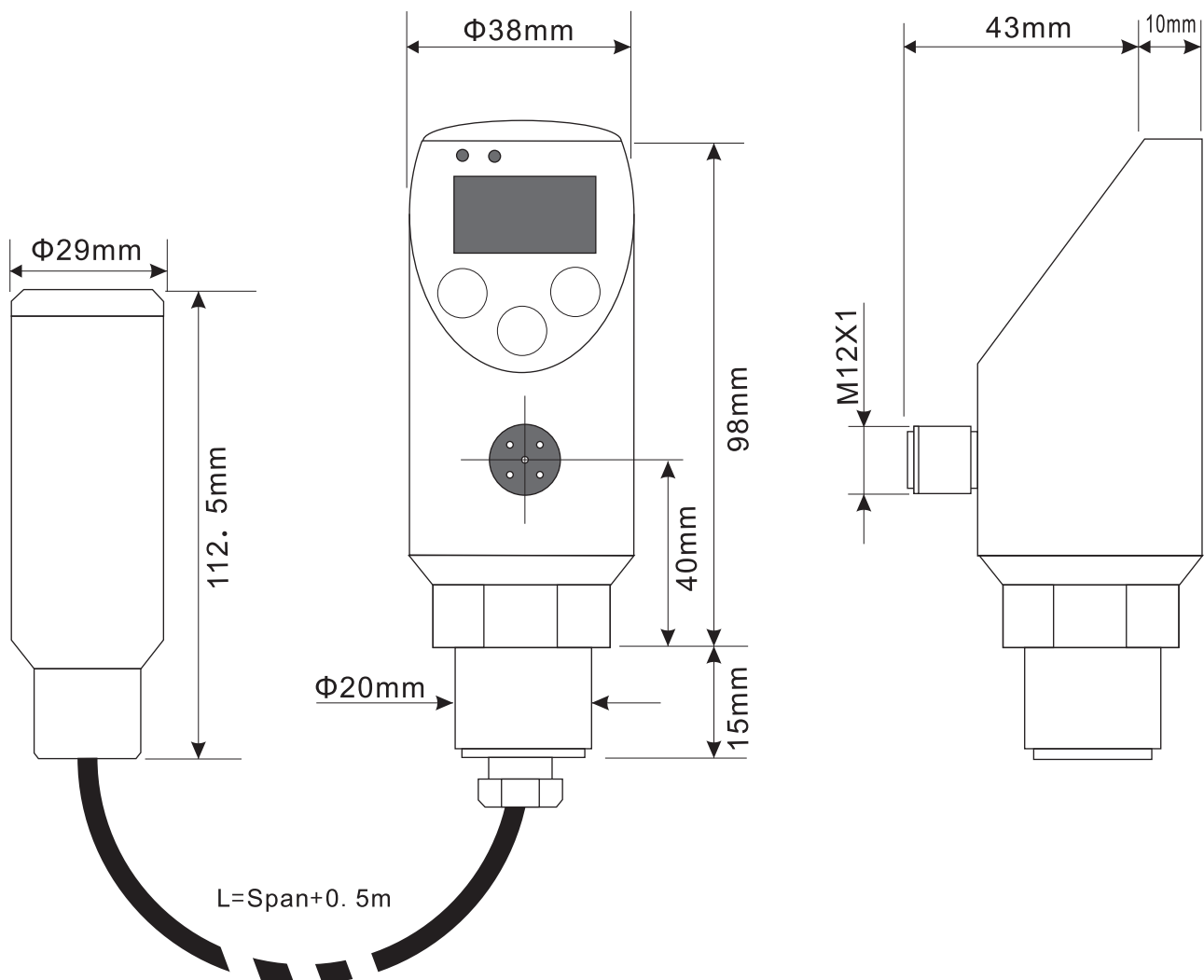
Output configurations	
switching+voltage+ communication	2×PNP + 0V~5VDC/10VDC + MODBUS
switching+current+ communication	2×PNP + 0mA/4mA~20mADC + MODBUS
Switching current	1.0A(Max.)
Switching type	normally open , normally closed (settable)
Switching respond time	< 10ms
Switching delay	0.00s~1000.0s
Switching motion mode	delay or windows mode

Analog signal output and maximum ohmic load RL	
Current output	0/4...20mA , 20...4/0mA RL≤0.5kΩ
Voltage output	0...5/10V , 5/10...0V RL>10kΩ

Screen display	OLED
Menu language	Chinese, English
Switching instruction	2X red LED
Displaying pressure units	kPa, mm, cm, m
Buttons	3X blue back-lighted touch buttons
Displaying supplementary variables	environment temp., analog output value, max peak value, mini peak value
Supplementary variables displaying mode	fixed displaying or INFO button switching display

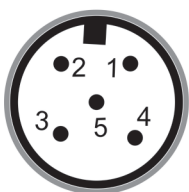
Working temperature	-30℃ ~ 80℃
Media temperature	0℃ ~ 60℃
Storage temperature	-40℃ ~ 80℃
Electromagnetism compatible	GB/T 17626.2/3/4-2006
Shock resistance	≤10g/10Hz...500Hz(IEC 60068-2-6-2007)
Vibration resistance	≤50g/11ms(IEC 60068-2-27-2008)
Protection Rating	IP65 / IP68

## Dimensions:



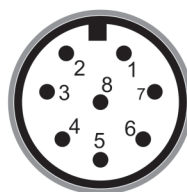
## Electrical Connection:

### M12X1 5-Pin



- 1: VCC (Power+)
- 2: K1 (Switch 1)
- 3: GND (Power-)
- 4: K2 (Switch 2)
- 5: AO (Analog output)

### M12X1 8-Pin



- 1: VCC (Power+)
- 2: K1 (Switch 1)
- 3: GND (Power-)
- 4: K2 (Switch 2)
- 5: AO (Analog output)
- 6: A (RS485-A)
- 7: B (RS485-B)
- 8: NC

## Type code

### Level Units

K	kPa
M	m
L	cm
H	mm

### Level Range

**XXX** XXX represents range Such as:005 for range 0...5m H2O

### Sensor Membrane Material

B	316L
H	Hastelloy C- 276
N	Monel

### Process Connection

M0	Φ20
M1	M20X1.5 Male
M2	M27X2 male
G1	G1/ 2 male
S0	Cutomization

### Cable Material

D	NBR
J	PTFE

### Analog Output

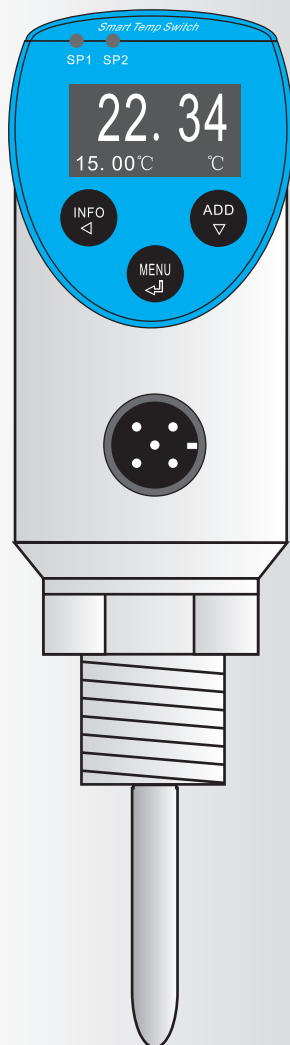
A	0/ 4...20mA or 20...0/ 4mA
V	0...5/ 10V or 5/ 10...0V

### Electrial Connection

C5	M12X1	5-pin(without RS485 communication)
C8	M12X1	8-pin(with RS485 communication)

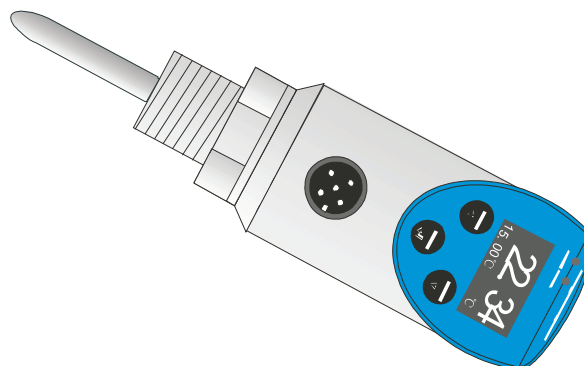






STS

## STS Smart Electronic Temperature Switch



### STS – electronic temperature switch, transmitter and display in one device.

The temperature switch STS is robustly designed and very easy to use. The STS is suited for temperature monitoring, measurement and control, such as used in cleaning liquid, hydraulic oil, heat-carrying agent and lubricant etc. It is temperature switch,

transmitter and display in one and the same device. In its standard configuration it has optional two switching outputs (PNP or NPN), an analog output signal (0...20mA| 4...20 mA or 0...5V| 0...10 V) as well as with RS485 Link.

### Product features:

- Temperature measurement in various occasions
- PNP switching, voltage and current outputs
- Switching points settable
- Switching can be set normally open /normally closed
- Supporting switching delay
- Various analog output ways available
- Displaying temperature peak value and environment temperature
- Analog output span settable
- High light switch indicating
- OLED self-luminous display
- Display reversing 180°
- Housing with electrical connection against process connection rotatable 330°
- Industrial touch buttons
- Various temperature units on display
- Parameters setting for password protection
- Optional Chinese and English menu
- Support MODBUS

The temperature switch STS takes the high integrated ARM industrial-grade MCU as the core. The STS ensures fast-speed and precise temperature measurement and switch movement by carefully adjustment and combining high-precision AD switch and high stable pressure sensor. The setup using the three big back-lighted buttons and the display on machine make it very easy for on-site parameters setting.

The temperature measurement element is circularly rod shaped probe in which is sealed welded stainless. Hence, it is well suited for a large variety. And there are various optional process connectors. Supporting standard MODBUS, the STS makes possible of remote data collection and parameters setting, free customers from buying extra communication adapters. For electrical connection the STS has an M12x1 connector.

The STS is compactly designed with housing with electrical connection against process connection rotatable 330°, display against housing turnable 180°, making it very easy for on-site installation and checking.

## Technical parameters:

Measuring range	-50...260°C
Accuracy	≤±0.5°C
Supply Power	12...30V DC
Temp. Error	PT1000
Repond time	≤5s
Temp. Drift	±0.15%/10K
Resolutioin	±0.01°C
Analog output accuracy	±0.2%FS

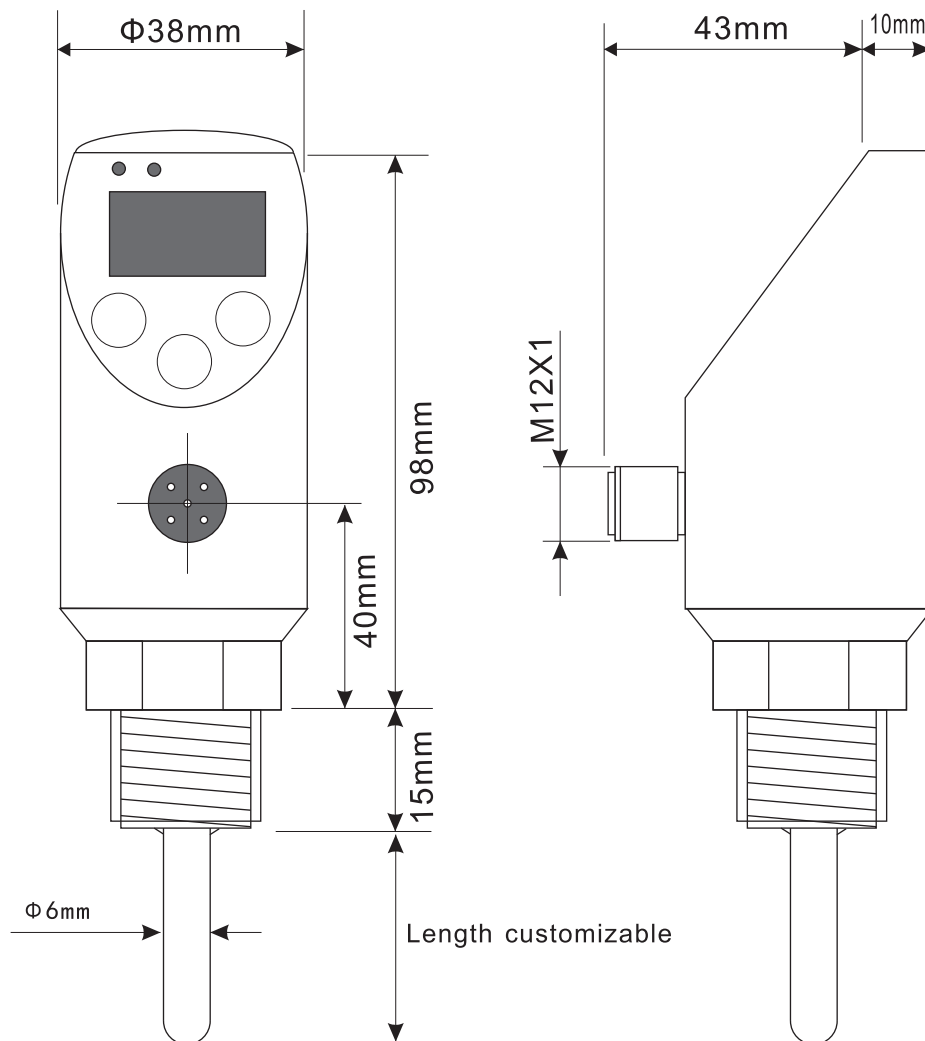
Output configurations	2×PNP + 0V~5VDC/10VDC + MODBUS
switching+voltage+ communication	2×PNP + 0mA/4mA~20mADC + MODBUS
switching+current+ communication	1.0A(Max.)
Switching current	Normally open , normally closed (settable)
Switching type	< 10ms
Switching respond time	0.00s~1000.0s
Switching delay	Delay or windows mode
Switching motion mode	

Analog signal output and maximum ohmic load RL	
Current output	0/4...20mA , 20...4/0mA RL≤0.5kΩ
Voltage output	0...5/10V , 5/10...0V RL>10kΩ

Screen display	OLED
Menu language	Chinese, English
Switching instruction	2X Red LED
Displaying pressure units	°C, °F, K
Buttons	3X blue back-lighted touch buttons
Displaying supplementary variables	Environment temp., analog output value, max temperature
Peak value , minimum temperature peak value	
Supplementary variables displaying mode	Fixed displaying or INFO button switching display

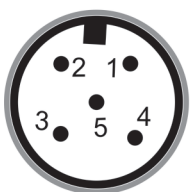
Working temperature	-30°C ~ 80°C
Storage temperature	-40°C ~ 80°C
Electromagnetism compatible	GB/T 17626.2/3/4-2006
Shock resistance	≤10g/10Hz...500Hz(IEC 60068-2-6-2007)
Vibration resistance	≤50g/11ms(IEC 60068-2-27-2008)
Protection Rating	IP65

## Dimensions:



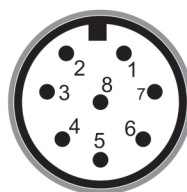
## Electrical Connection:

### M12X1 5-Pin



- 1: VCC (Power+)
- 2: K1 (Switch 1)
- 3: GND (Power-)
- 4: K2 (Switch 2)
- 5: AO (Analog output)

### M12X1 8-Pin



- 1: VCC (Power+)
- 2: K1 (Switch 1)
- 3: GND (Power-)
- 4: K2 (Switch 2)
- 5: AO (Analog output)
- 6: A (RS485-A)
- 7: B (RS485-B)
- 8: NC

## Type code

### Structure Type

Y	Integral type
F	Split type

### Temperature Units

C	°C
F	°F
K	K

### Insert Depth

LXXX	Temperature detector length eg: the length of L040 is 40mm
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### Process Connector

M0	Φ20
M1	M20X1.5 male
M2	M27X2 male
G1	G1/2 male
S0	Customization

### Analog Output

A	0/4...20mA or 20...0/4mA
V	0...5/10V or 5/10...0V

### Electrical Connector

C5	M12X1	5-pin(without RS485 communication)
C8	M12X1	8-pin(with RS485 communication)

