ATOM METRIC
FINEST MEASUREMENTS, HIGHEST PRECISION

Electronic Pressure Switch (sensor) PS200

Technical parameter

- ◇ Supply voltage: 12... 30Vdc
- ◇ No-load current consumption: maximum 30mA,24Vdc power supply
- ◇ Output type: PNP/NPN can be set, normally open/normally closed can be set / Frequency (full scale 100Hz) Optional
- Switch load: <200mA
- Response time: <10ms
- Switching accuracy: ≤±0.5% range
- ◇ Switch setting mode: button increase/decrease
- ◇ Switch point return difference: factory default return difference is 0.5% of the set value of the switch (configurable)
- ◇ Connection protection: reverse phase, overload, paragraph protection
- ◇ Accuracy: ≤±0.5% range
- ◇ Stability (annual drift) : ≤±0.3% range
- ◇ Temperature:
- Medium temperature: -20... 85°C
- Ambient temperature: -20... 80°C
- Storage temperature: -30... 80°C
- ◇ Material:
- Induction diaphragm: stainless steel 316L/ ceramic
- Process connection: stainless steel 304
- Sealing material: Butadiene rubber/fluorine rubber
- Housing: engineering plastic
- ◇ Protection grade: IP67
- ◇ Outlet: M12x1 connector

Principle structure

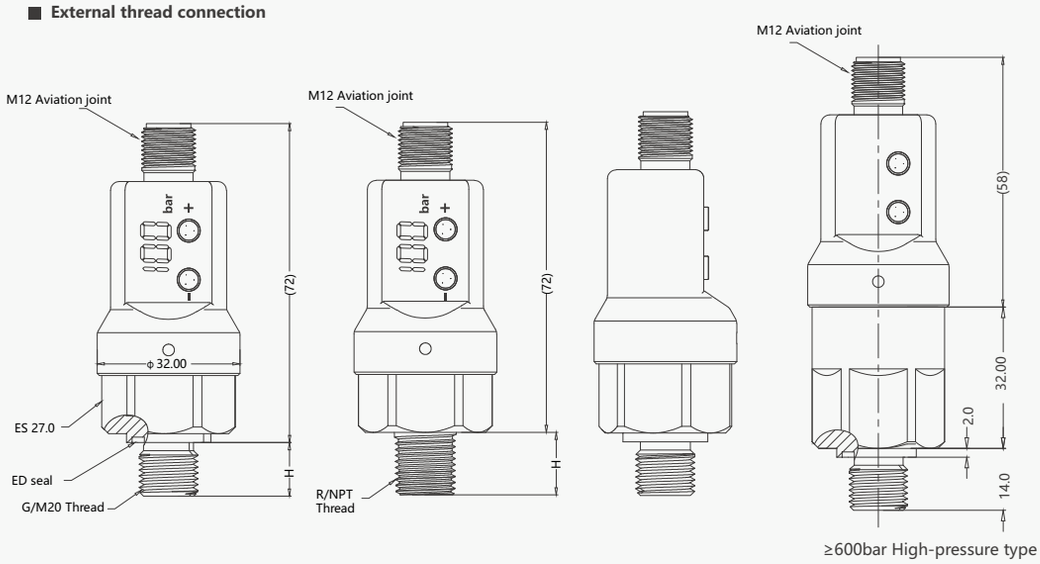
The diffused silicon sensor is used for pressure measurement, and the signal is converted into a standard industrial electrical signal after processing by a post-processing circuit and displayed. Designed with an integrated injection molded housing, this series of products can be used in a variety of industrial applications. Key setting, easy operation, high-light LED can digitally display real-time measurement values. A variety of connection methods can fully meet a variety of specific installation needs.

Parameter table

Pressure range	bar	1	2	5	10	16	25	60	100	160	250	400	600
	psi	15	30	75	145	230	370	900	1500	2300	3600	6000	9000
Maximum overload pressure		×5			×3			×2			×1.5		×1.3
Minimum damage pressure		×6			×4			×3			×2		×1.6

Dimension drawing (mm)

■ **External thread connection**



≥600bar High-pressure type

External thread	Thread height(H)	Sealing method
G1/4	12	ED seal
G1/2		
M20×1.5		
R1/4	14	no
R1/2		
N1/4		

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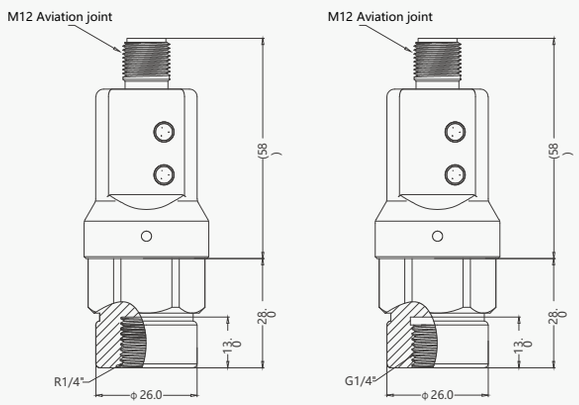
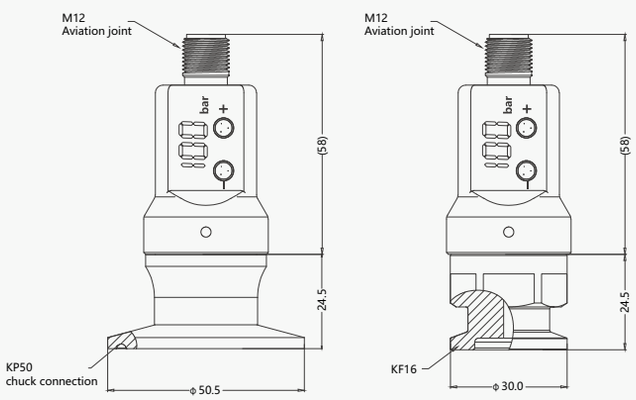
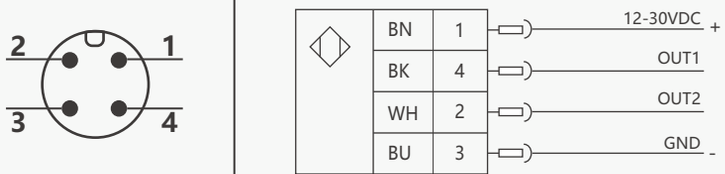
■ **Internal thread connection**



■ **Chuck connection**



Wiring diagram



switch/frequency					
color	**stitch**	**Instructions**	**color**	**stitch**	**Instructions**
BN	1	power supply (+)	BU	3	power supply (-)
BK	4 (OUT1)	SP1 Switch PNP (Factory default) SP1 Switch NPN Frequency (full scale 100Hz)	WH	2 (OUT2)	/

Analog output: 4-20mA					
color	**stitch**	**Instructions**	**color**	**stitch**	**Instructions**
BN	1	power supply (+)	BU	3	power supply (-)
BK	4 (OUT1)	4-20mA	WH	2 (OUT2)	/

Analog output: 1-5V					
color	**stitch**	**Instructions**	**color**	**stitch**	**Instructions**
BN	1	power supply (+)	BU	3	power supply (-)
BK	4 (OUT1)	1-5V	WH	2 (OUT2)	/

RS485					
color	**stitch**	**Instructions**	**color**	**stitch**	**Instructions**
BN	1	power supply (+)	BU	3	power supply (-)
BK	4 (OUT1)	RS485(B)	WH	2 (OUT2)	RS485(A)

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Electronic Pressure Switch (sensor) PS200

Selection list

PS200-	B	100	G14M	-	Elaborate
PS200-					PS200 electronic pressure sensor
	B				Gauge pressure
	F				Negative pressure
		0001			Measurement range: -10... 10KPa or 0... 10KPa
		0006			Measurement range: -60... 60KPa or 0... 60KPa
		001			Measurement range: -1... 1bar or 0... 1bar
		002			Measurement range: -1... 2bar or 0... 2bar
		005			Measurement range: -1... 5bar or 0... 5bar
		010			Measurement range: 0... 10bar
		025			Measurement range: 0... 25bar
		060			Measu rement range: 0... 60bar
		100			Measurement range: 0... 100bar
		160			Measurement range: 0... 160bar
		250			Measurement range: 0... 250bar
		400			Measurement range: 0... 400bar
		600			Measurement range: 0... 600bar
		1000			Measurement range: 0... 1000bar
			G14M		Process connection: G1/4 external thread
			G12M		Process connection: G1/2 external thread
			N14M		Process connection: NPT1/4 external thread
			R14M		Process connection: R1/4 external thre ad
			R12M		Process connection: R1/2 external thread
			M20M		Process connection: M20*1.5 external thread
			G14K		Process connection: G1/4 Internal thread
			R14K		Process connection: R1/4 Internal thread
			KP50		Process connection: 1.5-inch (outer diameter 50.5mm) chuck metal flat film type (standard pressure resistance 1.6MPa)
			KF16		Process connection: KF16 vacuum chuck type
				-	Output signal: Switch/frequency
				A	Output signal: Anal og 4-20mA
				V	Output signal: Analog 1-5V
				RS	Output signal: RS485

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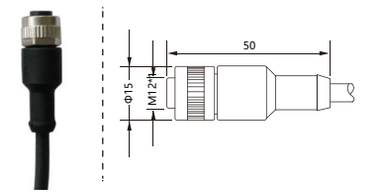
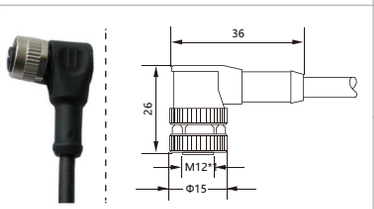
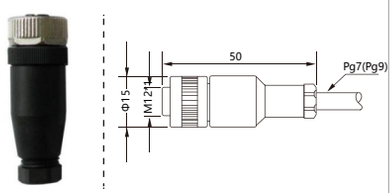
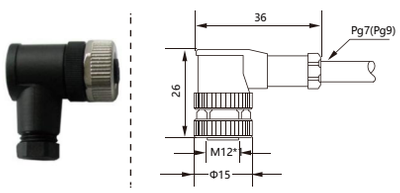
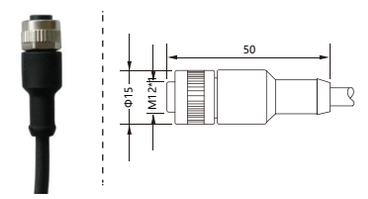
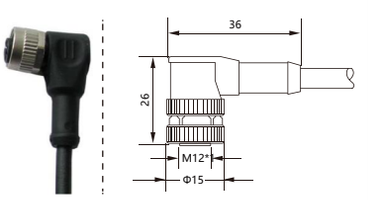
Electronic Pressure Switch (sensor) PS200

Factory standard:ZL03-PC02G

name	Outline drawing/dimension drawing（mm）	material	model
M12*1-4Pin（2m cable）		PUR	ZL03-PU02G
M12*1-4Pin（5m cable）			ZL03-PU05G
M12*1-4Pin（10m cable）			ZL03-PU010G
M12*1-4Pin（2m cable）		PVC	ZL03-PC02G
M12*1-4Pin（5m cable）			ZL03-PC05G
M12*1-4Pin（10m cable）			ZL03-PC010G
M12*1-4Pin（2m cable）		PUR	ZL03-PU02W
M12*1-4Pin（5m cable）			ZL03-PU05W
M12*1-4Pin（10m cable）			ZL03-PU010W
		PVC	ZL03-PC02W
			ZL03-PC05W
			ZL03-PC010W

M12* 1-4pin self-connector/size drawing（mm）	model
	GL04（4Pin joint）
	WL04（4Pin joint）

Factory standard:ZL04-PC02G

name	Outline drawing/dimension drawing（mm）	material	model
M12*1-4Pin（2m cable）		PUR	ZL04-PU02G
M12*1-4Pin（5m cable）			ZL04-PU05G
M12*1-4Pin（10m cable）			ZL04-PU010G
		PVC	ZL04-PC02G
			ZL04-PC05G
			ZL04-PC010G
M12*1-4Pin（2m cable）		PUR	ZL04-PU02W
M12*1-4Pin（5m cable）			ZL04-PU05W
M12*1-4Pin（10m cable）			ZL04-PU010W
		PVC	ZL04-PC02W
			ZL04-PC05W
			ZL04-PC010W

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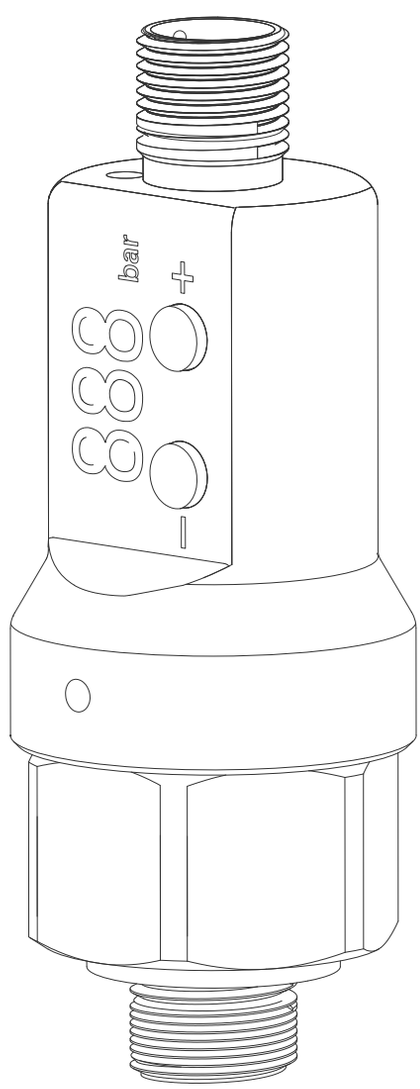
Operation instruction

Digital display pressure switch

200 Series



Purpose of product application

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!

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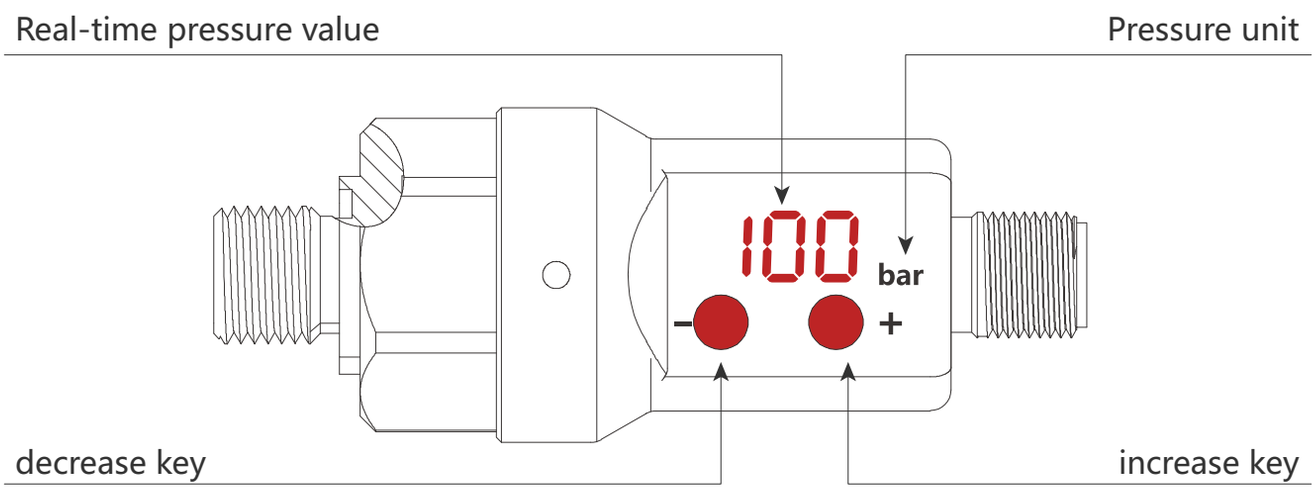
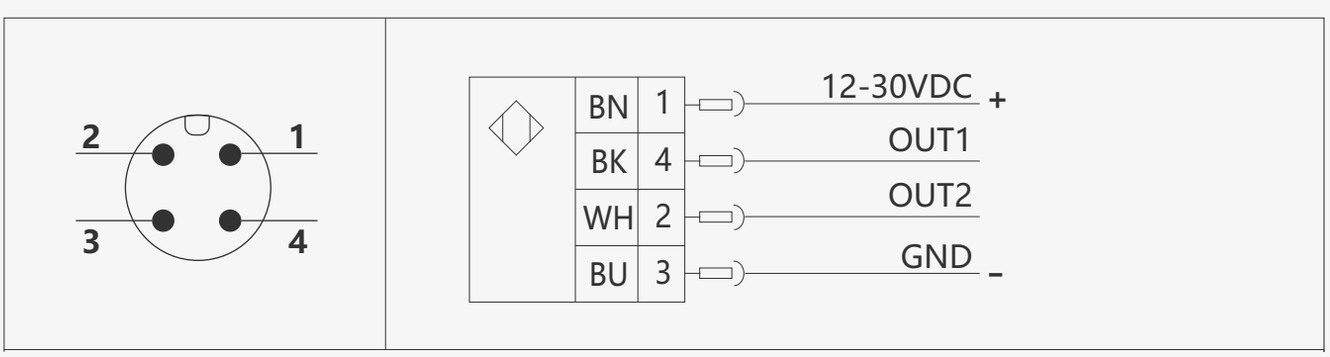
Panel description



Electrical connection



Switch/frequency		
colour	**stitch**	**Instructions**
BN	1	power supply (+)
BU	3	power supply (-)
BK	4 (OUT1)	SP1 switch PNP (factory default) SP1 switch NPN Frequency (full scale 100Hz)

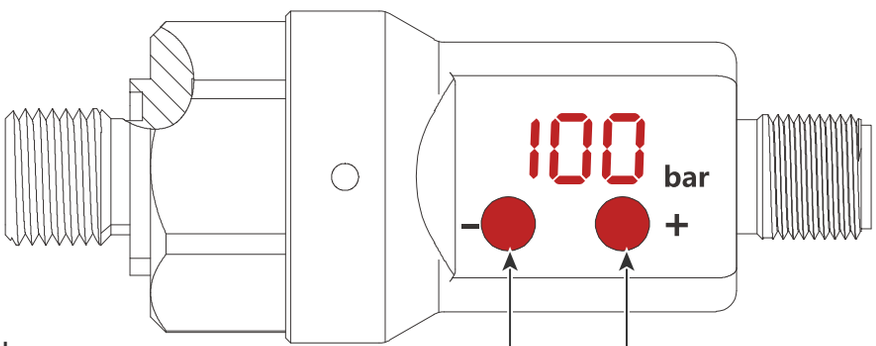
Analog output: 4-20mA		
colour	**stitch**	**Instructions**
BN	1	power supply（+）
BU	3	power supply（-）
BK	4 (OUT1)	4-20mA

Analog output: 1-5V		
colour	**stitch**	**Instructions**
BN	1	power supply（+）
BU	3	power supply（-）
BK	4 (OUT1)	1-5V

RS485 communication		
colour	**stitch**	**Instructions**
BN	1	power supply（+）
BU	3	power supply（-）
BK	4 (OUT1)	RS485（B）
WH	2 (OUT2)	RS485（A）

Debugging/operation

■ Switch action point convenient operation mode



press the left key:
The switch action value decreases

press the right key:
The switch action value is increased

After setting, the display interface stops blinking.
The switch action value is successfully modified.

LED display status description: When the LED display blinks, the switch setting value is displayed. When the display is not blinking, the current measurement value is displayed.

■ *Switching function*

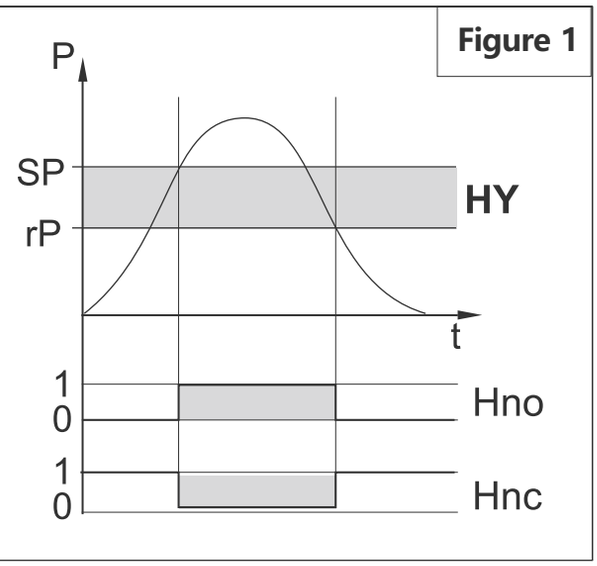
If the switch is higher or lower than the set switching limit (SP, rP), its switching state is changed.

The following switch functions can be selected:

- Hysteresis function normally open: = [Hno] (→ Figure 1)
- Hysteresis function normally closed: = [Hnc] (→ Figure 1)

First set the switch point: (SP), Then set the reset point: (rP)。
If SP changes again, the hysteresis will change with it.

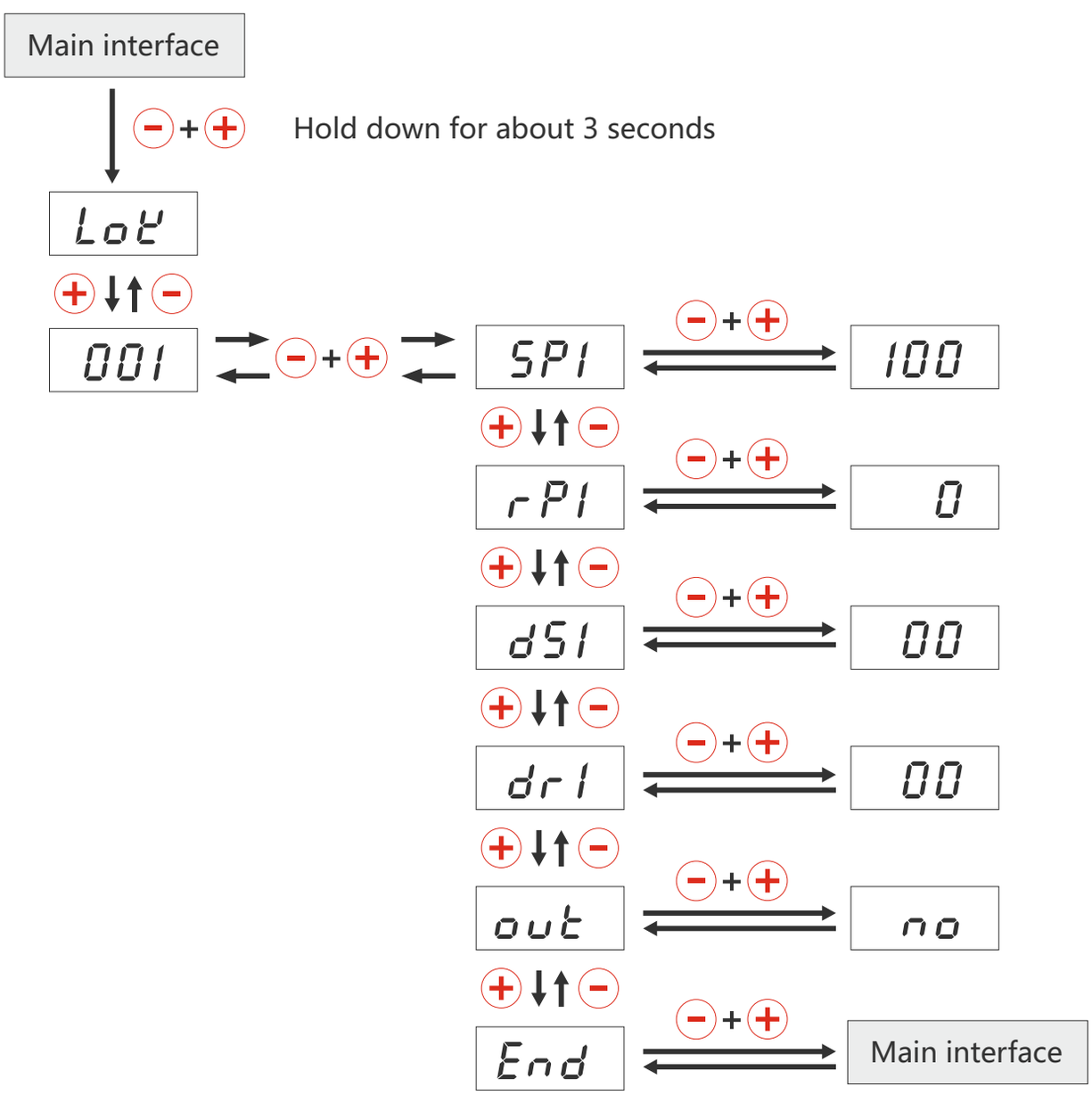
Figure 1



P = System pressure; HY = lag;

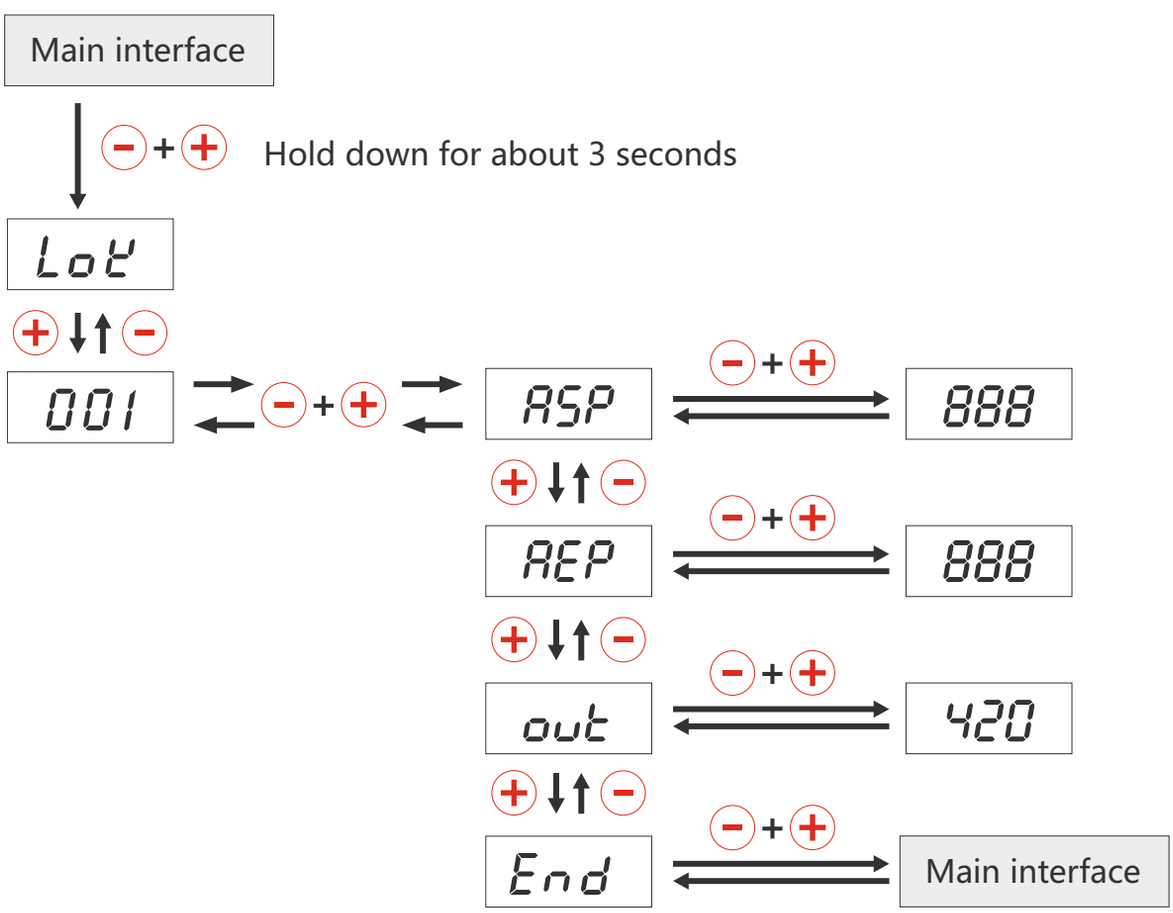
001 menu	
sp1	Switch alarm value (factory default value is 0.2% of the range)
rp1	Switch reset value (factory default is SP1-0.5%)
ds1	OUT1 turn-on delay (factory default is 0s)
dr1	OUT1 shutdown delay (factory default is 0s)
out	Switch output signal: Normally open (no)/Normally closed (nc)
end	Confirm to save and exit

■ 001 Menu debugging (non-professional personnel do not operate)



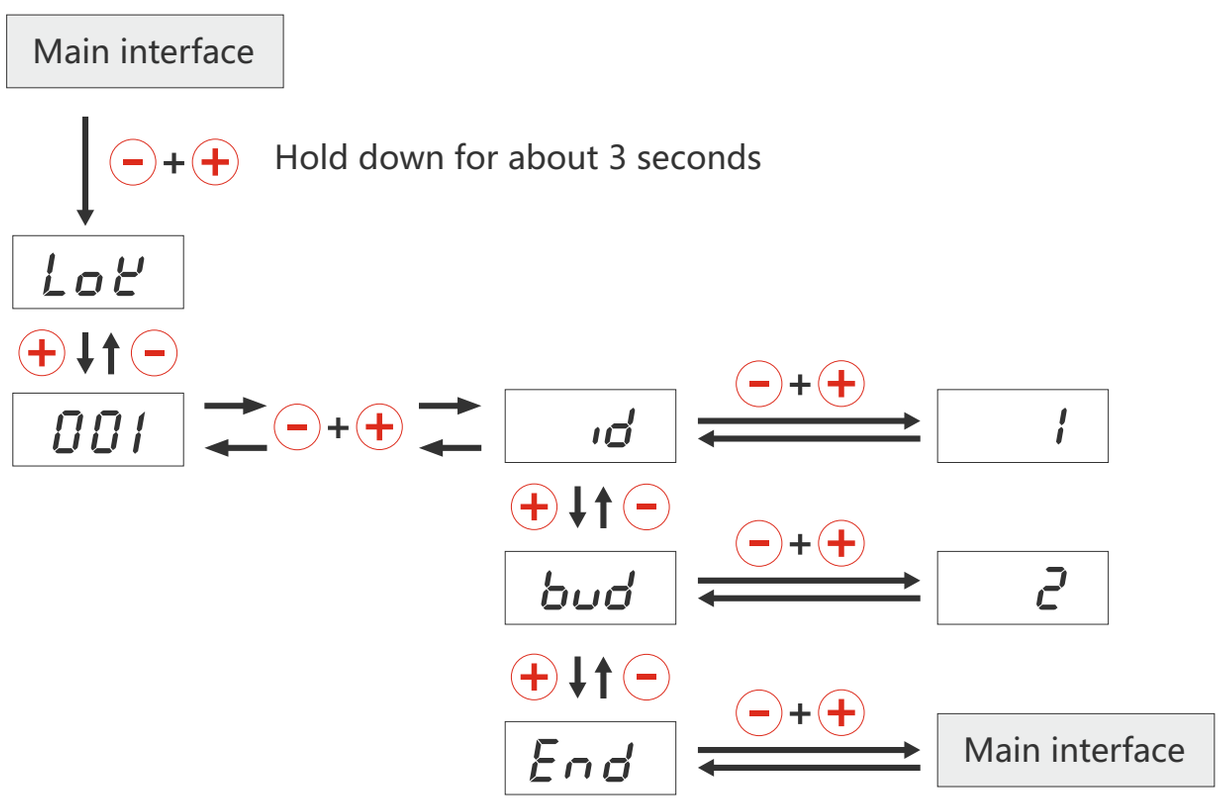
001 Menu	
ASP	Lower limit of analog range
AEP	Upper limit of analog range
OUT	Analog output signal (factory default 420) 420：4-20mA 020：0-20mA 204：20-4mA 200：20-0mA
end	Confirm to save and exit

■ 001 Menu debugging - Analog (non-professional personnel do not operate)



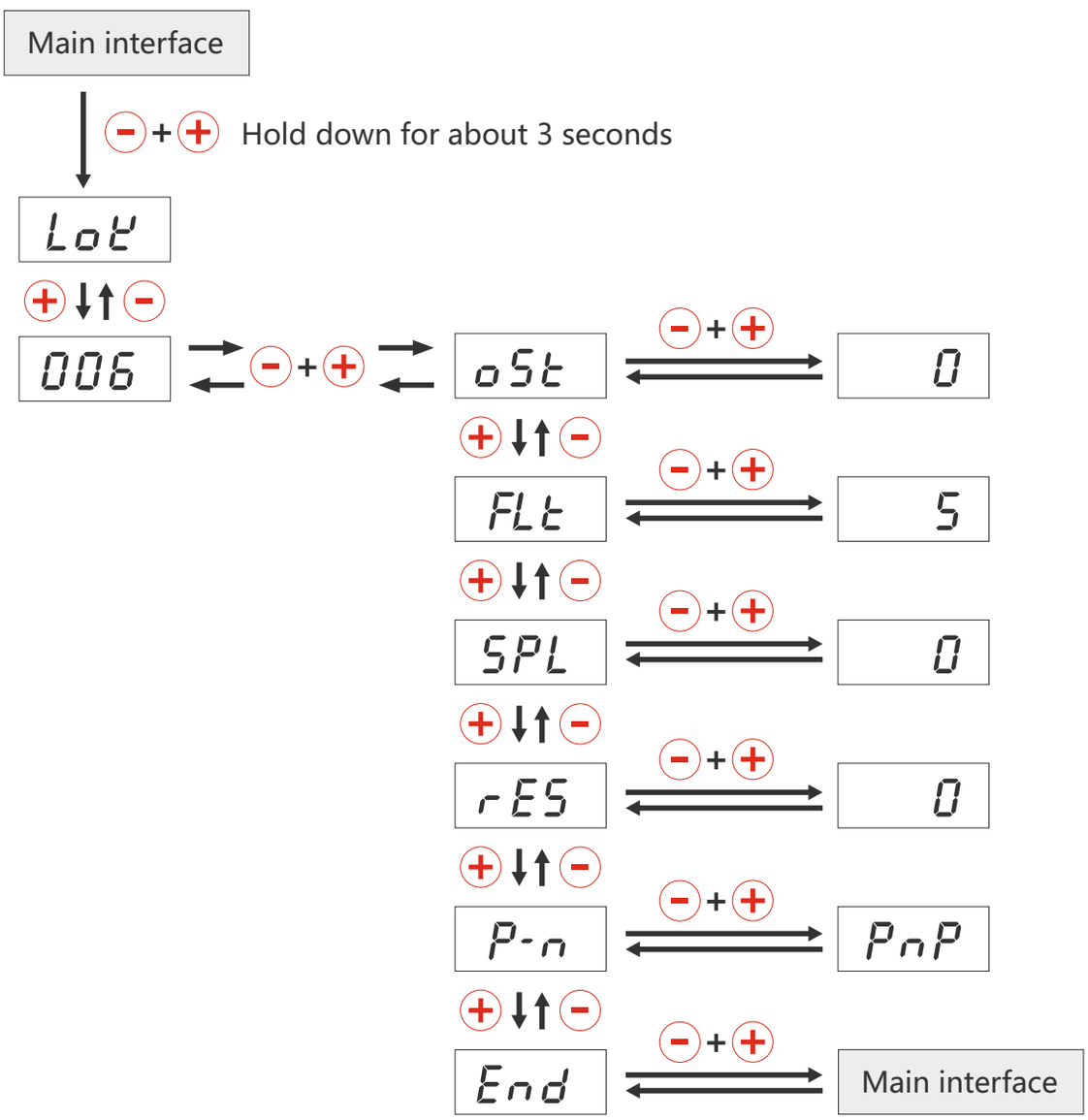
001 Menu	
id	Meter address (Factory default 1)
bud	Baud rate (Factory default 2) 0：2400 1：4800 2：9600 3：19200 4：115200
end	Confirm to save and exit

■ 001 Menu debugging -RS485 (non-professional personnel do not operate)



006 menu	
ost	Display value compensation, the default is 0, increase and decrease the value, the actual display value corresponds to the increase or decrease of the corresponding value
flt	The filter coefficient is adjustable from 0 to 100. The default value is 5
spL	Display value The reaction rate increases/decreases
res	factory data reset.
p-n	PNP/NPN switchover
end	Confirm to save and exit

■ 006 Menu debugging (non-professional personnel do not operate)



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!

THM HUADE HYDRAULICS PVT LTD.
F-127, PHASE-VIII, FOCAL POINT, LUDHIANA
- 141010 (PUNJAB) INDIA
PHONE: +91-88722-42200, +91-88722-42500
E-MAIL: salesho@thmhuade.com
Website: www.thmhuade.com

ADDRESS: UNIT 2/12B EXCHANGE DR, PAKENHAM VIC 3810
WEBSITE: www.atommetricsensors.com