ZNC-YX18 Intelligent Pressure Controller

Address; No.12 yard in the yard of Outer Ring Industrial Company, Fujin Road, Zhongbei Town, Xiqing District, Tianjin, China Zip code: 300380 Telephone: 008615320082517
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Mainly applicable media: gas, liquid, oil, and other non-solid media.
Mainly applicable occasions: building water supply, air compressor pressure control, automation machinery supporting, and other measurement and control fields.
Application: Pressure switches are widely used in petroleum, chemical, metallurgy, electric power, water supply, and other fields for measuring and controlling the gauge and absolute pressure of various gases and liquids. It is the ideal intelligent measurement and control instrument for industrial sites.

I. Overview

An intelligent pressure controller is an intelligent control instrument integrating pressure measurement, display, and control, featuring simple operation, good shock resistance, high control accuracy, a wide pressure controllable range, and a long service life.

II. Working Principle

Through a pressure sensor, the physical signal is converted into an electrical signal, amplified, and processed to output as a standard analog signal or solid-state relay output.

III. Product features

- Multi-level pressure setting function can meet the requirements of a variety of pressure digital control.
- The output signal can be switched between normally open or normally closed, and the user can arbitrarily set the output normally open or normally closed signal according to the need.
- 4-digit high brightness LED display.
- Up to 4 switching outputs, one analog signal combination output.
- The switching quantity can be arbitrarily set between zero and full scale.

IV. Technical parameters

Type	Parameters
Measurement Range	-0.1~0~60MPa
Protection Class	IP65/IP54（standard）
Stability	≤0.1% per year
Display Mode	0.56"digital tube
Medium Temperature	-40℃ ~ 350℃
Environmental Temperature	-20℃~70℃
Mounting Threads	G1/4 (compact type) and M20*1.5 (standard and explosion-proof type)
Accuracy Class	≤0.5%
Pressure Type	Gauge Pressure, Negative Pressure, Absolute Pressure
Supply Voltage	24VDC/220VAC
Display Range	-1999~9999
Relative Humidity	≤80%
Contact Material	stainless steels（304/316）

V. Meter Selection

Model									Notes
ZNC-YX18	-□	/□	/□	/□	/□	/□	/□	/□	
Meter Type	X								Compact
	B								Standard Type
	F								Explosion Proof
	J								Intelligent (2088 form factor)
Temperature Rating		N							Temperature Resistance: 80°C
		L							Temperature Resistance: 150℃
		M							Temperature Resistance: 250℃
		H							Temperature Resistance: 350℃
Protection Class			F						IP65
			I						IP54（standard）
Measurement Range				PF					-0.1~0MPa
				PN					-0.1~0.1MPa
				PL					0~10MPa
				PH					0~60MPa
Output Type					01				One switching output
					02				Two switching outputs
					03				Three switching outputs①
					04				Four switching outputs①

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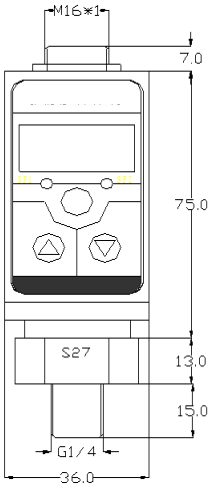
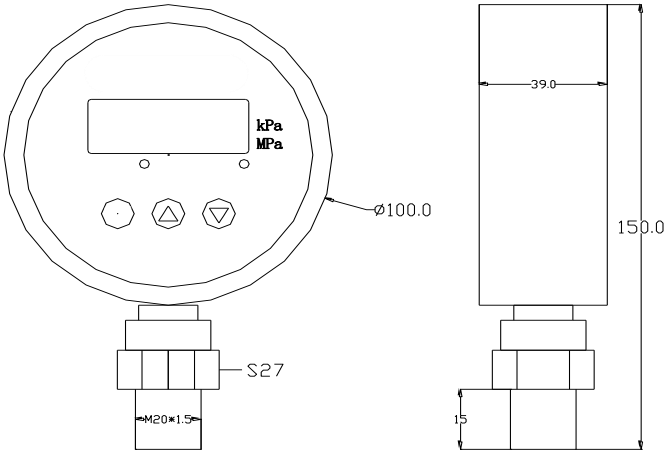
	05			One switching output + Analog signal output
	06			Two switching outputs + Analog signal output
	07			Three switching outputs + Analog signal output①
	08			Four switching outputs + Analog signal output①
	09			One switching output +RS485②
	10			Two switching outputs +RS485②
	11			Three switching outputs +RS485②
	12			Four switching outputs +RS485②
Type of power supply		D		DC 24V
		A		AC 220V③
Connection Method			L1	Screw connection G1/4（M）④
			L2	Screw connection M20*1.5（M）⑤
			L3	Other screw connections, to be specified
			F	Flange connection (to order)
Explosion-proof grade				N Non-explosive-proof
				E ExdeIICT4-6Gb

Note: ①②: These four outputs can only correspond to the explosion-proof type;
③: AC power supply cannot be selected for compact and intelligent models;
④: G1/4 (M) is the standard thread for compact type;
⑤: M20*1.5 (M) is the standard thread for standard, explosion-proof, and intelligent models.

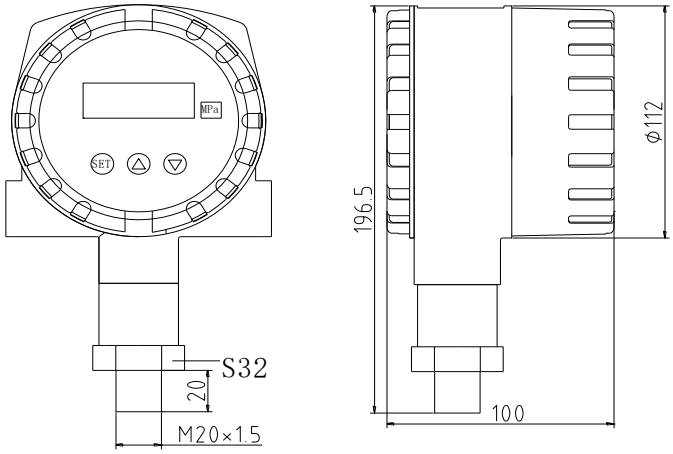
VI. External Dimensions



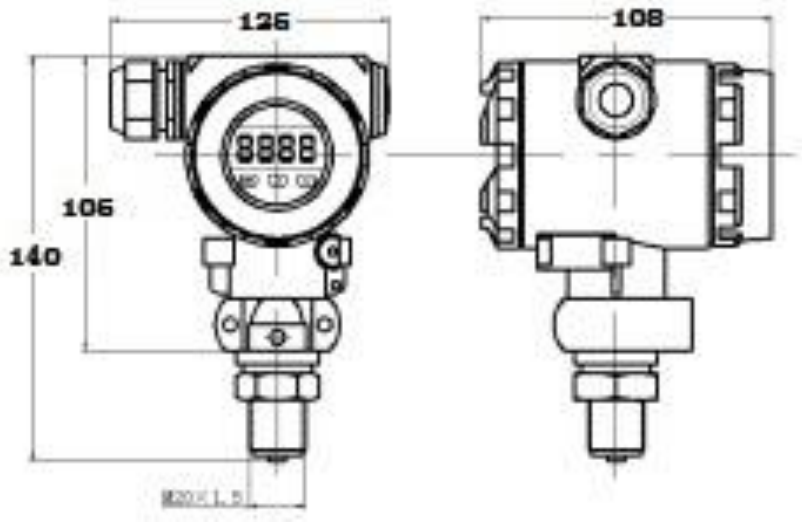
Compact Pressure Controller



Standard pressure controller (protection class IP54)



Explosion-proof pressure controller (protection class IP65)



Intelligent pressure controller (protection class IP65)

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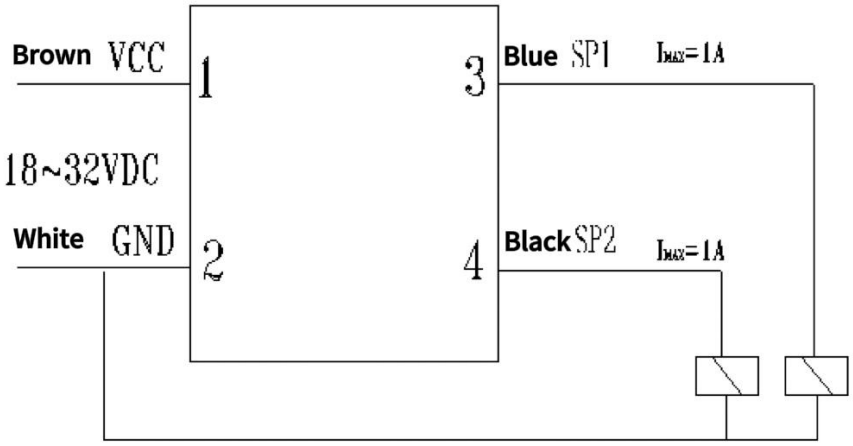
VII. Meter Wiring

1. Electrical connection

A1. Compact pressure controller (two switching outputs)

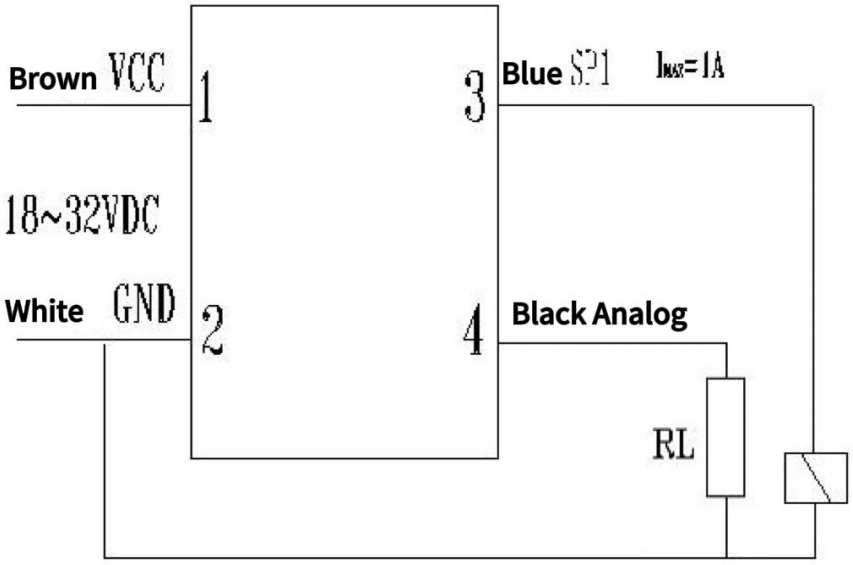
1（brown）: power＋ 2（white）: power- 3（blue）: switch 1 4（black）: switch2



A2. Compact pressure controller (one way switching with one 4-20mA output)

1（brown）: power＋ 2（white）:power- output negative 3（blue）: switch1

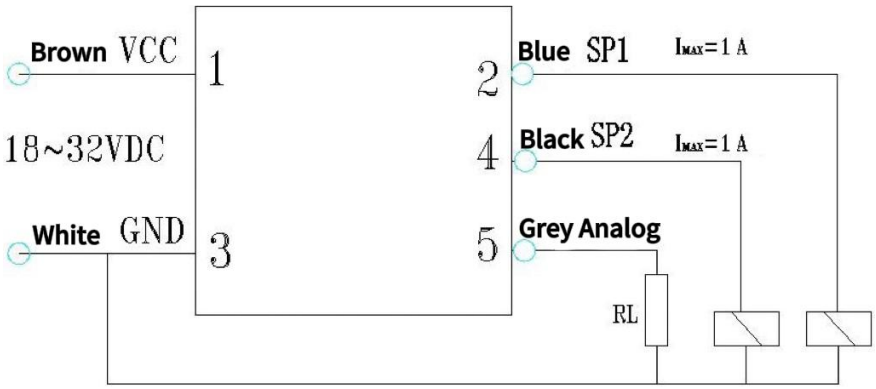
4（black）: output positive



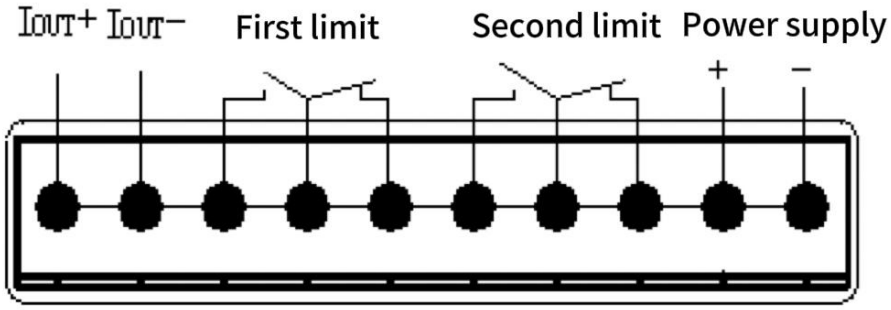
A3. Compact pressure controller (two switching with one 4-20mA output)

1（brown）: power＋　2（white）: power-　output negative　3（blue）: switch1

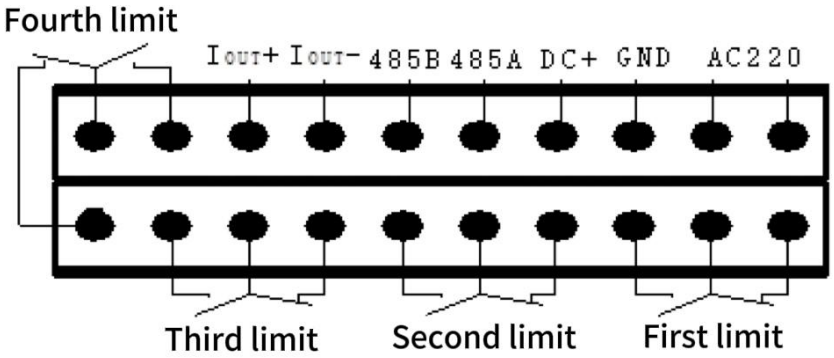
4（black）: switch2　5（gray）: output positive



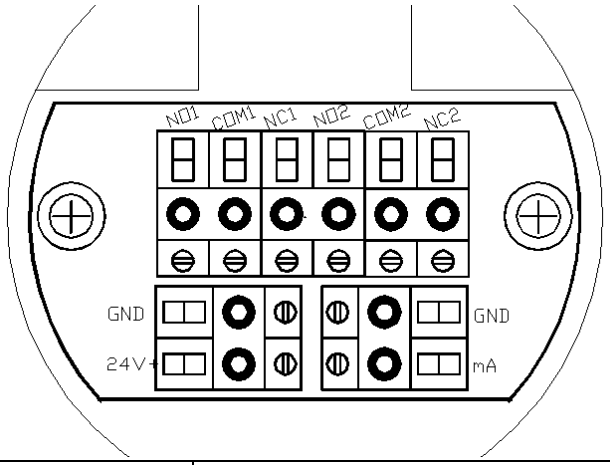
B. Standard pressure controller (two switching outputs)



C. Explosion-proof pressure controller (four switching outputs + one analog signal output)



D. Intelligent pressure controller (two switching with one 4-20mA output)



Terminal Marking	Electrical Significance
24V+	Switching Power Supply DC 24V+
GND	Switching Power Supply DC GND
mA	Current output, output 4-20mA to GND
NO1	Switch 1 normally open
COM1	Switch 1 Common port
NC1	Switch 1 normally closed
NO2	Switch 2 normally open
COM2	Switch 2 Common port
NC2	Switch 2 normally closed

2.Wiring considerations

The following should be observed to prevent the effects of electromagnetic interference:

- Keep wire connections as short as possible, use shielded wire.
- Avoid direct proximity to user devices or wiring of appliances and electronic devices that cause interference as much as possible.
- If mounted with miniature hose, housing must be separately grounded.

3. Setup Functions

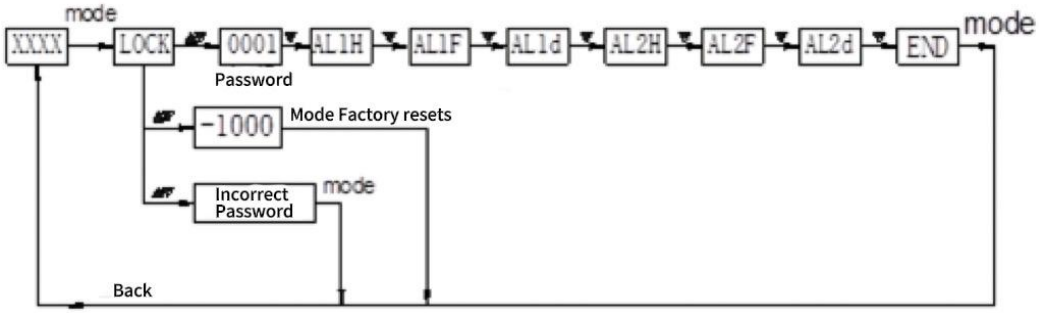
A. Switching output

Intelligent temperature switches have two or more switching outputs. Each switching output can be set with 1 temperature switching point and a set of opening and closing delay values. The corresponding outputs switch when the closing value of the switching point is reached and revert when the temperature drops below the release value.

B. Analog output

According to model specifications: An additional 4-20mA analog signal output can be added alongside the multiple digital switch outputs.

C. **Basic Form Setting Switch Points**



Codenames:

AL1H This value for Switch 1 closing value (Pressure at this point causes close, indicator light on)

AL1F This value is the switch 1 release value (pressure reaches this point and disconnects, indicator light goes out).

AL1D This value is the switch 1 action delay (the number of seconds that must be waited for before switching) with a minimum unit of 0.01 seconds.

AL2H value for Switch 2 closing value (Pressure at this point causes close, indicator light on)

AL2F This value is the switch 2 release value (pressure reaches this point and disconnects, indicator light goes out).

AL2D This value is the switch 2 action delay (the number of seconds that must be waited for before switching) with a minimum unit of 0.01 seconds.

Note: The switching point is determined by the configuration of the closing value and release threshold. When the closing value is higher than the release threshold, it triggers the upper limit alarm output (normally open function). Conversely, when the closing value is lower than the release threshold, it triggers the lower limit alarm output (normally closed function).

Example Settings: To set switch point 1 for the upper limit alarm output (normally open function) in 4Mpa close, less than 3.95Mpa disconnection, switching delay for 3 seconds action; switch point 2 for the lower limit alarm output (normally closed function) in 10Mpa disconnection, less than 9.95Mpa close, switching delay for 1 second:

Access to the menu: Settings

AL1H=4.00 AL1F=3.95 ALID=3.00

AL2H=9.95 AL2F=10.00 AL2D=1.00

●Press "mode".

●Show "LOCK" (prompts for password).

●Press ▲ or ▼ to enter the code "1".

●Press "mode" to confirm.

●Press ▲ or ▼ to scroll up or down for menu selection (AL1H, AL1F, AL1D, AL2H, AL2F, AL2D, END)

●Press "mode" to enter the selected menu.

●Press ▲ or ▼ to change the setting.

●Press "mode" to confirm, and then use ▲ or ▼ to select other menu for modification if necessary.

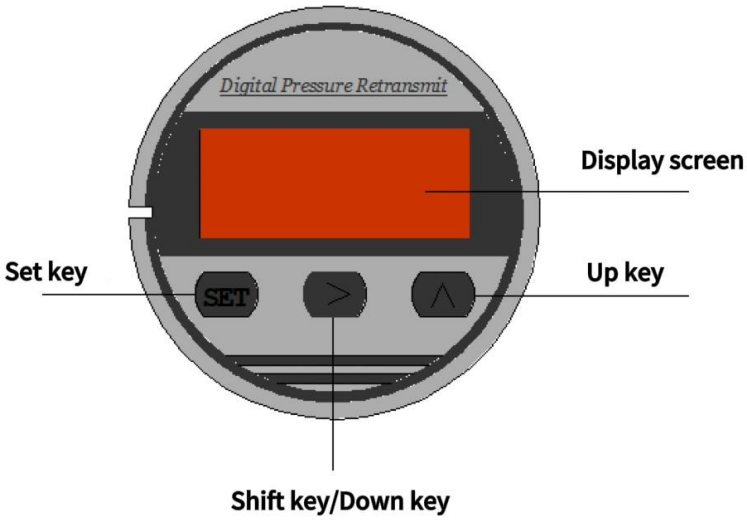
●Select "END" menu after modification, press "mode" key to confirm save and exit.

●If no key is pressed for 30 seconds, the setting state is automatically exited, but the modified data is not saved.

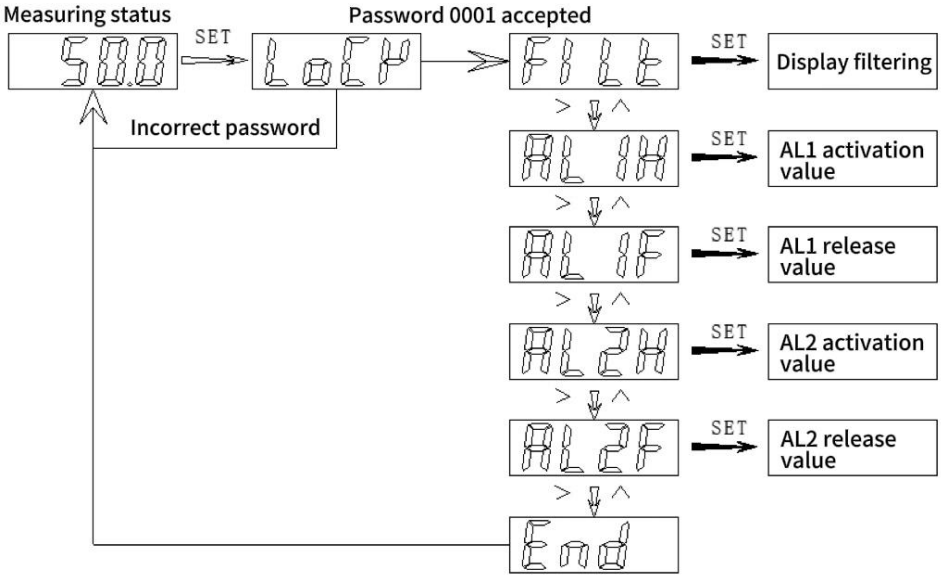
Note 1: Press the mode key in the measurement state, "LOCK" is displayed to prompt for mode password, press ▲ or ▼ to input the password "1", press the mode key to confirm to enter the menu, and use ▲ or ▼ to switch. The menu is a cycle structure, you can turn up and down. In the "END" menu, press mode key to save and exit. Data viewing is realized by mode key, modification is realized by ▲ or ▼ key, to confirm, please press mode key again.

Note 2: AL1D and AL2D are not included in the setup process for standard and explosion-proof models, the rest of the steps are the same as above.

C. Intelligent Setting of Switch Points



The panel has 4 digital tubes and 3 keys, SET for setup, SUB for bit selection and ADD for increase.



1. Switch point setup process:

FILT This value is the display filter coefficient.
AL1H This value is the switch 1 (AL1/SP1) suction value.
AL1F This value is the release value for switch 1 (AL1/SP1)
AL2H This value is the switch 2 (AL2/SP2) suction value.
AL2F This value is the switch 2 (AL2/SP2) release value
END Save Exit

Note: If AL1H>AL1F, this SP1 is upper limit alarm mode, if AL1H<AL1F, this SP1 is lower limit alarm mode, if AL1H=AL1F, this SP1 is off. Return difference = Abs (AL1H-AL1F). SP2 setting is the same as SP1.

2. Zero clearing:

In the zero pressure state, press and hold the selection key, which is the center most button, for 3-4 seconds to clear the zero. Performing the zero operation again will return to the factory calibration state. The factory default zero value is 0.

VIII. Accessory charts

T1 (heat sink) 150°C	T2 (high temperature capillary) 250°C
	

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