【Intelligent double-loop cascade PID regulate controller】

- **Product outline**

WP-KS805 series intelligent double-loop cascade PID regulate controller adopts advance microprocessors for smart control. It has switch function for many kinds of input signal, and double screen digital + double light column display mode, and can select RS232, RS 485 serial communication interface and can realize multi-machine communication. The instruments can be applied to high accuracy regulate control systems for much industry. Between input, output all adopt photoelectric isolation, have good anti-interference ability and stability.

WP-KS 805 series double-loop cascade intelligent PID regulate controller have five analog input (1N1—1N5), two analog output (OUT1, OUT2), one switch input D1, two switch output and abundant control algorithm, and suitable for three impulse control or two impulse control of boiler steam drum level and can with steam drum level pressure compensation function, suitable for the cascade control, feed, forward control, double loop control of various process parameters such as temperature, pressure, level, flow in general industrial process, and can with backup manipulator, which match with backup controller to realize manual / auto non-interference switching.

- **Main technical parameters**

>> Input signal

·Resistance: 1N1, 1N2 supports multi specification thermo-resistance, such as Pt 100, Pt 100.1, Cu 50, Cu 100

·Couple: 1N1, 1N2 supports multi specification thermocouple, such as B, S, K, E, J, T, WRe

·Current: 1N1,1N2, 1N3, 1N4, 1N5 supports 0～10 mA, 4～20 mA (input resistance ≤250Ω)

·Voltage: 1N1,1N2, 1N3, 1N4, 1N5 supports 0～5 V, 1～5 V (input impedance ≥250KΩ)

·One switch signal: DI input only receive dry contact signal, use to receive manual state signal of backup manipulator, it match with analog input 1N3 realize manual / auto non-interference switching of backup operator

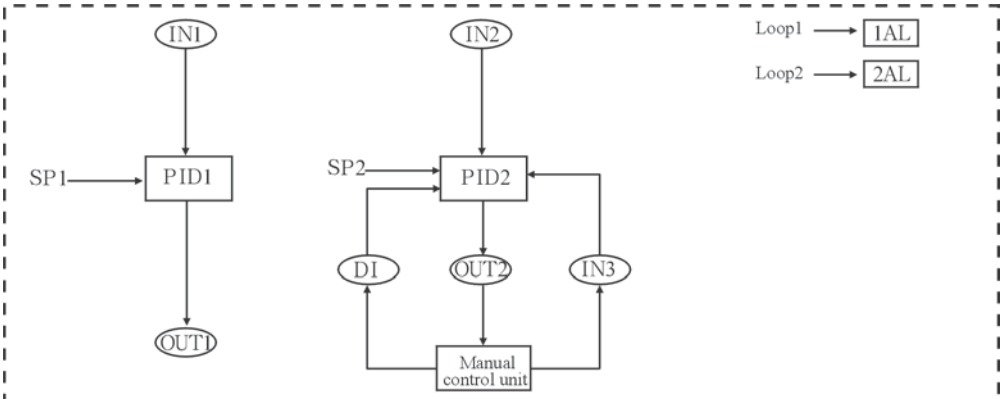
·Cold end compensation range: 0～50℃

- **Outline dimension and open hole dimension of instrument**

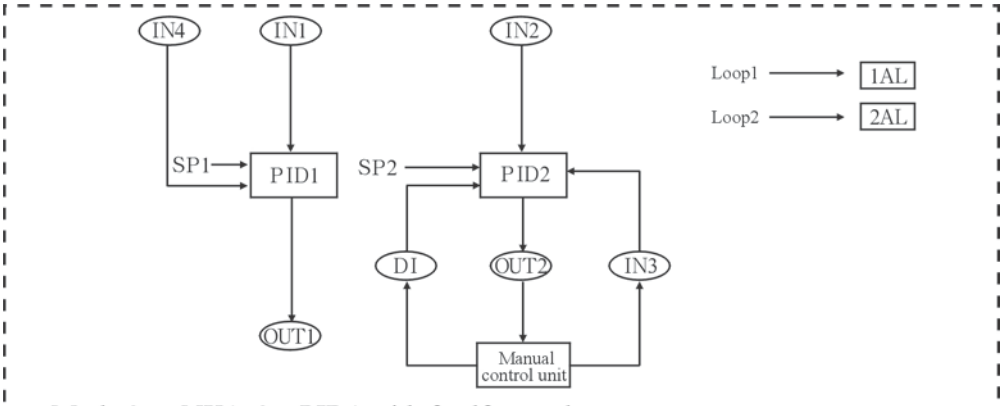
Outline dimension：80×160×152mm

Open hole dimension：76^{+1}_{-0} ×152^{+1}_{-0} mm

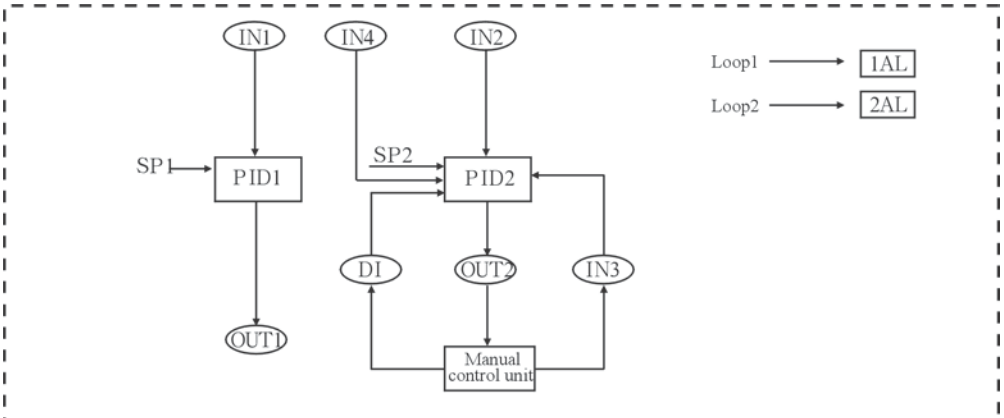
- **Operation mode for WP-KS805 intelligent double-loop cascade PID regulate controller**



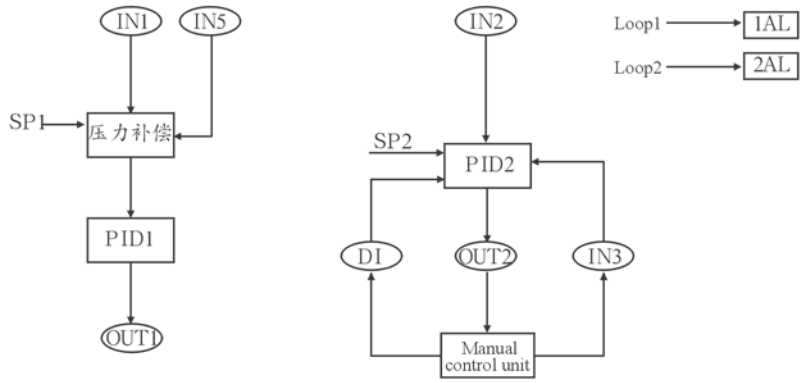
Mode 1 NK1=1，no feedforward
NK2=1，PID1、PID2 are two independent regulator
NK3=1，IN1 without pressure compensation
NK4=3，OUT1 act as PID1 control output



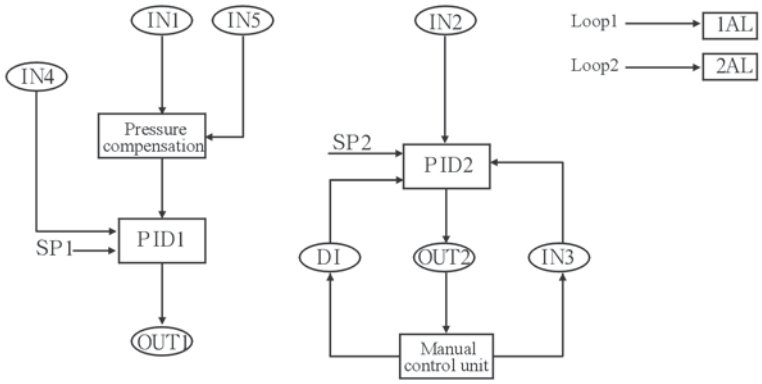
Mode 2 NK1=2, PID1 with feedforward
NK2=1, PID1、PID2 are two independent regulator
NK3=1, IN1 without pressure compensation
NK4=3, OUT1 act as PID1 control output



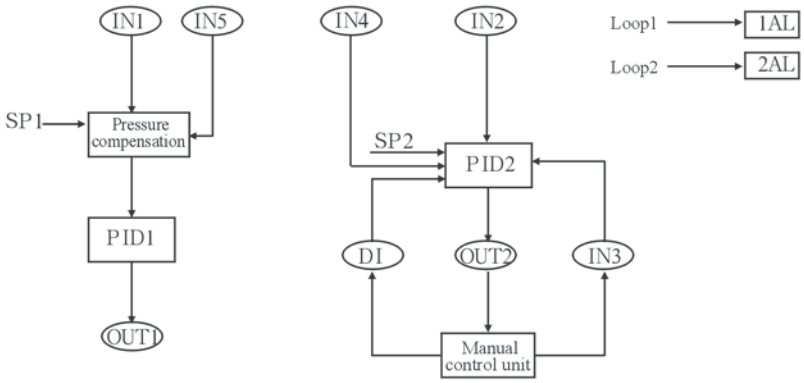
Mode 3 NK1=3, PID2 with feedforward
NK2=1, PID1、PID2 are two independent regulator
NK3=1, IN1 without pressure compensation
NK4=3, OUT1 act as PID1 control output



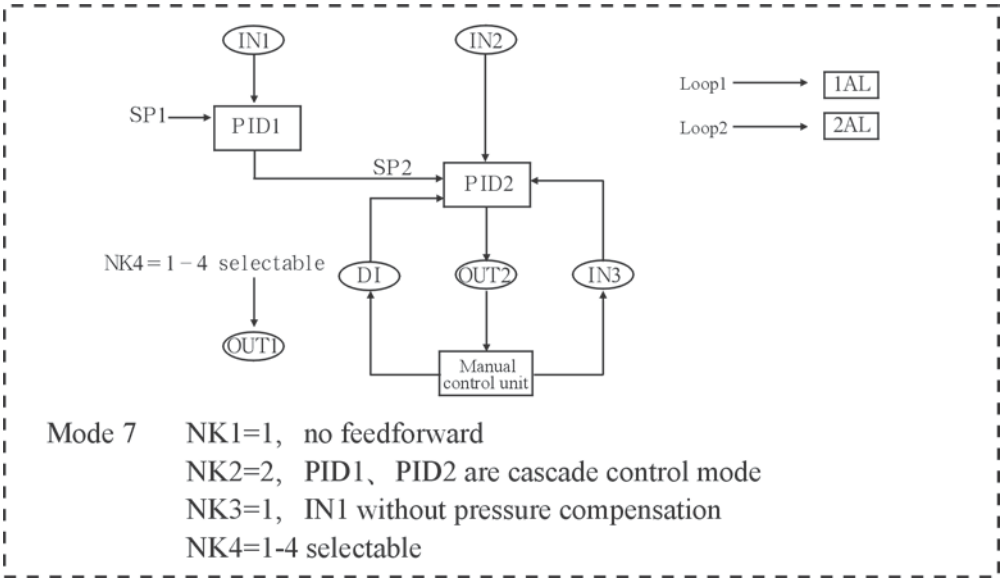
Mode 4 NK1=1, no feedforward
NK2=1, PID1、PID2 are two independent regulator
NK3=2, IN1 with pressure compensation
NK4=3, OUT1 act as PID1 control output



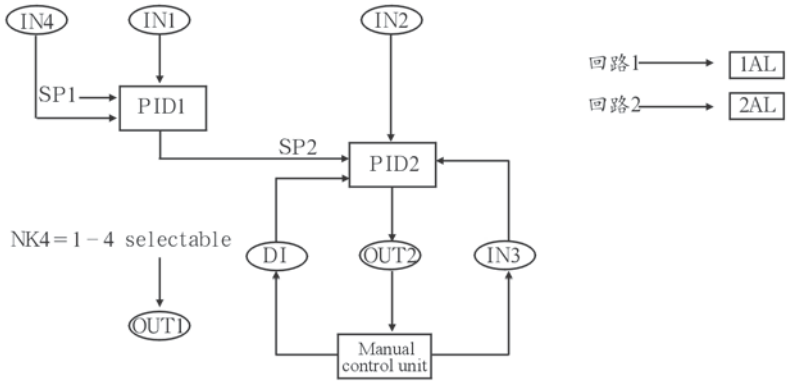
Mode 5 NK1=2, PID1 with feed forward
NK2=1, PID1、PID2 are two independent regulator
NK3=2, IN1 with pressure compensation
NK4=3, OUT1 act as PID1 control output



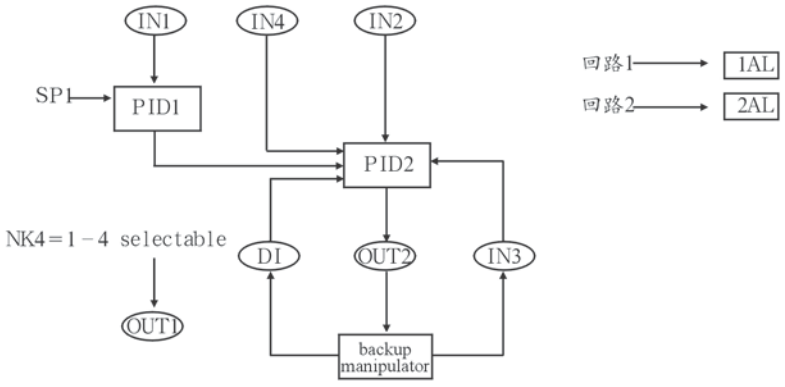
Mode 6 NK1=3, PID2 with feedforward
NK2=1, PID1、PID2 are two independent regulator
NK3=2, IN1 with pressure compensation
NK4=3, OUT1 act as PID1 control output



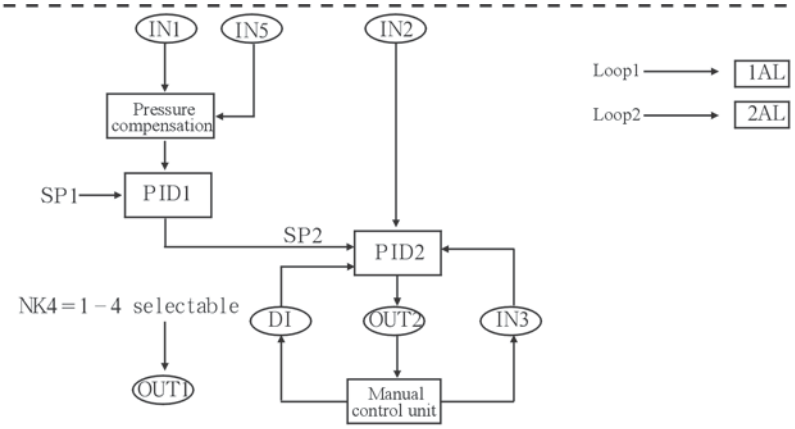
Mode 7 NK1=1, no feedforward
NK2=2, PID1、PID2 are cascade control mode
NK3=1, IN1 without pressure compensation
NK4=1-4 selectable



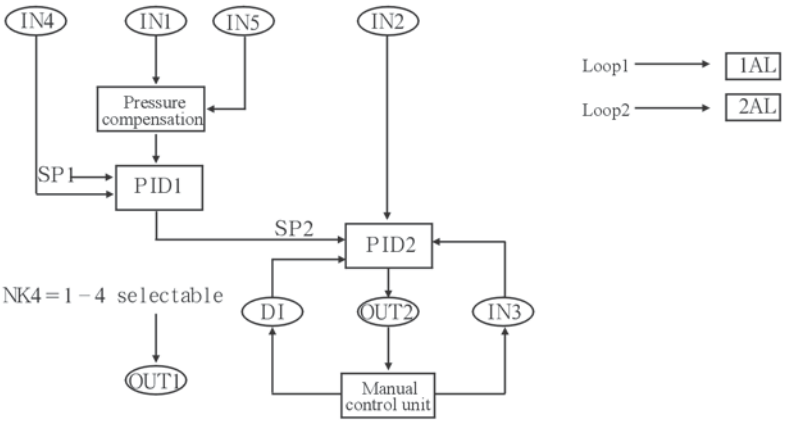
Mode 8 NK1=2, PID1 with feed forward
NK2=2, PID1、PID2 are cascade control mode
NK3=1, IN1 without pressure compensation
NK4=1-4 selectable



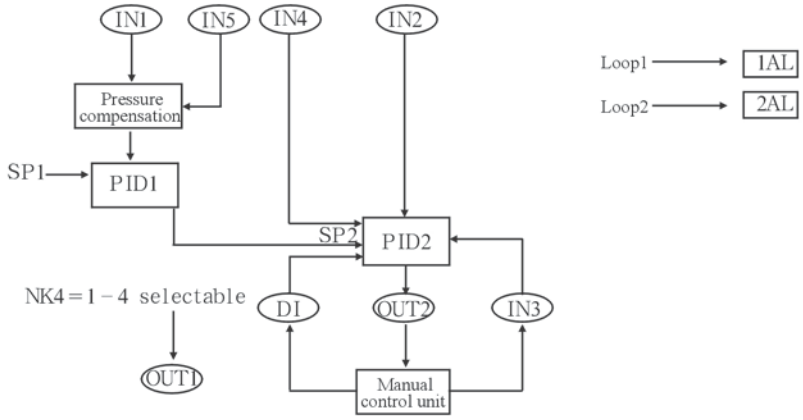
Mode 9 NK1=3, PID2 with feed forward
NK2=2, PID1、PID2 are cascade control mode
NK3=1, IN1 without pressure compensation
NK4=1-4 selectable



Mode 10 NK1=1, no feedforward
NK2=2, PID1、PID2 are cascade control mode
NK3=2, IN1 with pressure compensation
NK4=1-4 selectable



Mode 11 NK1=2, PID1 with feed forward
NK2=2, PID1、PID2 are cascade control mode
NK3=2, IN1 with pressure compensation
NK4=1-4 selectable



Mode 12 NK1=3, PID2 with feed forward
NK2=2, PID1、PID2 are cascade control mode
NK3=2, IN1 with pressure compensation
NK4=1-4 selectable

- **Type spectrum table for intelligent double loop cascade PID regulate controller**

Model								Explanation
WP-KS805	-□	□	□	-□□	□□	-□	-□	
Communication mode	0							No communication
	2							RS-232 isolated communication interface
	8							RS-485 isolated communication interface
Control output OUT2		2						(4～20) mA control output
		3						(0～10)mA control output
		4						(1～5)V control output
		5						(0～5)V control output
Transmitting output or control output OUT1			2					(4～20) mA assistant transmitting output or control output
			3					(0～10)mA assistant transmitting output or control output
			4					(1～5)V assistant transmitting output or control output
			5					(0～5)V assistant transmitting output or control output
Input type IN1, IN2				03				Adaptation thermocouple
				08				Adaptation thermo resistance
				12				Adaptation (4～20) mA input
				13				Adaptation (0～10)mA input
				14				Adaptation (1～5)V input
				15				Adaptation (0～5)V input
				23				full switching division number input
Input type IN3, IN4, IN5					12			Adaptation (4～20) mA input
					13			Adaptation (0～10)mA input
					14			Adaptation (1～5)V input
					15			Adaptation (0～5)V input
Feed output								DC 5/24V feed output (no feed can be omitted)
						P		DC 5/24V feed output (please note)
Supply mode							T	AC (90～265)V switch power supply

Note 1: IN3, IN4, IN5 is (0～10) mA / (4～20) mA / (0～5)V/(1～5) V input available, is approved (4～20) mA

Option as an example: WP-KS805-022-0312-P-T

- **Wiring diagram**