DATASHEET

SPMK251 Intelligent pressure controller

BCLog-Control

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SPMK251
Intelligent Pressure Controller



Product Description

SPMK251 Intelligent pressure controller uses digital control technology to quickly output high precision and high stability pressure.

It needs to connect with external pressure source (It can be Nitrogen cylinder, or SPMK211D Electric pressure generator, or other brand electrical pressure source with the suitable pressure range).

It can calibrate or test pressure gauge, Intelligent HART pressure transmitter, pressure switch and so on.

Product characteristics

- Accuracy ±0.02% and ±0.05%F.S optional;
- 8-inch color touch screen;
- Chinese and English language available;
- Supports the step output method;
- Supports calibration of HART instruments;
- Supports measurement of voltage, current, pressure switch;
- Outputs mA and 24V;
- Built-in standard barometer for switching between gauge pressure and absolute pressure;
- Use of external SDP pressure module (optional);
- Warranty: 1 year.

Technical parameters

Model	SPMK251-07	SPMK251-6	SPMK251-25	SPMK251-60
Pressure control range	(-95~700) kPa	(-0.09~6) MPa	(-0.09~25) MPa	(1~60) MPa
Built-in pressure module	(-100~700)kPa ±0.02/0.05%FS	(-0.1~6)MPa ±0.02/0.05%FS	(-0.1~25)MPa ±0.02/0.05%FS	(0~60)MPa ±0.02/0.05%FS
External pressure module	According to the inspection pressure instrument selection, the measurement range is not greater than the built-in pressure standard module external module selection, please refer to the Pressure Range Selection Table on P5.			
Pressure type	Gauge pressure/ Absolute pressure	Gauge pressure/ Absolute pressure	Gauge pressure/ Absolute pressure	Gauge pressure
Media	Air/Nitrogen	Air/Nitrogen	Air	Mineral oil (Distilled water)
External pressure source	(-95 to 800) kPa	(-0.095 to 7) MPa	(-0.095 to 26) MPa	(0 to 800) kPa
Control stability (30s)	≤ 0.003%FS	≤ 0.003% FS	≤ 0.003% FS	≤ 0.003% FS
Pressure control over (back) adjustment	Not more than 0.1% of the absolute value of the target pressure			
Target pressure stability duration	Greater than 5 minutes			
Control response time (without external load)	30s			
Function	V, mV, mA, switching, calibration HART instrument with 24VDC output			
Displaying the number of digits	4/5/6 digit display optional			
Pressure connections	M20 x 1.5 female or NPT/BSP thread optional			
Power supply	220VAC			
Power	0.05 kW			
Storage temperature	(0～50)℃			
Relative humidity	<90% non-condensing			
Dimensions	(375 x 460 x 180) mm			(520 x 460 x 210) mm
Weight	14 kg	14 kg	14 kg	40 kg
Recommended purchase	SPMK211D-8	SPMK211D-7	SPMK211D-25	SPMK211D-08

Note:① Temperature automatic compensation range is (-10~50)℃, 1 year accuracy.
② Modules can be customized, refer to the Pressure Range Selection Table on P48.
③ SPMK251-60 pressure controller needs to work with SPMK211D pressure generator only.

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Electrometric Indicators

Signal	Range	Resolution	Accuracy
Voltage measurement	(-30～30)V	0.1mV	±(0.01%RD+0.005%FS)
Current measurement	(-30～30)mA	0.1μA	±(0.01%RD+0.005%FS)
Switch detection	If the switch is energized, voltage range (3 to 24) V		
Current output	(0～22)mA	1μA	±(0.02%RD+0.005%FS)
24VDC output	(24±0.5)V, maximum load 50mA		

Note: Ambient temperature is (25±5)°C, 1 year accuracy.

Optional Calibration Solution

Program options		Option I (-100~700) kPa	Option II (-0.1~6) MPa	Option III (-0.1~25) MPa	Option IV (1~60) MPa	QTY
Intelligent pressure controller	**Built-in pressure control module**	SPMK251/07 (-100~700)kPa ±0.02/0.05%FS	SPMK251/6 (-0.1~6)MPa ±0.02/0.05%FS	SPMK251/25 (-0.1~25)MPa ±0.02/0.05%FS	SPMK251/60 (0~60)MPa ±0.02/0.05%FS	1 pc
	Dimensions	(375 x 460 x 180) mm			(520 x 460 x 210) mm	
	Weight	14 kg			40kg	
	Power	0.05 kW				
Pressure source	**Pressure output**	SPMK211D/08 (-95~800) kPa	SPMK211D/6 (-0.095~7) MPa	SPMK211D/25 (-0.095~26) MPa	SPMK211D/08 (0~800) kPa	1 pc
	Dimensions	(560 x 490 x 580) mm				
	Weight	50 kg	70 kg	100 kg	50 kg	
	Power	1 kW		2 kW	0.5 kW	
Combination cabinets	**Dimensions**	(615x600x1240) mm				1 pc
	Total weight	75 kg	120 kg	150 kg	110 kg	
	Total power	1.05 kW	1 kW	2 kW	0.55 kW	
Pressure control module		(-2~2)kPa 0.05 (-5~5)kPa 0.02/0.05 (-10~10)kPa 0.05 (-100~100)kPa 0.02/0.05 (0~250)kPa 0.02/0.05 (0~400)kPa 0.02/0.05	(-100~160)kPa 0.02/0.05 (0~250)kPa 0.02/0.05 (0~600)kPa 0.02/0.05 (0~1)MPa 0.02/0.05 (0~2.5)MPa 0.02/0.05 (0~4.0)MPa 0.02/0.05	(0~1)MPa 0.02/0.05 (0~2.5)MPa 0.02/0.05 (0~6)MPa 0.02/0.05 (0~10)MPa 0.02/0.05	(0~10)MPa 0.02/0.05 (0~25)MPa 0.02/0.05 (0~40)MPa 0.02/0.05	1 pc
Pressure manifold with 4 outports		SPMK2000-10 Air pressure (-0.1~30)MPa			SPMK2000-10 Hydraulic (0~80)MPa	1 pc
Pressure adapter		SPMK2000-1 set of adaptors, with 38 different threads				Optional

Note: SPMK251-60 pressure controller needs to work with SPMK211D pressure generator only.

Accessories(included)

Serial number	Description	QTY	Picture
1	Main product	1 pc	
2	Power adapter	1 pc	
3	Test leads	2 sets	
4	Pressure module connection cable	1 pc	
5	SPMK2000-10 pressure manifold with 4 outports	1 pc	
6	RS232 communication cable	1 pc	
7	User's manual	1 pc	
8	Test report	1 pc	

Optional Accessories

Serial number	Description	Picture
1	SPMK2000-9 five outports pressure manifold	
2	SPMK2000-3 high-pressure gas connection hose	
3	SPMK2000-4 high-pressure liquid connection hose	