

**I. BASIC CHARACTERISTICS OF THE PRODUCT****Analog output characteristics**

- Basic functions  
DC voltage DCV, resistance OHM, thermocouple TC, thermal resistance RTD
- The maximum output accuracy is 0.05% and the output display is 5 digits.
- H/L settings are available for OHM excitation current.
- The output temperature value and the corresponding temperature signal are displayed on the same screen.
- It has a built-in high-precision temperature sensor for high-precision cold-end compensation.
- Auto power-off, backlight, flashlight, etc.
- LCD display with a white backlight.
- It has a LED flashlight for lighting.
- User-optional large-suction magnetic sling is provided.

**II. GENERAL CHARACTERISTICS OF THE PRODUCT**

- **Electrical safety** : EN61010-1:2001  
**Withstand voltage** : AC 3540V(50 / 60Hz) / 5 seconds between terminal and housing.  
**Insulation impedance** : DC 1000V / 100M  $\Omega$  or more between terminal and housing.
- **Electromagnetic compatibility (EMC)** : En61326-1:2006  
Performance criterion 2 is met, i.e. the function and performance are temporarily reduced or lost, but can be recovered by themselves.
- **Protection grade** : Ip40.
- **Vibration and fall** : IEC 60068-2-64:2008, IEC 60068-2-32 : 2008  
Random, 2g, 5-500Hz; 1m drop test.
- **CE certification.**
- **Instrument display and key** : Segment code LCD display, white back light, Rubber key is adopted
- **Power supply** : 3 pcs of AA alkaline batteries for power supply
- Dimension and weight

Preliminary Data

**III. STANDARD ACCESSORIES**

Industrial test conductor : 1 pair, AA alkaline battery : 3 pcs  
Thermocouple adapter, User Manual

**IV. OPTIONAL ACCESSORIES :**

magnetic sling

All Specifications are subject to change without prior notice

## V. BASIC FUNCTION AND PERFORMANCE OF THE PRODUCT (TECHNICAL INDEX)

**Analog output function** [Applied within one year after calibration, 23°C ± 5°C, 20-70% RH, accuracy = ± (% set value + % reading)]

Output function	Range	Output range	Resolution	Accuracy	Remarks:	
DC voltage DCV	100mV	-10.000mV ~ 110.00mV	0.01mV	0.05% + 0.03mV	Maximum output current: 1mA	
	1V	-0.1000V ~ 1.1000V	0.0001V	0.05% + 0.3mV	Maximum output current: 5mA	
Ohm OHM	400Ω	0 ~ 400.0Ω	0.1Ω	0.05% + 0.2Ω	The excitation current is ± 0.1 ~ ± 5mA Maximum output voltage 2V When the excitation current is ± 0.1 ~ 0.5mA, additional error of 0.1Ω is added The accuracy does not include lead resistance	
	4KΩ	0 ~ 4.000KΩ	1Ω	0.05% + 2Ω		
Thermocouple TC	R	0°C ~ 1767°C	1°C	0 ~ 100°C	1.5°C	Use ITS-90 temperature scale The accuracy does not include the error of cold junction compensation The accuracy does not include sensor inaccuracy The accuracy does not include the influence of thermoelectric potential R: Platinum Rhodium 13- Platinum S: Platinum Rhodium 10- Platinum K: Nickel chromium - nickel silicon E: Nickel chromium - copper nickel (constantan) J: Iron - copper nickel (constantan) T: Copper - nickel (constantan) N: Nickel chromium silicon nickel silicon B: Platinum Rhodium 30 - Platinum A: Tungsten rhenium 5- Tungsten rhenium 20 C: Tungsten rhenium 5- Tungsten rhenium 26 D: Tungsten rhenium 3- Tungsten rhenium 25
	S	0°C ~ 1767°C		0 ~ 100°C	1.2°C	
	K	-200.0°C ~ 1372.0°C	0.1°C	-200.0 ~ 100.0°C	0.6°C	
				-100.0 ~ 400.0°C	0.5°C	
	E	-200.0°C ~ 1000.0°C	0.1°C	400.0 ~ 1200.0°C	0.7°C	
				1200.0 ~ 1372.0°C	0.9°C	
	J	-200.0°C ~ 1200.0°C	0.1°C	-200.0 ~ 100.0°C	0.6°C	
				-100.0 ~ 600.0°C	0.5°C	
	T	-250.0°C ~ 400.0°C	0.1°C	600.0 ~ 1000.0°C	0.4°C	
				-200.0 ~ 100.0°C	0.6°C	
	N	-200.0°C ~ 1300.0°C	0.1°C	-100.0 ~ 800.0°C	0.5°C	
800.0 ~ 1200.0°C				0.7°C		
B	600°C ~ 1820°C	1°C	-250.0 ~ 400.0°C	0.6°C		
			-200.0 ~ -100.0°C	1.0°C		
A	0°C ~ 2500°C	1°C	-100.0 ~ 900.0°C	0.7°C		
			900.0 ~ 1300.0°C	0.8°C		
C	0°C ~ 2310°C	1°C	600 ~ 800°C	1.5°C		
			800 ~ 1820°C	1.1°C		
D	0°C ~ 2310°C	1°C	0 ~ 1600°C	2.0°C		
			1600 ~ 2000°C	2.2°C		
			2000 ~ 2500°C	2.4°C		
			0 ~ 1600°C	2.0°C		
Thermal resistance RTD	Pt100 385	-200.0°C ~ 800.0°C	0.1°C	100 ~ 270°C	2.4°C	
	Pt200 385	-200.0°C ~ 630.0°C		270 ~ 1200°C	2.2°C	
				270 ~ 2310°C	2.2°C	
	Pt500 385	-200.0°C ~ 630.0°C		0.1°C	0 ~ 100°C	2.6°C
					100 ~ 300.0°C	0.8°C
Pt1000 385	-200.0°C ~ 630.0°C	0.1°C	300.0 ~ 630.0°C	1.0°C		
			-200.0 ~ 100.0°C	0.4°C		
Cu50	-50.0°C ~ 150.0°C	0.1°C	100.0 ~ 300.0°C	0.5°C		
			300.0 ~ 630.0°C	0.7°C		
					0.6°C	

### OTHER CHARACTERISTICS :

- Uncertainty includes standard uncertainty, hysteresis, nonlinearity, repeatability, and typical long-term stability over the period mentioned (K = 2).
- Maximum applied voltage at input end: about 30Vpk; Maximum applied current at input end: about 25mA
- Load characteristics : capacitive load ≥ 0.01uF (DCV / OHM / TC / RTD / FREQ); Inductive load ≥ 0.01uF 100uH (DCA)  
Output load affects DC mV (0.001% full scale + 1nV)/mA; DCV (0.001% full scale + 1nV) / mA
- The temperature range of internal temperature compensated sensor RJC is -10 to 50°C. The temperature measurement accuracy at 18 to 28°C is ± 0.5°C, and the temperature measurement accuracy at other temperature is ± 1°C. Cold end compensation time is 10S / times.
- Temperature coefficient : 0.1 × basic accuracy / °C ( temperature range < 18°C or > 28°C)

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