

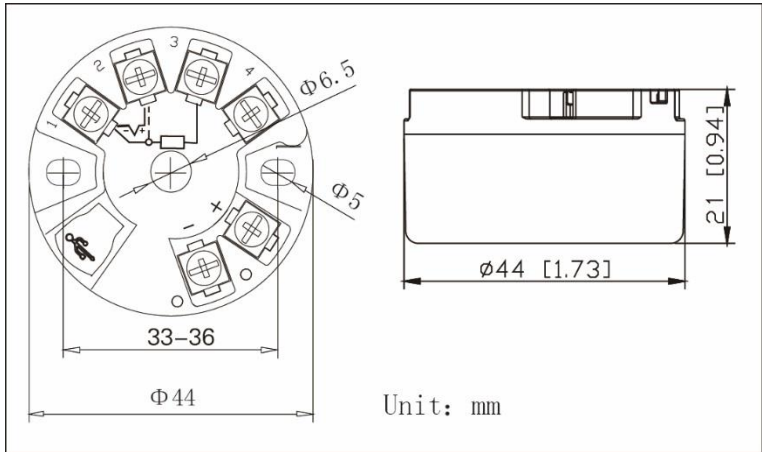
ZP-05 Isolated HART Intelligent Temperature Transmitter

(Round Card) Operating Manual

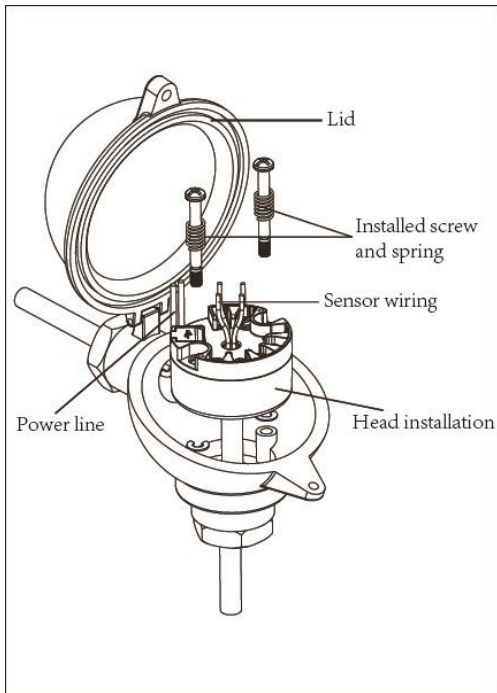
Product Introduction

ZP-05 isolated HART intelligent temperature transmitter (round card) is used for the signal input of resistance temperature detector (RTD) and thermocouple (TC) and 4 - 20mA analog output of the two-wire system, and can be installed in the sensor (Form B) through the HART protocol configuration.

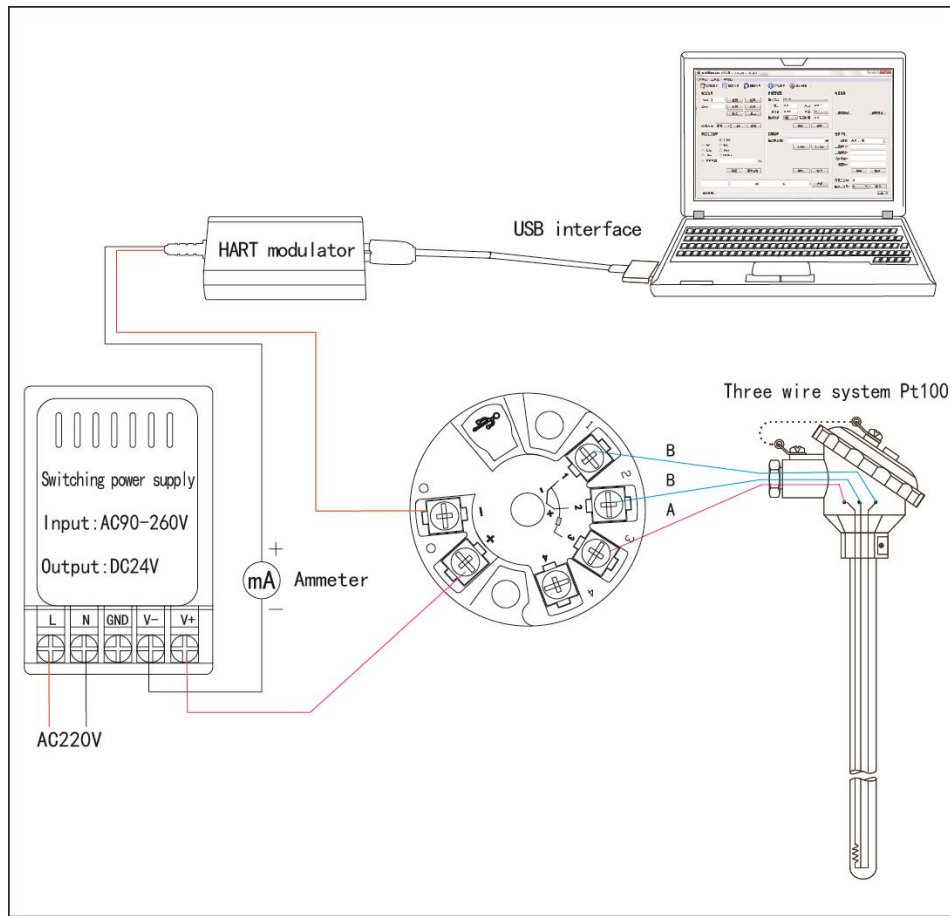
1. Appearance Structure Diagram



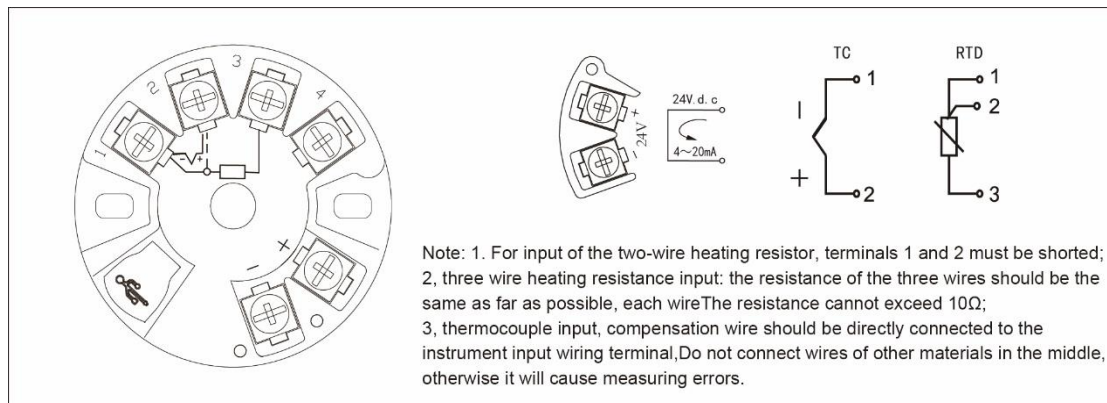
2. Installation Schematic Diagram



3. Configuration Schematic Diagram



4. Wiring Diagram



5. Technical Parameters

Input	
Input signal	Resistance temperature detector (RTD), thermocouple (TC)
Cold-junction compensation	-20 -60℃

temperature scope	
Compensation precision	±1℃
Output	
Output signal	4-20mA, overlaid HART protocol
Load resistance	$R_L \leq (U_e - 12) / 0.021$
Output current of upper and lower limit overflow alarm	I _H =21mA, I _L =3.8mA
Power supply	
Supply voltage	DC12-40V
Other parameters	
Temperature drift	0.0075%FS/℃
Response time	Reach to 90% of the final value for 700ms
Used environmental temperature	-40 - 80℃
Storage temperature	-40 - 100℃
Insulation strength (between input and output)	1500Vrms (1 min, without spark)
Insulation resistance (between input and output)	≥100MΩ (under the 500 VDC)
Aseismicity	4g/2 - 150Hz
Installation angle	Unlimited
Installation area	B-type top cassette installation
Electromagnetic compatibility	Conform to GB/T18268 industrial equipment application requirements (IEC 61326-1)

Input type and transmission accuracy:

Model	Type	Measurement scope	Minimum measurement scope	Conversion accuracy (larger value)
Resistance temperature detector	Pt100	-200~850℃	20℃	±0.1%range 0r ±0.2℃
	Cu50	-50~150℃	20℃	±0.1%range 0r ±0.2℃

(RTD)				
Thermocouple (TC)	B	100~1820°C	500°C	±0.1%range Or ±1.5°C
	E	-100~1000°C	50°C	±0.1%range Or ±0.5°C
	J	-100~1200°C	50°C	±0.1%range Or ±0.5°C
	K	-180~1372°C	50°C	±0.1%range Or ±0.5°C
	N	-180~1300°C	50°C	±0.1%range Or ±0.5°C
	R	-50~1768°C	500°C	±0.1%range Or ±1.5°C
	S	-50~1768°C	500°C	±0.1%range Or ±1.5°C
	T	-200~400°C	50°C	±0.1%range Or ±0.5°C

Notes:

1. The above accuracy data was obtained by testing at an ambient temperature of 20 °C ± 2 °C.
2. The output precision “%” is relative to the set range.
3. The cold end compensation error needs to be added to the thermocouple measurement, and the internal cold end compensation error is ≤±1°C.