MCT80A Intelligent Temperature Transmitter Module

MCT80A intelligent temperature transmitter module is a smart transmitter module with high precision and high stability. It can be installed in the case of a thermal resistor or thermocouple and functions as a converter to transmit the temperature signal to remote device. It inherits standard current or voltage output signal and can output HART protocol commands and some custom commands as well. It is compatible with more than ten types of thermocouple and thermal resistance signal transducers. This product USES 24 Σ - delta sampling chip, ensures high precision measurement. Anti-surge and anti-reverse connection design avoid mis-installation and mis-operation in engineering installation and enhanced software safety design is adopted to ensure long service life and stability.

Technical Parameters

Power: 12~35VDC
Output: HART, 4-20mA, and others
Precision: RTD 0.1%; TC 0.2%
Current Limit: 20.8mA
Excitation current: 210uA
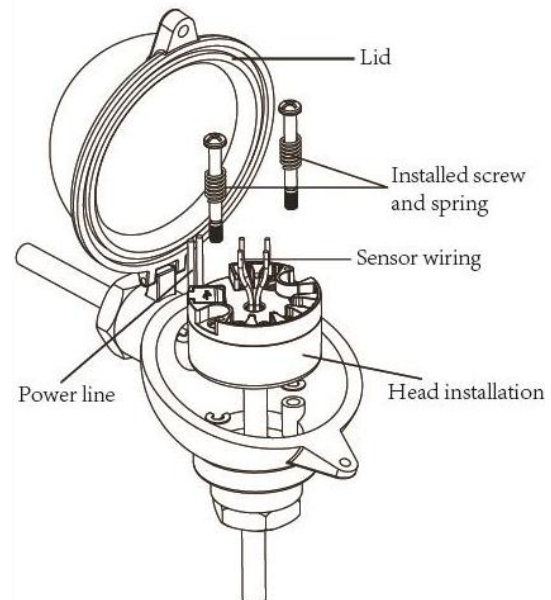Sensor: thermal resistors, thermocouples
Load: ≤500Ω
Stock Temperature: -40~120℃

Temperature coefficient: ≤25ppm/℃ F.S.

Shell Material: PA66
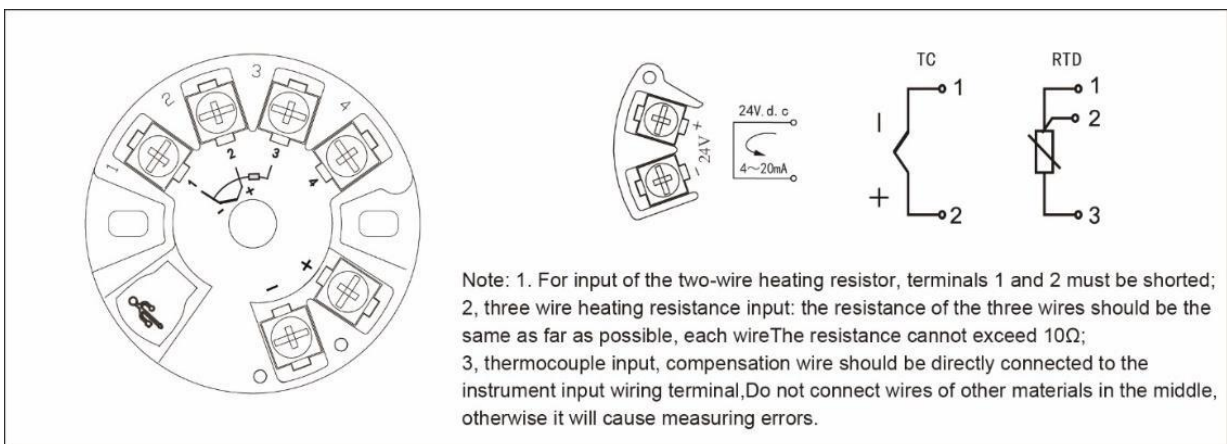Working Temperature: -30~80℃
Installation Screw: M4*2

Temperature Sensor	Type	Temperature Range
Thermal Resistor (RTD)	Pt100	-200～800℃
	Cu50	-50～150℃
	Cu100	-50～150℃
	Pt1000 (Customized)	-50～200℃
Thermocouple (TC)	B	300～1800℃
	E	0～1800℃
	J	0～1200℃
	K	0～1300℃
	N	-200～1300℃
	R	0～1700℃
	S	0～1700℃

	T	-200～400℃
	Wre3-25 (Customized)	0～2300℃
	Wre5-26 (Customized)	0～2300℃

Connection Mode

RTD 2-WIRE

RTD 3-WIRE

RTD 4-WIRE

TC
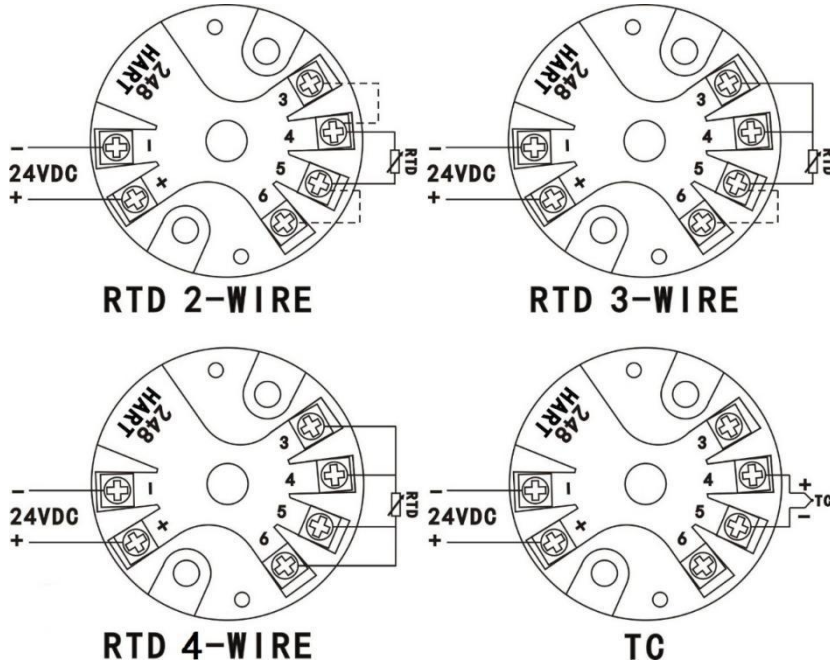
A) Terminal 1 and terminal 2 are the positive and negative poles of 24V power respectively, and the module is equipped with anti-reverse connection function.

B) The thermal resistance connection supports two-wire, three-wire or four-wire system. The connection mode is shown in the figure above, in which the dashed line is the short connection at the end of the watch head, and the user needs to connect it by himself with a short wire.

C) The positive pole of the thermocouple can be connected with terminal 4, and the negative pole can be connected with terminal 5.


Note: 1. For input of the two-wire heating resistor, terminals 1 and 2 must be shorted;
2, three wire heating resistance input: the resistance of the three wires should be the same as far as possible, each wireThe resistance cannot exceed 10Ω;
3, thermocouple input, compensation wire should be directly connected to the instrument input wiring terminal,Do not connect wires of other materials in the middle, otherwise it will cause measuring errors.

Model Selection

MCT80A	Temperature Transmitter Module	
-	Output	None: 4-20mA 2-wires
		H：4-20mA + HART
		2：0-5V
		3: 0-10V
		4: 0-20mA
		5: 1-5V
		9：RS485
		0: customer specified
-	(Default input type)	Pt100
		Pt1000
		Cu50
		Cu100
		B
		E
		J
		K
		N
		R
		S
		T
		WRe3-25
		WRe5-26
-	(Temperature range)	e.g. (0-100℃) or (0-200℉) etc.
-D	Display	1：Without
		2：LED
		3：LCD

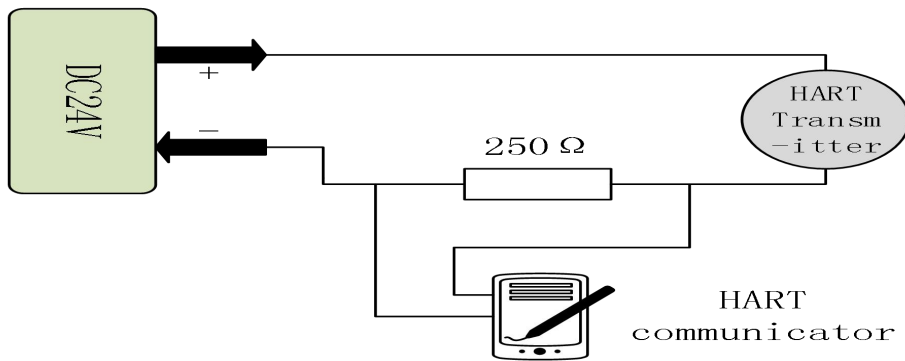**MCT80A**   **MCT80H**

Dimensions
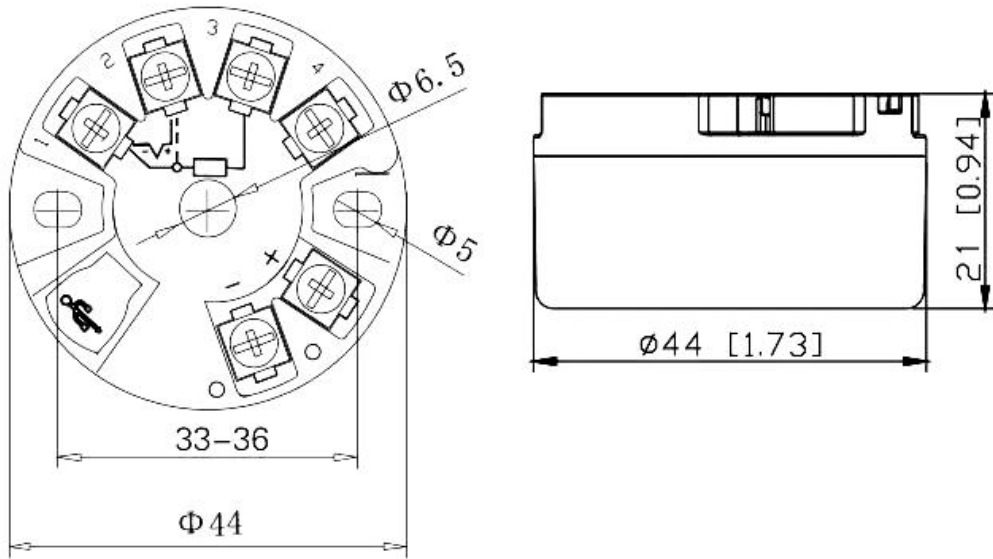
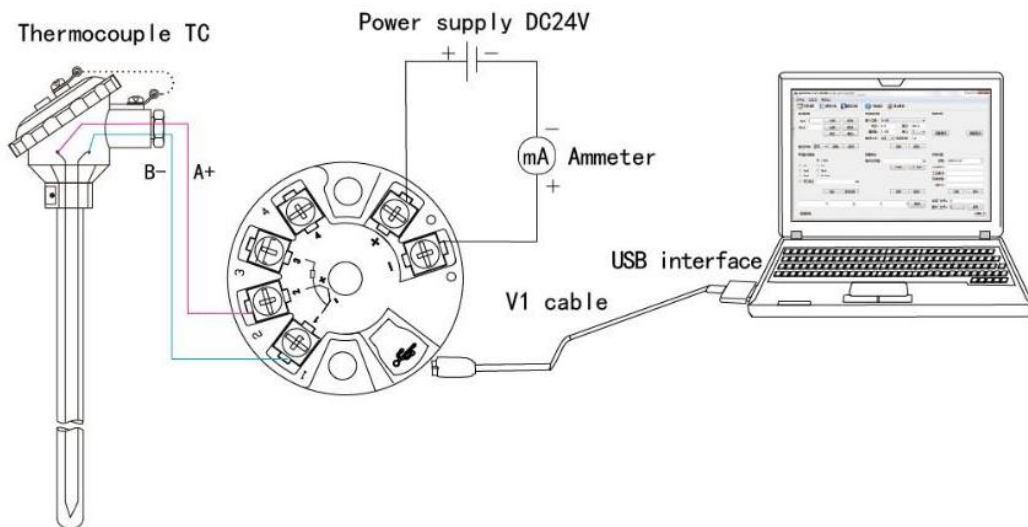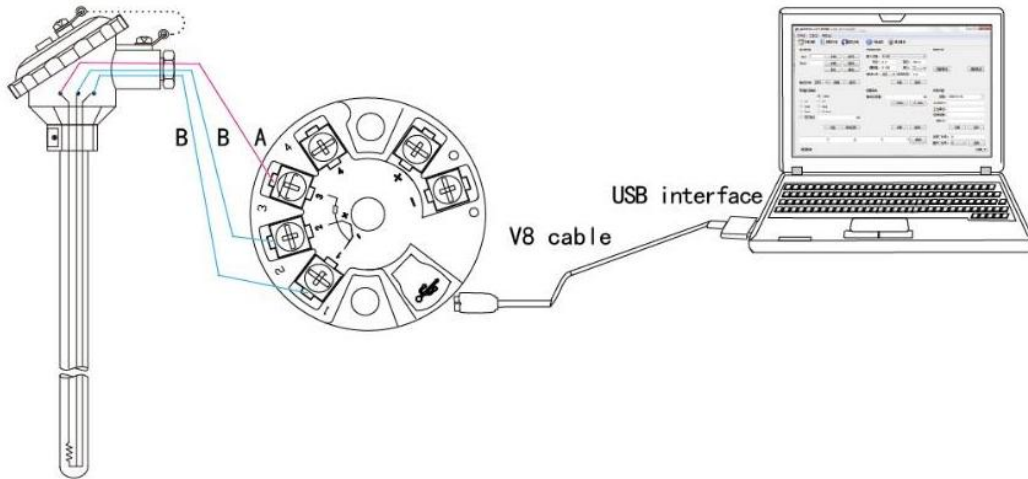## Hart Operator Connection Diagram

The module can be calibrate by computer:

Three wire system Pt100

The module can be calibrate by smart phone: