HT216M LCD Intelligent Temperature Transmitter

User Manual

1.Product Overview

The HT216M LCD intelligent temperature transmitter is used for the input of resistance temperature detector (RTD) signal and thermocouple (TC) signal and for two-wire analog signal output (4−20mA).
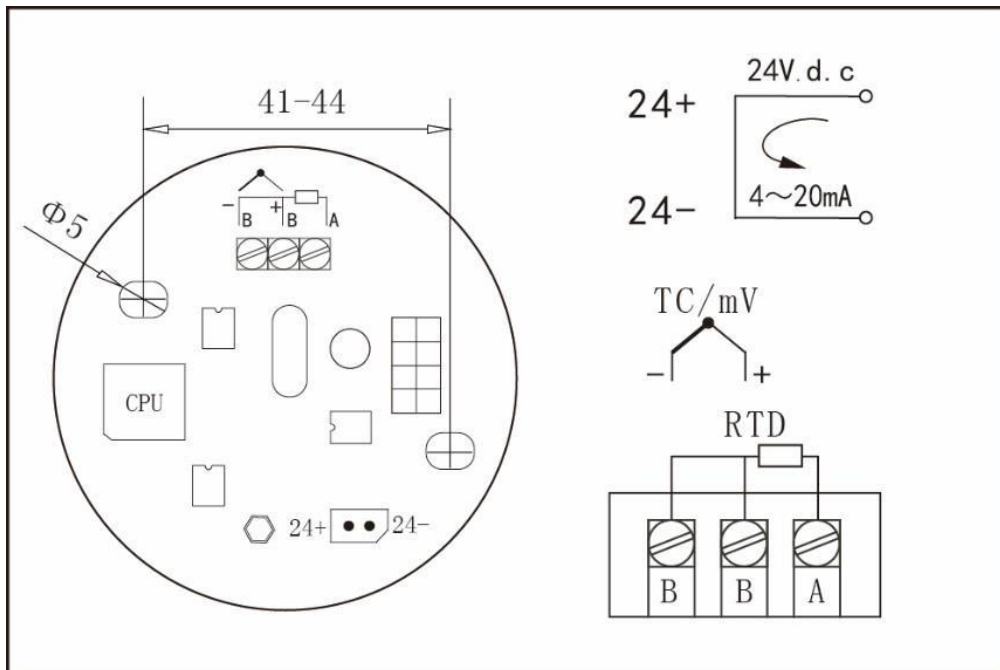
2.Features

➢ Supports 2 types of RTD, 10 types of thermocouple

➢ Input signals are fully switchable

➢ 4~20mA output

➢ Thermocouple cold end compensation

➢ Response time ≤700mS

3. Structure Drawing

Unit: mm
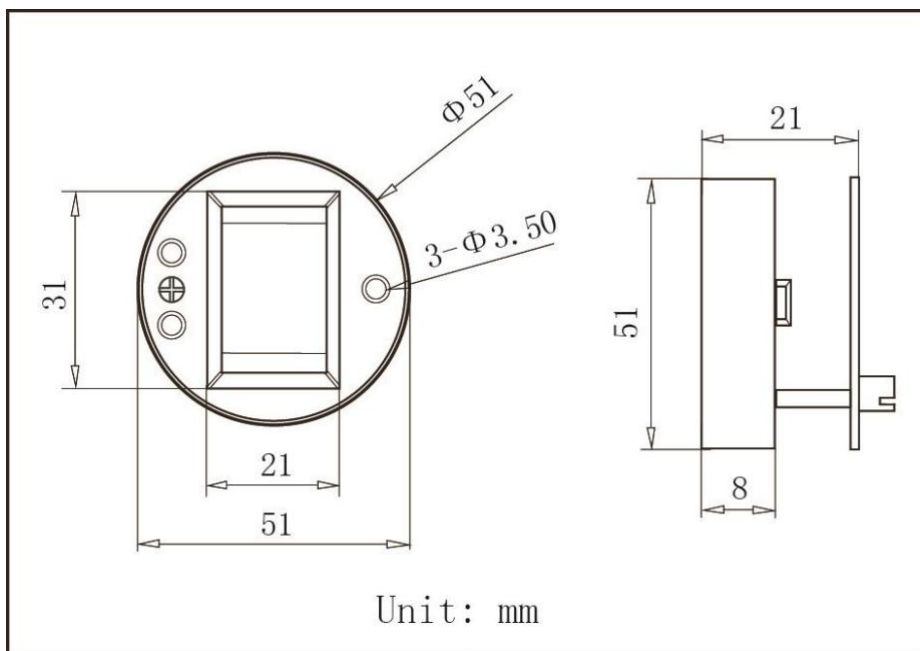
4.Wiring Diagram

5. Technical Parameters

Input Signal	RTD and TC
Scope of Cold Junction Compensation Temperature	-20−70℃
Compensation Accuracy	±1℃
Output Signal	4−20mA (The input and output are not isolated.)
Load Resistance	RL ≤ (Ue- 12)/0.021
Output Current for Upper/Lower Limit Overflow Alarm	IH=21mA and IL=3.8mA
Output Current for Input Break Alarm	21mA
Power Supply Voltage	DC12−40V
Thermal Drift	0.01%FS/℃
Response Time	700ms, reaches to 90% of the final value.
Environment Temperature	-20−70℃
EMC	Comply with the industry equipment application requirements in GB/T18268 (IEC 61326- 1).

Input Type and Transmission Accuracy:

Model	Symbol	Type	Measurement scope	Minimum measurement scope	Conversion accuracy (larger value)
Resistance temperature detector (RTD)	P t 1 0 0	Pt100	-200~850℃	20℃	±0. 1%range Or±0.2℃
	ᄃ∪5ᴼ	Cu50	-50~150℃	20℃	±0. 1%range Or±0.2℃
Thermocouple (TC)	b	B	100~1820℃	500℃	±0. 1%range Or±1.5℃
	E	E	- 100~1000℃	50℃	±0. 1%range Or±0.5℃
	⅃	J	- 100~1200℃	50℃	±0. 1%range Or±0.5℃
	ᛁ	K	- 180~1372℃	50℃	±0. 1%range Or±0.5℃
	∩	N	- 180~1300℃	50℃	±0. 1%range Or±0.5℃
	⌐	R	-50~1768℃	500℃	±0. 1%range Or±1.5℃
	5	S	-50~1768℃	500℃	±0. 1%range Or±1.5℃
	ᛐ	T	-200~400℃	50℃	±0. 1%range Or±0.5℃
	ᛁ325	Wre3-25 (Reserved)	0~2315℃	500℃	±0. 1%range Or±1.5℃
	ᛁ526	Wre5-26 (Reserved)	0~2310C	500℃	±0. 1%range Or±1.5C

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.

6. Operations

6.1 Button Descriptions

Set button (M)	Used for switching among menu parameters. After modifying and saving the menu, press and hold the button to back to the measurement value screen.
Decrease button (S)	Used for decreasing or modifying the current flickering position. Press and hold the button to move the modification position to right.
Increase button (Z)	Used for increasing or modifying the current flickering position. Press and hold the button to move the modification position to left.

6.2 Menu Settings

In the work status, press and hold the Set button for 5 seconds to display the unlock symbol (LOC); Make LOC=1 and press the Set button to enter the menu. Press the Set button to change parameters and then press the Increase or Decrease button to modify parameter values.

Symbol	Parameter	Range Scope	Description	Factory Default
Loc	Loc	0−50000	Electronic lock	0
Sn	Sn	Refer to the input type list.	Sensor type	Pt100
Unit	Unit	°C, F, R, K	Temperature unit C: Celsius temperature F: Fahrenheit temperature R: Rankine temperature K: thermodynamic temperature	°C
Filt	Filt	0−4	Damping coefficient	0
oPL	oPL	- 199.9−6300.0	Lower range limit	- 199.9
oPH	oPH	- 199.9−6300.0	Upper range limit	6300.0

Pb	PB	- 199.9−200.0	Measurement value transfer (zero-point)		0
PP	PK	0.0000−1.9999	Measurement value transfer (gain)		1.0000
⌐-Pb	T-PB	- 199.9−200.0	Modification of cold junction temperature		0
Fout	Fout	3.800−21.000	Fault output current		21.000
dir	diR	0−1	Current output direction diR=0: output 4−20mA diR=1: output 20−4mA		0
F,X	FiX	0.000−21.000	Constant current output: if the set value range is less than 3.800−21.000, the output is fixed based on the set value and is independent of the measurement.		0.000