

# GTM Smart Temperature Transmitter

## Product Manual



**DESCRIPTION** ///

GTM is an intelligent two-wire temperature transmitter that can set the measuring range through the dial switch. It can receive thermal resistance (two-wire , three-wire, four-wire), thermocouple signal, and linearize the input signal, output 4...20 mA (two-wire system) standard signal, and transmit it to DCS, PLC And other system control equipment. At the same time, it can be used with HART handheld programmer or PC programming software to program the temperature transmitter configuration.

The product has a compact structure design, easy installation, high precision, good long-term stability, lightning protection and resistance to electrical fast transient (pulse group) interference, and high overall reliability. It is widely used in the measurement of temperature parameters in various industrial processes and control.

**FEATURES** ///

- High accuracy ( $\leq 0.2\%$  or 0.2K)
- Good stability ( $\leq 0.1\text{ }^{\circ}\text{C}/\text{year}$  or 0.05%/year)
- Strong anti-interference ability (lightning protection, anti-pulse group, anti-radio frequency interference)
- Fast response (1s)
- Multiple input signals (RTD, TC)
- Multiple configuration methods (dip switch, HART, PC programming software)
- Wide voltage power supply (9 ... 30VDC)
- 



**PARAMETERS** ///

Model	GTM
Input signal	Thermal resistance (RTD) : Pt100、Pt1000、Cu50
	Thermocouple (TC) : K、S、R、B、N、E、J、T
Temperature range	-270~+1820 $^{\circ}\text{C}$ (set according to sensor measurement capability)
Conversion accuracy	$\leq 0.2\%$ or 0.2K
Output signal	4-20 mA(two-wire)、HART
Alarm	When the sensor fails (open circuit or short circuit), the output drops to $\leq 3.6\text{mA}$ or the output rises to $\geq 21.5\text{mA}$
Maximum load (Note 1)	(V power- 9 V)/0.025A (output current)
Limit current	$\leq 25\text{mA}$
Power supply voltage (Note 2)	9...30VDC
Response time	1S
Lightning protection (Note 3)	$\pm 4000\text{V}$ ( $\leq 5$ times)
Anti-pulse group (Note 4)	$\pm 4000\text{V}$
Anti-radio frequency interference	$> 10\text{V}/\text{m}$ (80MHz~1000MHz)
Ambient temperature	-40~85 $^{\circ}\text{C}$
Temperature drift	0.008%FS/1 $^{\circ}\text{C}$
Long-term stability	$\leq 0.1\text{ }^{\circ}\text{C}/\text{year}$ or 0.05%/year
Power supply voltage (Note 2)	9...30VDC
Response time	1S
Lightning protection (Note 3)	$\pm 4000\text{V}$ ( $\leq 5$ times)
Anti-pulse group (Note 4)	$\pm 4000\text{V}$
Anti-radio frequency interference	$> 10\text{V}/\text{m}$ (80MHz~1000MHz)
Ambient temperature	-40~85 $^{\circ}\text{C}$
Temperature drift	0.008%FS/1 $^{\circ}\text{C}$
Long-term stability	$\leq 0.1\text{ }^{\circ}\text{C}/\text{year}$ or 0.05%/year

**NOTE:**

1. With HART protocol, the maximum load is:  $(V \text{ power} - 12 \text{ V})/0.025\text{A}$  (output current). When the rail is installed, the maximum load is:  $(V \text{ power} - 10 \text{ V})/0.025\text{A}$  (output current).
2. With HART protocol, the power supply is 12 ...30VDC. When the rail is installed, the power supply is 10 ...30VDC.
3. With HART protocol, no lightning protection.
4. With HART protocol or rail installation, anti-pulse group:  $\pm 3 \text{ 000V}$ .

**TYPE SELECTION** ///

Model	Code	Note
<b>GTM</b>		Smart temperature transmitter
<b>Input signal</b> (note 1)	A	Pt100
	RT	Pt1000
	RC	Cu50
	K	K-type thermocouple
	S	S-type thermocouple
	R	R-type thermocouple
	B	B-type thermocouple
	N	N-type thermocouple
	E	E-type thermocouple
	J	J-type thermocouple
<b>Output signal</b>	T	T-type thermocouple
	A	4-20 mA(two-wire)
<b>Configuration method</b>	H (note 2)	HART(two-wire 4-20mA)
	A	Slide switch
<b>Range</b>	P	Slide switch+PC programming
	A (note 3)	Factory default settings
<b>Installation</b>	X	User specified code (limited to 15 ranges)
	A	Top installation (screw fixation)
<b>Annex</b>	D	Rail installation (35mm DIN rail)
	A	Standard
	B	With calibration report

**NOTE:**

1. When selecting multiple input signals (ie universal input), it is recommended to equip a PC programmer for range setting.
2. HART protocol only applies to top-mounted products.
3. The range needs to confirm the specific temperature range so that it can be set at the factory.