

NTM3 series temperature transmitter module

NTM300 Single input: RTD/TC

NTM310 Single input: TC

NTM320 Single input: RTD

NTM3 series temperature transmitter module deliver the field thermocouple or thermal resistance signals by digital linearization, convert to 4 ~ 20 mA current signals. Passed SIL2, HART and ATEX, IECEx certification.

For DIN form B sensor head mounting.



Technical specifications

Supply voltage:	12 ~ 30V DC (SIL/Ex); 11 ~ 42V DC (none SIL & none Ex)
Cable resistance:	RTD < 50Ω / line, TC < 1kΩ
Output signal:	NAMUR NE43
Load resistance:	$R_L \leq [(U-11)/0.023]\Omega$; U: Loop power supply
CJC accuracy:	0.5°C (CJC range: -40°C ~ +85°C)
Temperature drift:	Pt100: 0.002°C/°C (digital) + 0.003%F.S./°C (D/A) TCK: 0.005°C/°C (digital) + 0.003%F.S./°C (D/A)
Response time:	Approx. 1s
Update time:	< 500ms
EMC:	IEC 61326-3-1, NAMUR NE21
Dielectric strength:	≥ 1500V AC (Input/Output)
Insulation resistance:	≥ 100MΩ (Input/Output)
Operation temperature:	-40°C ~ 85°C (default); -52°C ~ 85°C (optional), below -40°C may increase failure risk.
Storage temperature:	-55°C ~ +100°C
Dimensions:	Ø 44×25.5mm
Wire range:	0.2~1.5mm²
Screw torque:	0.5Nm

Transmission characteristics

Satisfy normal distribution+/-3 Sigma

Standard	Sensor	Range	Digital	D/A
IEC 60584-1	K	-270°C~+1372°C	±0.3°C	0.025%
	E	-270°C~+1000°C	±0.3°C	
	J	-210°C~+1200°C	±0.3°C	
	T	-270°C~+400°C	±0.3°C	
	N	-270°C~+1300°C	±0.3°C	
	S	-50°C~+1768°C	±0.5°C	
	R	-50°C~+1768°C	±0.5°C	
ASTM E988-96	W5Re-W26Re	0°C~+2315°C	±0.5°C	
GOST R8.585	W3Re-W25Re	0°C~+2315°C	±0.5°C	
-	L	-200°C~+800°C	±0.3°C	
-	Voltage(mV)	-120mV~+120mV	±0.01mV	
IEC 60751	Pt100, Pt200, Pt500, Pt1000(α=0.00385)	-200°C~+850°C	±0.1°C	
	Polynomial	-200°C~+850°C	±0.1°C	
GOST 6651	Pt100(α=0.00391)	-200°C~+850°C	±0.1°C	
	Cu50(α=0.00428)	-180°C~+200°C	±0.1°C	
	Cu100(α=0.00428)	-180°C~+200°C	±0.1°C	
	Cu50(α=0.00426)	-50°C~+200°C	±0.1°C	
	Cu100(α=0.00426)	-50°C~+200°C	±0.1°C	
-	Resistance(Ω)	10Ω~400Ω	±0.05Ω	
		10Ω~4000Ω	±0.5Ω	

- Note: 1. The total accuracy is the sum of digital accuracy and output D/A accuracy;
2. For thermocouple inputs, cold junction compensation accuracy should be added to the numerical accuracy when calculating the total accuracy.

Model rules

NTM3□0.□

 Default: SIL+HART+Ex i
 Ex: HART+Ex i
 Input signal ^{note 1}

Note1: sensor input signal

Code	Explain
0	RTD/TC --- single sensor input
1	TC --- single sensor input
2	RTD --- single sensor input

Applications

