

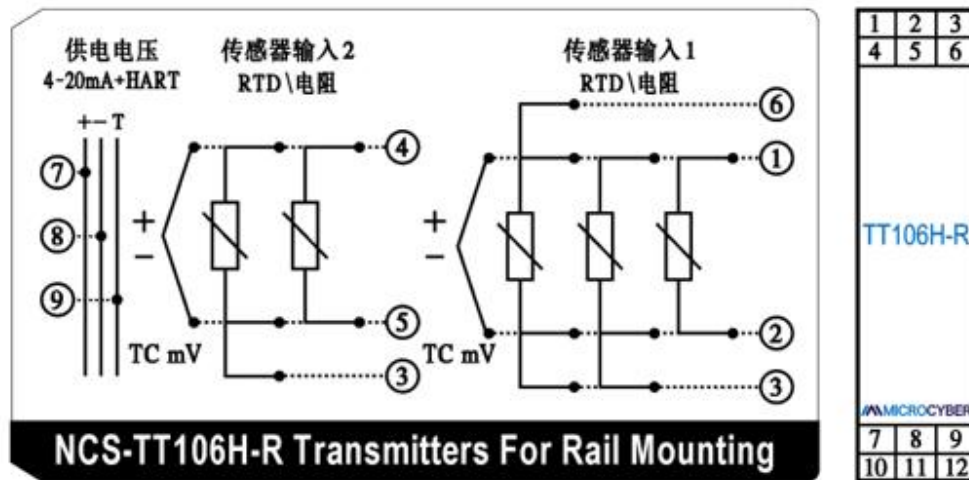
# NCS-TT106H-R HART Din Rail Temperature Transmitter

Date Book



TT106H-R Din rail temperature transmitter with dual channel input. Channel 1 can connect up to 4 lines of RTD, channel 2 can connect up to 3 lines of RTD, and channel 1 and channel 2 can be connected to TC signal at the same time.

### 1.1 Sensor connection



## 1.2 Dual sensor input combination

Sensor input 1									
Sensor input 2		The thermal resistance 2 line	The thermal resistance 3 line	The thermal resistance 4 line	Resistance 2 line	Resistance 3 line	Resistance 4 line	Thermocouple	Millivolt
	The thermal resistance 2 line	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	X	X	X	<input checked="" type="checkbox"/>	X
	The thermal resistance 3 line	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	X	X	X	<input checked="" type="checkbox"/>	X
	Resistance 2 line	X	X	X	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	X	X
	Resistance 3 line	X	X	X	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	X	X
	Thermocouple	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	X	X	X	<input checked="" type="checkbox"/>	X
	Millivolt	X	X	X	X	X	X	X	<input checked="" type="checkbox"/>

## 1.3 Basic Parameter

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Specification	
Input	Pt100, Pt1000, Cu50, Cu100, 0~500 $\Omega$ , 0~4000 $\Omega$ B, E, J, N, K, R, S, T There are eight kinds of graduated thermocouples -100mV~+100mV voltage signal
Output	Single 2-wire device, using 4-20ma /HART, has a linear relationship with the input
Power supply	11~35VDC
Number of channels	two-channel
RTD wiring mode	2-wire、3-wire、4-wire
Temperature limit	-40~85 $^{\circ}$ C
Humidity limit	0-95%RH
Starting time	$\leq$ 5s
Update time	0.8~1.3s It depends on the type of sensor and the wiring
Shell protection level	IP20 (terminal IP00)
Isolation voltage	1000VAC
The power influence	$\pm$ 0.005%/V
EMC	GB/T 18268.1-2010
failure warning	linear output: $3.8 \leq I \leq 20.8$ Limit failure: $21.75 \leq I \leq 23$ The lower limit of failure: $3.5 \leq I \leq 3.75$

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## 1.4 Technical specification of thermal resistance

### RTD precision index

Signal types	Recommended range of use (°C)	Accuracy (25°C)	temperature excursion (/°C)
Resistance	0 ~ 500 Ω	±0.04 Ω	±0.001 Ω
	0 ~ 4000 Ω	±0.35 Ω	±0.015 Ω
PT100	-200 ~ 850°C	±0.10°C	±0.003°C
PT1000	-200 ~ 850°C	±0.10°C	±0.005°C
Cu50	-50 ~ 150°C	±0.10°C	±0.005°C
Cu100	-50 ~ 150°C	±0.10°C	±0.003°C

Note: the RTD index test condition is 4-wire system. 2-wire and 3-wire system conforms to the above indexes after excluding the wire resistance error.

### RTD Other technical indicators

Mode of connection	2-wire、3-wire、4-wire
CMRR	≥70dB (50Hz/60Hz)
DMRR	≥70dB (50Hz/60Hz)

## 1.5 Technical specification of thermocouple

### TC Precision index

Signal types	Recommended range of use (°C)	Accuracy (25°C)	temperature excursion (/°C)
Millivolt	-100 ~ +100mV	±0.025mV	±0.001mV
B	500 ~ 1810°C	±0.77°C	±0.050°C
E	-200 ~ 1000°C	±0.20°C	±0.025°C
J	-190 ~ 1200°C	±0.35°C	±0.01°C
K	-200 ~ 1372°C	±0.40°C	±0.025°C
N	-190 ~ 1300°C	±0.50°C	±0.015°C
R	0 ~ 1768°C	±0.75°C	±0.023°C
S	0 ~ 1768°C	±0.70°C	±0.023°C
T	-200 ~ 400°C	±0.35°C	±0.015°C

## TC Other technical indicators

<b>Cold end temperature compensation accuracy</b>	$\pm 0.5^{\circ}\text{C}$ (Internal measurement) $\pm 0.15^{\circ}\text{C}$ (Sensor 2 measure, Pt100)
<b>CMRR</b>	$\geq 70\text{dB}$ (50Hz/60Hz)
<b>DMRR</b>	$\geq 70\text{dB}$ (50Hz/60Hz)

## 1.6 Mechanical Structure

