

# Field Mount Temperature Transmitter

## RTT5000



Output Signal: 4-20mA (Two-wire System)



Accuracy:  $\pm 0.1\%$



Working Temperature: (-)40 ~ 85°C



Supply Voltage: 12V ~ 35V

# ROCKSENSOR AT A GLANCE (ABOUT US)

Rocksensor is one of the global leaders specializing in Process Instrumentation, Research and Development and Designing of Industrial Automation Equipment. We provide highly precise pressure sensors and transmitters, flow metres, level transmitters and temperature transmitters with a prime focus to help our clients efficiently, safely and economically run complex industrial processes.

Rocksensor, headquartered in Switzerland, has its footprint in various geographical regions such as the US, Russia, South Korea, Italy, Germany, Singapore, Malaysia, Morocco, China, Taiwan, Australia, UAE, Brazil and India. Our clients come from some of the major industries such as Oil and Gas, Petrochemicals, Pharmaceuticals, FMCG, Automobiles, Water, Cement, Metal & Mining, and mainly from the Power Industry like Nuclear, Thermal, Hydro, and Solar.

Rocksensor deals in a wide range of highly accurate industrial automation instruments ensuring that even the complex industrial processes happen efficiently.

To fulfill the needs of our clients we make sure that our instruments work in even the harsh environmental conditions offering accurate recordings and communication.

We, at Rocksensor, believe in creating bonds that last a lifetime and create a success story for each and every client. Rocksensor aims to achieve a perfect fit in the global market landscape and establish our footprints across the globe.



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## KEY APPLICATION INDUSTRIES

- Oil and Gas sector
- Cement
- Metal
- Pulp and Paper
- Agriculture
- Textiles
- Chemicals
- Power
- Water
- Pharmaceutical
- Fertilizer
- Plastics and HVAC

## 1. Technical Specifications

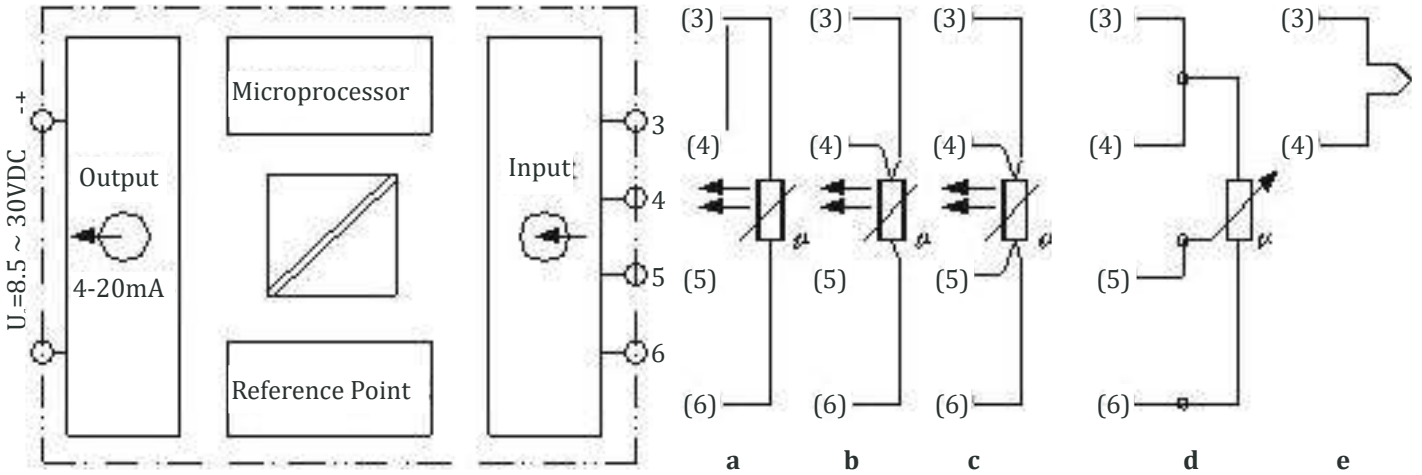
1. Output signal: 4- 20mA (two-wire system)
2. Damping: 0-30 seconds
3. Input signal
4. Explosion proof- II 2G Ex db IIC T6 Gb

Standard	Sensor	Measuring Range	Minimum Measuring Range
IEC584-1	Thermocouple B	320 ~ 1820°C	500°C
	E	(-)200 ~ 900°C	50°C
	J	(-)200 ~ 1200°C	50°C
	K	(-)200 ~ 1372°C	50°C
	R	0 ~ 1768°C	500°C
	S	0 ~ 1768°C	500°C
	T	(-)200 ~ 400°C	50°C
	N	(-)200 ~ 1300°C	50°C
IEC751 2, 3 and 4 wire	Thermal resistance Pt100	(-)200 ~ 850°C	20°C
	Thermal resistance Pt1000	(-)200 ~ 250°C	20°C
Thermal Resistance	$\Omega$	20 ~ 400 $\Omega$	20 $\Omega$
IEC751 2, 3 and 4 wire	CU50, CU100	(-)50 ~ 150°C	20°C
		(-)50 ~ 150°C	20°C
IEC751 $\alpha=0.00385$ ;			

5. Supply voltage: 12V ~ 35V
6. Working environment temperature: (-)40 ~ 85°C
7. Remote transmission and storage temperature: (-)40 ~ 100°C
8. The error between zero and full scale is less than 0.1%
9. Input and output isolation, isolation voltage 1.5kvac
10. Accuracy  $\pm 0.1\%$
11. Temperature influence: Pt100 is less than  $(0.05\% + \text{upper limit of range} / \text{range of range} \times 0.008\%) / 10K$  Thermocouple is less than  $(0.05\% + \text{range upper limit (mV)} / \text{range range (mV)} \times 0.01\% + 0.014K / \text{range range (K)} \times 100\%) / 10K$   
If Pt100 (0 ~ 400°C) is less than 0.063% / 10K. If K-type thermocouple (0 ~ 1000°C) is less than 0.074% / 10K
12. Communication tools
13. Software tool: EASYTT configuration software
14. Mounting hole distance: 33mm, 36 mm
15. Ingress Protection: IP67
16. Electromagnetic compatibility: IEC61326-1
17. Display table  
Digital Display  
(1): 1/2 in sub-script  
(2): Response time: 0.5s  
(3): Measurement accuracy: 0.15%  
(4): Working environment temperature: (-)20 ~ 70 °C

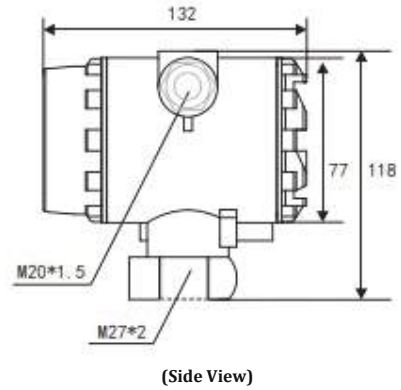
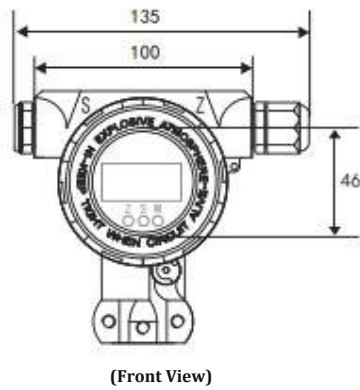
## 2. Wiring and Dimensions

### a. Wiring Diagram

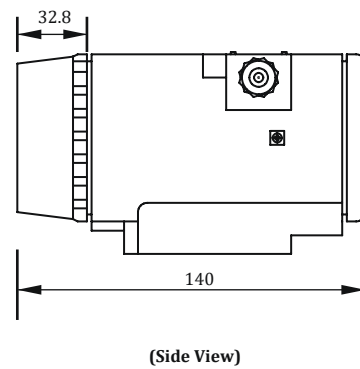
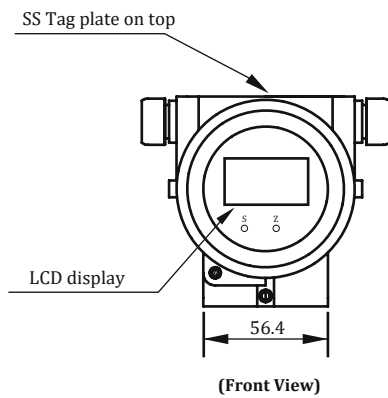


- a) Two-wire thermal resistance input
- b) Three-wire thermal resistance input
- c) Four-wire thermal resistance input
- d) Double thermal resistance input, two-wire system
- e) Potentiometer input (four-wire system)

### b. Dimensions



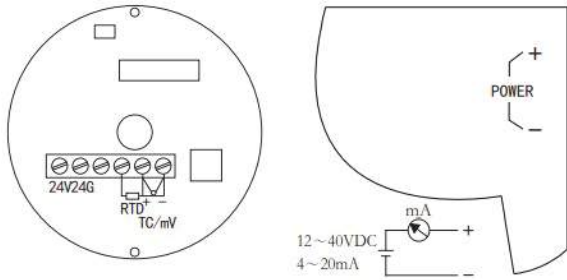
Single Chamber (RTT5000-S)



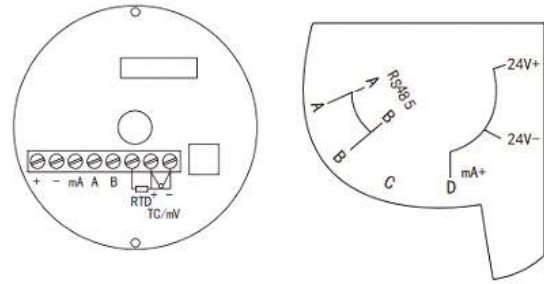
Dual Chamber (RTT5000-D)  
(ATEX)

### 3. Terminal Configuration

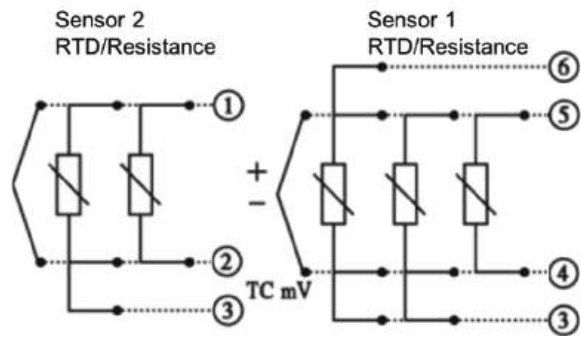
Terminals and diagram (4-20ma/Hart)



Terminals and diagram (4-20ma/RS485)



#### Single Chamber



#### Hardware Interface Description

Sensor Input 1									
	RTD 2-wire	RTD 3-wire	RTD 4-wire	Resistance 2-wire	Resistance 3-wire	Resistance 4-wire	Thermocouple	mV	
Sensor Input 2	RTD 2-wire	☑	☑	☑	X	X	X	☑	X
	RTD 3-wire	☑	☑	☑	X	X	X	☑	X
	Resistance 2-wire	X	X	X	☑	☑	☑	X	X
	Resistance 3-wire	X	X	X	☑	☑	☑	X	X
	Thermocouple	☑	☑	☑	X	X	X	☑	X
	mV	X	X	X	X	X	X	X	☑

#### Sensor Wiring Instructions

#### Dual Chamber

## Field Instrumentation Range



### Pressure Measurement

- Smart Differential Pressure Transmitter
- Smart Gauge Pressure Transmitter
- Smart Absolute Pressure Transmitter
- Miniature Pressure Transducer without display
- Sanitary Gauge/ Absolute Pressure Transmitter
- Submersible Pressure Transmitter
- Remote Seal Differential P.T. with capillary
- Remote Seal Differential P.T. Direct Mount
- Remote Seal Gauge/Absolute P.T. with capillary
- Remote Seal Gauge/Absolute P.T. Direct Mount



### Flow Measurement

- Coriolis Mass Flowmeter
- Thermal Gas Mass Flowmeter
- Positive Displacement Flowmeter
- Electromagnetic Flowmeter
- Vortex Flowmeter
- Turbine Flowmeter
- Variable Area Flowmeter
- Clamp On Ultrasonic Flowmeter
- Inline Ultrasonic Flowmeter
- Portable Ultrasonic Flowmeter



### Level Measurement

- RADAR Level Transmitter Horn Antenna
- Compact RADAR Level Transmitter
- RADAR Level Transmitter Sanitary
- RADAR Level Transmitter
- Guided Wave RADAR Level Transmitter
- Guided Wave RADAR Level Transmitter
- RADAR Level Transmitter Lens Antenna
- RADAR Level Transmitter Rod Antenna
- Ultrasonic Level Transmitter
- Microwave Barrier Level Switch
- Admittance Level Switch Series
- Vibrating Rod Level Switch Series
- Tuning Fork Level Switch Series



### Temperature Measurement

- Head Mount Temperature Transmitter
- Temperature Transmitter for Sanitary Applications
- DIN Rail Temperature Transmitter
- Field Mount Temperature Transmitter

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