

MICROSENSOR

TEMPERATURE MEASUREMENT

Industrial Temperature Sensors & Integrated Temperature Transmitters



Reliable Precision

Multi-Sensing

All-Conditions

Integrated Temperature Transmitter

Models	MTM4832 Compact Integrated Temperature Transmitter	MTM4832E Compact Integrated Temperature Transmitter	MTM4836 Local Display Integrated Temperature Transmitter	MTM4831/MTM4831S Local Display Integrated Temperature Transmitter
Images				
Features	High frequency response, vibration resistance, replaceable sensor	Compact design with versatile electrical connections, cost-effective	Local display, galvanic isolation, HART communication	Local display, high frequency response, vibration resistance; ideal for OEM and system integration
Electrical Connection	Hirschmann connector	Hirschmann connector / Packard plug / M12x1 4-pin connector	—	—
Measuring Range	-50°C ~ +200°C		-200°C ~ +1200°C	
Sensor Types	PT100 / PT1000		PT100 / PT1000 / K-type thermocouple	
Output Signal	4-20mA		4-20mA, 4-20mA+Hart	4-20mA, RS485, 1-5v
Accuracy	±1% / ±0.5% / ±0.25%		±1%FS / ±0.5%FS / ±0.25%FS / ±0.1%FS	±1% FS / ±0.5%FS / ±0.25%FS
Functions	—	—	LCD display, sensor open / short-circuit diagnostics, galvanic isolation	LCD/LED display, sensor open / short-circuit diagnostics
Certifications	CE, RoHS, Classification Society Approvals		CE, RoHS, Intrinsically safe (Ex ia), Flameproof (Ex d), CCS, DNV, ABS	

Temperature & Humidity Transmitter

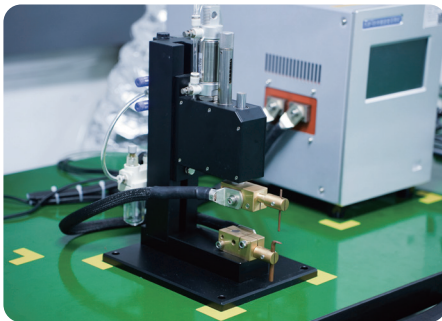
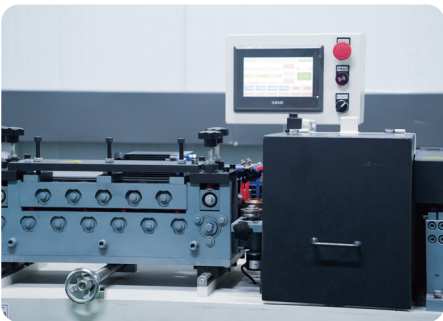
Model	MTM4800 Temperature and Humidity Transmitter
Images	
Features	Lightning, surge, and burst protection; dual-channel isolated analog outputs Range selection via DIP switches; PC-based configuration and calibration tools
Output Types	4-20mA, RS485 Modbus-RTU, PT100 / PT1000
Installation Types	Wall-mounted / Duct-mounted
Display	LCD with backlight
Temperature Range	-40° C ~ +125° C
Humidity Range	0-100%RH
IP Rating	IP67

Company Profile

Since its inception in 1993, Micro Sensor Co., Ltd. (Micro Sensor) has been a global manufacturer and service provider of industrial measurement and control instruments. The company specializes in customized solutions for pressure, level, temperature, and flow measurement, serving a wide range of industries including oil & gas, renewable energy, industrial gases, water & wastewater, marine & shipbuilding, HVAC, hydraulics & pneumatics, mechanical manufacturing & automation, food & beverage, and pulp & paper.

Micro Sensor has a global team of over 800 employees and operates four industrial parks in Baoji, Xi' an, and Shanghai, China. It also has a European subsidiary, Micro Sensor GmbH, in Essen, Germany. With the IPD (Integrated Product Development) system at its core, the R&D team comprises more than 100 experts and holds 223 authorized patents and software copyrights, including 20 invention patents. Products have obtained over 240 domestic and international certifications. Micro Sensor serves customers in over 100 countries and regions, with over 20,000 clients worldwide.

Manufacturing Base



Performance Advantages

★ Equipment-Grade Encapsulation	For Extreme Conditions
★ Preventive Quality Management DFMEA & PFMEA	Reliability Design & Manufacturing
Fast Response & Precise Control	One-piece drawn mineral-insulated (MI) sheath with no internal air gaps for maximum thermal conduction JJF 1049-2024, RTD $\tau_{0.5}$ =5.17 S, Thermocouple $\tau_{0.5}$ =1.7 S
Robust & Reliable	High-density compacted insulation for long-term stability under vibration GB/T 2423.10-2019, GB/T 2423.5-2019, 10 g; customizable up to 60 g
Flexible & Versatile	MI sheath allows minimal bending radius up to 5× diameter for flexible installation
Wide Compatibility & Long Life	Modular design supports various specs and use with thermowells Optimized MI sheath material and structure for excellent sealing and mechanical protection

Applications



Marine & Shipbuilding

Challenges High salt fog corrosion, severe vibration, limited installation conditions

Solutions 316L, 316Ti stainless steel or tantalum thermowell, vibration resistance >60 g, optional compact design



Data Centers

Challenges Continuous and precise temperature control in cooling systems, with stringent requirements for efficiency and stability

Solutions Integrated design of MI RTD and transmitter, featuring strong EMI resistance and high accuracy up to $\pm 0.03^{\circ}\text{C}$



Fine Chemicals

Challenges High temperature and pressure, hazardous explosive atmospheres

Solutions Explosion-proof design, deep-hole drilled thermowell, 4-20 mA + HART output, optional high accuracy, with galvanic isolation



Energy

Challenges Extreme conditions, multi-point monitoring, hazardous areas, extended service life requirements

Solutions Explosion-proof design, one-piece drawn MI sheath, smart and modular design

Product Series

MI RTD Temperature Sensors - MTM100R Series

★ Platinum RTD, High Accuracy (°C-level)

Models	MTM100R-A Fixed Insertion RTD	MTM100R-B Plain Stem RTD	MTM100R-C Ceramic Terminal RTD	MTM100R-D Lead Wire RTD
Images				
Features	Fixed mounting interface with extension neck	Adjustable insertion depth	Easy field installation	High-temperature resistant cable configuration
Connection Options	Waterproof junction box, explosion-proof junction box		Ceramic terminal block	Silicone rubber, PTFE, and other cable materials
Measuring Range	-200°C ~ +500°C			
Temperature Element	PT100 / PT1000			
Number of Sensors	Simplex / Duplex			
Tolerance Class	Class AA / A / B, with higher accuracy available on request, e.g. 1/10B ±(0.03+0.0005 t) °C			
Process Connection	Fixed thread / flange / clamp	Adjustable thread / flange	—	—
Sheath Diameter	φ3, φ5, φ6, φ8 mm, etc.			
Sheath Material	304 / 321 / 316L			
Options	Temperature transmitter		—	—
Certifications	CE, RoHS, Flameproof			

MI Thermocouple Temperature Sensors - MTM100C Series

★ Seebeck-Effect Thermocouple

Models	MTM100C-A Fixed Insertion Thermocouple	MTM100C-B Plain Stem Thermocouple	MTM100C-C Ceramic Terminal Thermocouple	MTM100C-D Lead Wire Thermocouple
Images				
Features	Fixed mounting interface with extension neck	Adjustable insertion depth	Easy field installation	High-temperature resistant cable configuration
Connection Options	Waterproof junction box, explosion-proof junction box		Ceramic terminal block	Silicone rubber, PTFE, and other cable materials
Measuring Range	-40° C ~ +1600° C			
Thermocouple Types	K / J / E / T / N / S / B			
Number of Sensors	Simplex / Duplex			
Tolerance Class	Class 1 / Class 2			
Process Connection	Fixed thread / flange / clamp	Adjustable thread / flange	—	—
Sheath Diameter	φ3, φ5, φ6, φ8 mm, etc.			
Sheath Material	321 / 316L / GH3030 / GH2025 / GH3039 / Inconel 600			
Options	Temperature transmitter		—	—
Certifications	CE, RoHS, Flameproof			

Your Reliable Partner of Sensing and Measuring

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