

SENSORS FOR HVAC

Sensors are an integral part of most heating, ventilation, air-conditioning, and refrigeration systems (HVAC) — helping to not only maintain a comfortable indoor climate but also to enable the system to perform properly. Sensors enable diagnostics that help identify system or equipment issues that could reduce efficiencies or cause major breakdowns to occur. Sensor technologies help reduce downtime, improve productivity, and lower maintenance costs. Within the last 30 years, there has been a push for HVAC systems with higher efficiencies and improved temperature control as well as the need to monitor and regulate other physical parameters like humidity, air quality and more. TE Connectivity (TE) manufactures a wide range of rugged and reliable sensors for HVAC applications including pressure, temperature, humidity, vibration, position and force. These sensors play a critical role in improving the efficiency, performance and reliability of HVAC systems.






TE CONNECTIVITY ADVANTAGES

- Customization Capability
- Engineering Expertise
- Industry Experience
- Manufacturing Scale
- Portfolio Breadth

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Sensor Model		Application	Key Product Features	Benefits
<u>M3200</u>		<ul style="list-style-type: none"> Compressors Pumps Refrigeration systems 	<ul style="list-style-type: none"> Sealed design Analog and digital outputs High accuracy 	<ul style="list-style-type: none"> Low cost Reliable Accurate sensing in harsh environments
<u>M5100/U5200/D5100</u>		<ul style="list-style-type: none"> Compressors Pumps Refrigeration systems 	<ul style="list-style-type: none"> Sealed design Many configurations High accuracy 	<ul style="list-style-type: none"> Reliable Accurate sensing in harsh environments
<u>MS4515DO/MS4525DO</u>		<ul style="list-style-type: none"> Blocked filter detection Fire suppression systems Air movement 	<ul style="list-style-type: none"> Low pressures PCB mountable Digital output Accurate 	<ul style="list-style-type: none"> Low cost High performance sensing in clean, dry air
<u>M7100/U7100</u>		<ul style="list-style-type: none"> Compressors Pumps Refrigeration systems 	<ul style="list-style-type: none"> Sealed design Analog and digital outputs High accuracy 	<ul style="list-style-type: none"> Lower cost Reliable Accurate sensing in harsh environments
<u>MS8607</u>		<ul style="list-style-type: none"> Barometric pressure compensation Weather stations Multi-sensor 	<ul style="list-style-type: none"> High resolution Baro pressure Temperature and humidity sensing 24-bits 	<ul style="list-style-type: none"> Multi-sensing Low cost Accurate and reliable
<u>85BSD/86BSD</u>		<ul style="list-style-type: none"> Diagnostic tools Test systems Electronic expansion valves 	<ul style="list-style-type: none"> Calibrated Digital output High accuracy Variety of fittings 	<ul style="list-style-type: none"> High performance Low power Durable in corrosive environments
<u>89BSD</u>		<ul style="list-style-type: none"> Diagnostic tools Test systems Electronic expansion valves 	<ul style="list-style-type: none"> Calibrated Digital output High accuracy Variety of fittings 	<ul style="list-style-type: none"> High performance Low power Durable in corrosive environments
<u>M5600/U5600</u>		<ul style="list-style-type: none"> Compressors Pumps Refrigeration systems 	<ul style="list-style-type: none"> Sealed design Wireless 24-bits Digital 	<ul style="list-style-type: none"> Reliable Accurate sensing Direct interface No wiring
<u>MSP100</u>		<ul style="list-style-type: none"> Water pressure Flow monitoring Tank level Manifold pressure 	<ul style="list-style-type: none"> Single piece design Analog or digital 	<ul style="list-style-type: none"> Low cost Reliable Accurate sensing in harsh environments
<u>SM7000</u>		<ul style="list-style-type: none"> VAV controls Filter blockage Zoning systems Level and flow sensing 	<ul style="list-style-type: none"> Excellent accuracy Very low pressures Digital and analog 	<ul style="list-style-type: none"> High performance Low power Accurate and reliable
<u>SM9000</u>		<ul style="list-style-type: none"> VAV controls Filter blockage Zoning systems Level and flow sensing 	<ul style="list-style-type: none"> Excellent accuracy Very low pressures Digital and analog 	<ul style="list-style-type: none"> High performance Low power Reliable
<u>Radial Leaded Thermistors</u>		<ul style="list-style-type: none"> Probes and assemblies; all HVAC control and monitoring systems 	<ul style="list-style-type: none"> Range of accuracies and curves Stable and repeatable 	<ul style="list-style-type: none"> Low cost Reliable Accurate sensing in harsh environments
<u>Axial Thermistors</u>		<ul style="list-style-type: none"> Probes and assemblies; all HVAC control and monitoring systems 	<ul style="list-style-type: none"> Range of accuracies and curves Stable and repeatable 	<ul style="list-style-type: none"> Lower cost Reliable Accurate sensing in harsh environments
<u>Platinum Thin Film Elements</u>		<ul style="list-style-type: none"> Probes and assemblies; all HVAC control and monitoring systems 	<ul style="list-style-type: none"> Range of accuracies and curves Stable and repeatable 	<ul style="list-style-type: none"> Affordable Reliable Accurate sensing in harsh environments
<u>TSYS Series</u>		<ul style="list-style-type: none"> Air temperature monitoring Thermostats Zoning systems 	<ul style="list-style-type: none"> Small size Low power Digital Range of accuracies and costs 	<ul style="list-style-type: none"> Strong value Easy to integrate Accurate and reliable
<u>TSD Series</u>		<ul style="list-style-type: none"> Room occupancy Fire detection Remote temperature monitoring 	<ul style="list-style-type: none"> Small size High accuracy Digital interface Wide temperature range 	<ul style="list-style-type: none"> Easy to integrate Complete package Reliable
<u>HTU21D</u>		<ul style="list-style-type: none"> Room environmental monitoring Thermostats Humidification/dehumidification 	<ul style="list-style-type: none"> Fully calibrated Reflow solderable Fast response Low power 	<ul style="list-style-type: none"> Dual sensing Accurate Repeatable and reliable

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Sensor Model	Application	Key Product Features	Benefits
<u>HTU31</u> 	<ul style="list-style-type: none"> Room environmental monitoring Thermostats Humidification/dehumidification 	<ul style="list-style-type: none"> Fully calibrated Wide voltage range Configurable Low power 	<ul style="list-style-type: none"> Dual sensing Low cost Accurate Repeatable and reliable
<u>HTU3500</u> 	<ul style="list-style-type: none"> Room environmental monitoring Humidification/dehumidification 	<ul style="list-style-type: none"> Fully calibrated Reliable Fast response Humidity and temperature sensing 	<ul style="list-style-type: none"> Dual sensing Compact Accurate Repeatable and reliable
<u>HS1101LF</u> 	<ul style="list-style-type: none"> Room environmental monitoring Humidification/dehumidification 	<ul style="list-style-type: none"> Fully calibrated Fast response 	<ul style="list-style-type: none"> Accurate Repeatable and reliable
<u>HTG3500</u> 	<ul style="list-style-type: none"> Room environmental monitoring Humidification/dehumidification 	<ul style="list-style-type: none"> Fully calibrated Fast response Humidity and temperature sensing 	<ul style="list-style-type: none"> Dual sensing Compact Accurate Repeatable and reliable
<u>HTF3000LF</u> 	<ul style="list-style-type: none"> Room environmental monitoring Humidification/dehumidification 	<ul style="list-style-type: none"> Fully calibrated module Fast response Humidity and temperature sensing 	<ul style="list-style-type: none"> Dual sensing Compact Accurate Repeatable and reliable
<u>KMA36</u> 	<ul style="list-style-type: none"> VAV controls Zoning systems Chillers Air movement 	<ul style="list-style-type: none"> Small size Digital output High resolution Angular or linear 	<ul style="list-style-type: none"> Low power Very rugged Large air gap tolerance Reliable
<u>KMT32B</u> 	<ul style="list-style-type: none"> VAV controls Zoning systems Chillers Air movement 	<ul style="list-style-type: none"> Very small size High accuracy and resolution Air gap tolerance 	<ul style="list-style-type: none"> Contactless Low cost Low power Self diagnostics
<u>808M1</u> 	<ul style="list-style-type: none"> Chillers Compressors Fans Pumps 	<ul style="list-style-type: none"> Wide bandwidth Hermetically sealed Wide temperature range 	<ul style="list-style-type: none"> Good for a range of vibration applications and environments
<u>MiniSense 100 LDTC Family</u> 	<ul style="list-style-type: none"> Security systems Vibration sensing Movement 	<ul style="list-style-type: none"> High sensitivity High resonant frequency Rugged Shielded 	<ul style="list-style-type: none"> Large signal Good EMI/RFI rejection Good dynamic range
<u>8011</u> 	<ul style="list-style-type: none"> Chillers Compressors Fans Pumps 	<ul style="list-style-type: none"> Wide bandwidth Hermetically sealed Wide temp range 	<ul style="list-style-type: none"> Good for a range of vibration applications and environments
<u>4030</u> 	<ul style="list-style-type: none"> Chillers Compressors Fans Pumps 	<ul style="list-style-type: none"> Low pass filtered output Good linearity Sealed DC response 	<ul style="list-style-type: none"> Low frequency monitoring Tilt and inclination Motion
<u>FS-01</u> 	<ul style="list-style-type: none"> Pumps Chillers Circulation systems Cooling systems 	<ul style="list-style-type: none"> Rugged Minimal pressure drop Air or water flow switching 	<ul style="list-style-type: none"> Reliable Easy to install and use Simple design
<u>LL-01</u> 	<ul style="list-style-type: none"> Pump protection Storage tanks Compressors Coolant reservoirs 	<ul style="list-style-type: none"> No moving parts High pressure operation Easy to install 	<ul style="list-style-type: none"> Very reliable Cost effective Simple operation