



# **SENSOR SOLUTIONS**

TE Connectivity has an unmatched portfolio of intelligent, efficient and high-performing connectivity and sensor solutions that are used for customers across several industries, from automotive, industrial and commercial transportation and aerospace and defense, to medical, industrial and consumer applications. TE is now one of the largest connectivity and sensor companies in the world, with innovative sensor solutions that help customers transform concepts into smart, connected creations.

## **INDUSTRIES SERVED**



#### Automotive

The combination of TE Connectivity and Measurement Specialties, a leading designer and manufacturer of sensors and sensor systems, establishes TE as one of the largest sensor companies in the world and provides a broad portfolio of sensor technologies including position, pressure, temperature, humidity, vibration, force and ultrasonic, for a wide range of transportation applications ranging from brake, chassis, clutch, engine and transmission to high pressure sensors for hydrogen fuel tanks. For global support of our customers, TE has TS 16949 certified facilities in Germany, France, Belgium, Czech, Portugal, India, Brazil, Korea and China.



#### Industrial and Commercial Transportation

TE's sensors provide data under harsh conditions with a high degree of accuracy and reliability for commercial trucks, agricultural and construction vehicles, railway, diesel generators and marine equipment. TE's pressure, level, temperature, urea quality, and humidity sensors are recognized and validated solutions in emission/ exhaust control systems to comply with Final Tier 4 and Euro6 stage c regulations. Additionally, TE designs and manufactures a range of linear position, level, humidity, temperature and pressure sensors for chassis and transmission applications and has developed innovative combination sensors for cost effective and efficient control.



#### Medical

We have proven capabilities supporting the OEM medical marketplace for life-sustaining and implantable medical devices. We are ISO 13485 certified and FDA registered for some product lines.



### Industrial

Our engineered sensing solutions meet the unique requirements of a wide variety of applications relating to energy, process control, automation, altitude, depth measurements and beverage control markets.



### Consumer and Appliance

Many manufacturers have partnered with us to break new ground in the creation of smart applications that can respond to human touch, sense vibration and adjust automatically to different loads to improve operational efficiency.



#### Test and Measurement

The test and measurement group serves the sensing needs of customers who are involved in test programs, product research, development, test and evaluation. Our products are fully configured, shipped with calibration certificates and are ready to use "out of the box."



#### Aerospace and Defense

Long development cycles and high qualification costs require aerospace firms to identify stable, reliable, team players. TE has AS9100 certified facilities in the USA, France and China which support Tier 1, 2 and 3 providers.



### HVACR / Building Equipment

TE sensors play a major role in regulating heating, ventilation and air conditioning systems. While temperature, humidity and pressure sensors are the most common sensors used, we also see increasing use of sensors for vibration, liquid level and fluid property.



#### Oil & Gas and Marine

TE designs and manufactures sensors/switches for hazardous locations. These products are offered with explosion-proof, non-incendive and intrinsically safe certifications.

## **SENSOR SOLUTIONS**

0	Flow	Our mass air flow (MAF) sensors are designed for a variety of automotive, medical and industrial gas applications while our flow switches are used for such applications as water control, power showers and circulation pump protection.
	Fluid Property	The fluid property sensor is based on tuning fork technology. It is specifically designed to provide fluid quality and condition monitoring capability to a wide range of dedicated applications including oils (engine, hydraulic, transmission), fuels and DEF (i.e., urea) monitoring.
9	Force / Torque	TE is a pioneer in the design and manufacture of precision sensors for electro-mechanical flight control applications, test and measurement applications and ultra-low cost OEM load cells for high volume applications. We are experts in developing sensors that require high performance or unique packaging.
	Humidity	Accurate dew point and absolute humidity measurements are made possible through the combination of relative humidity and temperature measurements. Our products are qualified for the most demanding applications including automotive, heavy truck, aerospace and home appliance.
	Liquid Level	Liquid level products address the sensing requirements of the construction, off-road and automotive industries. Our solutions include level sensors for power steering, coolant, windscreen wash, fuel and oil.
	Photo Optic	Optic-based sensors include both photo optic components and complete sensor solutions. Our component series features dual LED, bi-wavelength emitters and spectrally paired photo detectors.
	Piezo Film	Piezoelectric fluoropolymer film produces voltage or charge proportional to strain. A highly versatile, enabling sensor technology, Piezo Film has thin cross-section, is flexible, very robust, chemically inert and can withstand temperatures up to 85°C.
	Position	TE is one of the world's largest manufacturers of industrial and automotive sensors for linear displacement, rotary position and speed sensing. Therefore, TE owns a wide range of sensing technologies like MR, PLCD, LVDT and Resolver, and offers the complete spectrum from sensing element up to system packaging for harsh environments. On the strength of our customized design and packaging, based on TE application know-how, we can provide an essential value for our customers.
	Pressure	TE leads the industry with a wide array of standard and custom pressure products. These range from board level components to fully amplified and packaged transducers. Using MEMS and silicon strain gauge (Microfused) technologies, our products measure pressure, ranging from inches of water (<5 mbar) to 100K psi (7K bar).
	Scanners	Primarily used for wind tunnel, flight test and turbomachinery testing, the scanning systems provide high accuracy measurement solutions due to multi-channel test installations. Wind tunnel and flight testing use ESP pressure scanners for their compact size and high accuracy.
L.	Temperature	We manufacture NTD thermistors, RTDs, thermocouples, thermopiles, digital output and customized sensor assemblies. Building on more than 100 years of experience, our know-how allows us to cover one of the largest ranges of temperature measurement, control and compensation applications in the industry.
	Ultrasonic	Ultrasonic sensors provide accurate air bubble detection, contact and non-contact container fill, pump protection and pipeline fluid/type detection. Standard products are offered for level applications that require no moving parts, no adjustments and no maintenance.
	Vibration	Our microelectromechanical systems (MEMS), bonded gage and piezoelectric ceramic/film technologies provide OEM and T&M customers with the broadest range of measurement tools in the industry. All products are EAR99, RoHS compliant and meet CE standards.

#### MARKET VERTICAL (SALES ORG)

PRODUCT AND MARKET MATRIX	Industrial	Medical	Automotive	Aerospace and Defense	HVAC&R & Bldg Equipment	Consumer and Appliance	Test & Measurement	Process Control & Automation	Test & Meas Aero Research	Environmental Monitor	Industrial & Commercial Transportation	Oil & Gas and Marine
Pressure	•	•	•	•	•	•	•	•	•	•	•	•
Force	•			•		•	•	•				
Temperature	•	•	•	•	•	•	•	•	•	•	•	
Humidity/Optical	•	•	•		•	•				•	•	
Fluid Property			•	•							•	
Position	•	•	•	•	•	•	•	•			•	
Vibration				•			•		•			
Piezoelectric	•	•		•		•						

#### **MEASUREMENT SPECIALTIES (MEAS) QUALITY STATEMENTS/CERTIFICATIONS:**

- AS/EN 9100
- ATEX
- ATEX 949EC
- CE-MDD
- CMDR Health Canada
- EN 13980
- ESA 266
- ESCC266E
- ESCC 400C
- FDA

- ISO 13485 • ISO 14001
  - ISO 9001
  - Measuring Instruments Directive 2004/22/EC annex D
- NASA Qualified
- NSF-61 Water Quality
- PART21G
- TS 16949
- Visit our website to review our Global Quality Policy and certified manufacturing locations. meas-spec.com/quality.aspx

#### te.com/en/products/sensors.html

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#### **AMERICAN SENSOR TECHNOLOGIES (AST) APPROVALS/CERTIFICATIONS:**

٠	CRN	٠	ΕX
٠	SA	٠	CE
٠	UL	٠	CNEX
٠	ABS	•	CCOE
•	IECEx		