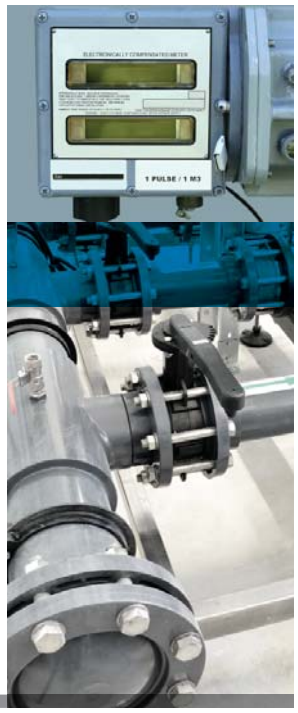

TE SENSOR SOLUTIONS FOR SMART METERING

TE connectivity SENSOR SOLUTIONS

TE SENSOR SOLUTIONS FOR SMART METERING

TE Connectivity (TE) is a global technology leader, providing connectivity and sensor solutions essential in today's increasingly connected world. With the acquisition of Measurement Specialties (MEAS), a global designer and manufacturer of sensors and sensor-based systems, TE is one of the largest sensor companies in the world. Our broad portfolio of sensor technologies is designed for a wide range of applications. Our engineers transform concepts into creations—redefining what's possible using intelligent, efficient and high-performing TE products and solutions proven in harsh environments.

INNOVATION

SPECIFIC SOLUTIONS

TE Sensor Solutions offers a broad range of standard sensors which are configurable for a variety of applications. Our experienced engineers can also modify existing sensor designs or develop a whole new sensor solution to meet customer specific requirements. For Smart Metering applications, TE Sensor Solutions is able to accommodate special full-scale ranges and signal conditioning requirements to enhance performance. Special packaging options including custom cable and terminations can also be integrated into our sensors.

SMART METERING APPLICATIONS

TE temperature and pressure sensors are used for flow correction of gases flowing from one point to another. They meet the two key parameters critical for successful measurement—High Accuracy (TEB) and Stability. TE Sensor Solutions manufactures each type of sensor to meet these requirements through extended burn in to enhance stability and on-board electronics to provide accuracy.

PRESSURE SENSORS

	MEAS 85BSD Media Isolated Module, Digital Output	**MEAS 82C** Media Isolated Module, Analog Output	**MEAS US300** Transducer
Package	Process fitting, weld ring mount	Process fitting, o-ring mount	Threaded fitting, cable options
Type	Gage, absolute	Gage, absolute	Gage, absolute
Pressure Range	0 - 0.35 to 20 bar / 0 - 5 to 300 psi	0 - 0.07 to 34 bar / 0 – 1 to 500 psi	0 - 1 bar to 344 bar / 0 - 15 psi to 5K psi
Output/Span	Digital, 14-bit ADC I²C or SPI	100 mV typical	0 - 10 mV/V, 0.5 - 4.5 V, 1 - 5 V, 4 - 20 mA
Unique Features	• 13 mm diaphragm diameter • Pressure and temperature read-out • Low power option	• 19 mm diaphragm diameter • Modular design • Low profile	• UltraStable technology • Small size • Solid state reliability
Accuracy	±0.25% span	±1.0% interchangeable span (Gain set resistor)	<1% FSO
Output	—	>15 psi	Amplified
Operating Temp.	-40°C to 125°C	-40°C to 125°C	-40°C to 105°C
Response Time	8.4 mS	0.1 mS Typ.	1 mS max.
Mechanical Specifications	• Weld mount or threaded fitting available • Cable and connector options	• Stainless steel 316 L • Thread fitting: G 1/4" gas male • Custom connector available • Available uncompensated, compensated, and constant voltage	• Stainless steel 316 L • Thread fitting: G 1/4" gas male • Custom connector available • Vibration: ±20 g MIL-STD-8-810C, procedure 514.2, figure 514-2, curve L • Shock: 100g 11 mS
Typical Applications	Harsh media, gas, liquid	Harsh media, gas, liquid	Harsh media, gas, liquid

PRESSURE SENSORS

	MEAS MS5803 Board Mounted, Digital Output	**MEAS MS52xx-C&T** Board Mounted
Type	Absolute	Absolute
Pressure Range	2 to 30 bar / 30, 73 psi	1 to 7 bar / 15, 100 psi
Output/Span	Digital 24-bit I²C or SPI	—
Unique Features	• 24-bit digital sensor, software calibration and temperature compensation (I²C & SPI), no external components • Supply voltage 1.8 to 3.6 V	• Small size • High reliability, low drift • Trimmed offset available
Accuracy	±0.3% of F.S.	—
Operating Temp.	-25°C to 85°C	-40°C to 125°C
Mechanical Specifications	• Gas resistant gel fill • Vibration (EN60068-2-64): Severity level 2 • Shock (EN60068-2-31): Severity level 2	• Absolute pressure sensing device only
Typical Applications	Altimeter, barometer, low pressure gas	Altimeter, barometer, low pressure gas

POSITION SENSORS

	MEAS KMA36 Magnetoresistive (MR) Components
Package	20 pin TSSOP
Type	Angle sensor
Range	360° angle
Unique Features	Low cost MR encoder for rotational and incremental measurements
Output	0 - 5 V I²C Customer specific
Resolution	Typ. 0.1°
Accuracy	Typ. 0.3°
Operating Temp	-25°C to 85°C
Dimensions (mm)	6.5 x 6.4 x 1.2
Typical Applications	Flow rate sensor for liquids and gasses

TE SENSOR SOLUTIONS FOR SMART METERING

TEMPERATURE SENSORS

	MEAS PTF Pt1000-Platinum Element	**MEAS Platinum Transducer** Pt1000
Package	Wired component	Stainless steel housing
Type	RTD, thin film platinum deposited on ceramic substrate, glass coated	Platinum element encapsulated
Resistance Range	1000Ω	1000Ω
Unique Features	• Long term stability • Interchangeability • Small dimensions • Short response time • High electrical insulation	• IP68 • 2.2 V to 3.6 V
Accuracy	Class A according to DIN EN 60751	Class A according to DIN EN 60751
Operating Temp.	-50°C to 400°C	-25°C to 70°C
Accuracy	±0.1°C at 0°C	±0.1°C at 0°C
Self Heating Coefficient	0.5°C /mW in air flow 1 m/s	—
Response Time	10 seconds typical in air flow 1 m/s 0.2 seconds typical in water flow 0.4m/s	30 seconds typical (75°C to 25°C water bath)
Measuring Current R0	1,000Ω: 0.4 mA Typ.	—
Mechanical Specifications	Sensors available in a number of mechanical configurations PTFC: 2.0 x 2.3mm, PTFD: 2.0 x 5.0mm, PTFF: 2.0 x 4.0mm, PTFM: 1.2 x 4.0mm	• Custom connector and cable lengths available • Vibration (EN60068-2-64): Severity level 2 • Shock (EN60068-2-31): Severity level 2
Typical Applications	Temperature compensation	Temperature compensation

VIBRATION SENSORS

	MEAS MiniSense 100 LDTC Family
Package	Piezo film elements with or without mass and pins
Type	Cantilever beam with vertical or horizontal pins
F.S. Range (g)	±10 (Typical)
Unique Features	• Very low cost • High sensitivity (1 V/g) • Ultra-low power (Self generating)
Accuracy	±20.0% (Typical)
Operating Temp	-40°C to 70°C
Dimensions (mm)	19.05 x 6.35 x 6.35
Typical Applications	Water metering, self powered switches, rotary counters

QUALITY STATEMENTS

- ISO 9001
- Measuring Instruments Directive 2004/22/EC annex D

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TE SENSOR SOLUTIONS

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