

One Series Safety Transmitter

SIL 2 Certified pressure and temperature transmitter-switch.

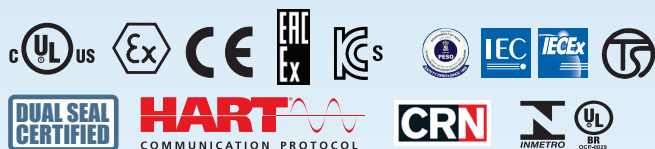


ADVANTAGES:

- Certified for use in SIL 2 Functional Safety Systems per IEC 61508-2010; Capable of SIL 3
- Simplify complex safety systems with SFF = 98.8%
- Improve availability with reduced nuisance trips
- Improve uptime with safety diagnostics
- Connects directly to the final element and/or the safety PLC
- Reacts within 100ms to process upsets

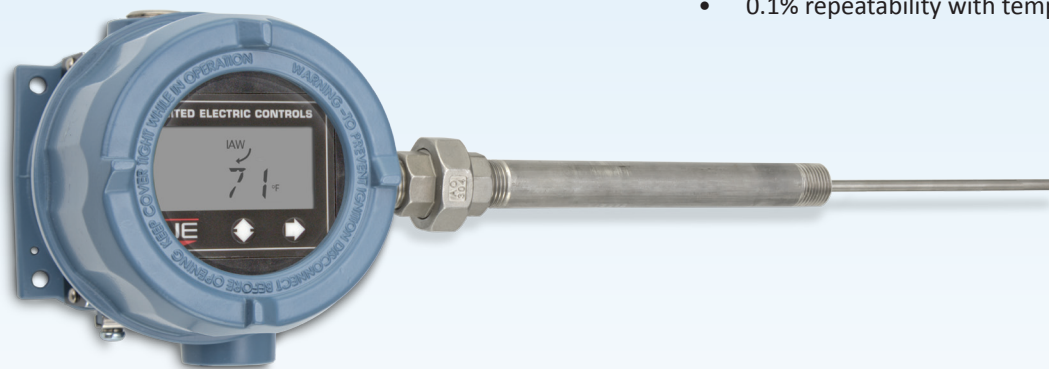
One Series

Explosion-proof electronic pressure and temperature hybrid transmitter-switch for Zone 1 areas.



ADVANTAGES:

- Replace blind mechanical switches
- Increase reliability with smart diagnostics
- Replace a switch, gauge and transmitter
- Easily perform pump staging and optimization
- Start, stop and protect rotating equipment
- Reduce nuisance trips
- 2-wire and loop-powered 4-20 mA models with HART®
- Monitor gage pressure, differential pressure or temperature
- Ideal for plant upgrades and safety interlock applications
- 0.1% repeatability with temperature compensation





12 Series

Dual seal, 316 stainless steel, vibration-resistant hazardous location pressure, differential pressure and temperature electromechanical switch.



ADVANTAGES:

- Dual seal compliant to ANSI 12.27.01 standards and NEC 501.17
- Corrosion-resistant 316 stainless steel construction
- Snap-acting Belleville spring for vibration resistance and set point stability
- Convenient field setting and adjustment
- Hermetically sealed SPDT or DPDT switches
- Ranges to 12,500 psi (860 bar), 150 psid (10 bar d), 650°F (340°C)



TX200 Series

Explosion-proof, hermetically sealed, 316 stainless steel HART® 7 registered or analog (ASIC) pressure transmitter.



ADVANTAGES:

- HART® 7 communication protocol output with enhanced DD's
- ASIC 4-20 mA or 1-5 or 0-10 VDC output
- 5:1 (ASIC) or 10:1 (HART®) pressure range turndown provides multiple ranges while reducing inventory
- Rugged, compact design for control panel or direct process mounting
- Proprietary temperature compensation limits thermal effects on sensor output
- Unique one-piece sensor design for high pressure and hydrogen applications
- Compatible with SCADA and wireless systems
- Ranges to 25,000 psi (1724 bar)



120 Series

Rugged explosion-proof pressure, vacuum, differential pressure and temperature electromechanical switch with worldwide agency certifications.

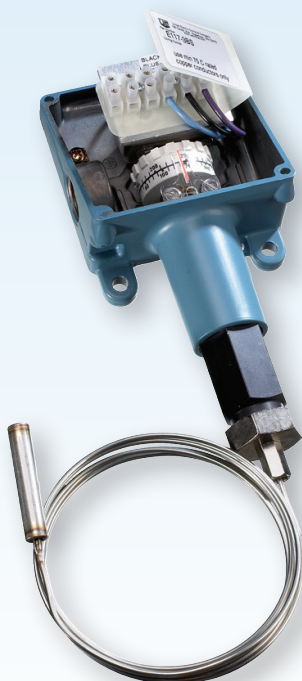


ADVANTAGES:

- Provides primary or secondary (diverse, redundant technology for safety) alarm and emergency shutdown functions
- Single SPDT or DPDT or dual SPDT outputs
- Choice of internal or external adjustment
- Wide selection of sensor materials and ranges
- Wide adjustable deadband models
- Easy to wire via dual electrical conduit openings and terminal block
- Heat tracing models
- Ranges to 6000 psi (410 bar), 500 psid (35 bar d), 650°F (340°C)

117 Series

Compact pressure, vacuum, differential pressure and temperature electromechanical switch for Div. 2, Zone 2 areas.



ADVANTAGES:

- Hazardous location approvals for Class 1, Div. 2, Zone 2
- Hermetically-sealed snap switch, SPDT or DPDT outputs
- Welded stainless steel diaphragm or bellows sensors
- Epoxy-coated type 4X enclosure with captive cover screws
- Terminal block wiring
- Ranges to 3500 psi (240 bar), 500 psid (35 bar d), 640°F (335°C)



100 Series

Single switch, weather-tight, pressure, vacuum, differential pressure, and temperature electromechanical switch.

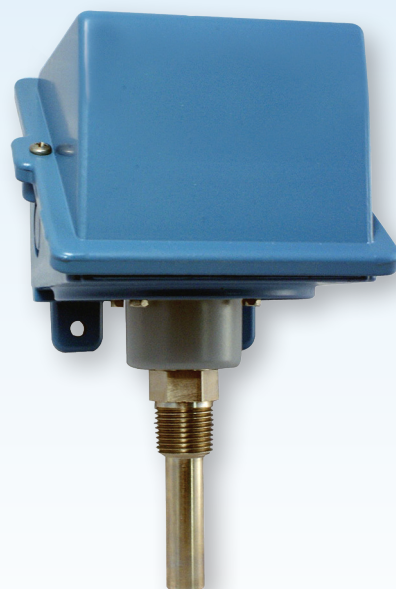
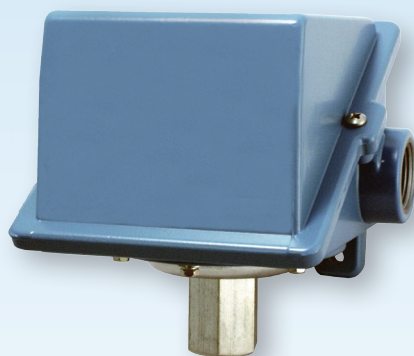


ADVANTAGES:

- Single switch (SPDT or DPDT) output
- Wide variety of pressure sensors for media compatibility
- Epoxy-coated enclosure, designed to meet enclosure type 4X requirements
- Pump switch models with wide adjustable deadband
- Tamper-resistant set point "lock"
- Optional intrinsic safety compliance per ATEX & EAC standards
- Heat tracing models
- Ranges to 5,000 psi (345 bar), 500 psid (35 bar d), 650°F (340°C)

400 Series

Multi-switch, weather-tight pressure, vacuum, differential pressure, and temperature electromechanical switch.



ADVANTAGES:

- One, two or three switch outputs may be separated up to 100% of range
- Epoxy-coated enclosure, designed to meet enclosure type 4X requirements
- Choice of reference dial or multi-turn hex screw for set point adjustment
- Wide selection of ranges including low pressure models with narrow deadbands
- Optional intrinsic safety compliance per ATEX & EAC standards
- Ranges to 6,000 psi (410 bar), 200 psid (10 bar d), 650°F (340°C)

10 Series

Cost-effective, compact, cylindrical pressure switch for OEMs.

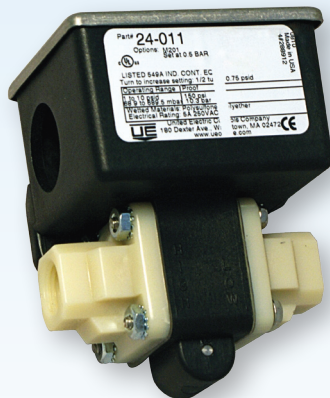


ADVANTAGES:

- 1-1/4" diameter and height as small as 3"
- Most models designed to meet enclosure type 4 requirements
- Factory set or field adjustable with tamper-resistant cover
- Choice of 7 electrical terminations
- Variety of options to customize design
- Ranges to 7,500 psi (515 bar)
- Proof pressures up to 12,000 psi (825 bar)

24 Series

Compact, economical differential pressure switch for OEMs.



ADVANTAGES:

- Compact, lightweight corrosion-resistant polyester enclosure
- Designed to meet enclosure type 4 requirements
- Terminal block wiring
- Available with brass or polysulfone (FDA approved) pressure connections
- OEM capabilities include external adjustment knob with or without reference scale
- Ranges to 45 psid (3 bar d)



54 Series

Economical pressure, vacuum and temperature switch for OEMs.



ADVANTAGES:

- Multiple models and options provide OEM design versatility
- Reference scale or multiple-turn hex adjustment versions
- NEMA 1 Lexan enclosure or open frame (skeleton) design
- Choice of single or dual SPDT switch outputs
- Ranges to 6000 psi (410 bar), 650°F (340°C)



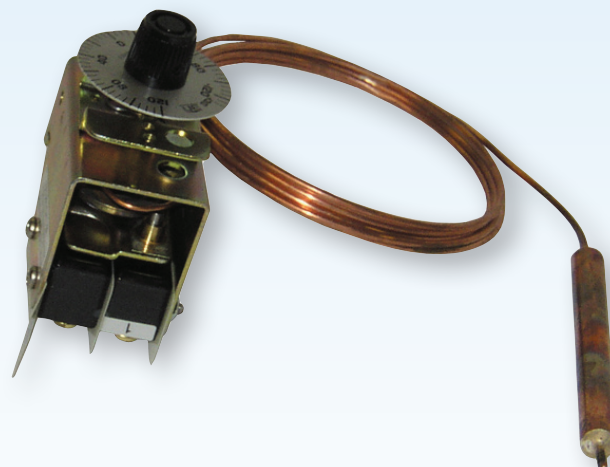
55 Series

Rugged temperature switch with external dial.



ADVANTAGES:

- May be panel or surface mounted with remote measurement for critical temperature alarm, emergency shutdown and control functions.
- Enclosed or open-frame construction
- Single or dual SPDT switch outputs
- Dual switch output versions can be separated up to 100% of range
- Designed to meet enclosure type 4X requirements
- Heat tracing models
- Ranges to 650°F (340°C)



J6 & J21K Series

Industrial pressure and differential pressure switch with sealed metal bellows sensor.



J6



J21K

ADVANTAGES:

- Reliable, sealed and isolated metal bellows sensors
- Welded 316 stainless steel models
- Epoxy-coated enclosure, meeting enclosure 4X requirements
- Single switch (SPDT) output
- J6 (straight pressure) ranges to 6000 psi (410 bar)
- J21K (differential pressure) ranges to 90 psid (6 bar d)

J40 Series

Skeleton (open frame) pressure switch with metal bellows sensor for OEMs.



ADVANTAGES:

- Compact, open frame (skeleton) design for OEM applications
- Brass and phosphor bronze sealed metal bellows sensors
- Easy external adjustment
- Single switch (SPDT) output
- Optional adjustable deadband switch
- Ranges to 300 psi (20 bar)



Visit UE's Product Selector: www.ueonline.com



800 Series

Indicating temperature switch for industrial heating and cooling applications.



ADVANTAGES:

- Indicating temperature control with remote stainless steel bulb and capillary
- Corrosion-resistant Lexan enclosure
- Single or dual SPDT switch outputs
- Division 1, explosion-proof models for hazardous locations
- Set point repeatability and indication accuracy $\pm 1\%$
- Ranges to 650°F (340°C)



LPS & EASY CAL™

Low pressure switching monitor measures differential pressure with independent high and low limit alarms.



ADVANTAGES:

LPS

- Available ranges from 0.2" wc to 50" wc (50 Pascal to 20KPa)
- Small 1/16 DIN size for easy panel mounting
- LED display of process and high and low alarms
- 4-20 mA or 0-10 VDC analog output
- Removable terminal block for 18/26 AWG wire
- Compliant with UL 508 and CE EN 61326 EMI requirements

EASY CAL™ (Option M11)

- In-place calibration/certification
- Selectable time-delay eliminates nuisance alarm



APPLIED SENSOR TECHNOLOGIES

DIVISION OF UNITED ELECTRIC CONTROLS

THE SENSOR BOX™

The Sensor Box™ provides the Process customer with an alternative to expediting, emergency orders and large amounts of “dead” inventory. A modular system of sensors, hardware and tools, the Sensor Box™ is used by the maintenance professional to build a variety of temperature sensor assemblies on-site, in minutes. Among the benefits that customers report are:

- Greatly reduced expediting, emergency orders and premium charges
- Improved process up-time
- Lower, more flexible inventory

The Sensor Box™ can be customized in many ways to meet your



TEMPERATURE SENSORS

Applied Sensor Technologies is a major manufacturer of thermocouple, RTD, thermistor and other types of temperature sensor assemblies. ISO 9001 certified and a leading practitioner of Lean Manufacturing methods, AST focuses on building high-quality, high-reliability products for the industrial market. Our expertise covers a wide variety of applications, from lab equipment to road-making equipment, from the blast furnace to the blast chiller, and everything in between.



ASSEMBLIES FOR HIGH TEMPERATURE APPLICATIONS

In addition to base-metal thermocouples (types J, K, E and T), we also offer platinum thermocouples in types R, S and B for applications such as vacuum furnaces, where the sensed temperature can be over 2500°F. We combine the sensor with a variety of protection tubes (alumina, silicon carbide, hexoloy and many others) in order to provide the maximum reliability and long-life.



SENSOR PRODUCTS FOR OUR PROCESS & UTILITY CUSTOMERS

We have a broad selection of standard temperature sensors that are designed for general industrial use. From small fast-response designs for engine testing, to 20' long multipoint assemblies for reactors. If you can sketch it, we can probably build it!

Applications:

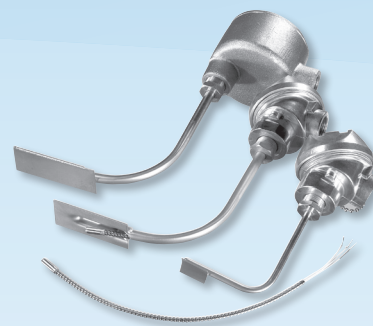
- Heat recovery steam generator (HRSG)
- Boiler tubes
- Diesel engine
- Turbine/reactor temperature sensing



HEAT TRACE RTDs

When you choose our heat trace RTDs, you simplify installation and reduce your maintenance expenses. Designed for use in any pipe or surface temperature measuring application, these sensors have:

- NEMA 4 or explosion-proof heads
- Heat transfer pad with excellent temperature response
- Rugged stainless steel sheaths for excellent mechanical protection
- Replaceable element design for simplified RTD replacement — to replace a faulty element, you simply remove the head cover, disconnect the leads and remove the flexible element. You then insert the new element and reconnect the leads. Your process is up and running in minutes.
- Options include dual RTD sensors, thermocouple sensors and a variety of weld pad and head styles



SENSOR PRODUCTS FOR OEM CUSTOMERS

AST excels in supplying industrial equipment manufacturers with the right temperature sensor to meet their specific need. We can help you develop, and then manufacture, the most cost-effective sensor for the application.

Our strengths include:

- Convenience – when you need assistance, our sales personnel, located worldwide, are available to help
- Cost-Effectiveness – Lean manufacturing drives us to make your product economically and reliably
- Engineering Expertise – When your engineers want to work on a design, they can talk with our engineers
- Responsiveness – we can work together on JIT, kanban and other dock-to-stock strategies to meet your delivery needs

Applications:

- Scientific Instruments – storage and measurement
- Food Equipment – cooking, storing and cleanup
- Medical Equipment – sterilizing, biological storage
- Aerospace – exhaust gas monitoring
- Energy – turbines, generators and fuel cells



SELECTION GUIDE

PRODUCT SERIES	J6	10	12	J21K	24	J40	54	55	100	117	120	400	TX200	800	One Series
PAGE	10	8	5	10	8	10	9	9	7	6	6	7	5	11	4
VARIABLE															
Pressure	X	X	X		X	X	X		X	X	X	X	X		X
Vacuum	X		X		X	X	X		X	X	X	X	C		X
Differential Pressure			X	X	X				X	X	X	X			X
Temperature			X				X	X	X	X	X	X		X	X
ENCLOSURE															
Open frame						X	X	X							
Enclosure Type 1 Gen. Purpose		X		X	X		X							X	
Enclosure Type 4 Watertight		X			O									O	
Enclosure Type 4X Watertight	X		X	O				X	X	X	X	X	X		X
Zone 0, Intrinsically Safe	O	O	O	O					O	O	O	O			X
Division 1 Zone 1, Hazardous Location			X								X		X	X	X
Division 2 Zone 2, Hazardous Location			X							X	X		X	X	X
OUTPUT															
Single Switch SPDT	X	X		X	X	X	X	X	X		X	X		X	SPST
Dual Switch SPDT							X	X			X	X		X	(2) SPST
Triple Switch SPDT												X			
DPDT									O		O	O			
Dual Switch DPDT												O			
Adjustable Deadband	O			O		O	O		O		O	O			X
Hermetically-Sealed Switch SPDT			X							X	O				
Hermetically-Sealed Switch DPDT			X							O	O				
4 to 20 mA													X		
4 to 20 mA, HART® 													X		X
1-5 or 0-10 VDC													X		
SENSORS															
Welded st/st Diaphragm			X						X	X	X	X	X		X
Stainless Steel Bellows	X			X					X	X	X	X			
Elastomer Diaphragm		X	X		X		X		X	X	X	X			
Brass/Bronze Bellows	X			X		X	C		X	X	X	X			
Piston	X	X	X				X		X		X	X			
Process Alloy			O						O	O	O		C		
Local Temperature Mount			X				X		X	X	X	X			X
Remote Temp. Mount			X				X	X	X	X	X	X		X	X
MISCELLANEOUS															
Terminal Block					X					X	X			O	X
Visual Indication*					O			O	O		O	O		X	X
Dual Seal Certified			X												O
SIL 2 Certified															X**

* Visual indication may be through a pilot light option or display of process pressure or temperature readings.

Selecting Temperature Sensors see pages 12 and 13 - Applied Sensor Technologies

** One Series Safety Transmitter only

X = Standard

C = Capability, consult factory

O = Available as option