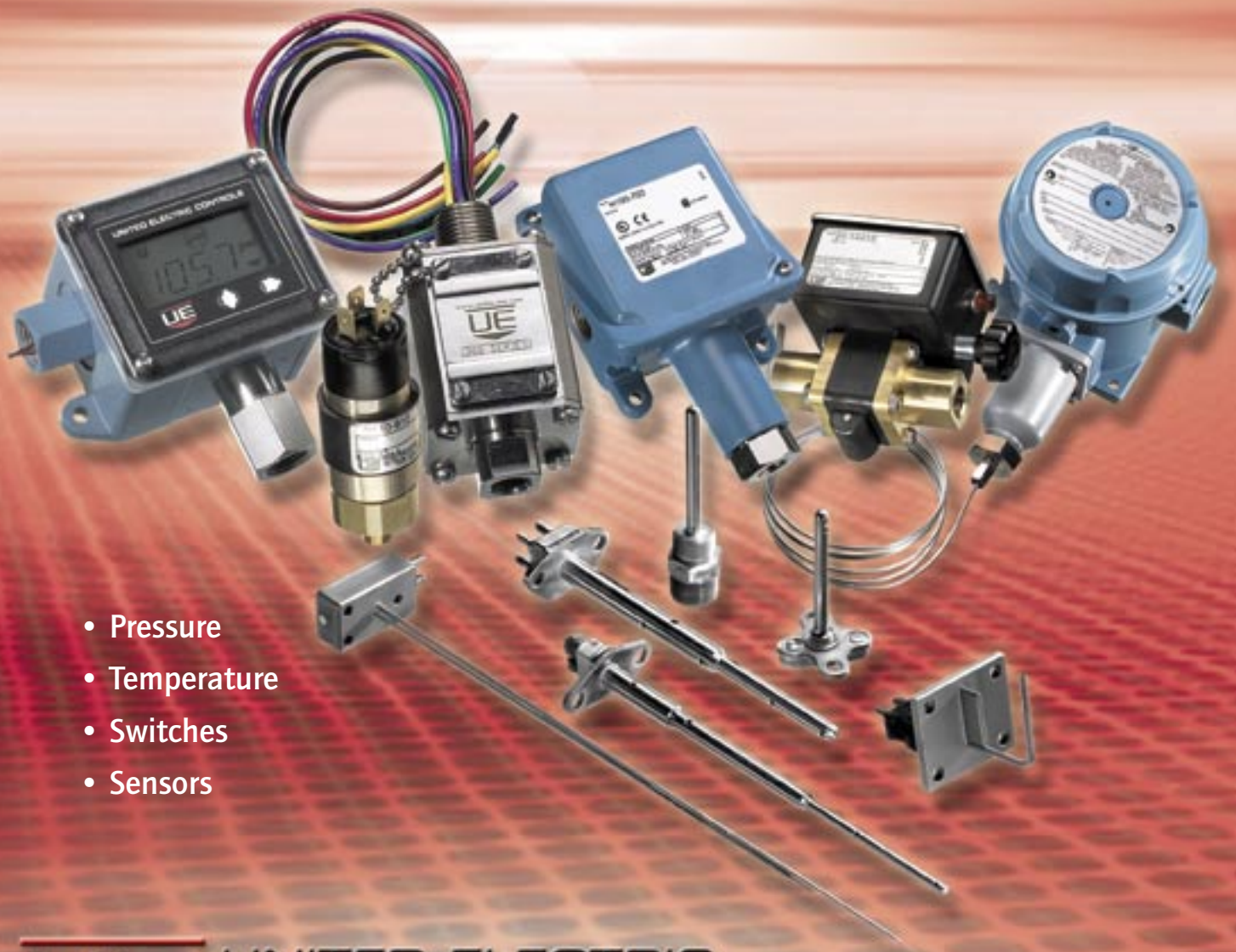
SHORT FORM CATALOG

Electronic and Electromechanical Switches and Transducers
for Pressure, Differential Pressure, and Temperature

Temperature Sensors and Probes



- Pressure
- Temperature
- Switches
- Sensors

UNITED ELECTRIC CONTROLS

SFC-03

Overview

Established in 1931, United Electric Controls is the leader in the application of Threshold Detection and Switching™ technology.

ISO 9001: 2000

AS 9100: 2004 Compliant

UE, a privately held corporation headquartered in Watertown, MA, is an international manufacturer of durable, reliable pressure, temperature and flow switches, controls, transducers and sensors. Focused on providing protection to equipment, processes and personnel in a variety of industrial applications, our products range from simple units to highly specialized custom designs. Many of our products principally perform alarm and shutdown functions for our customers, while others provide critical sensor inputs into control systems.

Our reputation for dependable, reliable products is a result of innovative design, superior manufacturing techniques, and a corporate focus on uncompromising quality.

Innovative Design

From our award-winning One Series electronic switches, to the enduring simplicity of our J40 pressure switch, UE's design excellence shines through. Our engineering department consists of Staff Engineers and Senior Designers, Drafting/ CAD operators and Engineering Technicians. As a key supplier to industry, UE fully understands the need for rapid development of modified product for special applications. It is UE's philosophy to meet or exceed customer performance requirements while providing the most cost-effective solution. The engineering staff is available to work with customers to help furnish solutions and meet their application requirements.

Superior Manufacturing

As a practitioner of continuous improvement methods, UE is a firm believer in analyzing all aspects of business in an effort to eliminate waste and improve service. Our commitment to the "One piece flow manufacturing technique" ensures that our customers have joined forces with a partner that is focused on reducing costs, eliminating non-value-added activities and increasing our level of service.

Uncompromising Quality

UE's attitude toward quality begins with our ISO 9001 certification and compliance to AS 9100. All of UE's employees know that quality is not just exemplified by our products, but by the service, delivery and value delivered to the customer. This extends from the complete application, installation and service assistance available at the company headquarters, to our extensive network of regional managers and trained authorized distributors located throughout the world.

United Electric Controls' Divisions

UE has four manufacturing divisions, allowing for specialization both in product and in market focus.

United Electric Controls

Product focus includes electronic and electromechanical pressure, differential pressure and temperature switches and temperature indicators and circular chart recorders. The majority of these products are intended for industrial OEM's and the process industries.

Applied Sensor Technologies Division

Manufacturers of Temperature Sensors for OEM's, Process Plants, Utilities and Transmission Stations, offering thermocouples, RTD's, thermistor and thin-film elements that meet exacting specifications and are packaged to match varied industrial applications.

Trans-Metrics Division

TMD specializes in pressure transducers and transmitters for rugged, demanding applications. Their designs lend themselves especially to applications with high vibration or shock, and extreme environmental conditions.

Precision Sensors Division (Milford, CT)

PSD manufactures electronic and electromechanical gauge, vacuum and absolute pressure switches; flow and level switches; and specialty instrumentation. They specialize in products for semiconductor, aerospace and other high-reliability applications.

Contents

One Series Product Line

Electronic Pressure, Differential Pressure and Temperature Switches with Innovative 2-Wire Design

Description – One Series 2-Wire

A new breed of electronic switch, the One Series 2-Wire derives its power and provides a switch using the discrete input of a PLC or DCS. Uniquely suited for plant upgrades where only two wires already exist, the One Series 2-Wire can replace other two-wire instrumentation easily and cost-effectively without the need to add additional wiring.

Features

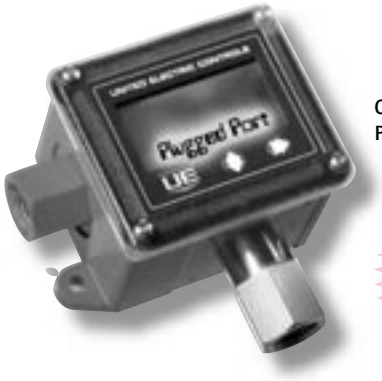
- Power and output switching achieved using the same 2 wires
- 2-button key pad for easy programming of set point and deadband, 100% adjustable
- LCD display for settings, status and process variable
- All solid-state design, no moving parts
- All stainless steel gauge pressure sensors with 0–4500 psi ranges
- Temperature sensor ranges from -300 to 1000°F (-184.4 to 537.8°C)
- 24 VDC, 115 VAC and 125 VDC models available
- Process extremes and switch settings are stored in non-volatile memory
- Programmable offset and span for field calibration
- Plugged port detection with local and remote indication
- Programmable delay for event filtering and smoothing
- Class I, Division 1 (Intrinsically Safe with optional safety barrier) and Division 2 rated; Enclosure Type 4X

Strengths & Capabilities

- Connects to a PLC with only 2 (existing) wires
- Monitors its own health with local and remote reporting (IAW®)
- Reports clogged sensor conditions
- Switches with programmable deadband or manual reset

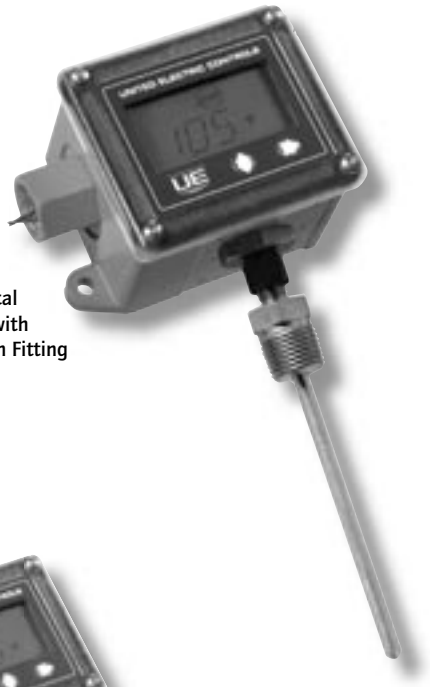
Applications

- Provides discrete input to a PLC or DCS
- Drop-in replacement for mechanical switches
- Process control, emergency shutdown, pressure & temperature monitoring in hazardous locations



One Series with Gauge Pressure Sensor

24 VDC, 115 VAC & 125 VDC models available



One Series 2-Wire Local Temperature Sensor with Optional Compression Fitting

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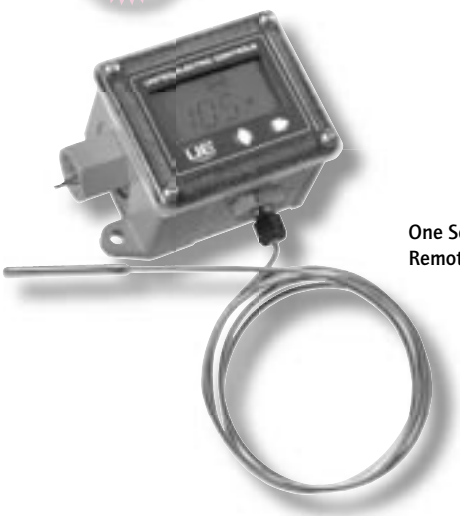


One Series 2-Wire with Remote Temperature Sensor

Note: EMC on 2W-2D models only (DC)

(EMC, LVD, PED)

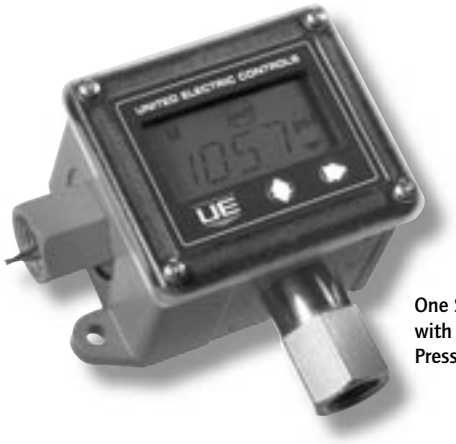
For complete specifications visit www.ueonline.com

One Series Product Line

Description – One Series 4-Wire
The One Series 4-Wire models provide an integral solid-state relay (SSR) for handling high current and voltage switching applications. This model requires an external power source to operate the electronics and provides a single SSR output.

Features
The 4-Wire model incorporates a 10 ampere, 24-280 VAC potential free SSR in the single enclosure providing a compact and fully self-diagnostic electronic switch with no moving parts.

Applications
With high current handling capacity, the One Series 4-Wire is ideally suited for local switching applications, where the load can be switched directly (locally) at the point of measure. Application examples include pump control, compressor protection, lubricant oil monitoring, control valve actuation and safety interlocks.



One Series 4-Wire with Gauge Pressure Sensor

One Series Enhancements

Differential Pressure Sensor*
Description – Optional differential pressure sensor for the One Series 2-Wire and 4-Wire models. Ranges include 100" water column differential, 0-50, 0-100 and 0-200 psid.

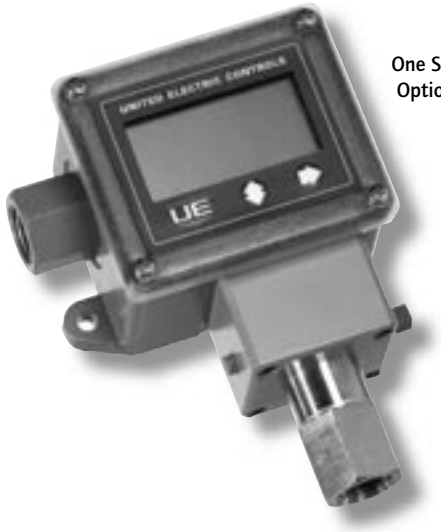
Dual Switch Output*
Description – This option provides two completely independent switches, each with their own set point, deadband and switch mode.

4-20 mA Output*
Description – The One Series can provide a 4-20 mA output for process trending and analysis. This analog output changes proportionally with the process variable (pressure or temperature) and provides a remote signal to a PLC or DCS.

Secondary Pressure Barrier*
Description - Option M041 for the One Series 2-Wire and 4-Wire models includes an intermediate chamber for the collection of hazardous material (process media) that has exceeded the burst pressure rating of the pressure sensor (normally 4x Range). Option M041 prevents the process media from entering the electronics enclosure and the conduit system.

Features
Two alternative paths are provided: atmospheric vent and 1/8" NPT (female) port (with removable plug) for media collection. The burst pressure rating of secondary pressure barrier exceeds 20,000 psi (1,379 bar).

Applications
Natural gas pipelines and compressors, fuel gas pressure monitoring, satisfies NEC 501.5 guidelines.



One Series with Option M041

** New model options available, pending agency approvals. Please contact UE Technical Sales for the latest information on the availability of these One Series product options.*

120 Series

Rugged Explosion-proof Pressure, Vacuum, Differential Pressure and Temperature Switches

Features

- Class I, Divisions 1 & 2, Groups B, C & D; Class II, Divisions 1 & 2, Groups E, F & G; Class III
- European ATEX, IECEx, Russian Gosgortechnadzor, Ukrainian Gosnadzorohrantruda, and Chinese CQST flameproof compliance for hazardous areas
- Dual conduit openings provide mounting flexibility
- Enclosure Types 4X, 7 and 9
- Choice of single or dual SPDT output
- Terminal block wiring
- Cover lock
- Wide variety of sensor materials, including welded stainless steel diaphragm or bellows sensors
- Flush mount sanitary sensors
- Internal adjustment or external calibrated dials with tamper resistant covers
- Pump switch models with wide, controllable deadband
- Heat trace and freeze protection temperature switches
- Indicating temperature control (820E/822E)

Ranges

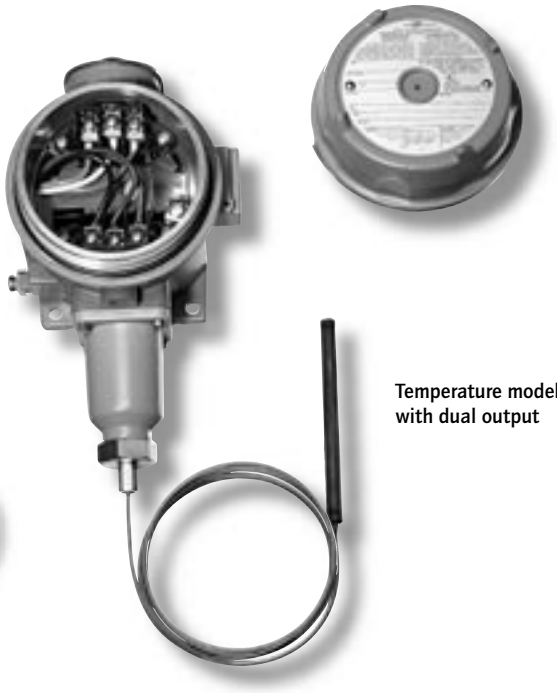
Pressure: 30"Hg Vac to 6000 psi (-1 to 413,7 bar)
Differential Pressure: 0.2" wcd to 500 psid
(0,5 mbar to 34,5 bar)
Temperature: -180°F to 650°F (-117.8°C to 343.3°C)

Options & Capabilities

- Various microswitch options from 1 amp to 30 amps and up to 480 VAC
- SPDT & DPDT hermetically sealed switches
- Adjustable deadband switch
- External manual reset switch
- Hastelloy®, Monel® and tantalum sensor material for corrosive media
- 150# and 300# flanges
- Custom capillary lengths, stainless steel armor or Teflon® protected capillary and additional immersion stem lengths for temperature switches
- Field installable surface mounting hardware, union connector and thermowell kits
- European ATEX and Russian Gosgortechnadzor compliance for intrinsically safe areas

Industries & Applications

- Chemical plants
- Pipelines and refineries
- Coal and grain dust areas
- Gas purge lines
- Buffer gas systems
- Tank blanketing
- Pumps, compressors and turbines



Temperature model with dual output

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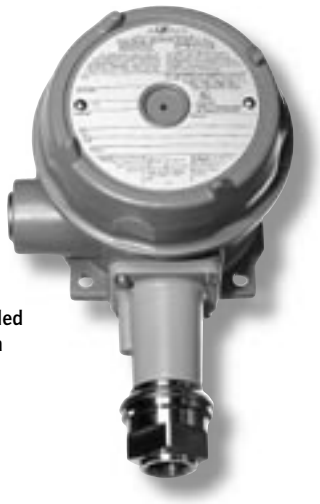


Pressure model with welded stainless steel diaphragm

For complete specifications visit www.ueonline.com

117 Series

Division 2 Hazardous Location Pressure, Vacuum, Differential Pressure and Temperature Switches

Features

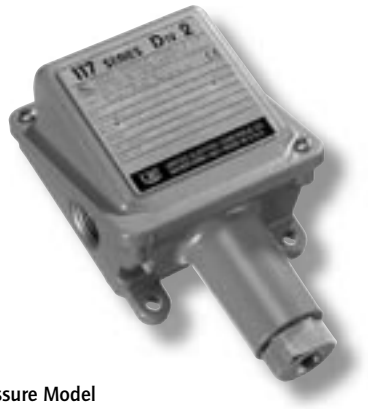
- Class I, Division 2, Groups A, B, C & D; Class II, Division 2, Groups F & G; Class III
- Hermetically sealed snap switch and terminal block wiring
- Choice of sensor materials, including welded stainless steel diaphragm or bellows sensors
- Epoxy coated enclosure with captive cover screws
- Enclosure Type 4X
- Flush mount sanitary sensors
- Field installable surface mounting hardware, union connector and thermowell kits

Ranges

Pressure: 30"Hg Vac to 3500 psi (-1 to 241,3 bar)
Differential Pressure: 0.8" wcd to 500 psid (2 mbar to 34,5 bar)
Temperature: -120°F to 640°F (-84.4°C to 337.8°C)

Options & Capabilities

- European ATEX and Russian Gosgortechnadzor compliance for intrinsically safe areas
- DPDT hermetically sealed switch
- Cleaning for oxygen service
- Hastelloy®, Monel® and tantalum sensor material for corrosive media
- 150# and 300# flanges
- Custom capillary lengths, stainless steel armor or Teflon® protected capillary and additional immersion stem lengths for temperature switches



Pressure Model

Remote Mount Temperature Model

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