

# **Detection and protection of** dangerous pressure conditions

- Eliminate nuisance operations with adjustable sensitivity and multi-sensor logic
- Monitor pressure remotely with SCADA outputs
- Easy to install with retrofit mounting plates and options for many applications

# **Product Summary**

**Description Multi-function, electronic pressure** monitor with adjustable pressure sensitive sensors that provide rapid pressure rise detection combined with seal-in relay functionality and static pressure monitoring and control. Features continuous outputs for integration with SCADA systems and remote monitoring. Optional multi-sensor models provide logic based operation to eliminate nuisance trip alarm potential.

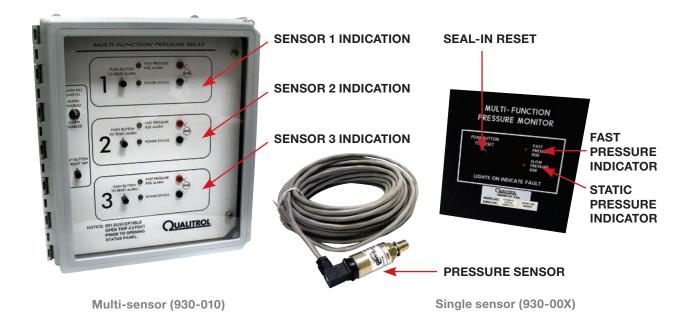
Application For advanced pressure monitoring of pressure vessels including rapid pressure rise and static (slow) pressure change. Nuisance or "false" trip signals experienced with single point devices can be minimized with logic based, multi-sensor, models.

Defining Reliability



Detection and protection of dangerous pressure conditions	<ul> <li>Electronic pressure sensors continuously output current pressure level to detect dangerous rapid pressure and static (slow) pressure events</li> <li>Local LED indication and relay actuation for rapid pressure and static pressure events</li> <li>Selectable seal-in relay function keeps the indicating LEDs lit and relays (contacts) actuated until manually reset</li> </ul>
Eliminate nuisance operations with adjustable sensitivity and multi-sensor logic	<ul> <li>Special models feature 2 of 3 logic to trigger a trip signal only if 2 of the 3 pressure sensors experience a pressure event exceeding set points</li> <li>Adjustable fast (rapid) pressure rise and slow pressure rise set points for custom operation for your particular acceptable risk level</li> <li>Momentary or seal-in actuation of control and alarm signals can be selected</li> <li>Sensors feature individual set points to provide alarms prior to trip signals should a pressure event occur (to alert personnel of non-standard conditions without tripping the unit)</li> </ul>
Monitor pressure remotely with SCADA outputs	<ul> <li>Continuous 0-1 mA or 4-20 mA output signal is supplied from each channel for remote transformer pressure indication or SCADA system integration</li> <li>Up to 9 SPDT relays (6 for fast pressure rise, 2 for slow pressure rise, 1 for power status)</li> </ul>
Easy to install with retrofit mounting plates and options for many applications	<ul> <li>Pressure sensors can be mounted via flange mount adapter for retrofit to existing installations of QUALITROL 900/910 flange mount rapid pressure rise relays</li> <li>Sensors have 1/4" NPT male fitting for easy mounting or adapting to existing fill ports</li> <li>Sensors are suitable for installation in gas or oil space of transformers</li> <li>Universal power supply accepts any input voltage in the range of 85-265 VAC 50/60 Hz or 110-370 VDC</li> </ul>

# 930 features



**QUALITROL** Defining Reliability



## **TECHNICAL SPECIFICATIONS**

Mechanical	Mounting	Pressure sensor: 1/4" - 18 NPT pressure input port
		Panel and control board: mounting studs
	Accuracy	Fast pressure: adjustable within limits
		Slow pressure: 2% span @ 77°F (25°C)
	Operating curve	Rapid pressure: Rotary switch selectable with 16 different settings
		Slow pressure: Adjustable from 1-15 PSIG (0-1 bar) for actuation
	Indicators	2 LEDs per sensor, indicating source of actuation or power status
	Sensor cable length	750 ft. maximum (228.6 m)
Environmental	Ambient operating temperatures	Sensor and cable: -40°F to 185°F (-40°C to to 85°C)
	temperatures	Control board: -22°F to 162°F (-30°C to 72°C)
	Relative humidity	10% to 90% non-condensing
	Input pressure range	0-30 PSIG (0-2 bar)
	Vibration	50/60/100/120 Hz @ .004 inch displacement, 3 perpendicular axis
	Shock	10Gs half sine pulse, 3 msec., 3 perpendicular axis
Electrical	Input power	Pre-configured: 120/240 VAC 50-60 Hz, 125/250 VDC, or 36-72 VDC
		Universal: 85-265 VAC 50-60 Hz, or 110-370 VDC
	Number of switches	Single sensor: 3 SPDT (2 fast pressure, 1 slow pressure) or (1 fast pressure, 1 slow pressure, 1 power status)
		Multi-sensor: 9 SPDT (6 fast pressure, 2 slow pressure, 1 power status)
	Switch rating	120 VAC or 240 VAC: 10A, 1/3 HP
	Remote output	0 to 1 mA (12,000Ω max load)
		4 to 20 mA (600Ω max. load)
	Dielectric strength	1500 VAC common mode on TB3-1,2,4-9 to TB3-3 for 60 seconds NOTE: do not hi-pot sensors
	Transient suppression	2500 V common mode and transverse mode on input per ANSI/IEEE C37.90

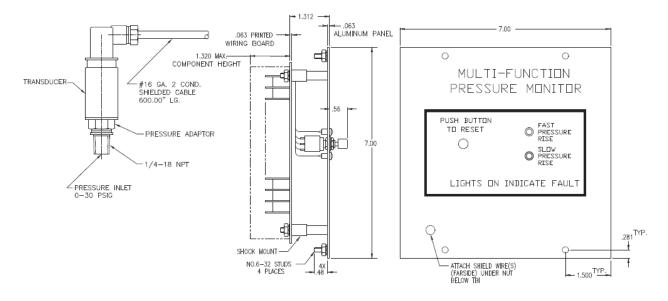


### Don't see what you need?

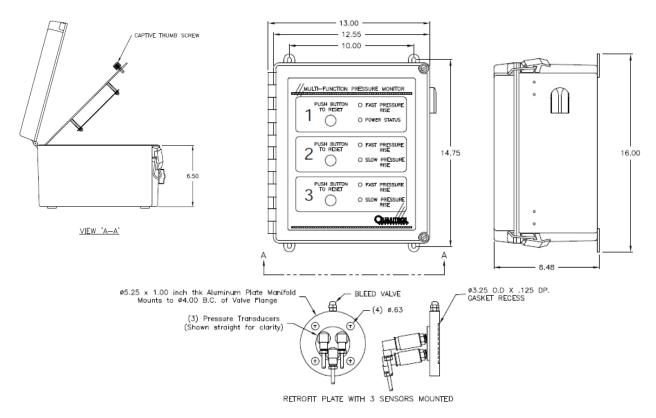
QUALITROL regularly creates models with special customer requirements. Contact your local sales representative or QUALITROL Application Engineer to review your special requirements.



#### Single sensor pressure monitor



### Multi-sensor pressure monitor



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