

# SF<sub>6</sub> Gas Density Monitors for All High Voltage Circuit Breakers

Your best defense against leaks!



Solon Manufacturing Company's temperature-compensated pressure switches are a reliable and economical way to monitor SF<sub>6</sub> gas density and leakage over a wide temperature range. Temperature-compensated pressure switches automatically adjust their settings to follow temperature changes for all SF<sub>6</sub> density levels including mixed gases. These switches are primarily used to measure the density of SF<sub>6</sub> in high voltage circuit breakers. Solon Manufacturing Industrial Controls Division manufactures two general design styles: Intrinsic and Remote Bulb.

## Intrinsically Compensated

These Intrinsically Compensated controls are compact, temperature-compensated pressure switches which use calibrated bi-metal components to adjust for changes in temperature. All intrinsic temperature compensated switches must be mounted so they change temperature at approximately the same rate as the gas.

### Solon's Model Series 2TC

The compact size of the 2TC allows easy and convenient mounting in any orientation. The 2TC is economically ideal when monitoring individual SF<sub>6</sub> tanks. Installing the 2TC on individual phases reduces the need for numerous plumbing connections and the potential for costly leak points.



The 2TC has few moving parts which adds to its accuracy and reliability. Bi-metal disks provide temperature compensation to the switching mechanism over a temperature range of -60°F to 180°F. The 3mm/#6 screws allow for the lug connections required by most utilities. The pressure sensing element consists of Phosphor Bronze Bellows which are 100% leak inspected with Helium mass spectrometry.

### Model 2TC with *Optional* Integral Gauge

The 2TC is available with an *optional* Integral Density Gauge. This feature provides a clear, visual indication of the gas density relative to the breaker fill pressure and set points.



*The modular design of the 2TC series allows Solon Manufacturing's engineers to work with your specific applications to achieve a reliable and economical solution to density monitoring!*

## Remote Bulb Density Switch

Bulb-style density switch controls use a liquid filled temperature sensor (bulb) that is attached to the switch with a capillary tube. This enables the switch body to be located in one area, while the bulb is mounted up to 16 ft. away. Bulb designs are useful when the temperature surrounding the switch body will be different from the gas temperature.

### Model 6TC Bulb

Solon's 6TC density switch design incorporates a remote bulb at the end of a capillary tube leading to the body where the switching mechanism is located. This temperature compensation feature allows the pressure switch to ignore pressure changes of the gas due to changing temperature and operates only when a loss of gas is detected indicating a change in density. The switching mechanism is located on a rugged cast or extruded aluminum body. This assembly can be installed in a convenient location as temperature surrounding the assembly does not affect the operation of the switch.



## Engineered for Life with Quality Assurance

Solon's design team provides efficient, low-cost solutions. Our engineers continually modify and enhance the designs of our pressure switches to meet the demands of the application and the needs of our customers. Our quality assurance and testing facilities ensure that we are producing to the highest quality standards in the industry. Continuous improvement in engineering, production and inspection techniques during the past 35 years has resulted in tighter controls in production and enhancements in the quality and consistency of our products.

### Maintenance & Replacement Assemblies for use in SF<sub>6</sub> Gas Density Applications

Many of Solon's industrial controls have been in service for decades requiring no maintenance. When a replacement part is needed, our modular design allows us to combine features using many of the components "off the shelf". Often a replacement switch can be ordered and shipped the same day.

**Intrinsic 5PS**



**5PS with Bulb**



**Intrinsic 6PS**



**6PS with Bulb**



Solon Manufacturing's 5PS & 6PS series density switches have been used to monitor gas density systems since 1975. Both intrinsic design and remote bulb design can be specified for the 5PS and 6PS. All density switches are manufactured to the original OEM specifications or to special customer requirements.

## About Solon Manufacturing

Since 1949, Solon Manufacturing Co. has grown to become a diversified manufacturer, featuring Industrial Controls and Belleville Springs for a variety of applications and industries world-wide.

Solon Manufacturing's Industrial Controls Division began manufacturing pressure controls in 1960 and has built a reputation for meeting the demands of difficult applications and extreme environments with high quality products. Industries Solon serves worldwide are: Petroleum, Power Generation, Hydraulics and Pneumatics, Chemical, Water Filtration, Petrochemical, Agriculture, and many others.



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