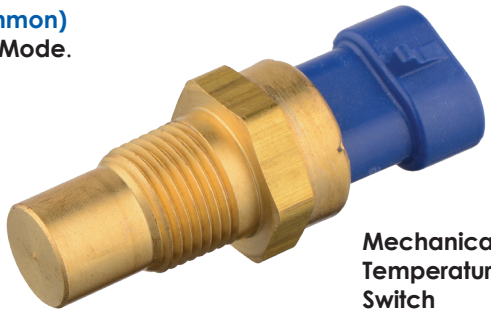
Key Definitions for INDEX Products

■ Burst Pressure
The maximum pressure that can be applied to a pressure device without risking catastrophic damage. A switch's burst pressure should exceed the maximum potential pressure in the system, including under abnormal conditions. Index burst pressures were validated within the switch temperature range (-40° to 260° F). Burst pressure for Index pressure switches is 2500 psi.

■ CO (Common)
See **Switch Mode**.



Mechanical Temperature Switch

■ Differential
The pressure or temperature difference between the rising contact actuation set point and the falling contact de-actuation reset point. Also sometimes referred to as **hysteresis**.

■ Electrical Environment
Index switches are designed for 12 to 24 volts DC systems and have current ratings typically in the range of 5-7 amps. Higher current and dry circuit devices are available.

■ Falling Contact De-actuation
The pressure or temperature at which the switch changes electrical contact state (closed to open, or open to closed) when the pressure or temperature is falling. Also known as **reset point**.

■ Fan Trigger Pressure Switch
Turns on engine fan to lower A/C system pressure when set point is reached, either directly or by signaling an Engine Control Mode. Mounted on the high-pressure side of a compressor.

■ High Pressure Cutout Switch
Prevents A/C system damage due to excessive pressure by disabling the A/C compressor when pressure exceeds the set point. Allows the compressor to resume when the pressure drops below the reset point. Mounted on or near the receiver dryer.

■ Inductive Load
An electrical load from coil-type devices such as solenoids, relays, and electromagnetic clutches. When an inductive circuit is switched open, the energy stored in the coil rushes backwards through the circuit. This sometimes causes arcing at the electric contacts. See also **Resistive Load**.

■ Low Pressure Cutout Switch
Prevents system damage due to low pressure or low refrigerant charge by disabling the A/C compressor when pressure drops below the reset point. Allows the compressor to resume when the pressure rises above the set point. Mounted on the low-pressure side of the compressor.

■ Nominal Pressure (referring to rising set versus falling reset point)
Nominal operating pressure is designated based on what is the most important for the switch's function. For switches responding to decreasing pressure conditions, the falling reset point should be designated as nominal. For switches responding to increasing pressure conditions, the rising set point should be designated as nominal.

■ NC (Normally Closed)
See **Switch Mode**.

■ NO (Normally Open)
See **Switch Mode**.

■ Proof Pressure
The maximum pressure that can be applied to a pressure switch without harming its operating characteristics. A switch's proof pressure should exceed the system's maximum pressure under expected normal operating conditions (including pressure spikes). Proof pressure for Index pressure switches is 650 psi.

Mechanical Pressure Switch

■ Reset Point
The pressure or temperature at which the switch changes electrical contact state (closed to open, or open to closed) when the pressure or temperature is falling. Also known as **falling contact de-actuation**.

■ Resistive Load
An electrical load from devices such as heaters or lights. Resistive loads draw electrical current in one direction through the circuit. See also **Inductive Load**.

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toll free 800-726-1737 ■ local 360-629-5200
sales@indexsensors.com ■ www.indexsensors.com

■ Rising Contact Actuation

The pressure or temperature at which the switch changes electrical contact state (closed to open, or open to closed) when the pressure or temperature is rising. Also known as **set point**.

■ Sensing Element

The part of a switch or control that detects change in the medium, e.g., temperature or pressure. In Index pressure and temperature switches, the sensing element is a snap disc that moves to open or close the electrical contacts at the set and reset points. Index electronic switches and controls have thermistor sensing elements that then signal the electronic circuitry.

■ Set Point

The pressure or temperature at which the switch changes electrical contact state (closed to open, or open to closed) when the pressure or temperature is rising. Also known as **rising contact actuation**.

■ Sinking vs. Sourcing Circuit

Refers to the position of the switch in an electrical circuit with respect to power, load and ground.

Sinking: switches are wired between the load and ground.

Sourcing: switches are wired between power and the load.

Mechanical switches can generally be wired in both Sinking or Sourcing positions. Electronic switches and controls are designed as either Sinking (only) or Sourcing (only) devices.

■ Switch Mode

The setting of the switch contacts at ambient pressure or temperature. Index switches offer three modes: Normally Open, Normally Closed, and Common (both NO and NC).

NO (Normally Open): a switch that does not conduct electricity at ambient conditions (contacts open) until it reaches its set point, at which point the contacts close and electrical current flows.

NC (Normally Closed): a switch that conducts electricity at ambient conditions (contacts closed) until it reaches its set point, at which point the contacts open and the electrical current stops.

CO (Common): a switch with both Normally Closed and Normally Open outputs having the same set and reset points. In the case of mechanical switches, these are 3-terminal devices, also described as **single-pole, double-throw (SPDT)**.

■ Temperature Exposure Range

The range of temperatures within which switches can operate normally. Index switches operate between -40° F and 257° F (-40° C to 125° C).