



# Membrane Switch Terminology

**Abrasion Resistance** – The degree to which a membrane switch is able to withstand surface wear.

**Actuation** – This is the action of working a switch apparatus.

**Actuation Force** – The pressure necessary for collapsing the walls of the dome on a polyester, rubber or metal keypad.

**Adhesion** – The molecular attraction of one material to another. The strength of the bond is determined by the surface energy in each material.

**Backing / Rear Adhesive** – An adhesive applied to the back of a membrane switch for mounting purposes.

**Breakdown Voltage** – The minimum voltage at which the insulation between two conductors is destroyed.

**Carbon Graphite Inks** – The type of ink that consists of prepared suspensions of carbon black and is frequently printed over silver circuitry to diminish the potential of migration of silver. These are used for lessening costs when the conductivity of a metal base system is not necessary.

**Conductivity** – A material's ability to allow electrons to flow.

**Cross-Over** – A conductor intersection insulated by dielectric material.

**Dead Front** – A cosmetic feature of a graphic overlay in which a button is only visible when backlit.

**Dielectric** – An insulating or non-conducting medium.

**Dielectric Inks** – Used for printing protective patterns on conductive printing to isolate selected regions from electrical contact with other conductors. This is used for cross-overs and tail insulation on membrane switches.

**Dome Cover** – An adhesive layer made to hold metal domes in the keyswitch.

**EL Lamp** – A slender device that illuminates large areas, typically used in LCD membrane switch backlighting and control panels.

**Embedded LED** – Procedure of integrating a surface mount LED into a membrane switch assembly.

**Emboss** – A way to supply a raised characteristic to accentuate key surfaces through mechanical and thermoforming of graphical features. This also permits an embedding of a surface mount of an LED inside the switch.

**Graphic Keypad** – Control keypads that use graphics for button functions for navigation on machines or process operations. Typical graphics include arrows or symbols indicative of a machine process or operation.

**Internally Vented** – Switch openings connected to one another to seal the switch from moisture and other contaminants.

**Key Height** – A measure of the distance from the highest point of a key to the base of the keypad.

**Light Emitting Diode (LED)** – Embedded in membrane switch layers to illuminate the button.

**Moisture Resistance** – A material's ability to resist the absorption of water from the air or during complete submersion.

**Overlay** – The decorative front layer of a membrane switch or control panel.

**Pillow Emboss** – Creating a raised surface in the graphic overlay over the key area.

**Pinout** – The schematic that describes the circuit output requirements for membrane switches.

**Pressure-Sensitive** – Adhesive materials that bond after pressure without needing heat or solvents.

**Rail Emboss** – Produces a raised ridge circling the key area.

**Silver Inks** – Finely-milled particles of silver suspended in various resin systems that produce conductive patterns on rigid and flexible substrates. This is a typical conductor material for membrane switches.

**Spacer** – A membrane switch adhesive layer that separates circuit layers to supply keyswitch openings, permitting the contact of conductors when depressed.

