

Custom Membrane Switches

When you use a custom membrane switch from Wilson-Hurd, you will receive the best in quality and performance. Our highly skilled engineering team will carefully review your requirements to design the optimum switch for your application. With a completely sealed design, our membrane switches are the perfect solution for any harsh environment. We offer flex membrane switches, as well as complex membrane switch assemblies that incorporate value-added components such as displays, lighting, back panels, PCBs and FPCs.

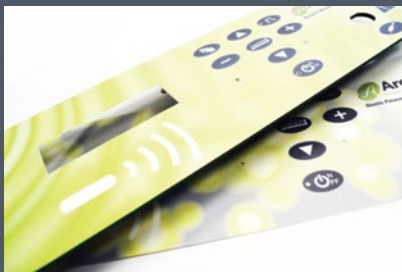
Advantages of Membrane Switches:

- Reliable performance
- Low cost
- Minimal risk of failure due to breakage of moving parts
- Excellent operating life
- Completely sealed design
- Wide design flexibility - can be tailored to suit a variety of applications



Design Options Available:

- Tactile or non-tactile response
- Emboss (pad, rim)
- De-boss
- Selective Texture
- Windows or lenses - acrylic, polyester, or polycarbonate
- ESD, RFI, & EMI shielding
- LEDs, EL, fiber-optic, or light guide film back-lighting
- PCBs & FPCs
- Plastic enclosures
- Elastomeric overlays & keys
- Metal or plastic back panels
- Zinc & aluminum castings
- Machined back panels
- Bezels
- Displays (VFD, LED, LCD)
- Touch screens; resistive & projected capacitance
- Kapton circuits (FPC)
- Force sensing switching
- Injection molded plastic
- Contract manufacturing & fully integrated assemblies



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Technical Data

Mechanical Specifications

Type	Specification
Actuation Force	4 - 16 oz.
Switch Travel	.007" to .035"
Overall Thickness	Varies by materials used in design
Size Tolerance	Typically .010"
Tooling	Steel rule dies & Class A tools, as well as laser-cutting for prototypes
Number of Actuations	Up to 3 million actuations, depending on design

Standard Environmental Specifications

Type	Specification
Humidity	0 to 98%, no condensation
Operating Temperature	-28.9°C (-20°F) to 70°C (+158.0°F)
Storage Temperature	-40°C (-40°F) to 70°C (+158.0°F)
Salt Fog	5% salt solution, 48 hours

Standard Electrical Specifications

Type	Specification
Contact Material	Silver, carbon, gold, or nickel
Voltage	30 volts DC
Rated Current/Voltage	20mA@30 volts DC resistive load
Contact Bounce	Less than 20 milliseconds
Maximum Switch Power	1 watt
Contact Resistance	Less than 100 ohms (closed loop)
Dielectric Strength	5000V max on polyester material \geq than .0005"
Termination	Customer choice
Breakdown Voltage to Ground	1000 volts DC
Open Circuit Resistance	10^6 ohms
Capacitance	20 picofarads
Design Configuration	XY matrix, common bus, or custom

Construction

