



MEMBRANE SWITCH SPECIFICATION FORM

Membrane switches are custom designed by Sun Industries to meet each of our clients unique requirements. Our goal is to incorporate these needs in a cost effective manner that will meet or exceed the operating criteria. This design guideline will provide a valuable communication tool. It will help reduce design time and cost, and result in the best possible design.

General Considerations

Environmental

What temperature and humidity range will this product experience?	
What type of contaminants or chemicals will come into contact with this product?	
Will this product be subject to moisture and/or UV exposure?	

Mechanical

Will tactile response be required?	
To what material will the switch be laminated?	
What number of actuations will this product receive?	
Will actuation force be a factor?	

Electrical

How many contact points will there be?	
What type of pinout or matrix will be used (common bus, x-y matrix)?	
What closed loop resistance will be acceptable?	
Will electrostatic or EMI shielding be necessary?	

Appearance

Will edges be exposed, recessed or covered with a bezel?	
Will embossing be required?	
Will there be different parts to the same product (sets)?	
How many colours will be needed?	
Will graphic effects be used such as halftones and shadowing?	

Switch Specifications

Physical

- Total Travel .006” to .022”
- Operating Force 4 to 20 oz
- Operating Life (Actuations):
 - Flat Switch Up to 5,000,000
 - Tactile Up to 3,000,000

Environmental

- Operating Temperature -10 degrees to 170 degrees F
- Storage Humidity < 90% RH
- Storage Temperature - 40 degrees to 170 degrees F

Electrical

- Contact Resistance 20 to 100 ooms
- Insulation Resistance < 1 megohm
- Contact Bounce 20 ms or less
- Maximum Voltage 28 VOC
- Maximum Current 50 mA
- Maximum Switch Power 1.6 watts

Note: These specifications are typical. Your application will need to be evaluated and specifically designed to fit your use.

As per our Membrane Specification Guide the following areas should be considered whenever designing your membrane. Please refer to our Guide for further information.

Graphic Overlay

- **Material Options**
- **Colour Matching**
- **Textured Backgrounds**
- **Window Finishes**
- **Colour Trapping**
- **Embossing**
- **Die Cutting Tolerances**

Membrane Layer

- **Material Options**
- **EMI/ESD/RFI Shielding**
- **Conductive Traces**
- **Tactile Feel**
- **Insulator**
- **Rear Adhesive**
- **Rigid Sub Panel**
- **Connectors**
- **LED Layer**

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