DuraTech Industries

MEMBRANE SWITCHES

Versatility Plus

DuraTech Industries continues to lead the way with membrane switches and graphic overlays. Membrane keypads offer an attractive and economical alternative to the traditional mechanical switch. These switches have many superior advantages as they are very thin and compact, moisture and dirt resistant, durable, and versatile. Membrane switches significantly reduce assembly time and adapt to almost any product.

The concept behind the membrane switch and graphic overlay provide an endless combination of custom options. Whatever your design requirements are, this technology offers a virtually unlimited choice of colors, materials, finishes, embossing, LED or LCD displays, back lighting, tactile feels and connector options.

Our full service design and engineering departments can provide complete or partial assistance in the aesthetic design of your graphic overlays. And our membrane switch experts can engineer the correct switch construction for your specific application.

DuraTech Industries

MEMBRANE SWITCHES

FLEX MEMBRANE SWITCH KEYPADS

Printed silver or etched copper circuit layer
Tactile or non-tactile response

Metal dome	Polyester Dome
LED Backlighting	EL Backlighting
Fiber Optic Backlighting	Durable Coatings
Embossed Keys & Graphics	

PCB MEMBRANE SWITCHES

Rigid Backing	Fiber Optic Backlighting
Non-tactile	Durable Coatings
Metal dome	Embossed Keys & Graphics
Polyester Dome	Embedded LED
LED Backlighting	Assembly
EL Backlighting	

RUBBER KEYPAD MEMBRANE SWITCH

Compression-molded Silicon Rubber Actuators
With or without Conductor on Key Bottom

Flexible Circuit	Polyester Dome
Carbon Tactile	Laser Etched
Metal Dome	Protective Coatings

TOUCH SCREEN TRANSPARENT MEMBRANE SWITCH

4-Wire Analog	5-Wire Analog
8-Wire Analog	Digital XY Matrix

Can be integrated into windows of Flex Membrane, PCB Membrane and Rubber Keypad Membrane Switches

DURASWITCH KEYBOARDS

Thin profile
Magnetic Armatures
Extremely Durable Construction
Can be used in switch constructions on both flexible circuits and PCB designs

TIPS FOR SUCCESSFUL DESIGN & DEVELOPMENT

What to consider

Overlay material selection and graphics

- Gloss vs Texture
- Hardcoated for scratch resistance
- Weatherable or UV resistant
- Embossed buttons
- Windows or cutouts
- Gradients

Type of switch

- Tactile vs non-tactile – if tactile what actuation force?
- Ingress Protection (IP rating)
  Is there adequate room to provide a seal robust enough to meet IP rating?
- Size – Is there enough room to fit all circuitry/components/seal?
  This should be considered during design and development of housing while changes can still be easily made
- Is a FPC circuit required?
- What surface will switch be adhering to?
  Low surface energy vs high surface energy
- Tail exit location and interconnect method
  Flexibility in tail exit location will help switch design be as efficient as possible and keep cost down
- What type of connection method?
  ZIF? If so what is the pitch
  Pins and housing? Latched or polarizing
  Will the contacts be on the right side after assembly?
- Circuit schematic or pinout defined
- ESD shielding required?
- Electrical test requirements
  Industry standards or special conditions/requirements

3216 Commerce Street • La Crosse, WI 54603 • 608.781.2570 • www.duratech.com • info@duratech.com