

# SimScroll™ Keypads

## Scroll Ring Interface

### Overview

The SimScroll interface is a circular switch array that utilizes our advanced SimTouch™ switch technology. It is perfect for products requiring effective navigation of large menu lists. Typical applications include universal remote control, MP3 players and A/V media system controls.

Through our decades of experience and expertise in switch technology, we understood that light actuation force switches were quickly becoming the industry standard for high-end products. SimScroll provides the unique ability to add elegance and effectiveness to your interface designs. With SimScroll, you can cost-effectively offer your customers the high-end experience of capacitive touch.

SimScroll uses a flexible overlay laminated to the switch circuit. Low actuation force and extremely short travel distance creates the experience of a capacitive touch switch. The SimScroll interface can be constructed using a variety of overlay materials. This can provide a smooth glass-like finish or brushed metallic for a stainless steel look.



### Typical Construction

- 16 SimScroll interface elements in a 1.5" (38mm) circular array are standard. The number of switch elements and diameter can be customized for specific design requirements
- Actuation force: 1.5oz to 2.5oz (43gr to 71gr)
- 0.010" (0.25mm) polycarbonate overlay (hardcoated, textured, or brushed metallic finishes)
- Activation pads can be screened directly on the overlay or on an additional polyester layer
- Selectively printed screenable adhesive or die cut spacer
- Conductive circuitry/force sensing layer
- Polyester circuit
- Pressure sensitive mounting adhesive
- Digital interface reference design available

### UL Recognized Component

- File # E156070



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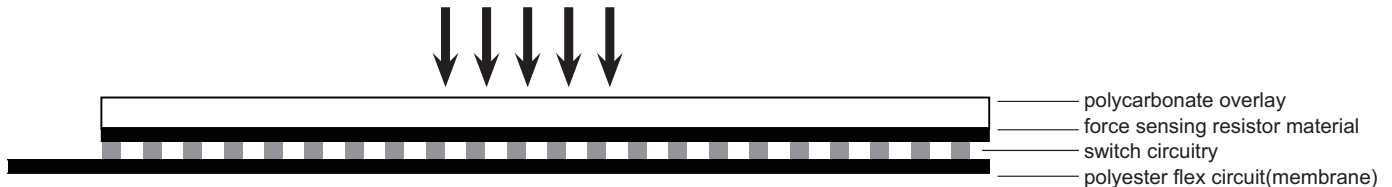
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## Specifications

- SimTouch and SimScroll switch arrays can be integrated with flexible segmented displays to create touch panel functionality

Overlay Thickness	Actuation Force	Nominal Thickness
0.010" (0.254mm)	1.5-2.5oz. (43-71 grams)	0.020" (0.508mm)

>1,000,000 actuations with no stress cracks in the polycarbonate film



1. Force applied on top of the polycarbonate is transmitted to the force sensing resistor material.
2. This causes a drop in resistance, which is detected by the electronics connected to the membrane circuitry.
3. The electronics then perform a switching action.
4. Switch is not affected by temperature or pressure changes.

## Environmental Testing

Subjected to temperature and humidity cycle of:

1. Transition from ambient 1.0 Hour
2. Steady state @ 5°C, 30% RH +/- 20% 1.0 Hour
3. Transition to 85°C, 50% RH 1.0 Hour
4. Steady state @85°C, 50% RH 1.0 Hour
5. Transition from 85°C to 45°C, 90-98% RH 1.0 Hour
6. Steady state @45°C, 90-98% RH 1.0 Hour
7. Transition from 45°C to 25°C, max 80% RH 1.0 Hour
8. Transition from 25°C to 105°C, 30% RH +/- 20% 1.0 Hour
9. Steady state @ 105°C, 30% RH +/- 20% 1.0 Hour
10. Transition from 105°C to 25°C, 20%RH 2.0 Hours
11. Steady state @25°C, 20%RH 1.0 Hour

Subjected to 30 cycles and monitored at various points in the test cycle. No anomalies found in the switch. Additional testing is ongoing.

## Operating Temperatures

Designed for -10°C to +105°C, test results pending

## Resistance

Open >1 Megohm

Closed <1 Kilohm

For ordering or additional information on this or any other interface product or service, contact

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