INTERLINK ELECTRONICS
Sensor Technologies

# AM™ Sensor Line
## FSLP Sensor Data Sheet

FSLP Sensor for Position and Force Applications

### Features and Benefits

- Unique hard coated film with antimicrobial protection
- Durable
- Increased perceived value of the product
- Rugged design - Over 1M touch activations over entire sensor area with no degradation observed.
- Measures position along a circular path
- Easy to integrate
- Low power consumption

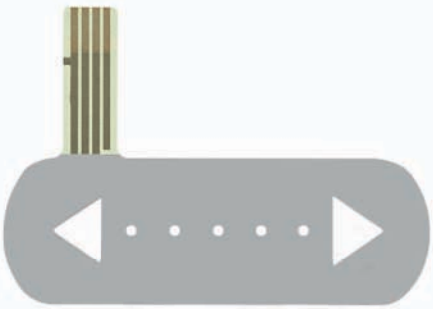
### Description

The Force Sensing Linear Potentiometer (FSLP) Sensor is Interlink's solution for capturing position and force simultaneously in compact applications. The sensor's tough, moisture resistant surface can be used with a finger, stylus, or glove; even in harsh environments.

The Force Sensing Linear Potentiometer (FSLP) simplifies input design, saves critical room, and helps save battery life. A battery operated demo is available.
Call us for more information 805-484-8855

The AM Sensor Line from Interlink Electronics provides constant and dependable antimicrobial product protection and an added level of defense against damaging microbes for the useful lifetime of the products. The touchable surfaces of the AM Sensor Line inhibit the growth of microbes on contact, working continuously to maintain a consistently lower bio-burden than would be expected on a product without antimicrobial protection.

The AM Sensor Line gives any application a competitive advantage in a world that focuses on cleanliness. Interlink`s AM Sensor Line is designed for next generation applications in which preventing the growth of bacteria, mold and mildew is a priority. Antimicrobial protection is not a substitute for proper cleaning practices and does not protect users from disease carrying organisms.



P/N: 94-00051 Rev. A

Your Sensor Application with a Competitive Edge

## Device Characteristics

| | |
|---|---|
| Actuation Force* | ~0.2N min |
| Force Sensitivity Range* | ~0.2N – 20N |
| Force Resolution | Continuous (analog) |
| Force Repeatability Single Part | +/- 2% |
| Force Repeatability Part to Part | +/-6% (Single Batch) |
| Non-Actuated Resistance | >10 Mohms |
| Hysteresis** | +10% Average $(R_{F+} - R_{F-})/R_{F+}$ |
| Device Rise Time | <3 microseconds |
| Long Term Drift** | |
| 1kg load, 35 days | < 5% $\log_{10}$(time) |
| Operating Temperature Performance** | |
| Cold: -40°C after 1 hour | -5% average resistance change |
| Hot: +85°C after 1 hour | -15% average resistance change |
| Hot Humid: +85°C 95RH after 1 hour | +10% average resistance change |
| Storage Temperature Performance** | |
| Cold: -25°C after 120 hours | -10% average resistance change |
| Hot: +85°C after 120 hours | -5% average resistance change |
| Hot Humid: +85°C 95RH after 240 hours | +30% average resistance change |
| Tap Durability | |
| 1 Million actuations, 500g, 4Hz Ø 1.2mm Derlin Stylus | Fully functional during and after durability testing |
| Standing Load Durability** | |
| 2.5kg for 24 hours | -5% average resistance change |
| Linearity | Voltage on sense line is proportional to actuation position to within +/-3% over active area. |
| EMI | Generates no EMI |
| ESD | Not ESD sensitive |
| UL | All materials UL grade 94 V-1 or better |
| RoHS | Compliant |

Specifications are derived from measurements taken at 1000 grams, and are given as (one standard deviation/mean), unless otherwise noted.
*Typical value. Force dependent on actuation interface, mechanics, and measurement electronics.
**Performance values are for the force sensing portion of the sensor. The position sensing component is minimally affected by environmental and durability factors.

## Applications

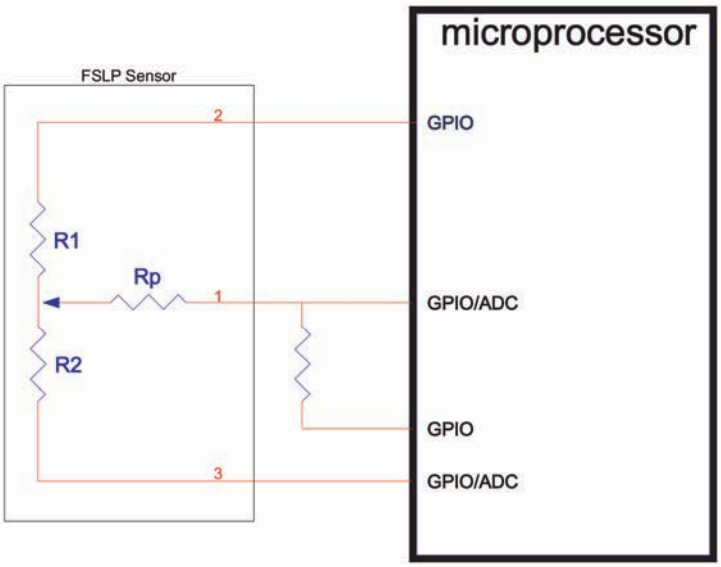
- Health care
- Food industry
- Pharmaceutical
- Mass & Home Improvement
- Consumer Electronics
- Domestic
- Infant & baby

## Connector Information

Recommended tail connector: JST 4-pin SMT connectro (JST PN# 04-FM-1.0SP-1.9TF) or equivalent for FFC option

## Application Information

The Interlink Electronics FSLP Sensor can measure position and pressure. The connection to the measuring microprocessor is very simple and requires only one external component. The microprocessor will need two general purpose IO (GPIO) pins and two GPIO/analog-to-digital converter (ADC) pins. The GPIOs should be able to go into high-impedance mode (>1MΩ) and the ADCs should be able to measure from 0 to Vcc.




| PINOUT | | |
|---|---|---|
| STANDARD FSLP | 10 cm FSLP | |
| PIN # | PIN # | REFERENCE |
| 1 | 3 | SENSE LINE (SL) |
| 2 | 1 | DRIVE LINE 1 (D1) |
| 3 | 2 | DRIVE LINE 2 (D2) |
| 4 | 4 | NOT CONNECTED (NC) |

## Orderable Part Numbers

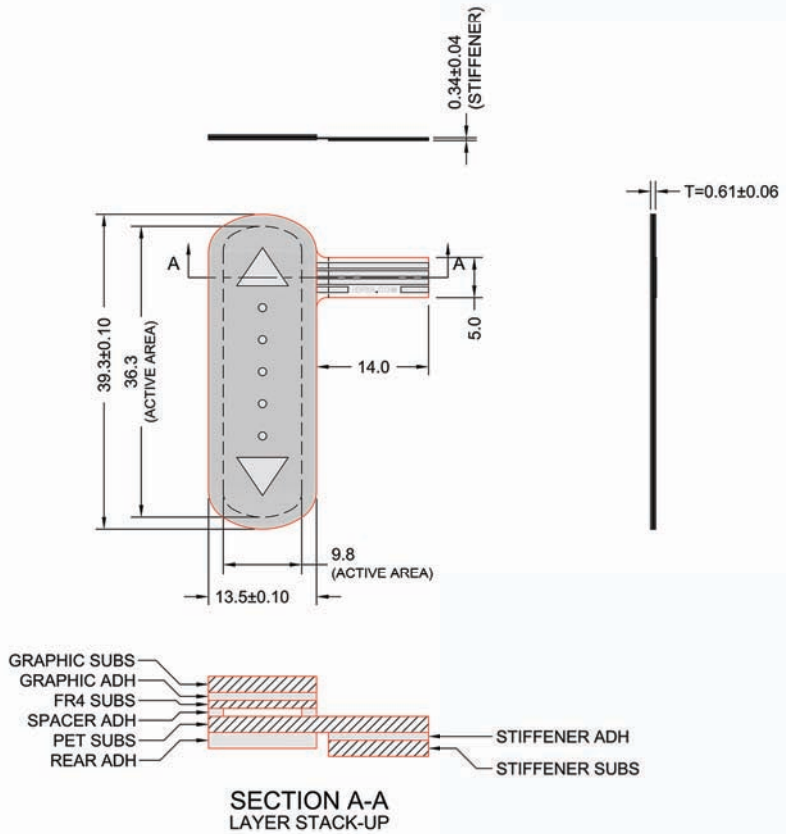
**Hardware Development Kit, 54-00070**

This Hardware Development Kit includes:

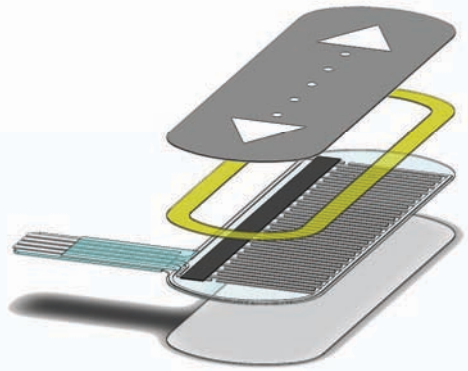
- AM™ FSLP Demo Board (Qty. 1)
- AM™ FSLP Sensor (Qty. 5)
- 4 Pin Connector (Qty. 5)

**AM™ FSLP Sensor, 34-00028**

## Sensor Mechanical Data




## Exploded View



INTERLINK ELECTRONICS®
Sensor Technologies

## FSLP Sensor for Position and Force Applications

Interlink Electronics Inc. (OTC: LINK) is a global leader in design of Force-Sensing Resistor® (FSR®) technology and a pioneer in printed electronics. For over 28 years, our solutions have focused on handheld user input, menu navigation, cursor control, & other intuitive interface technology for the world's top electronics manufacturers. We enhance and strengthen our customer's user interface and data capture solutions with our robust array of sensor technologies and expertise.
Interlink is your trusted advisor and technology partner in the advertising world of sensor technologies.

### Operations:

High Volume Manufacturing
Engineering
Procurement
CM Management
Logistics
Distribution
Warehouse

### Services:

Electro Mechanical Engineering
Electrical Engineering
Tool Engineering
Prototyping Engineering
Manufacturing Process Engineering
Quality Engineering

### Products & Solutions:

Force Sensors
Position Sensors
Mouse, Pointing & Touchpad

### Global Presence:

West Coast USA
Shenzhen China
Hong Kong
Worldwide Distribution

### Applications:

Intuitive User Interface
Detect & Qualify Press
Detect Liquid Blockage
Detect Proper Tube Positioning
Detect Centroid of Force
Detect Presence, Position & Motion
Many other force measurement applications

### Quality:

BSI
RoHS
REACh
CERTIFIED BLACK COMPLIANT

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