International Fashion Machines, Inc.
1205 East Pike Street
Suite 2G
Seattle, WA
98122
206 860 5166

IFM Fuzzy Sensor Developer Kit

Terms of Use:

The IFM Fuzzy Sensor Developer's Kit contains proprietary information and materials. These sensors are protected by US Patents, copyright and trademark and trade secret laws. IFM patents broadly cover the use of e-textiles as capacitive sensors and lighting controllers.

US Patent 7,054,133
International Patent 6,210,771

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Contents:

- Quantum capacitive sensing board and batteries
- 1 IFM patented electronic POM POM Plush Touch™ Sensor touch sensor-attached to sensing board.
- 1 IFM patented tufted Plush Touch™ Sensor
- Conductive yarn tether for tying sensors to electronics.
- Conductive tape ground electrode

Tips for using your IFM Fuzzy Sensor Developer's Kit

IFM's Fuzzy Sensors combine soft and fuzzy conductive textiles with capacitive sensing techniques and circuitry. There are many ways to design capacitive sensors. We have chosen to work with the Q-prox sensor for developer's kit because this is a well supported electronic solution that manufacturers can easily adapt. Please refer to the accompanying CD for the Q-Prox datasheet and user manual.

IFM sensors sense a change in charge on the textile. The change in charge is accomplished by your body and its capacitance. The circuit is also self calibrating—when it starts up it looks at the states of its external electrodes—and then measures **against** this value. Thus, if you or your body is touching the board when you turn it on, that is the value it measures against.

Simple start up

1) Place the board on a table.
2) Be sure that the POM POM is not touching the circuit.
3) Touch only the on/off switch- not the board. This is necessary because the board calibrates itself on start up and if you body is touching it- it changes that setting.
4) If the board is used in a toy or other hand held device, be sure that it is not touched when turned on.

Tips for Wearable Systems

- For wearable systems, calibration can be more difficult because the board is near your body. If the following tips do not work, refer to the Q-prox CD.
- Be sure that the board and sensor stay in a consistent location to the body and in the garment. It may be necessary to restart the board if the garment is removed. Do not touch the board or sensor when turning on. Be sure the board is covered- not touching skin.
- A ground electrode may be necessary. Attach the ground electrode (conductive tape included in kit) to the ground pin of the sensing board. This is at the base of the battery- and circled in black. Make sure ground electrode is spread out in the garment. Test on the table to be sure it works first.

  Ground pins for electrode: