

# MicroModule USB Data Sheet

## Features and Benefits

- Compact
- Durable
- Sealable design
- Easy to integrate
- Ultra-thin mounting profile

## USB MicroModule for Rugged Mousing Applications

## Description

Both Mini Joystick and Finger Disk modules are dual click-button mousing devices designed for integration into tight, cramped spaces. The MicroModule is plug-and-play, utilizing standard mouse data output. Several cabling options are available.



Gray Finger Disk Option



Black Finger Disk Option



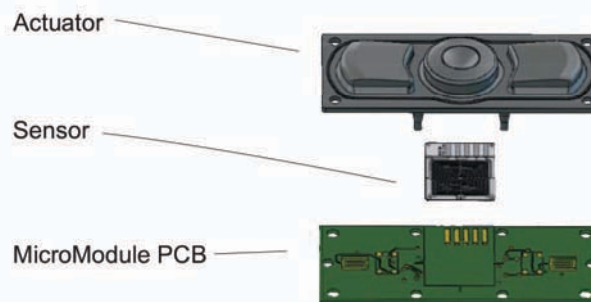
Mini Joystick Option



MicroModule, Rear View

## User Control Options

The touch of a fingertip on the MicroModule actuator delivers simultaneous 360° control of cursor direction and speed. Choose from 2 actuators styles, either Mouse Button (round disk with a divot for a fingertip), or Mini Joystick (a compact stick).



P/N: 94-00024 Rev. F

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## USB MicroModule for Rugged Mousing Applications

### Device Characteristics

|                                   |                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Keypad Options                    | Black finger disk, gray finger disk, black mini joystick, black finger disk fluorosilicone                                                                                                                                                                                                                                                                              |
| Weight                            | 15 grams or less                                                                                                                                                                                                                                                                                                                                                        |
| Operating Temperature Performance | Functional before, during, and after exposure to the below conditions: <ul style="list-style-type: none"> <li>Cold Dry -25°C &lt;=5%RH for 96 hours</li> <li>Cold Humid 10°C 95%RH for 96 hours</li> <li>Hot Dry 70°C &lt;=10%RH for 96 hours</li> <li>Hot Humid 70°C 95%RH for 96 hours</li> </ul>                                                                     |
| Storage Temperature Performance   | Functional after 96 hours of exposure to the below conditions: <ul style="list-style-type: none"> <li>Cold Dry -40°C &lt;=5%RH</li> <li>Hot Dry 85°C &lt;=10%RH</li> <li>Hot Humid 85°C 95%RH</li> </ul>                                                                                                                                                                |
| Thermal Shock                     | Functional after 20 cycles of -40°C to 85°C with a 30 minute dwell time and 5 minute transitions                                                                                                                                                                                                                                                                        |
| Finger Disk Lifetime Durability   | >3.5 million actuations with 500g at 4Hz                                                                                                                                                                                                                                                                                                                                |
| Keypad Lifetime Durability        | >1 million cycles with 500g at 4Hz                                                                                                                                                                                                                                                                                                                                      |
| Drop Test                         | Dropped from 1 meter onto concrete on all six sides                                                                                                                                                                                                                                                                                                                     |
| Mechanical Shock                  | Comparable to MIL-STD-202, 80G accelerated in 11msec                                                                                                                                                                                                                                                                                                                    |
| Mechanical Vibration              | Comparable to MIL-STD-202, Method 204, Condition A                                                                                                                                                                                                                                                                                                                      |
| Chemical Resistance               | Keypad surface resistant to most common cleaners and spills for 24 hours. These include: water, soap, bleach, alcohol, ammonia NH <sub>4</sub> OH based window cleaner, acetic acid CH <sub>3</sub> COOH based cleaner, cola, coffee with sugar and creamer. Robust MicroModule with Fluorosilicone keypad is also resistant to a variety of oils, fuels, and solvents. |
| UL                                | All materials UL grade 94 V-1 or better                                                                                                                                                                                                                                                                                                                                 |
| RoHS                              | Compliant                                                                                                                                                                                                                                                                                                                                                               |

## Connector Options

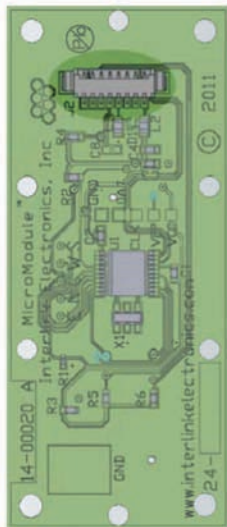
### Header

The connector for the MicroModule is a wire to board header connector.

The header is a Molex #53261-0871

### Header Wire and Cable Options

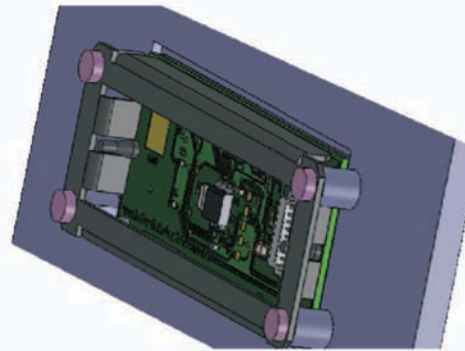
- USB Type A, PN 14-00054
- USB Type A with Strain Relief, PN 14-00108
- 12" Wire Cable Harness, PN 14-16576



## Application Information

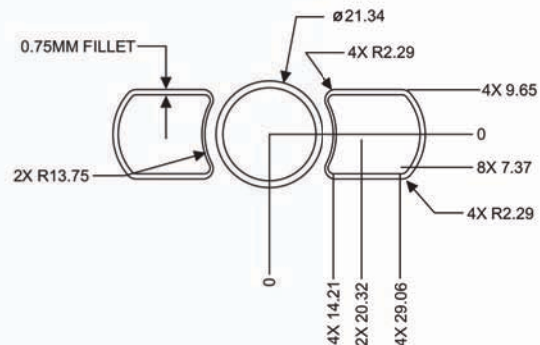
### Mounting

Can be fitted into various assemblies to meet specific demands for user control locations.

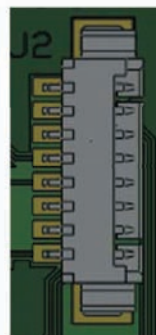


### Mounting, Panel Cutout

See the Integration Guide for more detailed mounting recommendations.



### Pin Out



| J2 Pin | Signal | Signal Description |
|--------|--------|--------------------|
| 1      | VCC    | +5v                |
| 2      | D+     | D+                 |
| 3      | D-     | D-                 |
| 4      | GND    | Ground             |

## USB MicroModule for Rugged Mousing Applications

### Orderable Part Numbers

#### Hardware Development Kit, 54-00028

This Hardware Development Kit includes:

- MicroModule Demo (Black Finger Disk) w/ USB Cable (Qty. 1)
- USB MicroModule w/ Mini Joystick (Qty. 1)
- Gray Finger Disk Keypad (Qty. 1)
- 12" Wire Cable Harness (Qty. 1)
- USB Cable Assembly (Qty. 1)
- USB Flash drive w/ product literature (Qty. 1)

#### USB MicroModule w/ Black Finger Disk PN 54-00002

#### USB MicroModule w/ Gray Finger Disk PN 54-00023

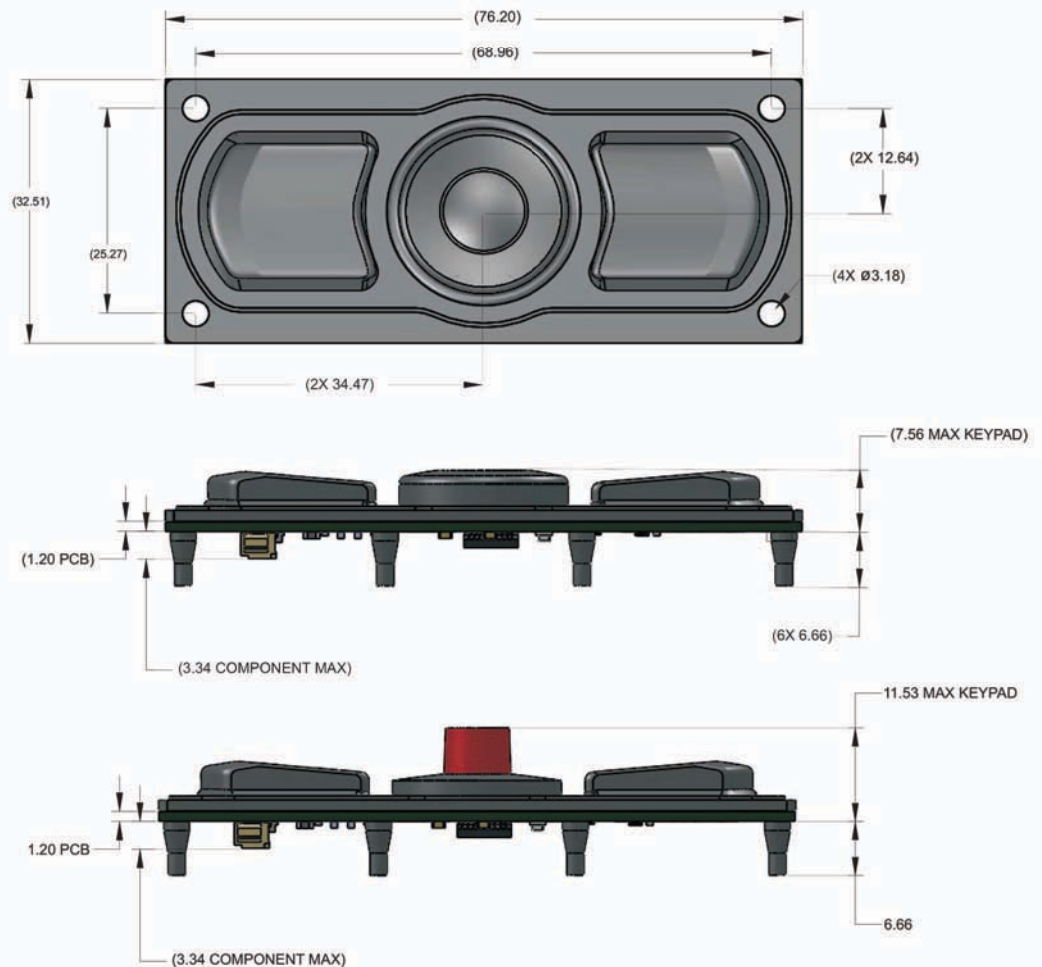
#### USB MicroModule w/ Mini Joystick PN 54-00011

#### USB MicroModule w/ Black Finger Disk (Fluorosilicone) PN 54-00046

#### 12" Wire Cable Harness, PN 14-16576

#### USB Cable Assembly, PN 14-00054

#### USB Cable Assembly w/Strain Relief, PN 14-00108



### Contact Us

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