Background
Sure Grip Controls was incorporated in 1996 to manufacture industrial control handles for the heavy equipment industry. Sure Grip focuses on manufacturing products that are rugged, reliable, and can be repaired by customers in the field. Sure Grip’s products are widely accepted within the forestry industry where constant product use has resulted in early failure of competitive handles. From this success, Sure Grip products have grown into the heavy vehicle market resulting in a product line that is supplied to major manufacturers around the world. In 2015, Sure Grip Controls was purchased by Bailey Hydraulics, a hydraulic manufacturing and system design company based in Knoxville, Tennessee USA. Sure Grip continues to expand its product line and now manufactures a wide range of different handles, single and dual axis joysticks, proportional and switched components used in its handles, and also accompanying control electronics.

Manufacturing
Sure Grip Controls is located in a modern 14,000 sq ft building in Victoria, British Columbia, Canada. All manufacturing, engineering, and design are located in this facility. The modular design of Sure Grip products allows for a very high level of customization while still offering deliveries in less than two weeks. This is virtually unmatched in this industry.

Quality
Sure Grip Controls products are designed with quality built-in. Sure Grip designs and develops products entirely in-house, assuring superior quality of the finished product. Our on-site lab allows for the development of new and improved products, as well as product validation. Sure Grip first achieved ISO 9001 certification in 2005 and currently holds ISO 9001:2015 certification.

Engineering
Sure Grip Controls continues to expand its product line with the development of new handles, joystick, and proportional control products. Sure Grip leads the industry in innovation and creating new opportunities for our customers. Our engineers have a wealth of experience in electrical and mechanical design and can provide custom solutions for virtually any requirement. Contact us today to learn more.
# TABLE OF CONTENTS

**ORGANIZED BY PRODUCT GROUP**

## JOYSTICKS
- “JSM” Joystick  
  Page 2
- “JSL” Joystick  
  Page 3
- Micro Joystick  
  Page 4

## ELECTRONICS
- Electronic Joystick Mount
- Universal Joystick Mount
- Standard Switches
- Slider Modules
- Toggle Switches
- LEDs
- Rocker Modules
- Push Buttons
- 10 Button Keypads
- Bushing Adapters
- Studs
- Connectors
- Strain Reliefs

## Handles
- “JE” Handle  
  Page 5
- “LE” Handle  
  Page 6
- “KE” Handle  
  Page 7
- “SU” Handle  
  Page 8
- “CU” Handle  
  Page 9
- “LU” Handle  
  Page 10

## Handle Options
- Page 11

## Accessories
- Page 11

---

Sales@SureGripControls.com | 1-800-831-2278
JSM Joystick Description

The Sure Grip “JSM” Series Electronic Joystick is our second generation joystick. It incorporates the newest Hall Effect sensor technology and advanced internal wire configuration. All of the electronics are located in a sealed cap to protect it from the harsh environment. Output options include CAN, Proportional, Switched, USB, and PWM. Single and dual axis spring-return-to-center or friction hold configurations are also available. The Joystick can be configured with our JE, LE, KE and NE control grips. For standard options refer to configuration guide. Otherwise, contact us to learn how we can customize our products to meet your specific needs.

Electronics

The “JSM” Series Joystick uses a Hall Effect sensor that is calibrated to provide a linear output relative to joystick position. This is designed to perform consistently in harsh environments that otherwise would not be feasible with mechanical sensing solutions such as potentiometers.

Output Options:

- J1939 CAN
- Analog 0.5 - 2.5 - 4.5 vdc (single or dual redundant)
- Switched 2.5A Solid State (with redundant analog outputs)
- USB interface
- PWM High Current Valve driver (four 2.5A PWM)

Features:

- Long life - tested to 20 million operations
- Rugged design
- Proportional and Switched outputs
- Operating temperature: -40°C to +85°C
- Sealing up to IP67 (handle dependent)
- EMC 100 V/m
- Fully sealed and encapsulated electronics
- Supports all Sure Grip handles (best suited for our JE, LE, KE, NE)

Dimensions:

Recommended mounting panel cutout.
**JSL Joystick Description**

The Sure Grip “JSL” Series Electronic Joystick is our second generation joystick that incorporates the newest Hall Effect sensor technology and advanced internal wire configuration. All of the electronics are located in a sealed cap to protect it from the harsh environment. Output options include CAN, Proportional, Switched, USB, and PWM. Single and dual axis spring-return-to-center or friction hold configurations also available. The Joystick can be configured with our JE, LE, KE and NE control grips. For standard options refer to configuration guide. Otherwise, contact us to learn how we can customize our products to meet your specific needs.

**“Gimbal Mounting” System**

The “JSL” Joystick also features our innovative “Gimbal Mounting” system that allows the joystick to be orientated in the most comfortable operating position. Up to 20 degrees of adjustment (off vertical) in any direction and 360 degrees rotation. This adjustment is accomplished with nothing more than a simple allen wrench.

**Electronics**

The “JSL” Series Joystick incorporates Hall Effect sensor this is calibrated to provide a linear output relative to joystick position. This is designed to perform consistently in harsh environments that otherwise would not be feasible with mechanical sensing solutions such as potentiometers.

**Output Options:**

- J1939 CAN
- Analog 0.5 - 2.5 - 4.5 vdc (single or dual redundant)
- Switched 2.5A Solid State (with redundant analog outputs)
- USB interface
- PWM High Current Valve driver (four 2.5A PWM)

**Features:**

- Adjustable gimbal mounting system
- Long life - tested to 20 million operations
- Rugged design
- Proportional and Switched outputs
- Operating temperature: -40°C to +85°C
- Sealing up to IP67 (handle dependent)
- EMC: 100V/m
- Fully sealed and encapsulated electronics
- Supports all Sure Grip handles (best suited for our JE, LE, KE, NE)

**Dimensions:**

Recommended mounting panel cutout.
Description

The “Micro Joystick” is a miniature Proportional Hall Effect joystick, designed for exposed applications. This thumb operated joystick provides an additional 2 axes of proportional control within a control grip faceplate.

Features:
- Sealing to IP67
- Available with thumbrest
- Simple mounting system
- Operation: Dual Axis, Spring Return
- Operating Voltage: 5 VDC@ 30mA
- Output: 0.5 -2.5 - 4.5 VDC (+/-0.2)
- Range of motion: +/- 19°
- Operating temperature: -40°C to +85°C
- Long life - tested to 20 million operations
- Can be ordered individually or installed into our handles

Dimensions:

Micro Joystick (with thumbrest) installed in “JE” Series Handle
Description

Sure Grip’s “JE” Series control grip is our newest designed handle that provides a more ergonomic feel and additional trigger options. It can be configured with up to 4 switches in the faceplate. In addition, you can choose to add a trigger switch and a lower trigger switch or operator presence lever. The “JE” handle is optimized to be installed on our JSM or JSL electronic joysticks.

The control grips are molded from a high impact plastic polymer into a comfortable shape for a rugged and lightweight control handle for extreme duty applications. The standard Sure Grip switches are covered with our patented overlay design that protects the switches from dirt and moisture.

*Note the four button configuration is shown. We stock these configurations for next day shipment. Custom configurations are available and usually ship in less than 2 weeks, see ordering guide or contact factory for details.

Examples of different faceplate options

1. “JE” Handle with blank faceplate
2. “JE” Handle with 2 switches on faceplate
3. “JE” Handle with 4 switches on faceplate
4. “JE” Handle with micro joystick
5. “JE” Handle with 1 slider and 1 rocker
6. “JE” Handle with our “JSM” and “JSL” joystick

* Other configurations available, see handle ordering guide.

Features:

- Sealing up to IP67
- Rugged design
- Overlay customizable
- Switch tested to 10 million operations
- Optimized for JSM and JSL joysticks
- Multiple trigger options available
- Supports 1 micro joystick
- Supports 2 slider or rocker Modules
- Supports up to 4 faceplate switches

Dimensions:

- 2.30” (58.4mm)
- 4.40” (111.7mm)
- 2.76” (70.1mm)
- 6.28” (159.5mm)
Description

Sure Grip’s “LE” Series control grip is our newest designed handle that has the mixed characteristics of “JE” and “L” series handles. It is designed to offer up to 8 switches in the faceplate as well as the option for the trigger switch, second trigger switch or operator presence lever. A keypad can also be installed on the left or right of the handle for an additional 10 buttons. The “LE” handle is optimized to be installed on our JSM or JSL electronic joysticks.

The control grips are molded from a high impact plastic polymer into a comfortable shape for a rugged and lightweight control handle for extreme duty applications. The standard Sure Grip switches are covered with our patented overlay design that protects the switches from dirt and moisture.

Note 1: 8 Button configuration shown, we stock some configurations for next day shipment. Custom configurations are available and usually ship in less than 2 weeks, see ordering guide or contact factory for details.

Examples of different faceplate options

Faceplate Options

1. “LE” Handle 2 switches on faceplate
2. “LE” Handle 4 switches on faceplate
3. “LE” Handle 6 switches on faceplate
4. “LE” Handle 8 switches on faceplate
5. “LE” Handle with 1 rocker, 1 slider and 4 switches on faceplate
6. “LE” Handle with 2 micro joysticks and 2 switches on faceplate
7. “LE” Handles with our “JSM” and “JSL” joystick

* Other configurations available, see handle ordering guide.

Features:

- Sealing up to IP67
- Rugged design
- Overlay customizable
- Switch tested to 10 million operations
- Optimized for JSM and JSL joysticks
- Multiple trigger options available
- Supports up to 2 micro joysticks
- Supports up to 4 slider or rocker modules
- Supports up to 8 faceplate switches
- Supports a 10 button keypad

Dimensions:

* Note 1
**KE Knob**

- **Description**
  Sure Grip’s “KE” knob is available in grey or black, and will support up to 2 momentary switches.

  The “KE” knob is optimized to be installed on our JSM and JSL electronic joysticks.

  ![KE Knob with our “JSL” joystick.](image)

- **Features:**
  - Sealing up to IP54
  - Rugged design
  - Overlay is customizable
  - Switch tested to 10 million operations

- **Dimensions:**
  - Blank Knob: 1.80” (45.7mm)
  - 1 Button Switch: 2.00” (50.8mm)
  - 2 Button Switches: 2.20” (55.9mm)

---

**NE Knob**

- **Description**
  Sure Grip’s “NE” Knob is smaller than the “KE”. It is sealed to IP67 and is available in black only and does not support any switches.

  The “NE” knob is optimized to be installed on our JSM and JSL electronic joysticks.

  ![“NE” knob with our “JSM” joystick.](image)

- **Features:**
  - Sealing up to IP67
  - Ergonomic design
  - Suitable for low clearance applications

- **Dimensions:**
  - “NE” knob: 1.42” (36.1mm)
  - “NE” knob: 1.07” (27.2mm)
Features:
• Sealing up to IP67
• Rugged design
• Overlay customizable
• Switch tested to 10 million operations
• Multiple trigger options available
• Supports 1 micro joystick
• Supports 1 slider or rocker module
• Supports up to 2 faceplate switches

Description
Sure Grip’s “SU” Series control grip is our small handle commonly used as a replacement handle when installing a new attachment or for OEM applications in a variety of industries. It is designed to offer up to 2 switches in the faceplate as well as the option for a trigger switch.

The control grips are molded from a high impact plastic polymer into a comfortable shape for a rugged and lightweight control handle for extreme duty applications. The standard Sure Grip switches are covered with our patented overlay design that protects the switches from dirt and moisture.

*Note 1: Two Button configuration shown, we stock some configurations for next day shipment. Custom configurations are available and usually ship in less than 2 weeks, see ordering guide or contact factory for details.

Faceplate Options
1. “SU” Handle with blank faceplate
2. “SU” Handle with 1 switch on faceplate
3. “SU” Handle with 2 switches on faceplate
4. “SU” Handle with 1 slider
5. “SU” Handle with 1 micro joystick
6. Other configurations available, see handle ordering guide.

Dimensions:
2.00” (50.8mm)
2.85” (72.4mm)
6.51” (165.4mm)

www.SureGripControls.com
Description

Sure Grip’s “CU” Series control grip is our mid-sized handle. It is designed to offer up to 4 switches in the faceplate as well as the option of a trigger switch or operator presence lever.

The control grips are molded from a high impact plastic polymer into a comfortable shape for a rugged and lightweight control handle for extreme duty applications. The standard Sure Grip switches are covered with our patented overlay design that protects the switches from dirt and moisture.

Note 1: 4 Button configuration shown, we stock some configurations for next day shipment. Custom configurations are available and usually ships in less than 2 weeks, see ordering guide or contact factory for details.

Faceplate Options

1. “CU” Handle Blank faceplate
2. “CU” Handle 2 switch faceplate
3. “CU” Handle 4 switch faceplate
4. “CU” Handle with 1 slider and 1 rocker
5. “CU” Handle with 1 micro joystick

* Other configurations available, see handle ordering guide.

Features:

- Sealing up to IP67
- Rugged design
- Overlay customizable
- Switch tested to 10 million operations
- Supports 1 micro joystick
- Supports up to 2 sliders or rocker modules
- Supports up to 4 faceplate switches
Description

Sure Grip’s “LU” Series control grip is our large handle commonly found on forestry, mining and construction machinery. It is designed to offer up to 8 switches in the faceplate as well as the option for up to 2 trigger switches or operator presence lever. A keypad can also be installed on the left or right of the handle for an additional 10 buttons.

The control grips are molded from a high impact plastic polymer into a comfortable shape for a rugged and lightweight control handle for extreme duty applications. The standard Sure Grip switches are covered with our patented overlay design that protects the switches from dirt and moisture.

*Note 1: 8 Button with 10 button keypad shown, we stock some configurations for next day shipment. Custom configurations are available and usually ships in less than 2 weeks, see ordering guide or contact factory for details.

Faceplate Options

1. “LU” Handle 2 switches on faceplate
2. “LU” Handle 4 switches on faceplate
3. “LU” Handle 6 switches on faceplate
4. “LU” Handle 8 switches on faceplate
5. “LU” Handle with 1 rocker, 1 slider and 4 switches on faceplate
6. “LU” Handle with 2 micro joysticks and 2 switches on faceplate

* Other configurations available, see handle ordering guide.

Features:

- Sealing up to IP67
- Rugged design
- Overlay customizable
- Switch tested to 10 million operations
- Multiple trigger options available
- Supports up to 2 micro joysticks
- Supports up to 4 slider or rocker modules
- Supports a 10 button keypad
- Supports up to 8 faceplate switches
Slider Module
Sure Grip’s Slider Module is designed for thumb operated proportional control in a return to center, return to one end or friction hold configuration.

Rocker Module
Sure Grip’s Rocker Module provides switched or proportional control in a thumb operated activation and can be configured as return to center or maintained.

Switches
Sure Grip’s handle switch options allow for optimal application performance whether your application requires direct to solenoid control or logic level signals such as a PLC. Activation options are available for momentary or maintained functions.

LEDs
Sure Grip maintains a variety of LEDs. Sure Grip LEDs are optimized to be installed in our handles. (Call factory for details).

10 Button Keypad
Sure Grip’s 10 button Keypad provides additional logic level switching for applications such as menu navigation of an operator display.

Accessories

Bushings and Stud Adapters
Sure Grip carries several options for mounting your custom configured handle to your applications hydraulic or electronic joystick assembly.

Strain Relief
To provide a durable and dependable mechanical restraint for your wire harness, Sure Grip carries several heavy duty options.

Sealed Connectors
Sure Grip maintains a variety of Deutsch, Yazaki and Molex connectors in stock. (Call factory for details).
Proportional Solenoid Driver - 2 Outputs

The Single Axis Driver Board is designed to drive two proportional solenoids using control devices such as Joysticks, Slider Modules, or Proportional Rocker Modules. Output adjustments are achieved using the four button switches and the integrated display. This allows for easy control adjustment without specialized tools.

Danfoss™ PVG Interface

The Danfoss™ PVG Interface Board is designed for applications that require the use of a Danfoss™ PVG valve equipped with a PVE module. This board connects Joysticks, Sliders or Rocker Modules to your PVG valve with built in error monitoring that prevents any operational issues associated to cabling or electrical issues.

Caterpillar™ ECM Interface

The Caterpillar™ ECM Interface Board enables our controls to connect to an electronic control module (ECM) on a Caterpillar™ installation. This board connects to Joysticks, Slider Modules or Rocker Modules allowing OEMs the flexibility to customize applications for most Caterpillar™ machines produced within the last 10 years.

Logic Driver Board

The DBL-17 Logic Driver Board can read up to 10 inputs and can control up to 17 high current outputs to allow complex control of a machine’s functions from a simple, easy to use control handle. The DBL-17 is factory programmed to the customer’s specifications and is designed for easy installation and reliable operation in mobile equipment. The DBL-17 can be used to replace relays, timers, diode logic circuits and programmable logic controllers (PLCs) in many applications.

Diode and Diverter Board

The Sure Grip In-Line Diode Pack fits all handles or wiring harnesses to protect switches against destructive voltage surges. The In-Line Diode Pack provides efficient surge suppression protection for your control handle to ensure maximum switch life. A tough two piece molded case protects the diode board and makes installation quick and easy.

Power Supply Board

This board powers our proportional Joysticks, Slider Modules or Rocker Modules from an input between 8 - 36 VDC. For applications that require the rugged long life of our proportional products to interface with a control device (PLC), this board ensures an accurate reference voltage for reliable operation.
## Handle Model Selection Guide

<table>
<thead>
<tr>
<th>Options</th>
<th>Electronic Joystick Mount</th>
<th>Universal Mount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max # of Faceplate Function Positions</td>
<td>JE: 4, LE: 8, KE: 2, NE: 2</td>
<td>SU: 2, CU: 4, LU: 8</td>
</tr>
<tr>
<td>Max # of Triggers / Operator Present</td>
<td>JE: 2, LE: 3</td>
<td>SU: 1, CU: 1, LU: 2</td>
</tr>
<tr>
<td>Max # of Sliders</td>
<td>JE: 2, LE: 4</td>
<td>SU: 1, CU: 2, LU: 4</td>
</tr>
<tr>
<td>Max # of Rockers</td>
<td>JE: 2, LE: 4</td>
<td>SU: 1, CU: 2, LU: 4</td>
</tr>
<tr>
<td>Max # of Micro Joystick</td>
<td>JE: 1, LE: 2</td>
<td>SU: 1, CU: 1, LU: 2</td>
</tr>
<tr>
<td>High Current Switch Available</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Low Current Switch Available</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>IP67 Rating Available</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>10 Button Keypad Available</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>LED Available</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Toggle Switches Available</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Custom Overlay</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Hydraulic Joystick Mounting</td>
<td>Limited</td>
<td>Limited</td>
</tr>
<tr>
<td>Electronic Joystick Mounting - JSM / JSL</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Custom cable length available</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Deutsch connector available (DT/DTM series)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Custom options available (Call Factory)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Typical Lead time weeks (qty &lt;100)</td>
<td>JE: 2, LE: 2, KE: 2, NE: 2</td>
<td>SU: 2, CU: 2, LU: 2</td>
</tr>
</tbody>
</table>