

Endurance Series Joystick

The Endurance Series joystick is our most advanced large handle and base combination, suitable for a range of applications including construction, agriculture, logging, mining, and municipal machinery.

The joystick enclosure is molded from a high impact plastic polymer into an ergonomic shape, which matches the user's natural hand position to increase operator comfort, reduce fatigue, and give increased control under the most extreme applications. Available in both right and left configurations, our unique design is extremely durable and reflects the high quality you expect from Sure Grip Controls.

Extensive testing to the highest rated environmental, electrical and mechanical requirements has proven that the Endurance Series joystick meets the highest operating demands in the market and is ready for anything. The Endurance Series can withstand temperatures between -40°C (-40°F) and $+85^{\circ}\text{C}$ (185°F), high amplitude vibration and shock, salt fog exposure, over 100Nm of force applied to the shaft and up to 5 million cycles (20 million operations).

Sure Grip offers a multitude of faceplate and trigger control options allowing you to select the perfect layout for your application. One unique option to this series is our RGB LED buttons; fully visible in sunlight or dimmable to reduce strain on the user's eyes. They can be configured to any color, customized to provide user feedback, and are available with a variety of custom graphics, making machine use intuitive and efficient.



Features:

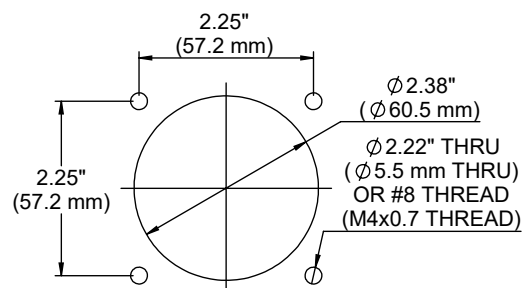
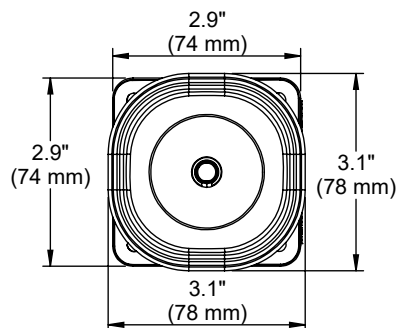
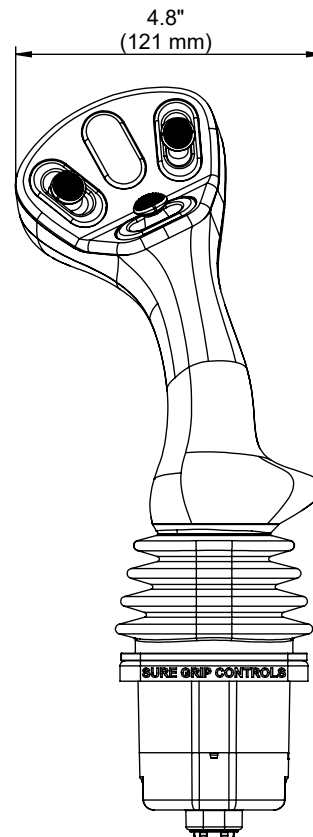
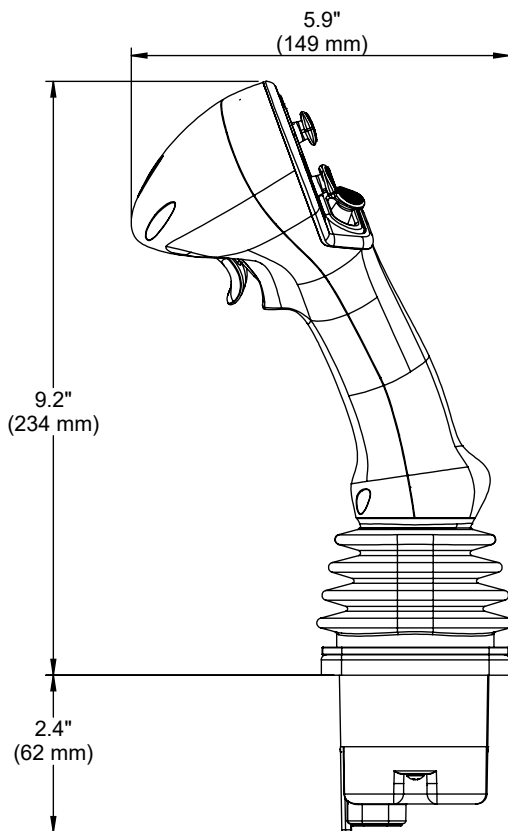
- Ergonomic right and left hand grips designed to comfortably fit a wide range of hand sizes with and without gloves
- Capacitive operator presence sensing – no switches or paddles
- Ultra-bright, dimmable, customizable LED buttons
- Modular and serviceable components
- Fully EMC tested with performance to 125V/m
- IP69K sealing above panel
- CE certified and up to SiL2 compatibility
- Outputs: SAE J1939 and CANopen

Note: Custom button graphics only available for high volume orders



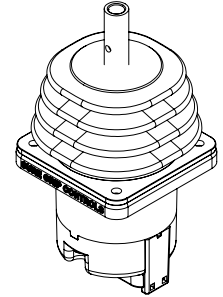
Dimensions

CAN Mounting



JSC MOUNTING DETAIL

Preliminary Specifications



Electrical Specifications

Supply Voltage	10-36 VDC
Supply Current	30 mA
Source Address	0x00 to 0xFD

Mechanical Specifications

Travel	± 20°
Life Expectancy	5 million cycles (20 million operations)
Operating Force	1.8 to 2.8 lbs.
Side Loading	110 Nm
Gate	Square

Environmental Specifications

Operating Temperature	-40°C (-40°F) and +85°C (185°F)
Sealing	IP69K (IP67 below panel)
Vibration	10Hz to 2KHz 1.26Grms (IEC 60068-2-4)
Shock	25G for 11mS all directions (IEC 60068-2-27)
EMC Immunity	125V/m (ISO 11452-2)
EMC Emissions	CISPR 25 Class 2
ESD Immunity	ISO 10605: 2008 (+/- 8kV Operational, +/- 15kV Handling)

Specifications are subject to change without notice

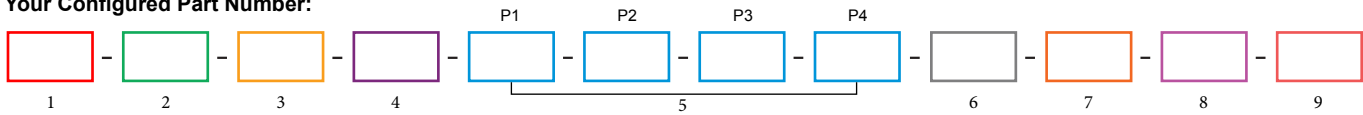


Product Ordering Guide

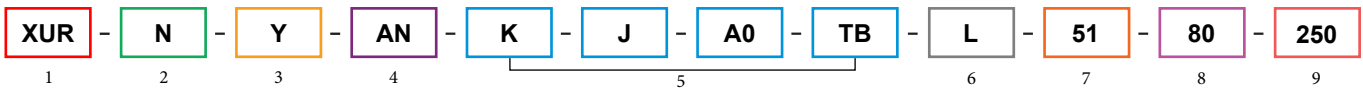
Instructions

- Each box has a color and number, which corresponds to joystick options below. Please review each option, as this will help you with choosing your part number. (Refer to our technical guides for more information on product options)
- If a desired joystick option is not available contact a sales representative to discuss if there are alternative solutions for your application.
- Enter your configured part number in the empty boxes provided below and contact a friendly Sure Grip sales representative to place your order.

Your Configured Part Number:



Example Configuration:



1. Handle Type
 XUL - Left Hand Handle
 XUR - Right Hand Handle

2. Dual Redundancy
 N - None
 P - Proportional Dual Redundancy

3. Operators Presence
 N - None
 Y - Operators Presence Installed

4. Trigger Options
 NN - None
 AN - Trigger, Double, 2Ma, Switched
 BN - Trigger, Double, 3Ma, Switched
 DN - Trigger, Double, 3Mo, Switched
 PN - Trigger, Single, 2Mo, Proportional
 SN - Trigger, Single, 2Mo, Switched
 GN - Trigger, Double, 3Mo, Proportional

5. Function Types (P1-P4)
 N - None
 Ax - Mo Switch, 1 Btn, RGB LED
 Bx - Mo Switch, 2 Btns, RGB LED
 P - Rocker Module, 2Ma, Switched
 Q - Rocker Module, 3Ma, Switched
 R - Rocker Module, 3MaMo, Switched
 S - Rocker Module, 3Mo, Proportional
 M - Rocker Module, 3Mo, Switched
 U - Slider Module, 1Mo, Proportional
 K - Slider Module, 3Ma, Proportional
 J - Slider Module, 3Mo, Proportional
 L - Slider Module, Friction, Proportional
 TA - Triangle Grip, 2Ma, Switched
 TQ - Triangle Grip, 3Ma, Switched
 TR - Triangle Grip, 3MaMo, Switched
 TS - Triangle Grip, 3Mo, Proportional
 TB - Triangle Grip, 3Mo, Switched

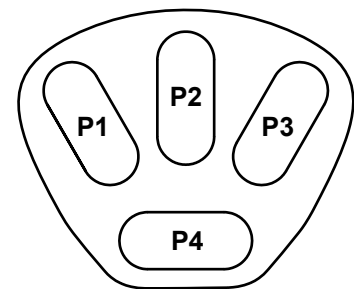
6. Spring Options
 L - Light Force Spring
 M - Medium Force Spring

7. Source Address
 Source address (Default 51d)
 Range: 20d - 250d

Mo-Momentary
 Ma-Maintained

8. Message Rate
 Message rate (Default 80mS)
 Range: 20mS - 80mS

9. BAUD Rate
 BAUD rate (Default 250Kbps)
 250Kbps or 500Kbps



Faceplate Location Reference

Button Graphic Options

Vertical orientation shown. For faceplate position P4, the graphic options above come in horizontal orientation.

Lever Styles