



**MSA Series**  
Mini joystick



**Features**

- Standard delivery time 2-3 weeks
- Proportional contactless hall effect technology
- Single axis thumb controller with elastomer actuator
- Standard IP67 grade protection above panel

**Applications**

- Industrial remote controllers
- Large hand grip joysticks
- Marine winch control
- (Outdoor) Control panels

**Description**

This single-axis mini thumb controller uses contactless hall effect sensor technology with a proportional output. The optional dual independent output and standard IP67 grade protection make it ideal for harsh and safety-critical environments. It comes with an elastomer actuator that provides the user with a fantastic machine interaction and its very slim size make it ideal to fit multiple MSA joysticks alongside each other on control panels or large hand grip joysticks. Each unit is supplied with a below panel mounting clip and snap-in electrical cable.

**Specification**

MECHANICAL (X & Y AXIS)	
Angle Of Movement	50° (25° Each Direction)
Expected Cycle Life	3 million
Centering	Spring Return
Max. Vertical load	222 N (50 lbf)
Max. Horizontal load	222 N (50 lbf*)
* Measured 11.18mm (0.44") Above Panel Surface, Y Direction	
ELECTRICAL	
Sensor type	hall effect
Resolution	12 bit
Supply voltage	5VDC ± 0.01VDC
Output voltage	see options
Return to center voltage	± 50mV
Overvoltage max.	20VDC
Reverse polarity max.	-10VDC

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■ Specification

ENVIRONMENTAL	
Operating Temperature	-40°C to 85°C (-40°F to 185°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
IP Sealing Above Flange	IP67
EMC Immunity level	EN61000-4-3 *Compliance to 30A/m
EMC Emissions level	EN61000-6-3
ESD Immunity level	EN61000-4-2 *Compliance to ±15kV/±8kV
Vibration testing	Per SAE J1455 Section 4.9 & MIL-STD810G 514.6
Mechanical shock	Per SAE J1455 Section 4.10 & MIL-STD-202G

MOLEX 510210400 CONNECTOR			Single Output
Pin #	Wire color	Description	
1	n/a	n/a	
2	yellow	sensor	
3	black	ground	
4	red	power (+5V)	

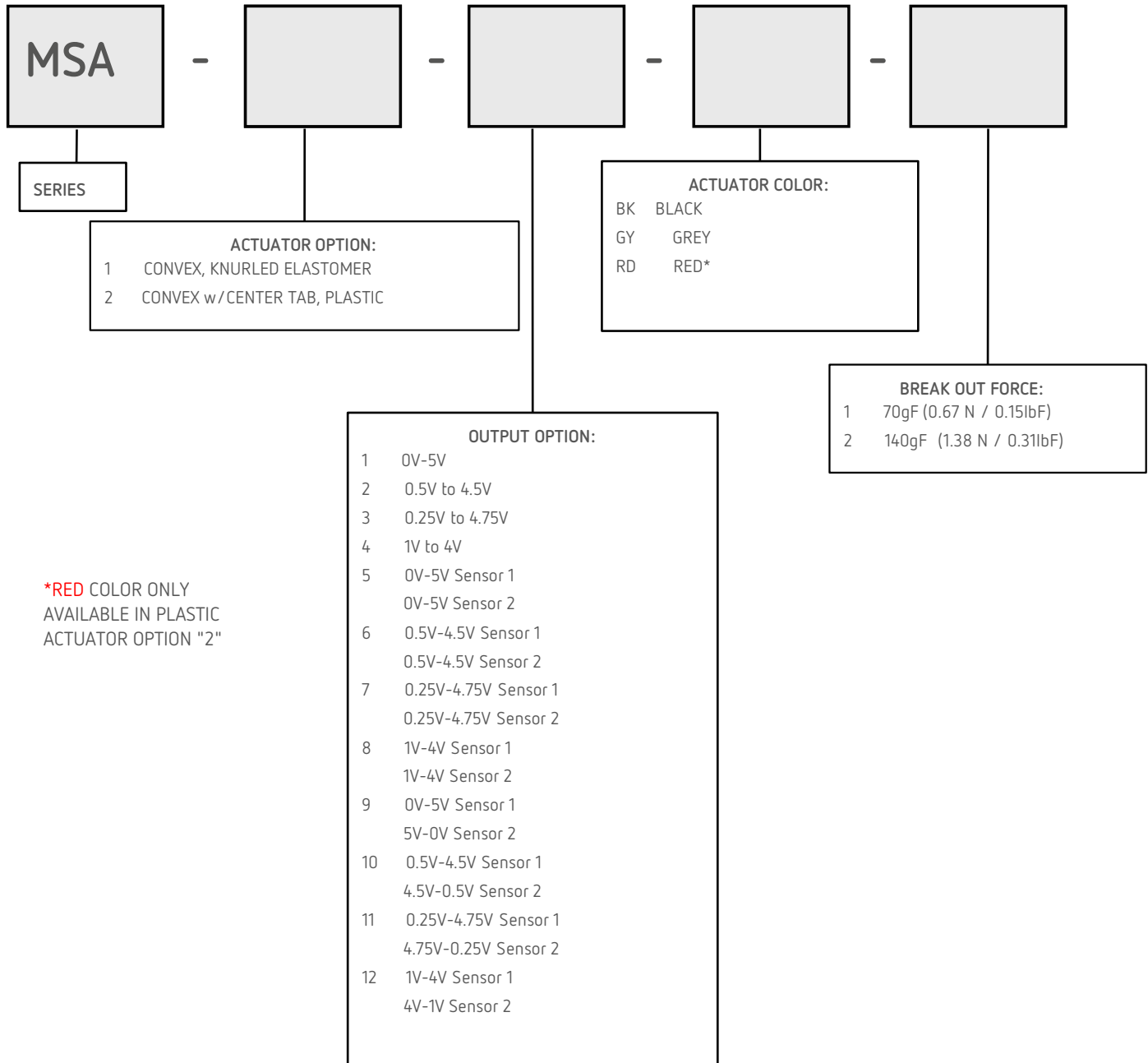
MOLEX 530470510 CONNECTOR			Dual Output
Pin #	Wire color	Description	
1	grey	sensor 2	
2	red	+5V sensor 1	
3	yellow	sensor 1	
4	pink	+5V sensor 2	
5	black	ground	



MATERIALS	
Housing	Mineral & glass filled nylon
Boot	Silicone
Actuator	Silicone or M&G filled nylon

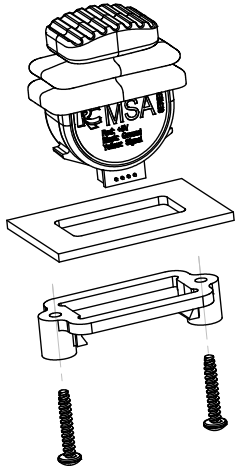
IP RATING: IP67 (ABOVE PANEL, ALL CONFIGURATIONS)

■ Product Configuration Guide

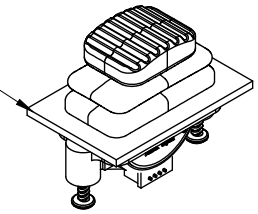


**Product & mounting panel dimensions**

Dimensions in millimeters (inches).



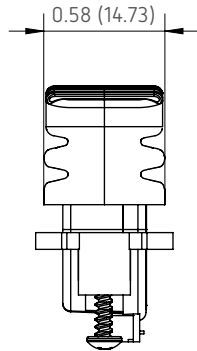
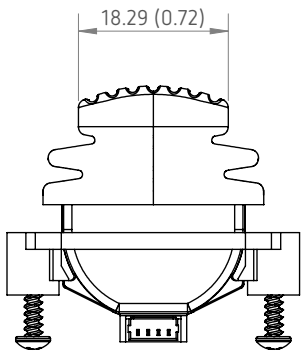
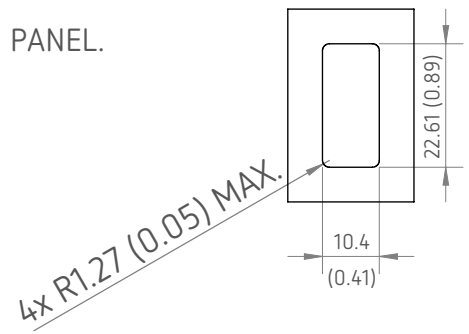
PANEL THICKNESS:  
UP TO 3.17 (0.125)



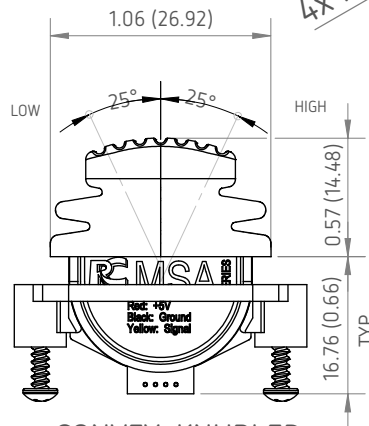
**MOUNTING DIRECTIONS:**

1. DROP UNIT INTO PANEL CUTOUT.
2. INSTALL SUPPLIED MOUNTING CLIP UNDER PANEL UNTIL THE TWO HOOK FEATURES SNAP INTO PLACE.
3. APPLY ADEQUATE PRESSURE ONTO PANEL.

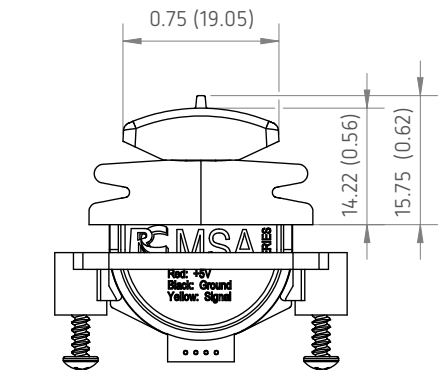
**PANEL CUTOUT DIMENSIONS**



SCALE 3:2



CONVEX, KNURLED  
ELASTOMER ACTUATOR



CONVEX, PLASTIC  
ACTUATOR w/ CENTER TAB