



## SAT Series

### MAIN FEATURES

- Miniature size
- Spring centering, single axis actuator
- Proportional output
- IP67 above panel sealing
- 2.5 million lifecycles
- Return to center voltage +/-50mV



### DESCRIPTION

The SAT Series is a single axis thumb controller utilizing Hall effect technology to deliver precise, long life linear output. It features an integrated elastomer actuator to provide an ergonomic feel and IP67 above panel sealing. The SAT Series is available with a wide range of configuration options including output voltage range and actuator color and style.

### SPECIFICATIONS\*

MECHANICAL (X & Y AXIS)	
Angular travel:	60° total (30° each direction from center)
Expected life:	2.5 million operations
Centering:	Spring return
Mass/weight:	15 grams**
Maximum vertical load:	67.5 lbF
Maximum horizontal load:	40 lbF***

\* Specifications subject to change without notice.

\*\* Approximate weight. Actual weight dependent on configuration.

\*\*\* Measured 0.44" above surface.

ELECTRICAL	
Technology:	Hall effect sensor, single
Resolution:	12 bit
Supply voltage:	5.00VDC +/- 0.01VDC regulated, transient free
Supply current:	20mA max
Ratiometric output voltage:	See options
Return to center voltage tolerance:	+/-50mV initial
Transient overvoltage max:	20VDC
Reverse polarity max:	-10VDC
Output impedance:	2Ω
Start up time:	15ms max

ENVIRONMENTAL	
Operating temperature:	-40°C +85°C
Storage temperature:	-40°C +85°C
Above panel sealing:	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:	Per SAE J1455 Section 4.9 & MIL-STD810G 514.6
Mechanical shock:	Per SAE J1455 Section 4.10 & MIL-STD-202G

\* Above panel sealing. All configurations. Product is idle and not in use.

\*\* Extended testing levels.

**SPECIFICATIONS**

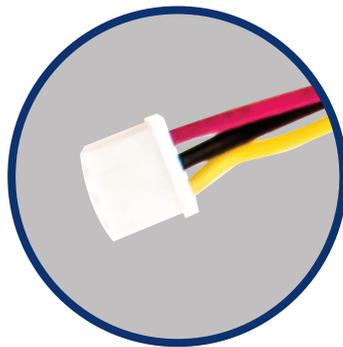
MATERIALS	
Housing:	Mineral & glass filled nylon
Boots:	Silicone (with tear resistant additive)
Actuators:	Silicone (with tear resistant additive)

**CONNECTIONS**

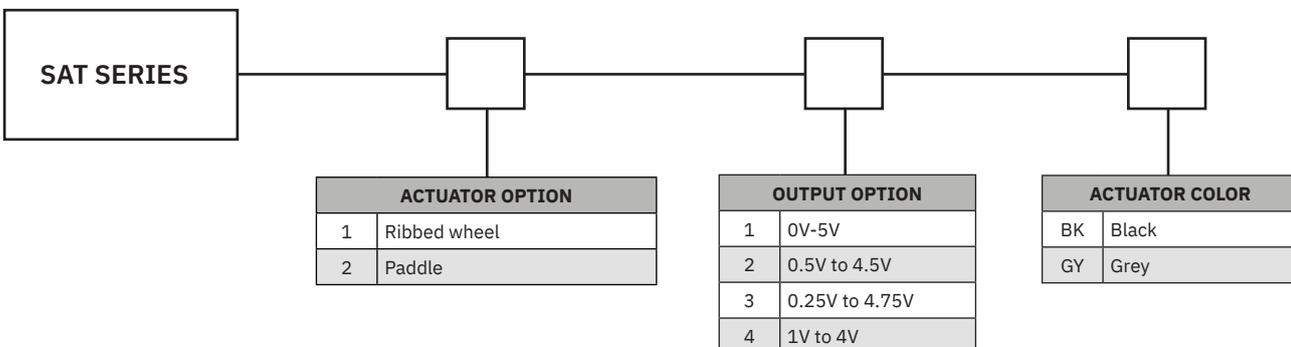
PIN #*	WIRE COLOR	DESCRIPTION	SINGLE OUTPUT
1	N/A	N/A	
2	YELLOW	Sensor	
3	BLACK	Ground	
4	RED	Power (+5V)	

\* Housing body: Molex four position PCB header: 532610471

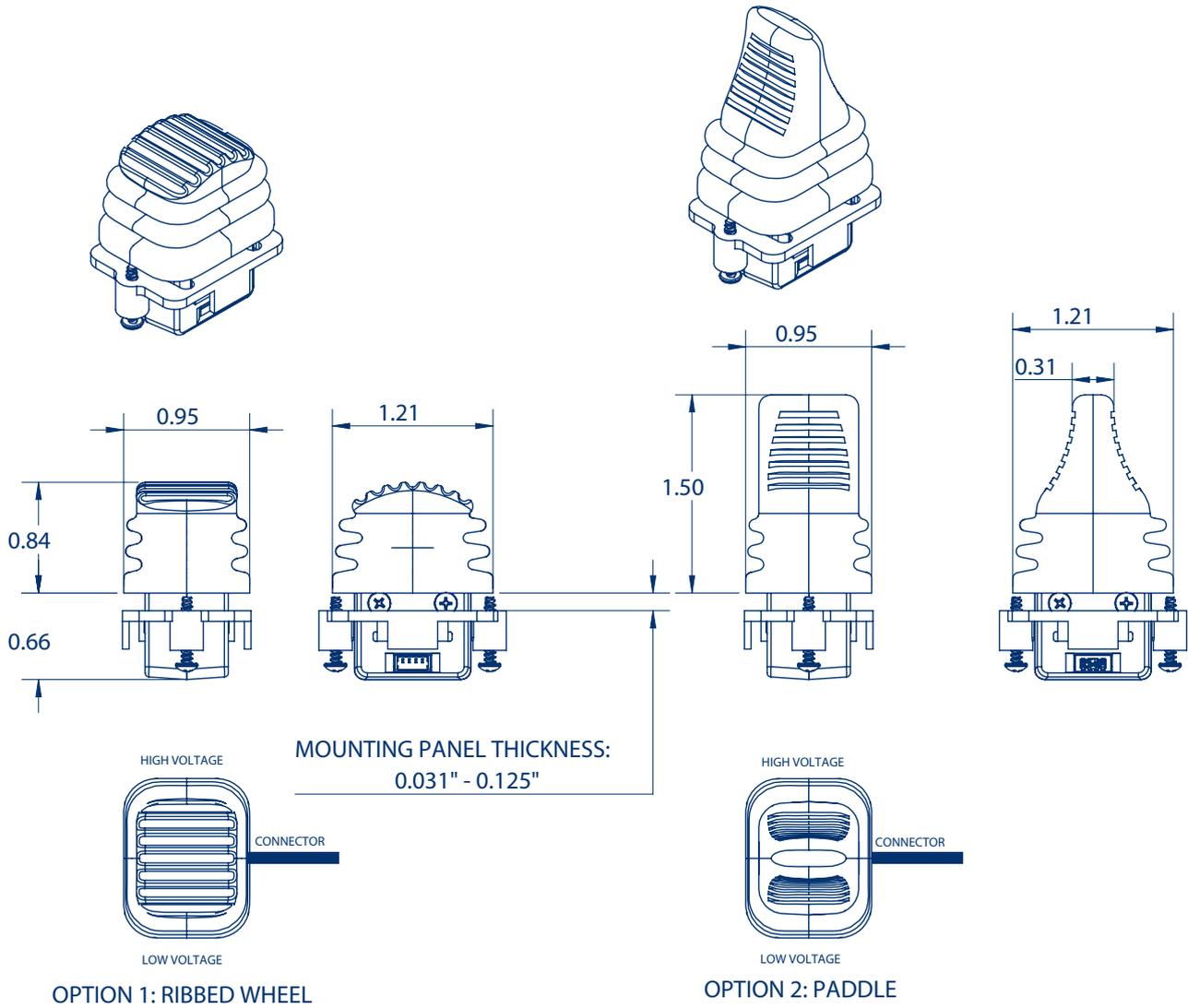
\*\* Mating wire harness: 10" 28AWG PTFE to four position connector housing: Molex: 0510210400



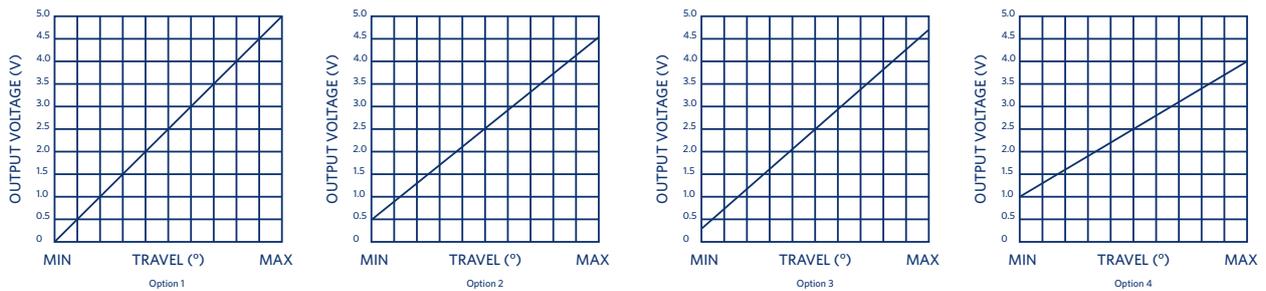
**SAT SERIES PRODUCT CONFIGURATION GUIDE**



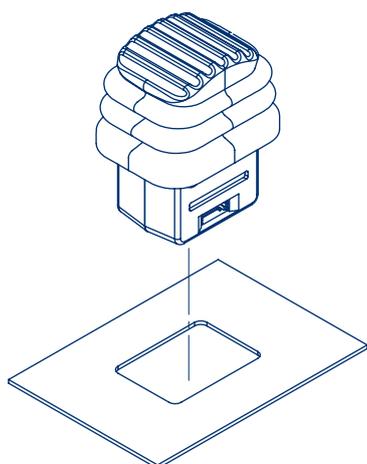
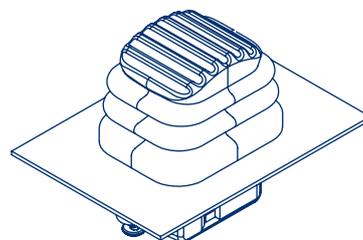
■ **ACTUATOR OPTION**



■ **VOLTAGE OUTPUT OPTIONS**



■ MOUNTING AND PANEL CUTOUT DIMENSIONS



MOUNTING DIRECTIONS :

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

