

SAT Series

Single axis Hall Effect thumb controller

MAIN FEATURES

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



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

08192024Bmp



SAT Series

Single axis Hall Effect thumb controller

SPECIFICATIONS

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
Mechincal 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

08192024Bmp



SAT Series

Single axis Hall Effect thumb controller

SPECIFICATIONS

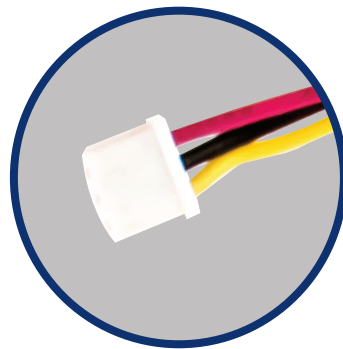
MATERIALS	
Housing:	Mineral & glass filled nylon
Boots:	Silicone (with tear resistant additive)
Actuators:	Silicone (with tear resistant additive)

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



08192024Bmp

Ruffy Controls, Inc.
3258 Grey Hawk Ct., Carlsbad, CA 92010
ruffycontrols.com

For more information: sales@ruffycontrols.com

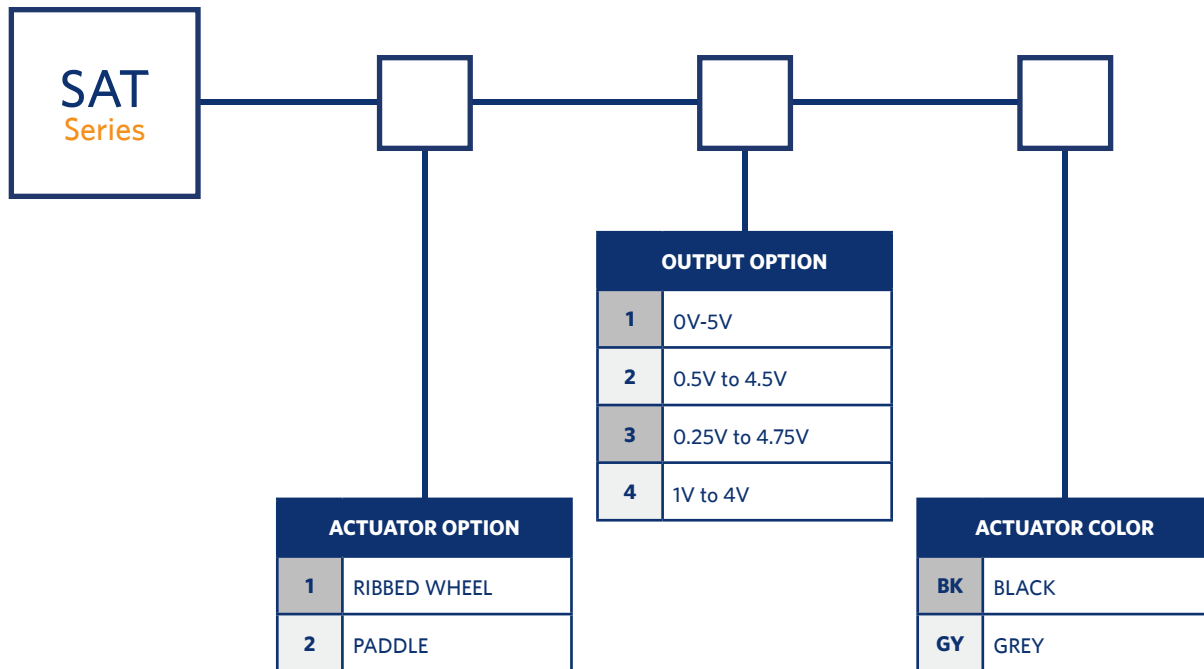
SCAN TO
ORDER TODAY



SAT Series

Single axis Hall Effect thumb controller

SAT SERIES PRODUCT CONFIGURATION GUIDE



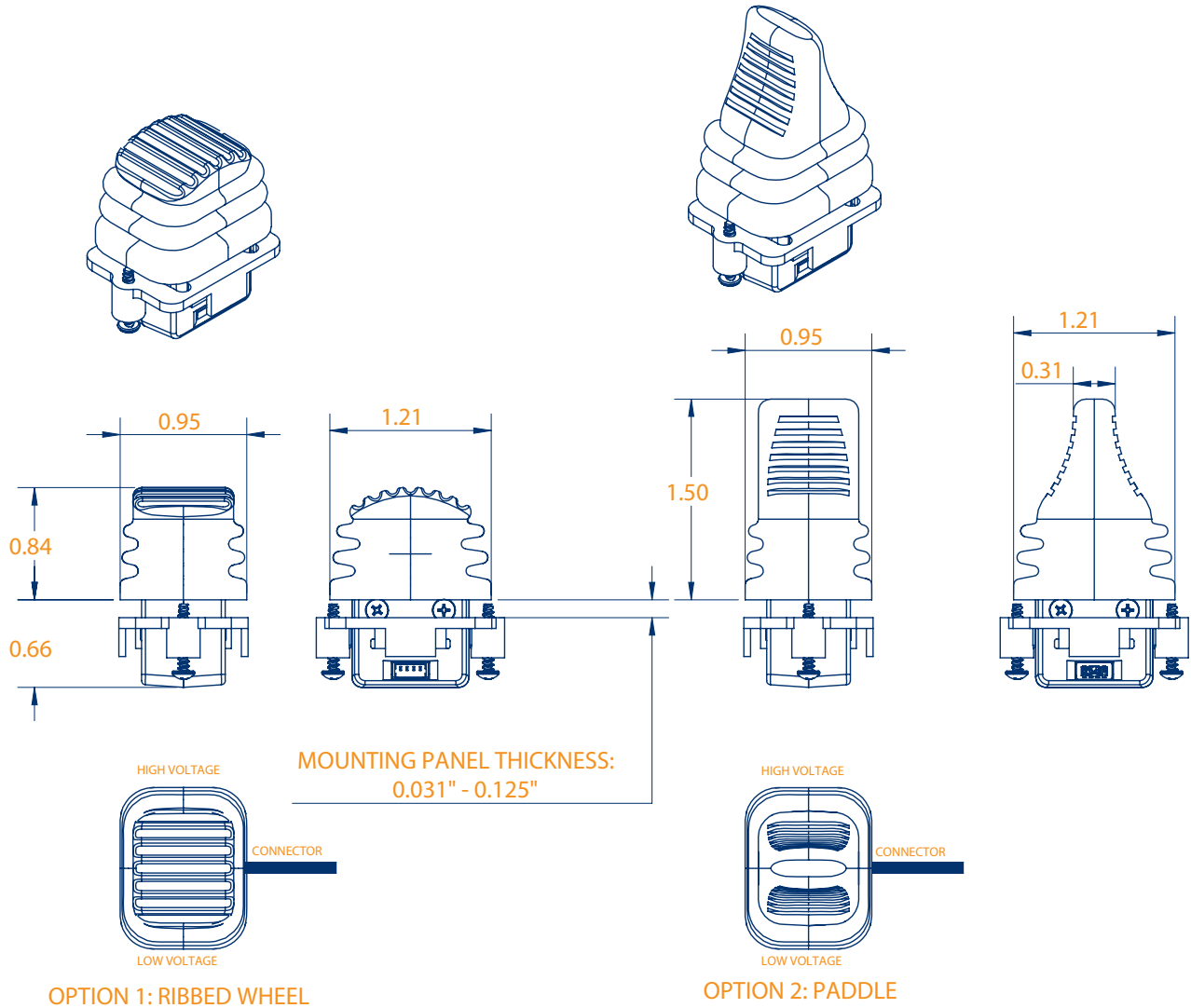
08192024Bmp



SAT Series

Single axis Hall Effect thumb controller

ACTUATOR OPTION



08192024Bmp

Ruffy Controls, Inc.
3258 Grey Hawk Ct., Carlsbad, CA 92010
ruffycontrols.com

For more information: sales@ruffycontrols.com

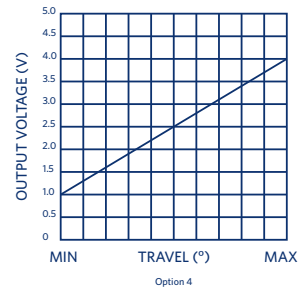
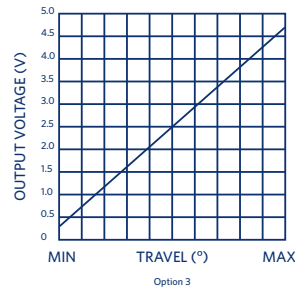
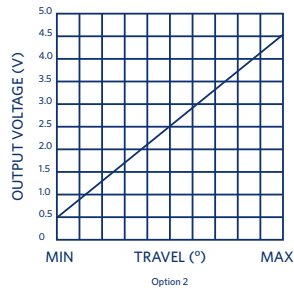
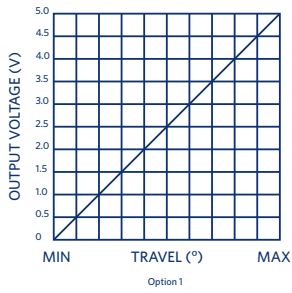
SCAN TO
ORDER TODAY



SAT Series

Single axis Hall Effect thumb controller

VOLTAGE OUTPUT OPTIONS



08192024Bmp

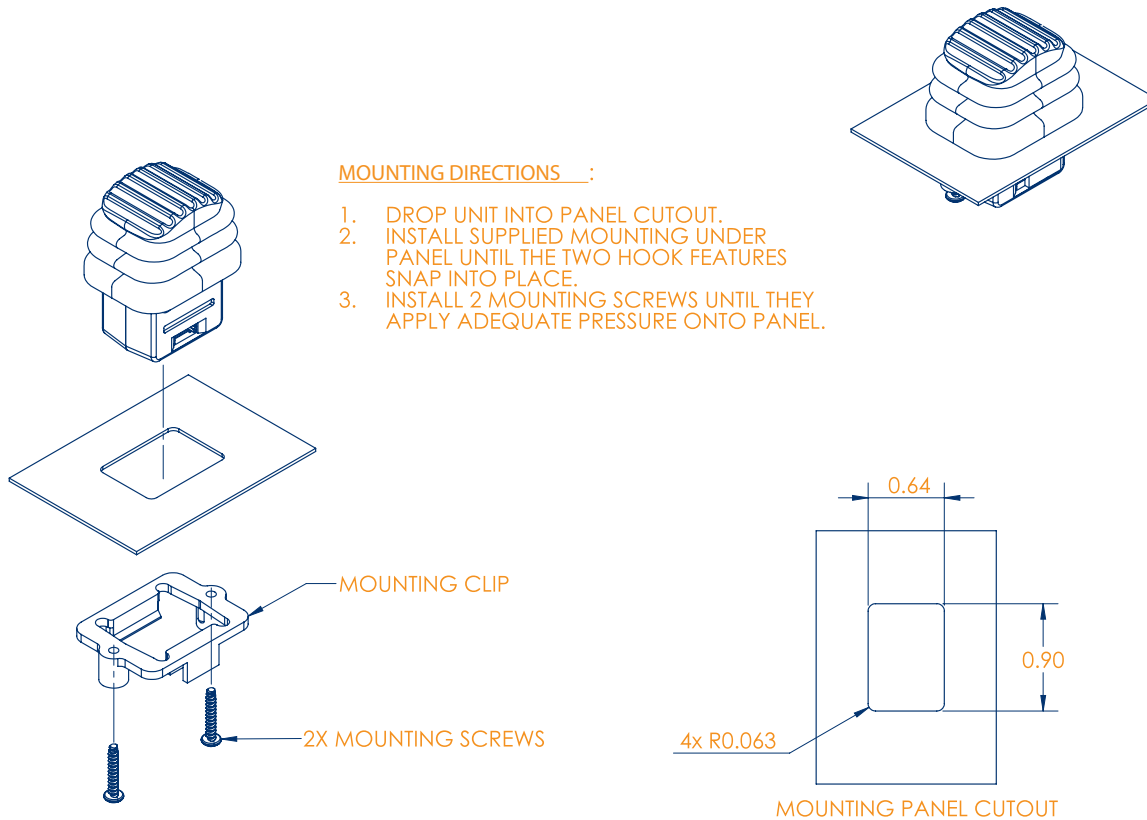
**SCAN TO
ORDER TODAY**



SAT Series

Single axis Hall Effect thumb controller

MOUNTING AND PANEL CUTOUT DIMENSIONS



08192024Bmp

Ruffy Controls, Inc.
3258 Grey Hawk Ct., Carlsbad, CA 92010
ruffycontrols.com

For more information: sales@ruffycontrols.com

SCAN TO
ORDER TODAY

