

Thumbstick Displacement

Linear Hall Effect technology



MT2 series is the smallest package of proportional 2 axis joystick in Aerospace & Military markets. The use of non-contact technology in a metal case enables an excellent reliability and sturdiness. A wide variety of mechanical & electrical configurations are available to satisfy all applications. Full redundant outputs & validation are in option.

Key features

- ▶ Aerospace & Military grade
- ▶ Contactless technology
- ▶ 1 & 2 axis in small package
- ▶ Analog or PWM outputs
- ▶ 1 Million mechanical cycle life
- ▶ Full redundant outputs available
- ▶ Switch validation in option
- ▶ Anodized aluminum case
- ▶ Waterproof
- ▶ RoHS compliant

Applications

- ▶ Guide missiles control
- ▶ Radar systems
- ▶ Tracking and flight control
- ▶ Visual display
- ▶ Robotic & medical

Standards

- ▶ MIL STD 810D /461
- ▶ MIL STD 1250
- ▶ RTCA DO160E
- ▶ GAM EG13

	Hall Effect Thumbstick Displacement	
	Standard	Validation
Mechanical characteristics		
Operating force	4,5 N ±20%	4,5 N ±20%
Maximum torque on Button	0.35 mN	0.35 mN
Maximum applied force	200 N	200 N
Travel angle	±20° ±10%	±20° ±10%
Validation travel	-	1 mm ±15%
Validation force	-	10 N ±20%
Mechanical life	1,000,000 all directions	1,000,000 all directions
Electrical characteristics		
Angular resolution	12 bit	12 bit
Supply Voltage Range	4.5 to 5.5 VDC	4.5 to 5.5 VDC
Reverse voltage max	-10 V	-10 V
Overvoltage Max	20 V	20 V
Validation rating	-	24 VDC, 100 mA max
Validation electrical life	-	>100,000 cycles
Return to Center Voltage	±200 mV	±200 mV
General characteristics		
Case	anodized aluminum	anodized aluminum
Terminal	solder terminal	solder terminal
Front face humidity resistance	IP65 IEC 60529	IP65 IEC 60529
EMC Immunity Level	EN61000-4-3	EN61000-4-3
EMC Emissions Level	EN61000-6-3:2001	EN61000-6-3:2001
ESD	EN61000-4-2	EN61000-4-2
Operating temperature	-40°C to 71°C	-40°C to 71°C
Storage temperature	-40°C to 85°C	-40°C to 85°C
Weight	-	-

MT2 PART REFERENCE

MT2 - X XX X

Limiter

1. single axis
2. dual axis
3. round
4. square

Outputs

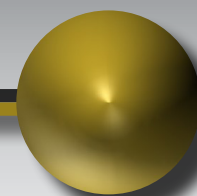
- A0.** Out1: 0.5-4.5V Out2: none
A1. Out1: 0.5-4.5V Out2: 0.5-4.5V
A2. Out1: 0.5-4.5V Out2: 4.5-0.5V
B0. Out1: PWM Out2: none
B1. Out1: PWM Out2: PWM

Other output options soon available

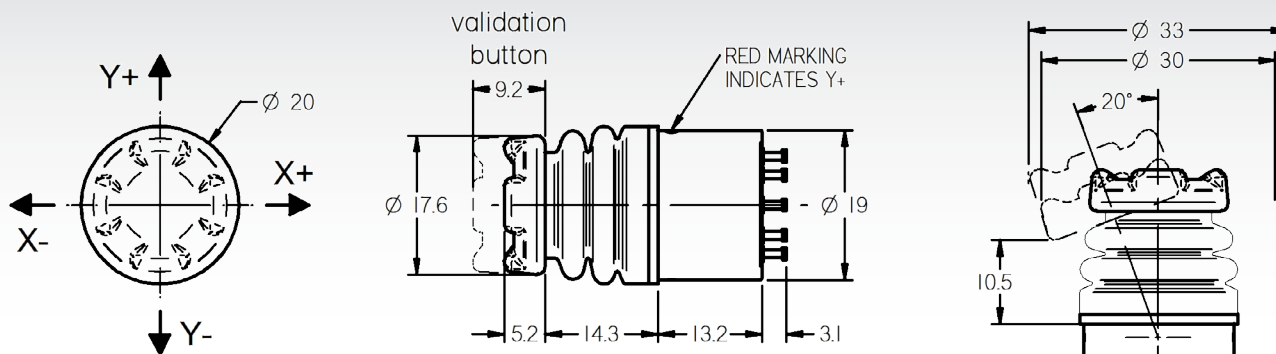
Validation

- 0.** none
1. included

Specific product possibility on request

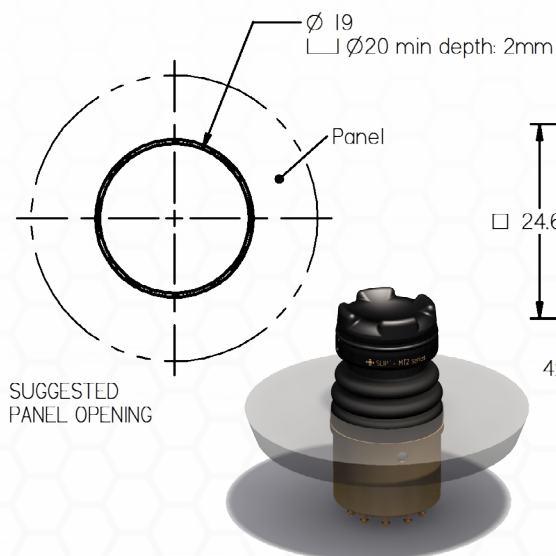


DIMENSIONS

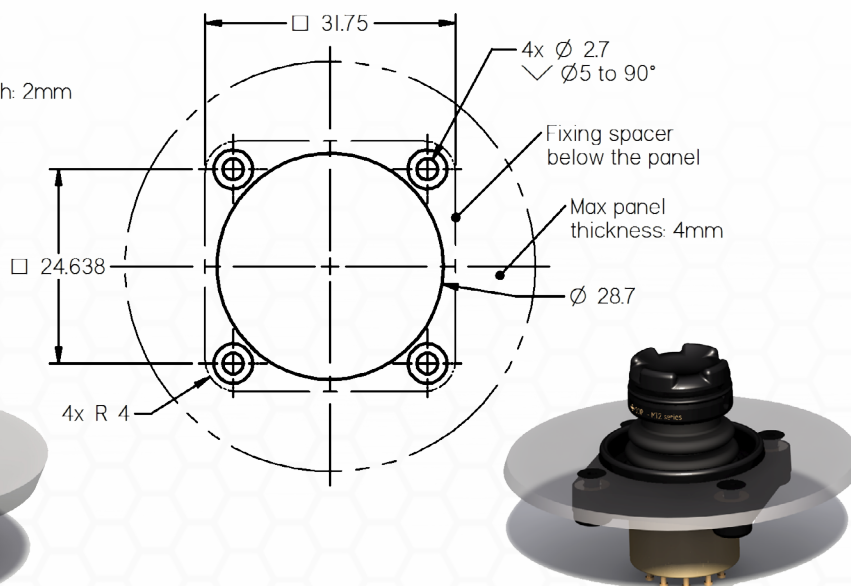


MOUNTING OPTIONS

FRONT MOUNT WITHOUT SPACER



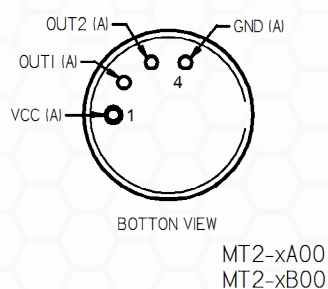
REAR MOUNT WITH SPACER



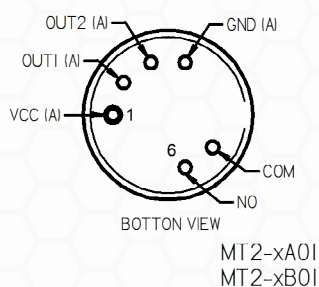
WIRING

SINGLE OUTPUT

WITHOUT VALIDATION

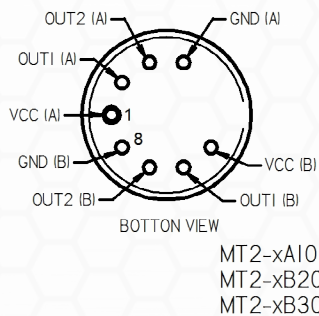


WITH VALIDATION



DUAL OUTPUT

WITHOUT VALIDATION



WITH VALIDATION

