

Thumbstick Force

Strain gage technology



By measuring finger' force without affecting hand dexterity, MT1 series provides an accurate control and a high-reliability through the use of strain gage technology. Analog outputs are proportional to the force applied onto the button in every X and Y direction. Waterproof and validation in option.

Key features

- ▶ Aerospace & Military grade
- ▶ Excellent proportional control
- ▶ Small size & high sensitivity
- ▶ Full & Half bridge circuits
- ▶ 1 Million mechanical cycle life
- ▶ Infinite resolution
- ▶ Switch validation in option
- ▶ Stainless steel 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
- ▶ DO 160E
- ▶ GAM EG13

	Analogic Thumbstick Force	
	Standard	Validation
Mechanical characteristics		
Operating force	15 N	15 N
Maximum torque on Button	0.35 mN	0.35 mN
Permissible force at end of travel	25 N max	25 N max
Travel	0.6 mm ±20%	0.6 mm ±20%
Validation travel	-	1.5 mm ±20%
Validation force	-	20 N ±20%
Mechanical life	1,000,000 cycles	1,000,000 cycles
Electrical characteristics		
Nominal voltage	±5 VDC	±5 VDC
Normal sensitivity	54/66/87 mV/N ±20%	66/87 mV/N ±20%
Hysteresis	±0.05 VDC	±0.05 VDC
Sensibility temperature coef.	± 0.2% /SN/°C	± 0.2% /SN/°C
Linearity error	± 0.07 VDC	± 0.07 VDC
Validation rating	-	28 VDC, 2 A max
Validation electrical life	-	25,000 cycles
General characteristics		
Case	stainless steel	stainless steel
Terminal	solder terminal	solder terminal
Contact	silver with gold plate	silver with gold plate
Front face humidity resistance	IP65	IP65
Dielectric strength	50V / 1min	50V / 1min
Insulation resistance	> 100 Mohms @ 50V	> 100 Mohms @ 50V
Operating temperature	-40°C to 71°C	-40°C to 71°C
Storage temperature	-50°C to 85°C	-50°C to 85°C
Weight	-	-

MT1 PART REFERENCE

MT1 - XX X XX

Case type

- T1. Ø 12
- T2. Ø 15.8
- T3. Ø 19
- T4. Ø 25
- T5. validation

Max output (excitation ±5Vdc)

- A. 0.81 Vdc *
- B. 1.00 Vdc
- C. 1.30 Vdc

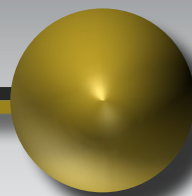
(*) Not compatible with T5 Case.

Button style

- 10. convex black plastic
- 11. convex grey plastic
- 20. concave black Aluminum
- 21. concave clear Aluminum
- 30. stick black Aluminum

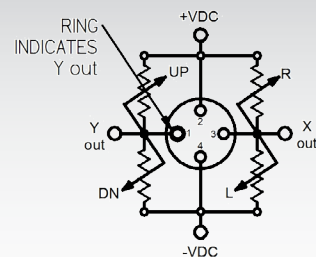
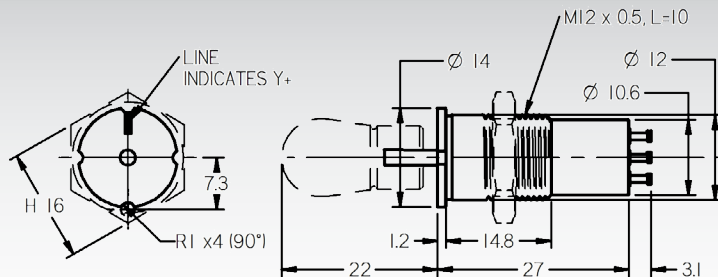
☛ Specific product possibility on request





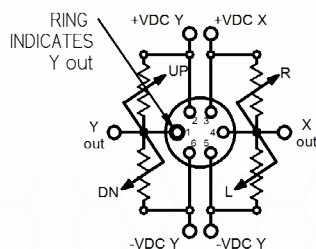
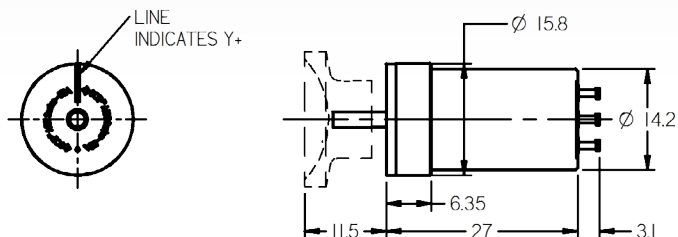
T1

FULL BRIDGE
(4 TERMINALS)



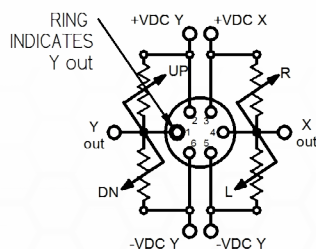
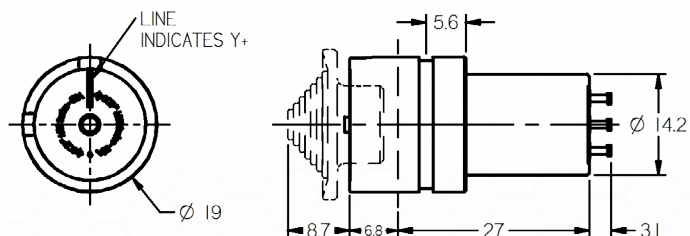
T2

HALF BRIDGE
(6 TERMINALS)



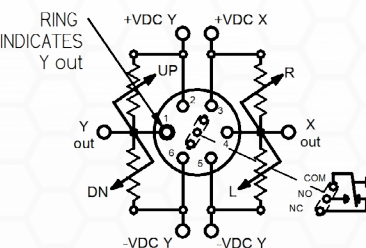
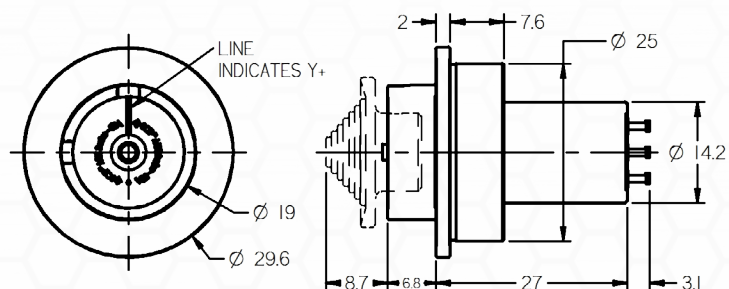
T3

HALF BRIDGE
(6 TERMINALS)



T4

HALF BRIDGE
(6 TERMINALS)



VALIDATION

T5

HALF BRIDGE
(6 TERMINALS)

