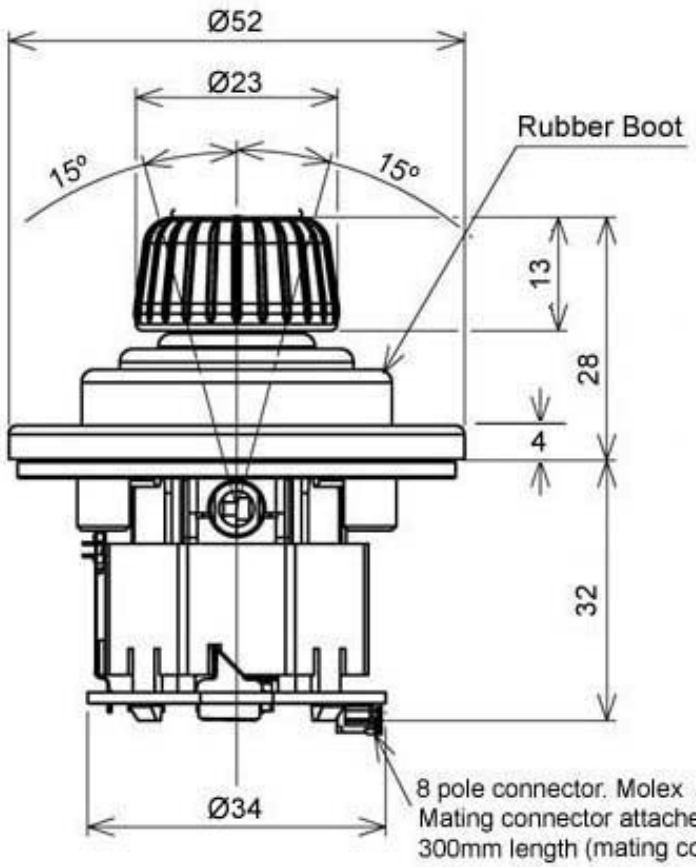
TRY20 - Miniature Multi-Axis Joystick

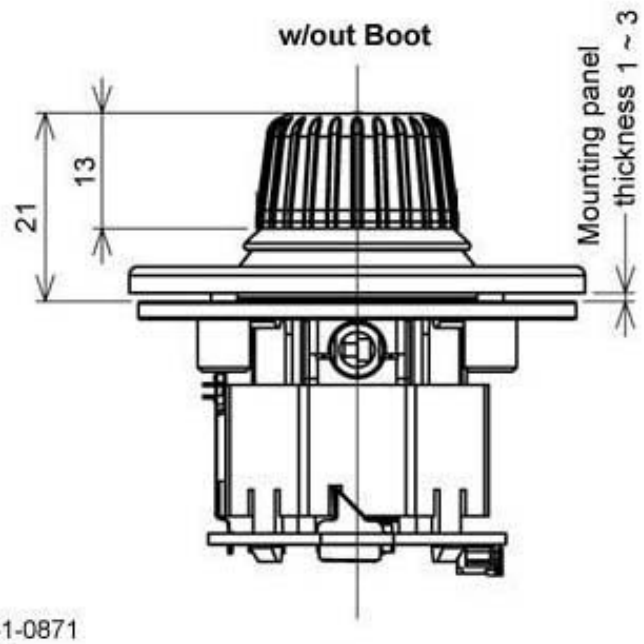
New Model!

Dual or Triple axes hall effect joystick in a compact, low profile housing. Ideal for electro-motive applications. Smooth, consistent feel throughout the travel on all axis. Suitable for use in industrial applications. IP54 rating above panel with optional rubber boot. Redundant output options.

Joystick Mechanical Specifications	
Mechanical Operating Angle (X, Y axes)	±15º from center position (±2.5º)
Mechanical Operating Angle (Z axis)	±30º from center position (±2.5º)
Operating Force (X, Y axes)	1.5 ~ 3.5N (150~350gf)
Operating Force (Z axis)	15 ~ 30mN·m (150~300gf·cm)
Lever Strength (X, Y axes)	max. 50N (5kgf) static load at the handle
Z Axis Stopper Strength	max. 0.5N·m (5kgf·cm) stopper limit
Mechanical Life Span	1 million operations
Operating Temperature	-20ºC - +60ºC (-20ºC ~ +65ºC Storage)
Vibration	10~55Hz, 98m/s^2 (10G) (per MIL-STD-202F-204)
Shock	294m/s^2 (10G) (per MIL-STD-202F-213)
IP Protection Grade (above panel)	IP40 (w/out rubber boot), IP54 (w/ rubber boot above panel)
Materials	Nylon 66 with glass, 30% filled
Weight	approx. 42 grams (without packaging)
Joystick Electrical Specifications	
Sensor Technology	Hall effect (contactless)
Resolution	Infinite
Independent Linearity Tolerance	±3% · FS
Electrical Operating Angle (X, Y axes)	approx. ±15º (30º)
Electrical Operating Angle (Z axis)	approx. ±30º (60º)
Supply Voltage	5VDC ±10% (5VDC ±0.5V)
Output Voltage (each axis)	10~90% · Vsupply ±3% or 5 ~ 95% · Vsupply ±3% or 0 ~ 100% · Vsupply ±3%
Center Return Accuracy	50% ±5% (2.5V ±25mV)
Current Consumption	6mA per axis (per output)
Load Resistance	>10K ohms (>100K ohms recommended)
Temperature Drift (max. signal)	< 2.5% · FS
Temperature Drift (center position)	< 1.0% · FS
EMC Immunity	50V/m (80MHz ~ 1GHz, 1KHz 80% sine wave modulation, IEC/EN61000-4-3)
ESD	IEC/EN61000-4-2, 5kV)
Temperature Drift at Center Position	< ±1% · FS
Dielectric Strength	1 minute at 250VAC
Insulation Resistance	> 100M ohms at 250VDC

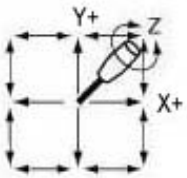
Joystick Dimensions (mm)

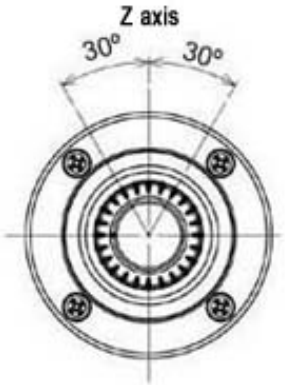


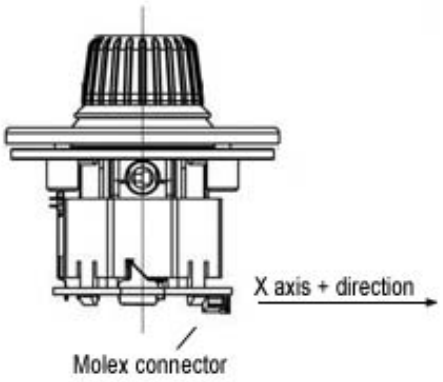


Joystick Handle Operating Pattern and Orientation

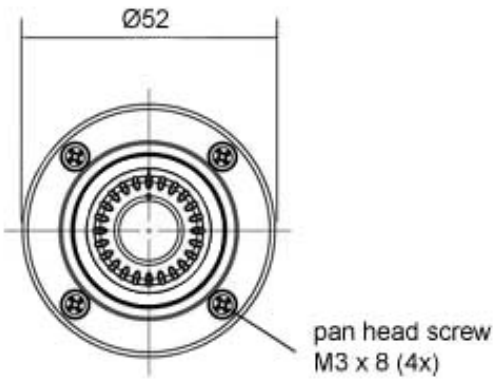
Lever Operating Pattern

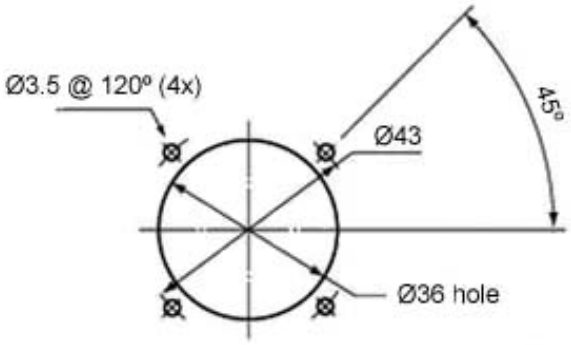






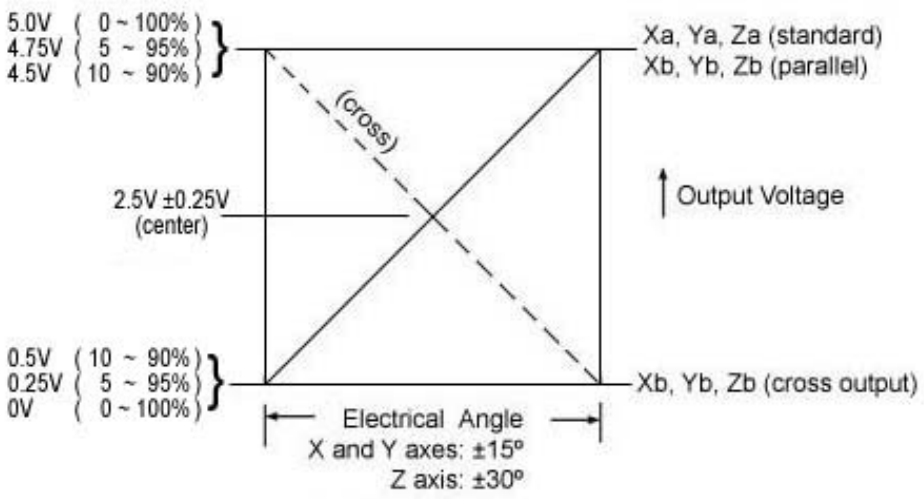
Joystick Panel Arrangement (mm)





Joystick Terminations and Output Characteristics

Molex 51021-0800	Color	Designation
Pin 1	Brown	+5V In
Pin 2	Red	X axis, output A
Pin 3	Orange	X axis, output B
Pin 4	Yellow	Y axis, output A
Pin 5	Green	Y axis, output B
Pin 6	Blue	Z axis, output A
Pin 7	Purple	Z axis, output B
Pin 8	Gray	GND



TRY20 Joystick Ordering Code

TRY20 - 3 - 5113 - 1 - 0

# of Axes
3 = 3 axes
2 = 2 axes

Rubber Boot Option
5113 = w/rubber boot (IP54 above panel)
0113 = w/out rubber boot (IP40 above panel)

Output Options
0 = single output per axis
1 = dual, parallel output, per axis
2 = dual, cross output, per axis

Sensor Output
1 = 10 ~ 90% (0.5 ~ 4.5V)
2 = 5 ~ 95% (0.25 ~ 4.75V)
3 = 0 ~ 100% (0 ~ 5V)

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