

Data Sheet for Joysticks

Hand Joystick

Series TRY50



- Up to two pushbuttons in handle
- Protection Grade up to IP68
- Optionally available with USB and CAN (J1939)

The TRY50 series covers the transition from finger- to hand-size joysticks. This has been realized by a new construction of the very robust mechanism combined with space-saving Hall sensors.

Electrical Data Joystick

Sensors	Hall-Effect
Supply Voltage	5 VDC ±0,5 VDC transient free
Supply Current	max. 10 mA per axis
Reverse Polarity Max	-14,5 VDC
Overvoltage Max	18 VDC
Output Impedance	6 Ω
Resolution	infinite
Return to Center Voltage Tolerance	±200 mV
Output Voltages	0..5 V / 0,5..4,5 V / 0,25..4,75 V / redundant output available

Mechanical and Environmental Data Joystick

Expected Life X-/Y-Axis	10 million cycles (typical use)
Mechanical Angle of Movement X-/Y-Axis	40° (±20° from center; spring return)
Break Out Force X-/Y-Axis	5,6 N
Operating Force X-/Y-Axis	7,5 N
Maximum Applied Force X-/Y-Axis	650 N
Expected Life Z-Axis	1 million cycles (typical use)
Mechanical Angle of Movement Z-Axis	68° (±34° from center; spring return)
Break Out Force Z-Axis	0,15 Nm
Operating Force Z-Axis	0,25 Nm
Maximum Applied Force Z-Axis	4,5 Nm
Environmental Sealing	up to IP68 (Standard IP65)
Operating Temperature	- 40°C .. + 85°C
Storage Temperature	- 40°C .. + 85°C
EMC Immunity Level (V/M)	IEC 61000-4-3:2006
EMC Emissions Level	IEC 61000-4-8:2009
ESD	IEC 61000-4-2:2008

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Technical Data Pushbuttons

Electrical Load	5 A resistive, 3 A inductive
DWV	1050 Vrms
Low Level	10 mA at 30 mV
Electrical Life	1 million cycles 5 A @ 28 VDC
Mechanical Life	1 million cycles
Sealing	IP68
Action	Momentary, normally open
Operating Force	7,5 N ±2 N
Available Button Colors	white, grey, black, red, orange, yellow, green, blue, purple

Note:

1. Wire length ca. 400 mm

2. If unspecified, the pushbuttons will have snap action momentary switches („normally open“) and red button caps.



USB-Options

USB Interface (USB 1.1 HID compatible)

The USB Controller is integrated into the Joystick. Power Supply will be provided by the USB host via the connection cable. This USB interface supports most versions of Microsoft Windows and Linux OS.

Cable included: USB cable (length approx. 1,75 m) with USB male type A connector. Other connectors and cable lengths available on request.

USB Joystick as Mouse replacement

Cursor emulation optionally available. Supported protocols include Sun Microsystems (mouse systems 5 VDC serial) and USB (most versions of Microsoft Windows and Linux OS).

Voltage Regulator

The Voltage Regulator is a multi-wired analog option used to mate to a variety of industrial control voltages. The Voltage Regulator may be used when the supply or output voltage is greater than 5V or when bipolar output is required.

Technical Data

Supply Voltage	(Output Voltage + 1 VDC) to 30 VDC
Output Voltage	0..5 VDC ; 0..10 VDC ; +/-5 VDC ; +/-10 VDC
Supply Current	max. 90 mA

CANBUS

CANbus J1939 / CANopen

A complete display is not possible due to manifold ways of configuration.

Please contact us directly with your specific requirements.

Technical Data

Supply Voltage	6..35 VDC
Supply Current	min. 15 mA, +5 mA per LED, +10 mA per axis

Wiring

Red	VCC	/	Green	CAN high	/	Blue	Identifier Select LSB
Black	Ground	/	White	CAN low	/	Orange	Identifier Select MSB

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Order Code

Series	TRY50							
Axes								
1 Axis		1						
2 Axes		2						
3 Axes		3						
Rubber Boot			5					
Spring Return „Standard“				1				
Handle / Pushbutton								
Ball Tip						3		
Low Profile, no Pushbutton						6		
Low Profile, Square Front, 2 Pushbuttons						R		
Limiter								
Square						1		
Square, 45° rotated						2		
Round						3		
1-axis Y						8		
Plus „+“						9		
Output Signal ⁽¹⁾								
0..5 V (rail to rail)							1	
0,5..4,5 V							2	
0,25..4,75 V							3	
USB Joystick							5	
USB Mouse-Emulation							6	
CANbus J1939							CAN	
CANopen							CO	
Drop-In Mounting								2
Additional Options								
Voltage Regulator:								
Supply +12..+30 VDC, Output 0..+5 VDC								V1205 ⁽²⁾
Supply +12..+30 VDC, Output 0..+10 VDC								V1210 ⁽²⁾
Supply +12..+30 VDC, Output ±5 VDC								V1205B ⁽²⁾
Supply +12..+30 VDC, Output ±10 VDC								V1210B ⁽²⁾
IP68 above panel (Standard = IP65)								IP68

⁽¹⁾ For analog output redundant signals are available on request.

⁽²⁾ The switching power supply for the electronics of this device requires an initial current of at least 100mA. The use of power supply units with current limiters operating below this threshold can damage the circuitry of the joystick!

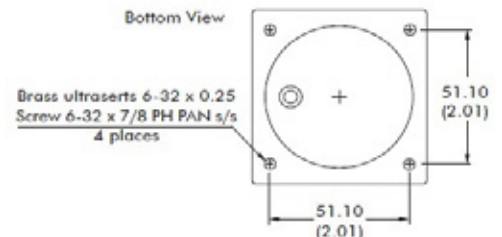
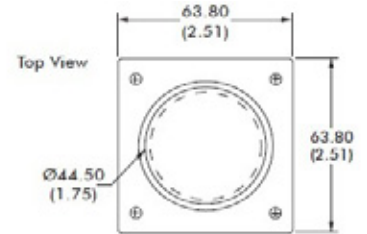
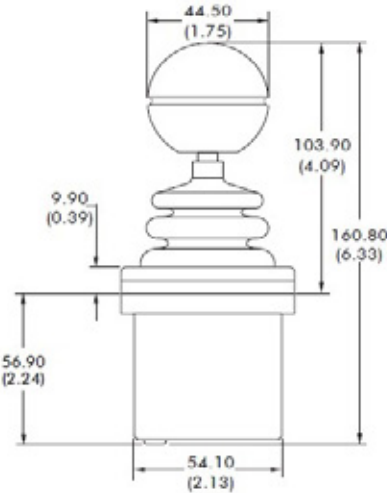
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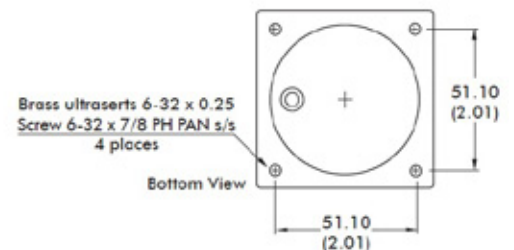
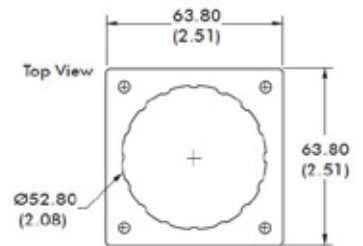
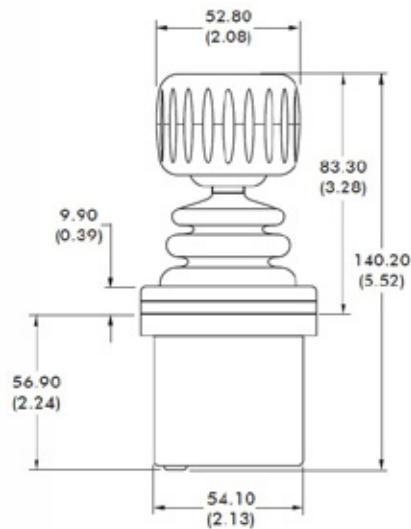
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Technical Drawing

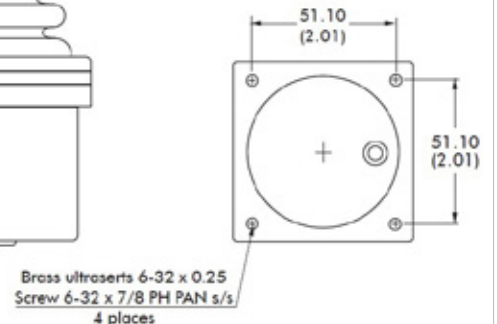
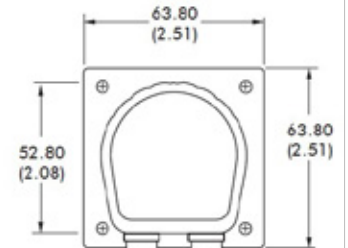
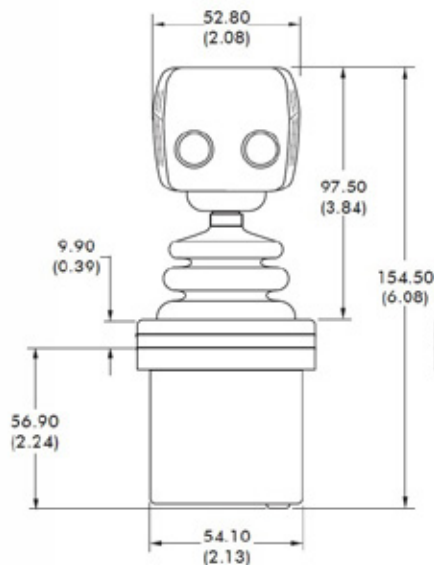
HANDLE „3“ Ball Tip



HANDLE „6“ Low Profile



HANDLE „R“ Low Profile



Dimensions in mm (inches)

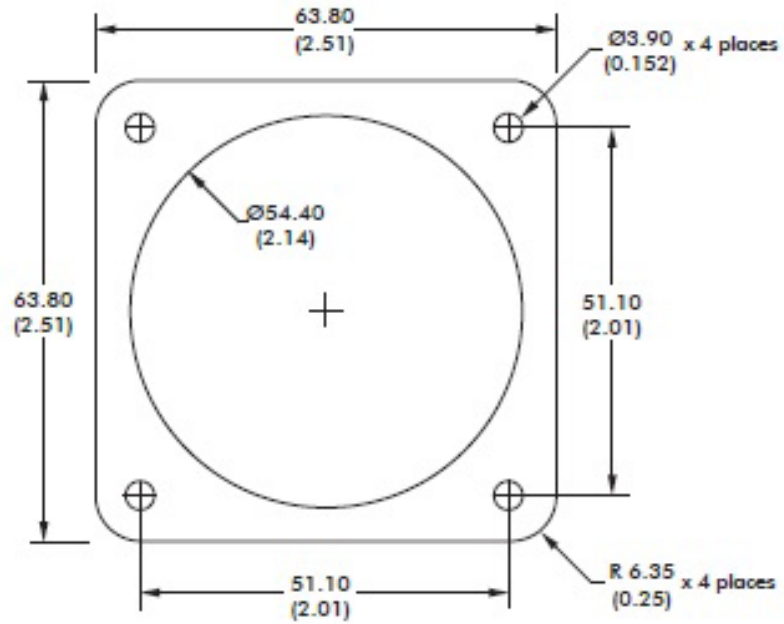
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Mounting Cut-Out

Drop-In installation



Dimensions in mm (inches)