

Data Sheet for Joysticks

Desktop Joystick

T + 41 44 885 30 80
info@tds-pp.com
www.tds-pp.com

Series MACH IV



- Several handle versions
- Desktop housing with customizable number of pushbuttons
- Optionally with USB interface

The Mach IV series is the solution for applications asking for joysticks with two or three axes confined within a desktop housing. The desktop housing provides the possibility to integrate pushbuttons for further application specific operations.

Kindly note that the joysticks of series 812 and TRY100 can also be combined with this desktop housing.

Technical Data

Angle of Movement X-,Y-Axis	±30° from center
Angle of Movement Z-Axis	±45° from center
Return to Center	±2%
Operating Force	< 60mN

Potentiometers (Conduct. Plastic)	Type P	Type M	Type S	Type R	Type U	Type L
Track Resistance [kOhm]	5	5	5	5	10	130
Resistance Tolerance [%]	±20	±20	±15	±10	±10	±5
Indep. Linearity Tolerance [%FS]	±1	±5	±1	±1	±1	±5
Operating Temperature [°C]	-55..+120	-55..+120	-55..+125	-65..+125	-65..+125	0..+85
Power Dissipation at 70°C [W]	0,25@40°C	0,5	0,1	1	1	0,25
Track Operating Angle [°]	220	60	50±6	50±5	260±5	50
Bearing	Sleeve	Sleeve	Sleeve	Sleeve	Sleeve	Sleeve
Expected Life (million cycles)	>1	>1	ca. 5	ca. 10	ca. 10	2
Recommended max. Current [mA]	0,1	0,1	0,1	0,1	0,1	-/-
Max. allowed Current [mA]	1	1	1	1	1	-/-
Max. Voltage [V DC]	35	20	22	70	70	48

Hall Sensors

Supply Voltage	5 VDC ±10%
Power Consumption 2 Axes / 3 Axes	4,8..11 mA / 7,2..16,5 mA
Center Voltage	2,5 V ±200 mV
Expected Life	1 million cycles typ.
Indep. Linearity Tolerance	±2%
Operating Temperature	-25..+85°C
Storage Temperature	-40..+85°C

Pushbuttons	Current [mA]	Voltage [V]	Expected Life	Color
Handle E	Switching Power 0,1 W		5 million	black
Handle G	50	24	1 million	black
Handle H	500	12	5 million	black
Handle 9	500	12	5 million	black

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Order Code

Series	MACH IV							
Axes								
2 Axes		2						
2 Axes with Pushbutton		3						
3 Axes		4						
3 Axes with Pushbutton		5 (*)						
Rectangular Desktop Housing			2					
Spring Return				1				
Spring Return (50% enforced springs)				7 (*)				
Handle Versions								
Handle 2 Axes, w/o Pushbutton						J (*)		
Handle 2 Axes, w/o Pushbutton						K (*)		
Handle 2 Axes, w/o Pushbutton						L (*)		
Handle 2 Axes, w/o Pushbutton						1		
Handle 2 Axes, w/o Pushbutton						A (*)		
Handle 2 Axes, w/o Pushbutton						B (*)		
Handle 2 Axes, w/o Pushbutton						6 (*)		
Handle 2 Axes, w/o Pushbutton						3 (*)		
Handle 2 Axes, w/ Pushbutton						E (*)		
Handle 2 Axes, w/ Pushbutton						G (*)		
Handle 2 Axes, w/ Pushbutton						H		
Handle 3 Axes, w/o Pushbutton						7		
Handle 3 Axes, w/ Pushbutton						9		
Handle 3 Axes, w/o Pushbutton, Hall Sensor						O (*)		
Handle 3 Axes, w/ Pushbutton, Hall Sensor						P (*)		
Handle 3 Axes, w/ 2 Pushbuttons, Hall Sensor						Q (*)		
Desktop Housings								
w/o Pushbutton, w/o external Trim							0	
2 square Pushbuttons, w/o external Trim							1 (*)	
2 rectangular Pushbuttons, w/ external Trim							2 (*)	
2 rectangular Pushbuttons, w/o ext. Trim							3	
4 square Pushbuttons, w/o external Trim							4 (*)	
4 square Pushbuttons, w/o external Trim							5	
2 square Pushbuttons, w/o external Trim							6 (*)	
Sensors, Output Signals								
Potentiometer P for X-/Y-/Z-Axis								P
Pot. M for X-/Y-Axis, Pot. P Z-Axis								M (*)
Pot. L for X-/Y-Axis, Pot. P Z-Axis								L (*)
Pot. R for X-/Y-Axis, Pot. P Z-Axis								R
Pot. U for X-/Y-Axis, Pot. P Z-Axis								U
USB Interface								5 (*)
Hall Sensors for X-/Y-/Z-Axis 0..5V								K1 (*)
Hall Sensors for X-/Y-/Z-Axis 0,25..4,75V								K3 (*)
Housing Color (Standard = Light Grey)								
Black								SW (*)

(*) upon request

For higher quantities or on-going demand, additional options are available

For example:

- Customer-specific cable, switches, etc.

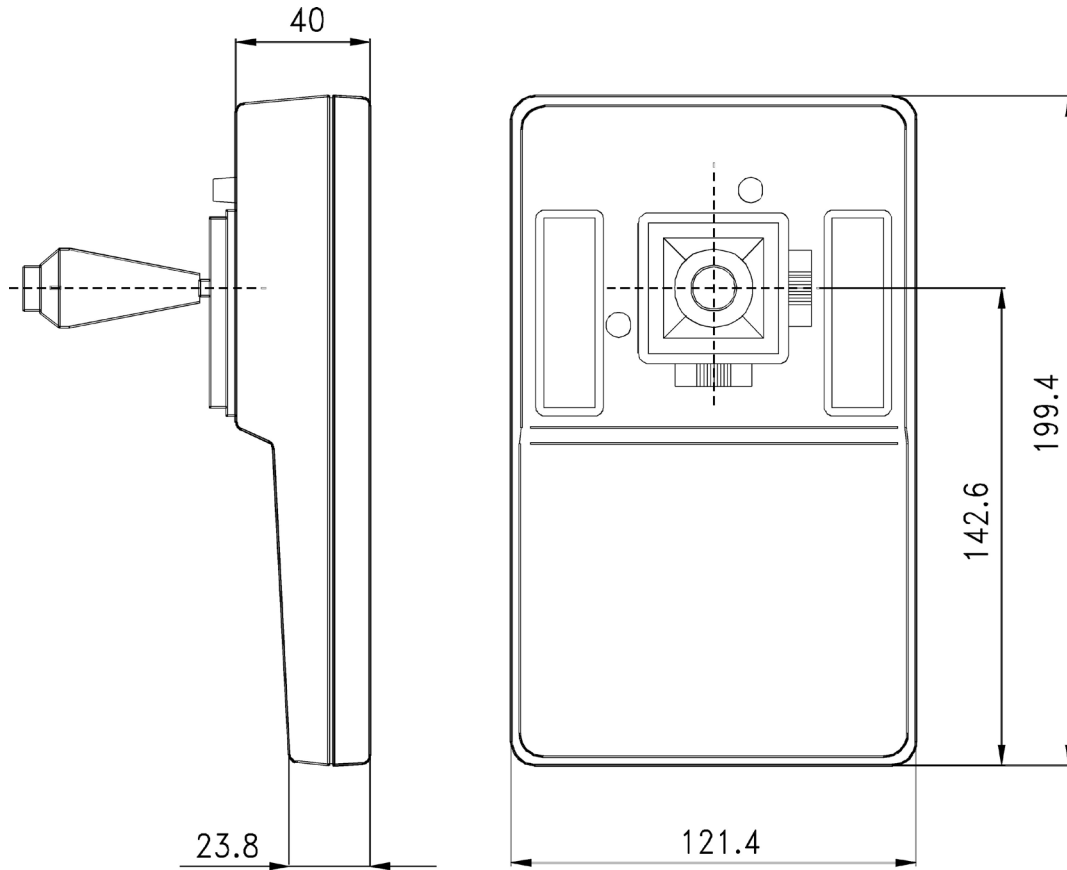
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Dimensions Desktop Housing

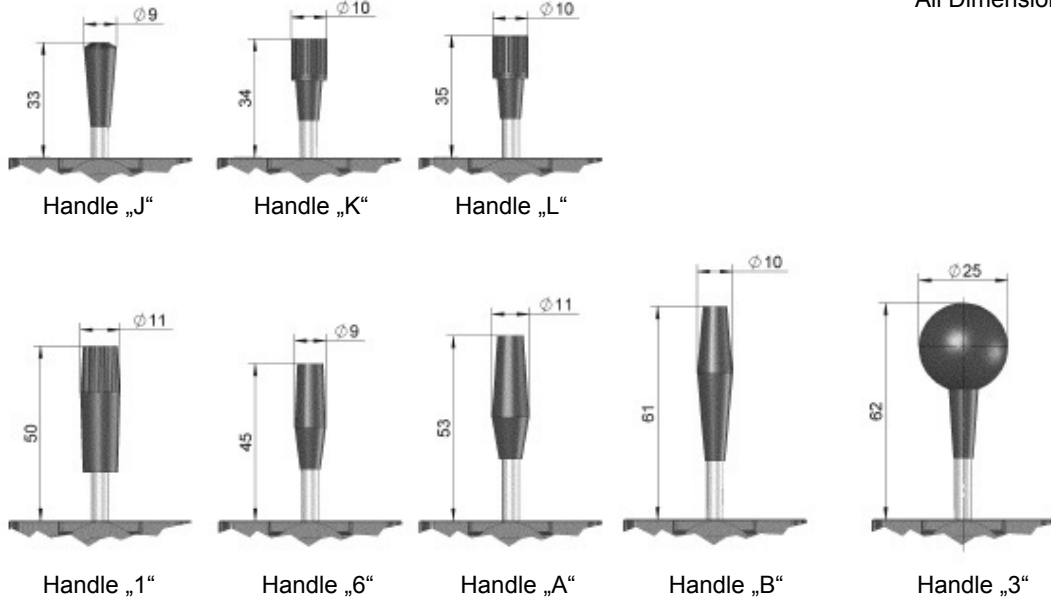


All Dimensions in mm

Handle Versions

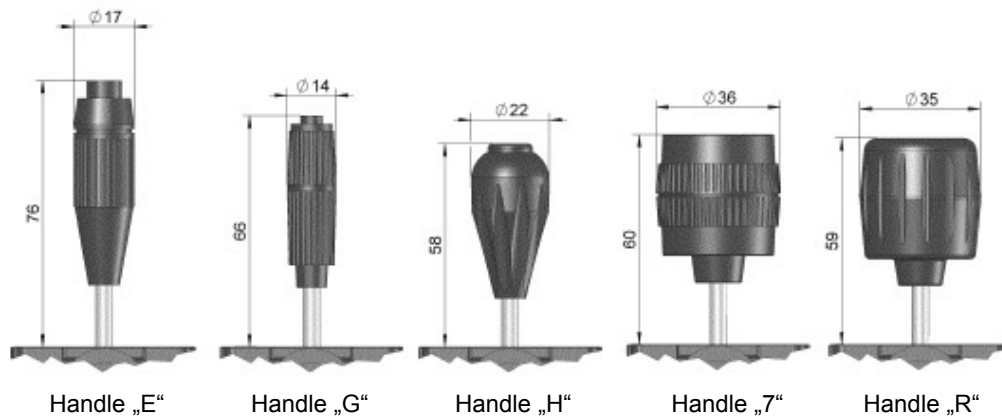
2 Axes

All Dimensions in mm



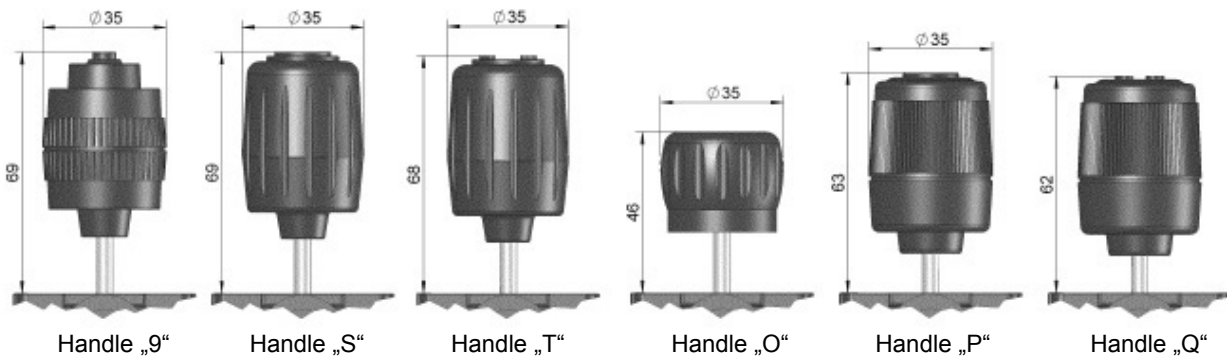
2 Axes, with Pushbutton

3 Axes



3 Axes, with Pushbutton

3 Axes, Hall Sensors



Housing Versions

