

Industrial Joysticks are available in 3 basic types.

- **Finger Joysticks**
- **Thumb Joysticks**
- **Electronic joysticks**



Industrial Device Handling Finger Joysticks :-

Functional Principle



The most popular and universal joystick are device handling joysticks. With one hand or several fingers they act as Man-Machine interface for complex command execution. Multiple axis position switches, push button switches, USB - CAN Open - 4-20 mA current loop. Linear / Non linear analog and digital output signals are available.

HLS

• Low Cost 1 – 4 Axes Contactless Hall Joystick



- 1 or 2 axis internal hall sensors
- 9 different handles with / without push button switches in different colours
- 2 additional axis with 5 push button switches as thumb stick in MicroHead
- USB, mouse emulation, CAN open as option
- Spring return to center position
- Very cost effective
- All plastic body – for semi-rigid applications
- 3 limiter plates available

www.sendapstick.com/hls.pdf

JPT

• 1-2-3-4 Axis Potentiometric All Metal Industrial Joystick



- 1 or 2 axis Direct potentiometric joystick
- 3 or 4 axis Hall thumb stick (MicroHead) with maximum 5 push button switches
- Spring return to center position
- All metal construction
- 9 Different handles in several colours with 1 push button switch each
- USB interface up to 4 axis and 5 switches
- CAN – OPEN interface
- 4 – 20 mA Long distance current interface
- Very cost effective

www.sendapstick.com/jpt.pdf

JRC

• 1-4Axis Contactless All Metal Analog-PWM-Incremental-SPI & SSI



- Contactless Hall Ecotum Position Sensors instead of precision potentiometers.
- 1 or 2 axis Analog, PWM, Incremental, SPI & SSI direct output.
- 2 additional axis with MicroHead hall thumb stick.
- MicroHead with upto 5 push button switches.
- Spring return to center position.
- 9 different handles with/without push button switches
- USB or mouse emulation or CAN open interface.
- Almost unlimited combinations

www.sendapstick.com/jrc.pdf

844

• Hall Effect Joystick Next Generation



- Very rugged
- Up to 3 axis
- Shallow installed depth < 20mm
- 5V or 3, 3V operation
- Analog or PWM output
- Protection class up to IP65 (above panel)
- Spring return to center position
- High life cycles.
- Various handles also with push button.
- There are many different options and modifications possible
- USB / Mouse (US38) and CAN Open (CA50) interface www.sendapstick.com/844.pdf
- MicroHead for thumb multiaxis system.

TRY 100

• 1-2-3 – Axes Industrial Hall Joystick



- 1, 2, 3 axis configuration
- Contactless hall technology
- Drop-in and rear mount option
- 10 handles and 6 limiter plates
- Low profile
- USB and mouse emulation by external U38 interface option
- CAN open interface by CA50 option.

www.sendapstick.com/try100.pdf

812

• 1- 2- 3 Axis Potentiometric / Hall Joystick



- 812 PT with potentiometric, 812 HL with Hall sensor
- 1, 2 or 3 axis with 1 or 2 push buttons
- 1, 2, 3, or 4 axis with microhead and up to 5 push buttons
- Spring return to center position
- USB / Mouse with US38 USB interface
- CAN open with CA50 CAN interface
- 4 – 20 mA long distance with CL42 interface (812 PT)
- Position switches with RB28 interface
- Many handles standard
- Very cost effective

www.sendapstick.com/812.pdf

SWS

• Switchstick SWS 4 / 5



- 2 axis
- Spring return to center position
- IP65 form top (installed)
- Applications: Robot controls, special-purpose vehicles, Tool building, etc.
- For currents up to 5A and voltages up to 240V A
- 9 different knobs With / Without push button switches
- Cost effective

www.sendapstick.com/sws.pdf

Industrial Miniature Thumb / Finger Joysticks :-

Functional Principle

Miniature Input Devices For Samples Operation

For all applications where space is a premium thumb / finger joystick are the solutions. They have all the features of standard joystick including interface electronics such as US38, CA50, CL42, etc. They can be operated by thumb or finger.

802

• Very Low Cost 2 Axes Miniature Thumb Joystick



- 2 potentiometer axis
- 1 push button switch optional
- Center spring return
- Life approx 50000 to 100000 operations
- PCB mounting
- Operating force : < 20 mN
- Deflection X – Y axis : $\pm 30^\circ$
- Center dead zone : 6°
- USB interface (US38) Mouse interface
- Long distance current interface (CL42)

www.sendapstick.com/802.pdf

TRY20

• Heavy Duty 3 Axes Miniature Thumb / Finger Joystick



- 3 axis with hall sensor
 - Protection class IP40 / IP54 with rubber boot
 - Low installed depth
 - Ideal for controlling of wheel chairs, electric vehicles and many other drives with servo motors
 - Suitable for MicroHead, US38, CA50
- The new designed TRY20 with contactless sensor elements is characterized by its compact dimensions at a 3-axis version. The sensor elements are optional available in a redundant version at each axis.

www.sendapstick.com/try20.pdf

TRY14

• Economical 1, 2 Axes Industrial Thumb / Finger Joystick



- 1 or 2 axis
- Hall sensor technology
- Submersible IP68 (1 meter) / IP69K
- Options : dual or redundant outputs
- Rear or drop-in mounting available

The TRY14 Thumbstick series is a proportional two axes joystick in a miniature package. Featuring non-contacting Hall effect technology for long life performance, the TRY14 Thumbstick is available with multiple linear output options including single and dual (redundant) outputs. Similar in size and operation to "gamepad" controls but in rugged industrial package, typical applications include pendant and remote controls as well as joystick handle and arm rest integration

www.sendapstick.com/try14.pdf

MHX

• MicroHead Thumbstick/switch Extension for Joystick



- "Thumb and Hand" ideal for course and fine tuning
- Adds 2 axis and 5 switches to standard 2 axis joystick
- USB / Mouse compatible with US38 interface
- 1.Q2013 intelligent stand alone and panel version available
- Use "Easy point" technology
- Solid small extended Aluminum case suitable for following Joysticks : HLS, 844, JRC, JPT & others.

www.sendapstick.com/mhx.pdf

• Joysticks Interface and Position Control Electronics



A variety of external partially microcontroller equipped electronics make the utilization of all the joysticks with PC'S Game port, PLC'S very easy. Even non - linear analog and digital output signals are directly available from sensors.

- US38 - Multiaxis / Multiswitches programmable USB interface
- CA50 - CAN Open interface or the experienced CAN Open used
- CL42 - 4-20 mA current loop interface for long distance
- RB28 - Relay switch position control

US 38



• Universal Joystick / Thumbstick / Switchstick / USB Controller

- US 38 acts as a USB interface and mouse (2 axis plus wheel) ;
- All 1 – 3 axis standard potentiometric and Hall joysticks with upto 8 switches.
- 1 – 2 axis MicroHead thumbstick with upto 5 switches
- Hybrid 1 – 2 axis standard potentiometric and Hall joystick in combination with 1 – 2 easypoint MicroHead with upto 5 push button switches
- Usable also as Game controllers (1 – 6 axis), as mouse pointer (2 axis + wheels) directly switchable between mouse and joystick
- Fully user reprogrammable without special software
- Solidly fixed below joystick or remains separate
- Maximum hardware capabilities
- 4 Analog axis
- 2 Easy point miniature joystick axis
- 8 Independent push buttons

www.sendapstick.com/us38.pdf

CA50



• CAN open Joystick / Thumbstick Controller

- Compatible with potentiometric and hall joysticks / thumbsticks also with push button switches with 5VDC output
- Upto totally 4 axis are totally transmitted and also upto 7 push button switches
- 4 LED drivers available as digital outputs
- Factory set or standard addresses
- The analog input is sampled with 10 bit scaled to 16 bit at CAN output
- Neutral zone programmable ($\pm 5\%$)
- CANOPEN DS301 & DS401 compliant
- 4 axis, 7 push buttons
- 4 LED outputs
- 2 transmit, 1 received PDO

www.sendapstick.com/ca50.pdf

CL42

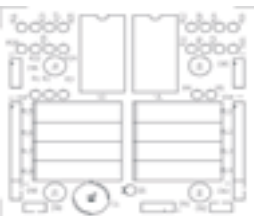


• 4-20 mA Current Loop Controller for Potentiometric Joysticks

- The CL42 has been designed in order to give an Analog joystick (potentiometric sensor) an analog current loop interface 4/20mA.
- The current loop is suitable when the joystick is far away from PLC.
- The current loop is passive because the power is provided by PLC.
- The 3 axes are galvanically isolated.
- Suitable for : 812 pot, 802, JPT, 891 and all other potentiometric joysticks

www.sendapstick.com/cl42.pdf

RB28



• Joystick Relay Switch Controller

- This card transforms an analog joystick type 812 or TRY100 into a switchstick. It is possible to cascade the cards in order to increase the number of contacts. A card adds 4 contacts per axis. The first contact is switched « ON » when the stick quits the central position, the second one when the stick approaches his end of stroke, this for the 4 directions X+, X-, Y+, Y-.
- On demand, the relative positions of the commutations can be adjusted at the factory. In order to avoid oscillations, the electronics are designed with an hysteresis of a few degrees. Suitable for JPT, 812, TRY100

www.sendapstick.com/rb28.pdf