LPJ LOW PROFILE HALL EFFECT JOYSTICK BODY

FEATURES

The LPJ joystick controller has been designed for use in mobile and industrial field applications. The use of the hall effect sensor, which eliminates any contact between moving electrical parts, improves overall resolution, precision and life. A complete line of built-in electronic drivers, generating on-off, proportional and CANbus control signals, guarantees the highest controllability of any type of electro-hydraulic system.

LPJ ORDERING INFORMATION: see page JK23

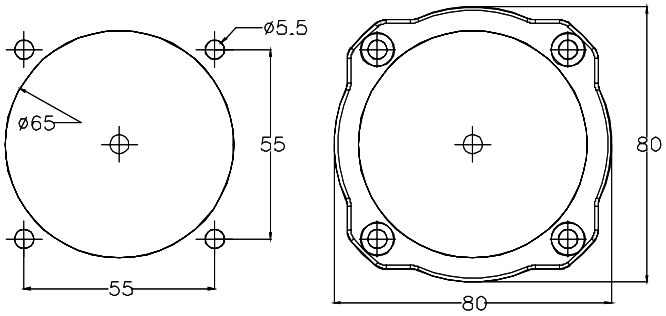
MECHANICAL SPECIFICATIONS

Main body material:	aluminium
Boot material:	EPDM - UV proof
Lever deflection angle:	±15° ±1°
Electrical angle:	±15° ±1°
Operating temperature range:	-25°C / +80°C
Protection class (above panel):	up to IP 67, depending on grip
Life:	> 5 million cycles

ELECTRICAL SPECIFICATIONS

Sensor:	hall effect contactless technology
Supply voltage:	ANL version = 5 VDC ±5% other versions = 8÷32 VDC
Current consumption @ rest:	25 mA (sensor only)
Connector type:	Deutsch DT04-12P other types available on request
Output signal configuration:	see next pages for all versions

PANEL CUT-OUT AND MOUNTING



AVAILABLE JOYSTICK MOVEMENTS

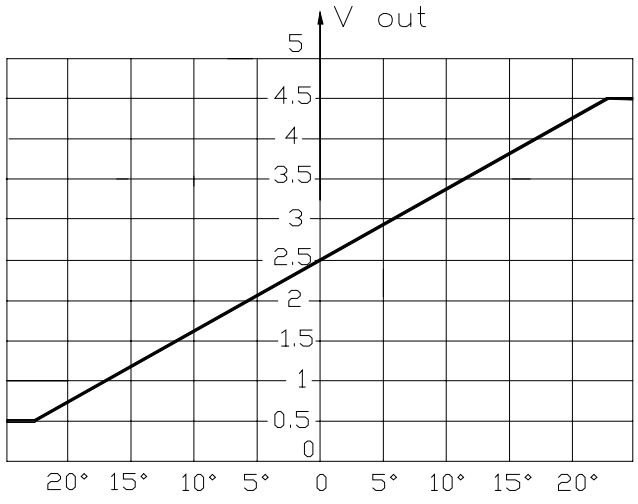
Option L2S	Single axis control / Bidirectional
Option L4C	Cross axis control / Bidirectional
Option L4D	Multi axis control / Bidirectional

ANL & ANH VERSION

Basic version

Current consumption @ rest:	< 25 mA (sensor only)
Supply voltage:	ANL version = 5 VDC ±5% ANH version = 8÷32 VDC
Signal output @ rest:	2.5 VDC ±0.2 V
Output signal range:	0.5 ÷ 4.5 V ±0.2 V (see graph)
Rated output current:	1 mA
Protections (ANH version):	overvoltage and reversed polarity

OUTPUT SIGNAL CONTROL CHARACTERISTICS



Lever deflection angle

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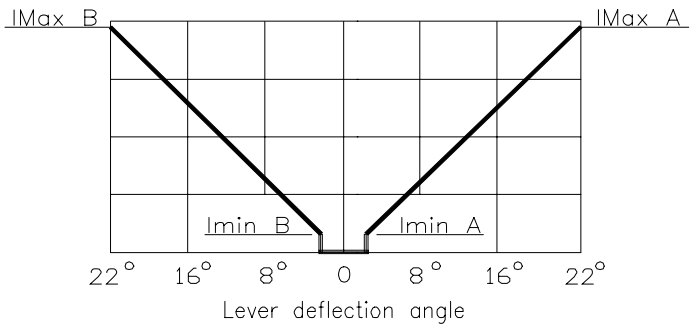
PWM VERSION

2 PWM output channels

Supply voltage:	8÷32 VDC
Current consumption @ rest:	250 mA
PWM output:	2 x dual proportional solenoid valves
Current output range (PWM):	100 to 1600 mA (3 A available on request)
Dither frequency:	60 to 250 Hz (100 Hz factory preset)
Adjustable ramp time:	0.05 to 5 s
Power digital outputs:	2 (3.5 A)
Adjustments:	via PC, RS232 serial line connection, using the Tecnord calibration and configuration tool (see picture below)

Notes:
1) 3rd axis available using FPR-PWM roller switch - Imax = 1.5 A
2) the base height is 60 mm instead of the standard 46 mm

OUTPUT SIGNAL CONTROL CURVE



ADJUSTABLE PARAMETERS

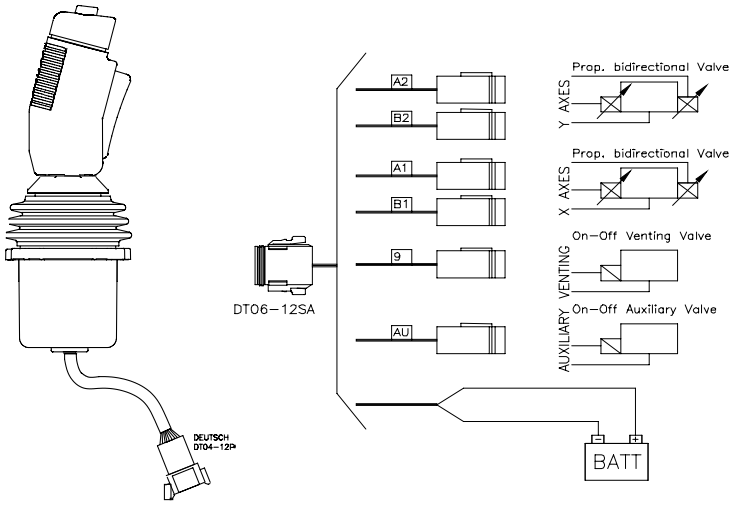
The following parameters are adjustable via RS232 serial line by means of the calibration/configuration tool.

By use of the configuration window:
- Operation mode.
- Deadman push button enable.
- Joystick functions: axes reverse, virtual cross movement.
- Current setpoint selection (for 360° movement only).
- Output assignement on-off auxiliary valves.
- Digital directional output signals on both axes (N.O. or N.C. mode)

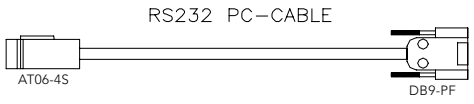
By use of the calibration window:
- Operating parameters: Imin, Imax, Ramp up and Ramp down times.

APPLICATION EXAMPLE

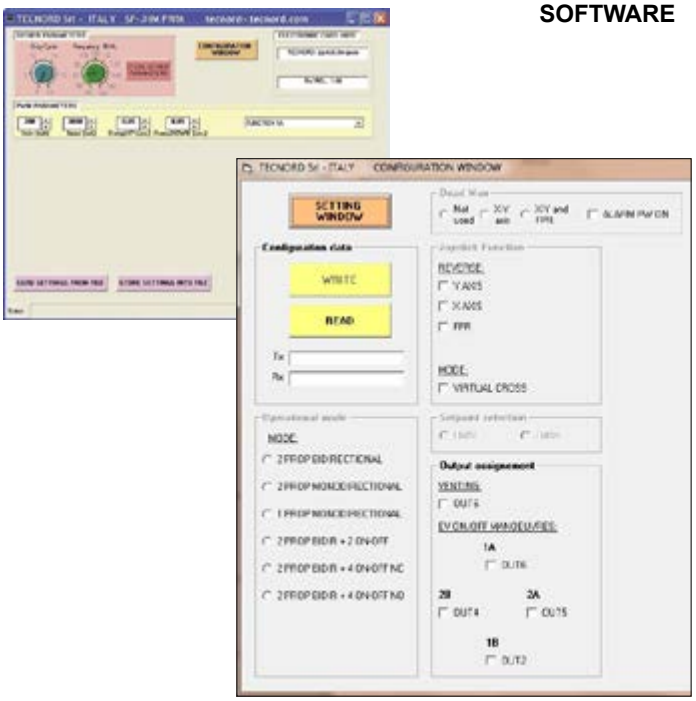
Shown with MH2 grip



For PC connection (optional)
ordering code: 21.0801.055



DOWNLOAD SOFTWARE



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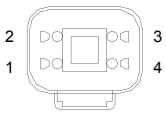
CANBUS VERSION

Supply voltage:	8÷32 VDC
Current consumption @ rest:	< 250 mA
Physical layer:	ISO 11898, 250 Kbit/s
Protocol:	J1939/ CANopen
Connector type:	Deutsch DT04-4P

With CANbus link, following signals can be managed on the multifunctional grip:

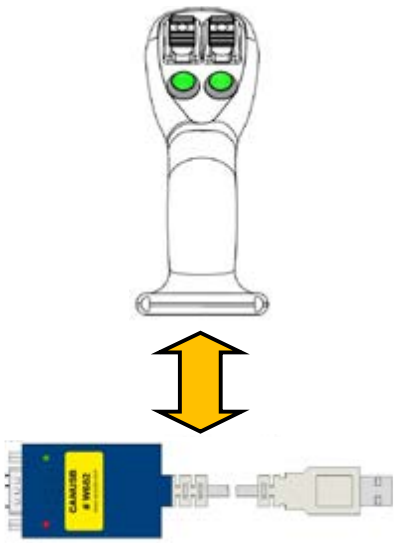
- 4 digital outputs 0.7A (LEDs, detent coils, buzzers, etc).
- 6 analog voltage input 0-5 V (proportional rollers and mini-joysticks).
- 6 digital inputs (push buttons, toggles, etc).

CONNECTIONS



Deutsch DT04-4P

1 +V (POWER SUPPLY)
2 CAN - L
3 CAN - H
4 -V (POWER SUPPLY - GND)



ADJUSTABLE PARAMETERS

The following parameters are adjustable via CAN:

For CANopen version

- Node ID

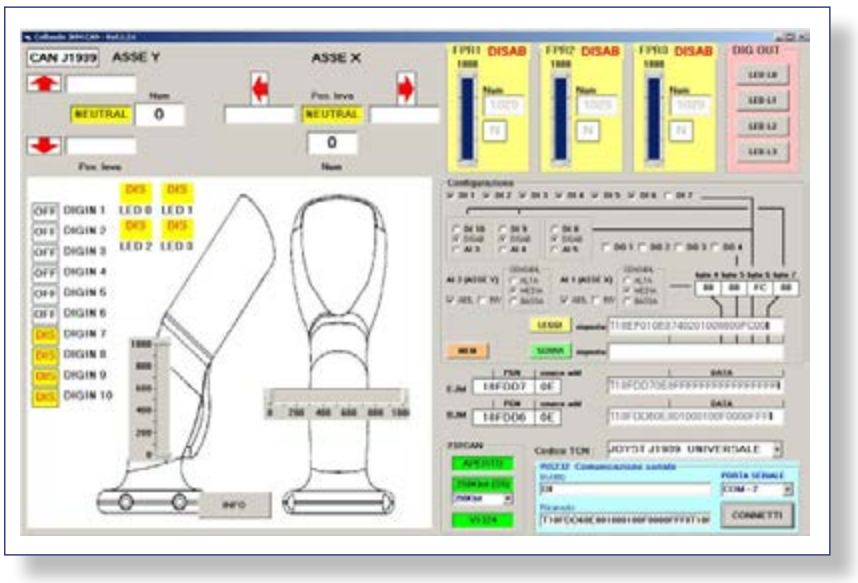
For J1939 version

- Node ID

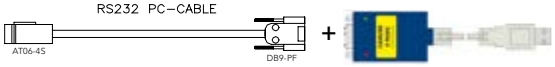
In addition, with the specific “Calibration and Configuration PC Tool” and the CAN/USB hardware interface device (see picture below) is possible:

- Read joystick configuration
- Adjiust X, Y axles sensibility and direction
- Enable /disable digital or analog inputs and digital outputs

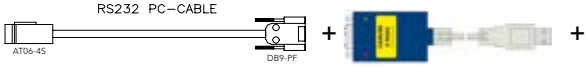
FOR J1939 VERSION ONLY



CANOPEN VERSION ONLY
ordering code: 21.0801.083



J1939 VERSION ONLY
ordering code: 21.0801.062



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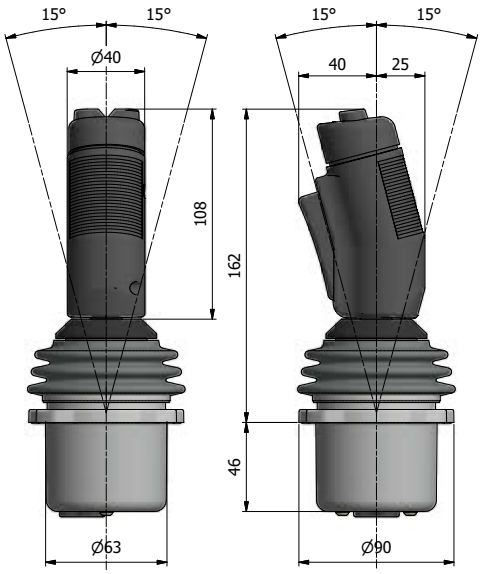
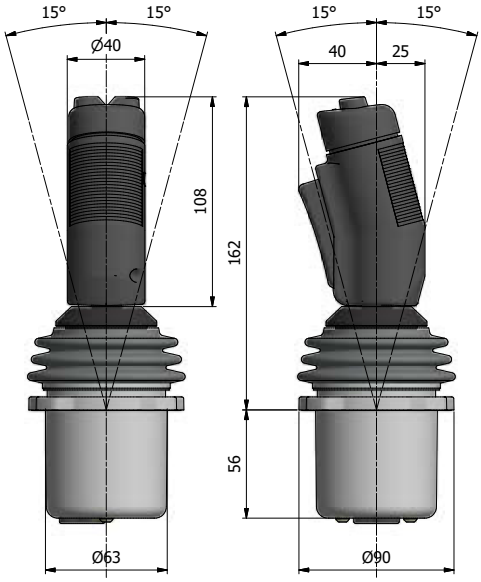
LPJ LOW PROFILE HEAVY DUTY MULTI-AXIS HALL EFFECT JOYSTICK

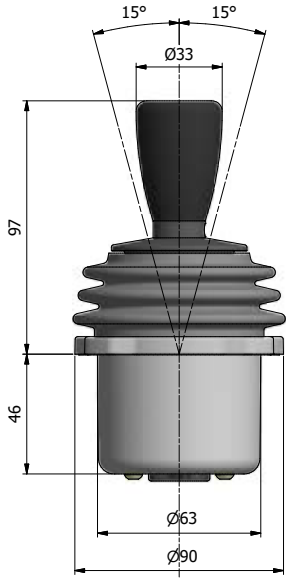
LPJ joystick with grips - configuration examples with overall dimensions



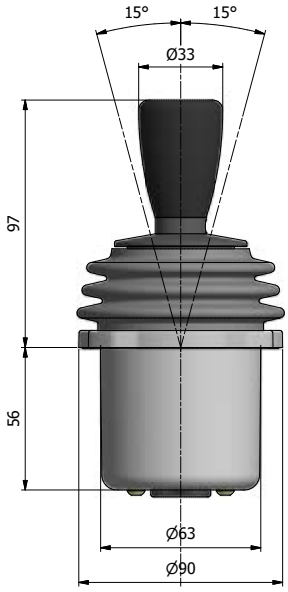
LPJ base with MH handle
Complete code: **LPJ-L4D/ANH-MH2**



LPJ base with MH handle
Complete code: **LPJ-L4C/ANH-MH2**



LPJ base with IL handle
Complete code: **LPJ-L4D/ANH-IL0-000**



LPJ base with IL handle
Complete code: **LPJ-L4C/ANH-IL0-000**

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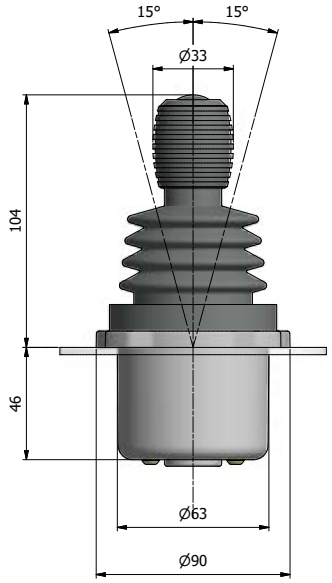
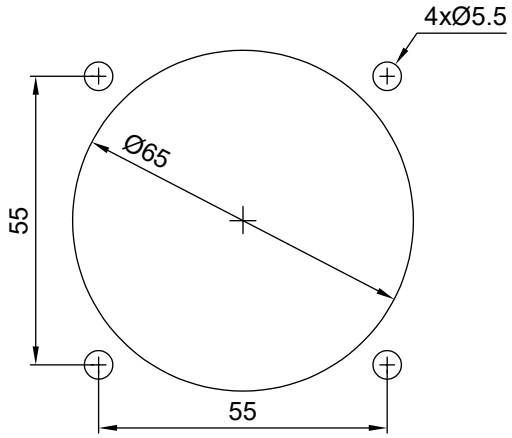
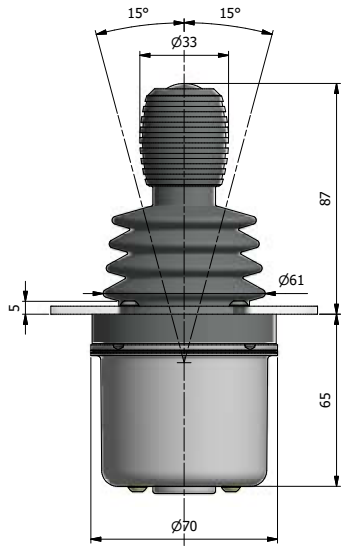


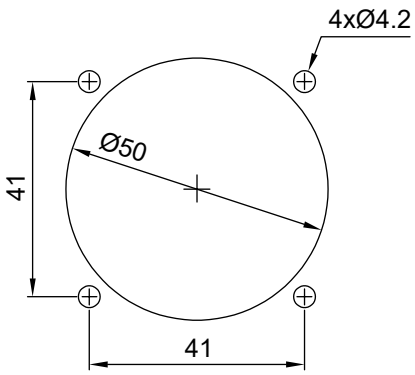
LPJ base with MU handle
Complete code: **LPJ-L4D/ANH-MU1**



Panel cut out



LPJ base with MD handle
Complete code: **LPJ-L4D/ANH-MD1**



Panel cut out

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