

## JHM

## Heavy Duty Multi-Axis Hall Effect Joystick (joystick base only)

### Features

The **JHM** 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.

When coupled with an ergonomic multi-function handle of the M range, up to 5 proportional axes and 9 on-off push buttons can be integrated in the same joystick. As further option, the JHM is also available with a magnetic position detent on the Y- or X-axis.

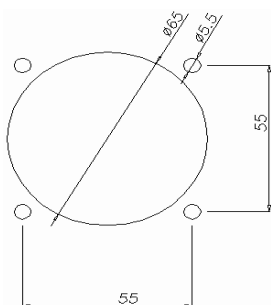
### Mechanical Specifications

- . Main body material: aluminium
- . Boot material: NBR / Shore 50 - UV proof
- . Lever deflection angle: +/-23° +/- 1°
- . Electrical angle: +/-23° +/- 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 = 5V +/-5%  
other versions = 8 - 32V
- . Current consumption @ rest: 25 mA (sensor only)
- . Output Signal configuration: **see next pages for all versions**
- . Electronic Seal : Potted Electronics
- . Connector type: Deutsch HD14-9-16P  
other type available on request
- . Protections: overvoltage and reverse voltage

### Panel Cut-Out



### Available Joystick Movements

- Option **L2S** Single axis control / Bi-directional
- Option **L4C** Cross axis control / Bi-directional
- Option **L4D** Multi-axis control / Bi-directional



\* Shown with MS grip

Ordering Information : see page 19

Available grips : see page 34

Complete joystick examples : see page 31

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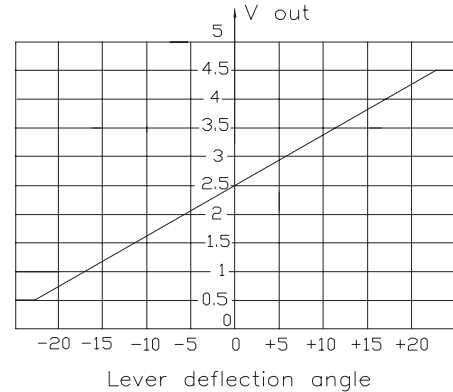
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### ANL & ANH versions (basic version)

- . Supply voltage: ANL -Version = 5 Vdc +/-5%  
ANH -Version = 8-32 Vdc
- . Current consumption @ rest: 25 mA (sensor only)
- . Signal output @ rest: 2.5 Vdc +/-0.1V
- . Output signal range: 0.5 - 4.5 V +/-0.2V (see graph)
- . Rated output current: 1 mA

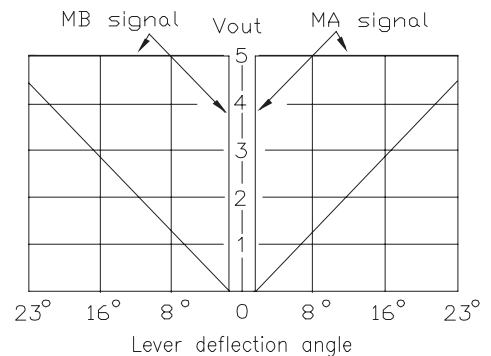
### Output Signal Control Characteristics



### AVS version (center tap output signal with digital directional signals)

- . Supply voltage (Vin): 8 - 32 Vdc
- . Current consumption @ rest: 250 mA
- . Signal output @ rest: 0 Vdc
- . Output signal range: 0.5 - 4.5 V +/-0.2V (see graph)
- . Rated output current: 1 mA
- . Digital directional outputs on both axes (MA and MB signals on graph): 0 / Vin (0.7 A max)

### Output Signal Control Characteristic:

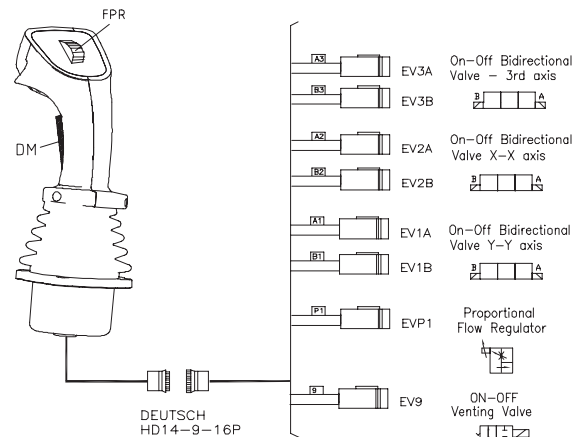


### TCN version (1 PWM output in combination with up to 7 on/off outputs)

- . Supply voltage: 8 - 32 Vdc
- . Current consumption @ rest: 250 mA
- . PWM output : 1 x single prop. solenoid valves
- . Current output range (PWM): 100 to 3000 mA
- . Dither frequency: 75 to 250 Hz (factory preset)
- . Adjustable ramp time: 0.05 to 5 s
- . Power digital outputs : 7 (3.5 A)
- . Adjustments: via RS 232 serial line

### Application example

(shown with MG grip)



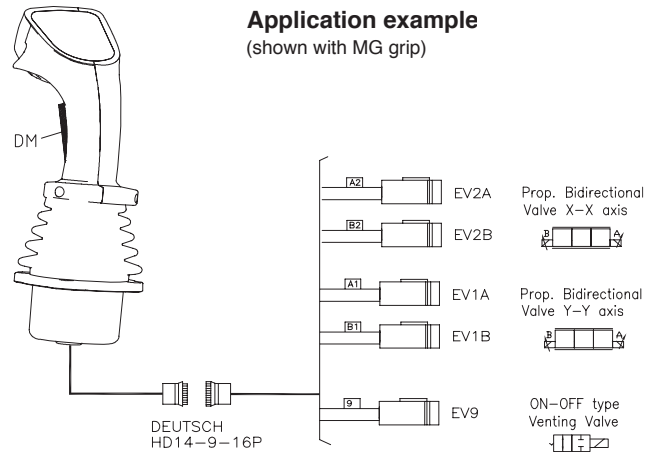
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**PWM version ( 2 PWM channels )**

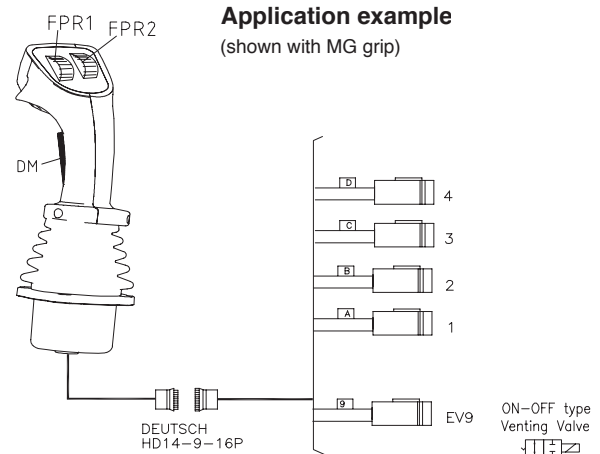
- . Supply voltage: 8 - 32 Vdc
- . Current consumption @ rest: 250 mA
- . PWM output : 2 x dual prop. solenoid valves
- . Current output range (PWM): 100 to 3000 mA
- . Dither frequency: 75 to 250 Hz (factory preset)
- . Adjustable ramp time: 0.05 to 5 s
- . Power digital outputs : 2 (3.5 A)
- . Adjustments: via RS 232 serial line

Note : more PWM output channels are available using the FPR - PWM roller switches



**MLT version (output adjustable signal for closed loop prop. actuators )**

- . Supply voltage: 8 - 32 Vdc
- . Current consumption @ rest: 250 mA
- . Analog outputs: 4
- . Output signal range: linear signal 0.9 - 4.1 V  
2 - 6 V or ratiometric output available on request
- . Rated output current: 1 mA
- . Power digital outputs : 4 (0.7 A)
- . Digital inputs available: 2
- . Adjustments: via RS 232 serial line

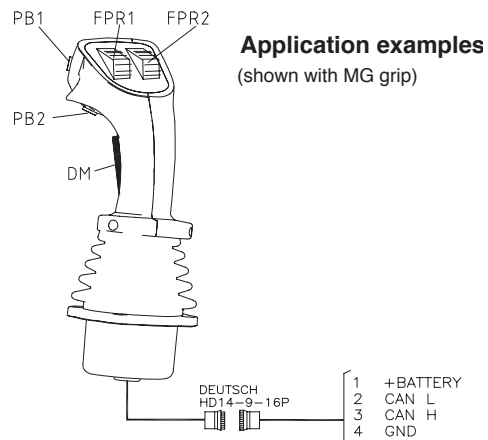


**CANbus version ( with interface for CANbus line )**

- . Supply voltage: 8 - 32 Vdc
- . Current consumption @ rest: 250 mA
- . Physical layer: ISO 11898 (CAN 2.0 B), 250 kbit/s
- . Protocol: J1939

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 (prop. rollers and mini-joysticks)
- . 6 digital inputs (push buttons, toggles, etc.)

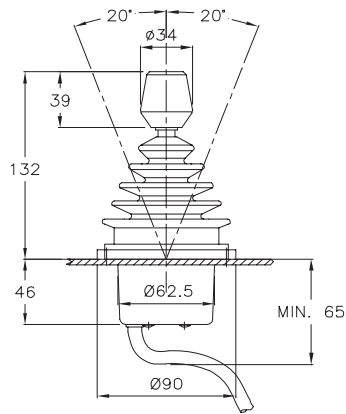


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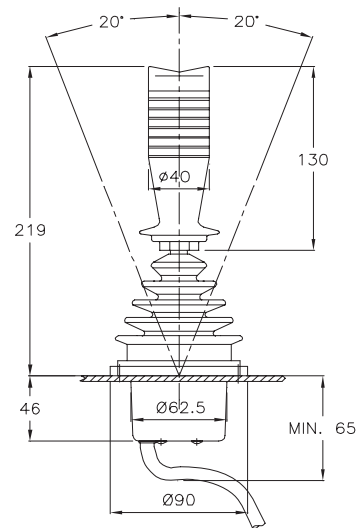
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Heavy Duty Multi-Axis Hall Effect Joystick

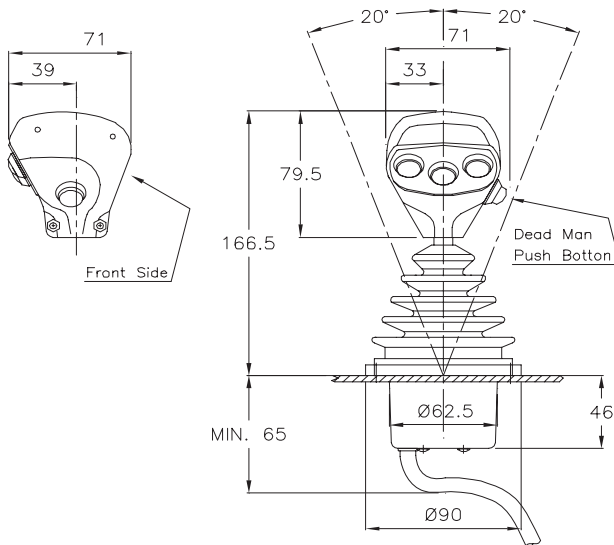
JHM joystick with grips - configuration examples with overall dimensions



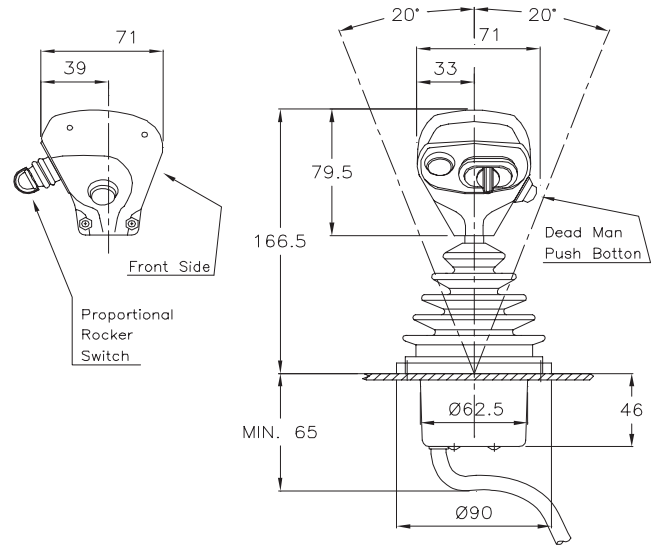
JHM base with IL handle.  
Complete code : **JHM-L4D/ANH-IL 0000**



JHM base with IC handle.  
Complete code : **JHM-L4D/ANH-IC 0200**



JHM base with IE type handle.  
Complete code : **JHM-L4D/ANH-IE A4P9 0000**

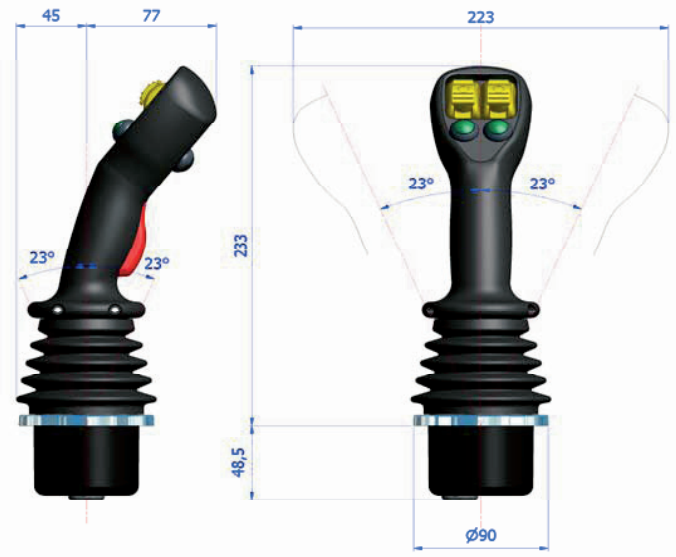


JMF base with IE type handle.  
Complete code : **JHM-L4D/ANH-IE A1P9 1PRS**

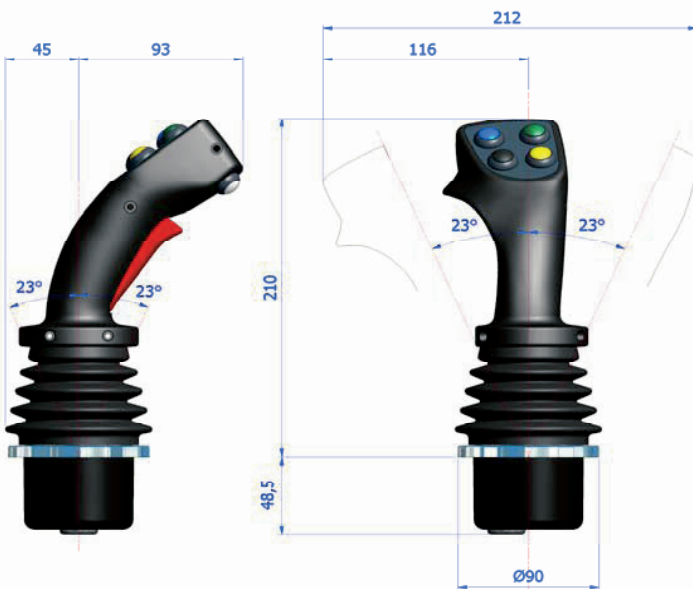
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*Heavy Duty Multi-Axis Hall Effect Joystick*
**JHM joystick with grips - configuration examples with overall dimensions**

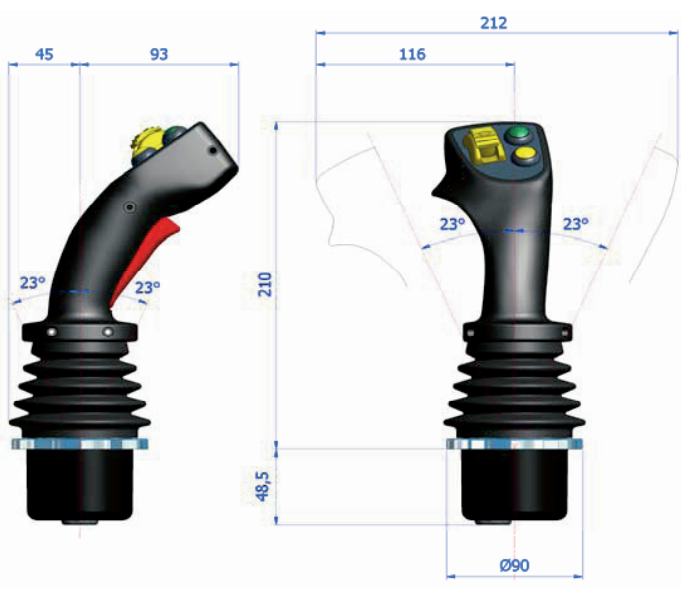

JHM base with MS type handle.  
Complete code: **JHM L4D/ANH-MS A6P9 R3P9**



JHM base with MS type handle.  
Complete code: **JHM L4D/ANH-MS A2P9 2FPR R1P9**



JHM base with MG type handle.  
Complete code: **JHM L4D/ANH-MG A4P9 R1P9**



JHM base with MG type handle.  
Complete code: **JHM L4D/ANH-MG A2P9 1FPR 0000**

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