



Data Sheet

Joystick Base JS6000



Mobile Machine Management

The JS6000 joystick base is an element of the flexible, powerful, expandable, and affordable joystick family of mobile machine management products. The JS6000 has been specially developed to meet the harsh operating requirements of today's mobile machine market. Combine the JS6000 joystick base with a standard or custom grip to configure a complete joystick solution.

Versatile Design

The JS6000 joystick base is available with either contactless Hall effect sensors or long-life potentiometer sensors to meet the specific requirements of your most demanding applications.

Reliable Performance

Hall effect sensor or potentiometer sensor options are both offered with single or dual sensors on each axis for redundancy in safety critical systems. Additional security can be added with optional mechanical neutral switches and an operator presence trigger switch.

Features

- Hall effect or long-life potentiometer position sensing
- Redundant sensors
- Single (Y axis) or dual axis
- Optional mechanical neutral switches
- Two centering spring forces
- Three friction-hold forces
- Four output options:
 - Analog
 - CAN 2.0 B, J1939 protocol
 - CANopen protocol
 - High current PWM
- Operating life:
 - Potentiometer: > 7.5 million cycles
 - Hall effect: > 15 million cycles
- Environmental sealing – grip dependent
- Multiple grip options:
 - HKN – plain knob
 - MG – with operator trigger and hand rest
 - A – configurable ergonomic
 - No grip

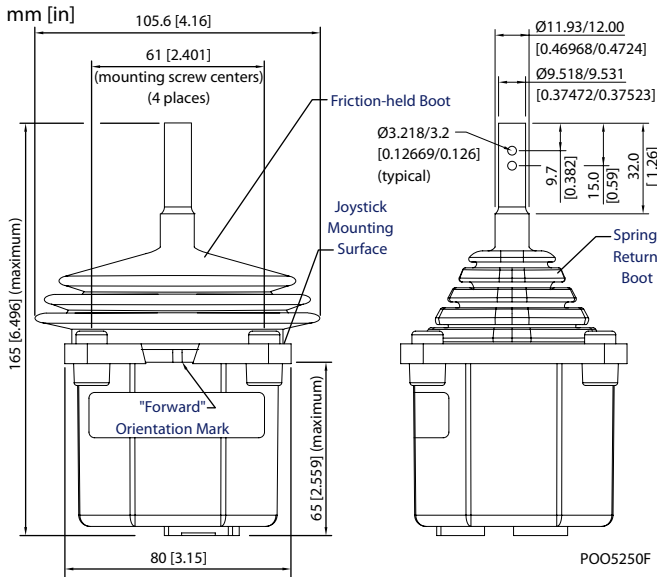
See Danfoss publication [JS6000 Joystick Grips Technical Information](#), 520L0872 for detailed information on available grip options.

See Danfoss publication [JS6000 Joystick Base Technical Information](#), 520L0760 for technical details on all JS6000 versions.

See Danfoss publication [JS6000 PWM Service Tool User Manual](#), 11060942 for technical details on the JS6000 PWM Joystick Base and complete details regarding the use of the PLUS+1 GUIDE Service Tool interface for troubleshooting and configuring the device.

Obtain free Service Tool software license and download the PID file at:
<http://powersolutions.danfoss.com/Products/MobileElectronics/PLUS1Guide/PLUS1GuideDownloads/PLUS1GUIDEServiceToolSoftwareLicense/index.htm>

Grip Dimensions and Installation Details



Specifications

Electrical Characteristics

Sensor type	Long-life potentiometer
	Hall effect
Resolution	Infinite
Supply voltage (Vs)	Potentiometer: 9 to 36 Vdc
	Hall effect: 5 ± 0.5 Vdc
Output	Analog: 0.5 to 4.5 Vdc nominal
	CAN: 2.0 B, J1939 protocol and CANopen protocol
	PWM: 2.5 Amps maximum; Digital: 3.0 Amps maximum
Hall effect sensor current consumption (base without grip)	Hall effect with analog output: 50 mA
	Hall effect with CAN output: 100 mA

Mechanical Characteristics

Lever mechanical angle	±20°
Lever operating force	Medium: 6 to 8.5 N [1.349 to 1.911 lbf]
	High: 12 to 19 N [2.698 to 4.271 lbf]
Operating life	Potentiometer: > 7.5 million cycles
	Hall effect: > 15 million cycles
Vibration	3 G random sinusoidal
Shock	20 G
Weight (base without grip)	0.75 kg [1.653 lb]

Environmental Parameters

Operating temperature	-40°C to 80°C [-40°F to 176°F]
Storage temperature	-40°C to 85°C [-40°F to 185°F]
Ingress protection rating grip dependent	Above panel: IP 65, IP 66, IP 67
	Below panel: IP 66 for CAN, CAN+, and PWM models, IP 40 for analog models
EMI/RFI rating	100 V/m

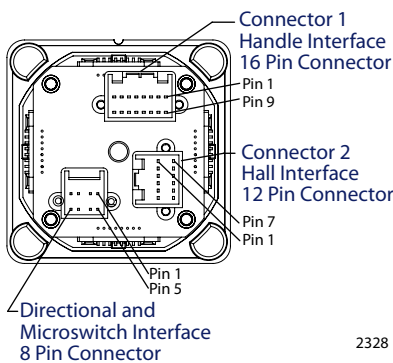
Pinout and Wiring Information

Sensor and grip dependent	Refer to comprehensive technical information *
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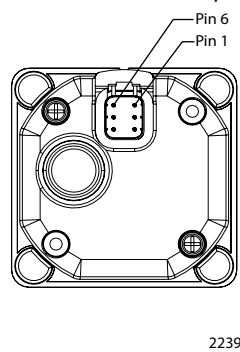
Related Product

Mating connector assemblies	Danfoss material number
16 pin AMP® connector bag assembly	10101552
12 pin AMP connector bag assembly	10101020
8 pin AMP connector bag assembly	10101022
12 and 8 pin AMP connector bag assembly	10101023
6 pin Deutsch® connector bag assembly	10101551
18 pin Deutsch connector bag assembly	11012648
16 pin connector with 400 mm [15.75 in] leads	10101556
12 pin connector with 400 mm [15.75 in] leads	10101555
8 pin connector with 400 mm [15.75 in] leads	10101554
6 pin connector with 400 mm [15.75 in] leads	10101557
18 pin connector with 400 mm [15.75 in] wire harness	11012646

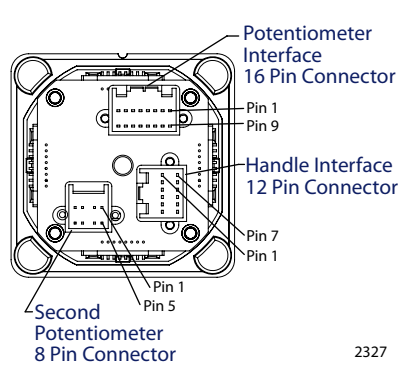
Hall Sensor Analog



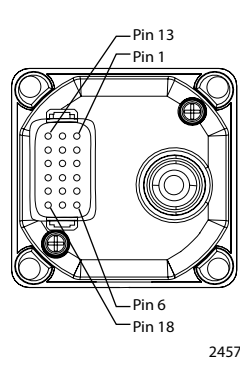
CAN J1939 and CANopen



Potentiometric Sensor Analog



CAN+ and PWM



Comprehensive technical information (including pin assignments):

[JS6000 Joystick Grips, 520L0872](#)
[JS6000 Joystick Base, 520L0760](#)

Danfoss product literature is on line at: www.danfoss.com

Danfoss Power Solutions US Company
 2800 East 13th Street
 Ames, IA 50010, USA
 Phone: +1 515 239 6000

Danfoss Power Solutions GmbH & Co. OHG
 Krokamp 35
 D-24539 Neumünster, Germany
 Phone: +49 4321 871 0

Danfoss Power Solutions ApS
 Nordborgvej 81
 DK-6430 Nordborg, Denmark
 Phone: +45 7488 2222

Danfoss Power Solutions (Shanghai) Co. Ltd.
 Building #22, No. 1000 Jin Hai Rd
 Jin Qiao, Pudong New District
 Shanghai, China 201206
 Phone: +86 21 3418 5200

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