



## JS7000 Joystick

### Mobile Machine Management

The JS7000 joystick is an element of the family of mobile machine management products. The JS7000 is designed for heavy-duty operation and is highly qualified for the extreme and harsh environment conditions of the off-road mobile machine markets.

### User Interface

The JS7000 has a patent pending left hand and right hand ergonomic grip design, which is specifically designed to create an easy, efficient, and enjoyable human-machine interaction. Along with superior comfort, easy access of push-button and trigger switches, and proportional grip function manipulation, productivity is maximized, one of the benefits that is quickly realized.

### Reliable Performance

Dual Hall effect sensing technology ensures reliable long life performance for the most safety critical applications.

### Serviceability

The JS7000 was designed around the consideration of serviceability to greatly reduce downtime. The grip functions and the boot are all serviceable.



*JS7000 Joystick (Left and Right Handle)*

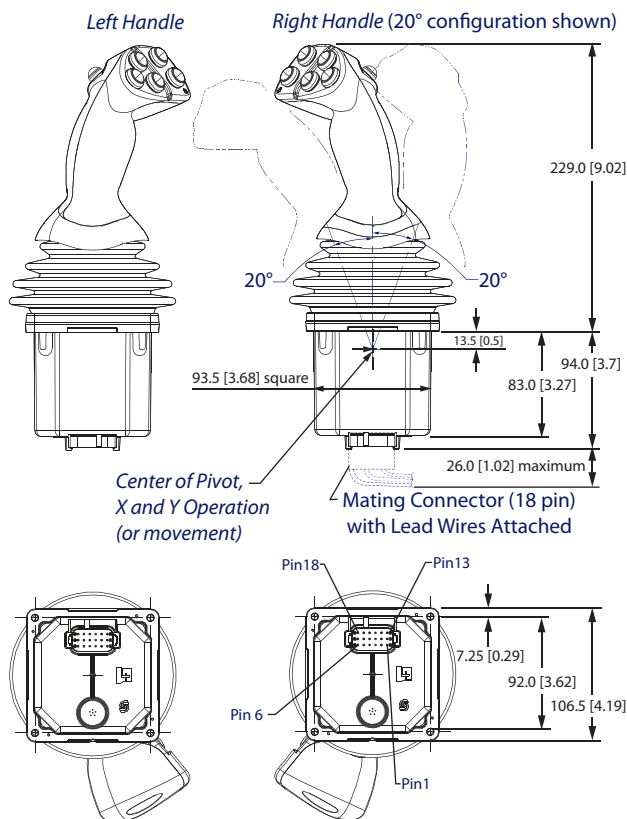
### Features

- Redundant Hall effect sensors
- Dual axis
- Two centering spring forces
- Operating life on each axis is greater than 15 million end of travel cycles
- On axis shaft, deflection options:  $\pm 20^\circ$ , or  $\pm 25^\circ$
- Environmental IP (Ingress Protection) rating of 67 above and below the mounting with push-button and trigger configuration
- Integral 18 pin Deutsch® connector (DRC23-18SA)
- Vertical grip, left hand and right hand functions:
  - Up to 7 momentary push-buttons plus trigger switch
  - Up to 3 proportional switches, 1 momentary push-button switch, and 1 trigger switch.
  - Analog can have 4, and the CAN with analog can have 3 proportional roller switches plus trigger switch
- Unique ergonomic grip design features:
  - Ensures maximum productivity in all operating conditions
  - Quicker adaptability, especially for new and complex machines
  - Easy-to-use finger tip controls
  - Helps to minimize machine operator fatigue during long periods of use
- Designed, tested, and qualified for extreme mechanical stress conditions
- Serviceable for reduced down time

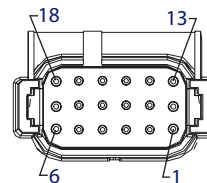
For more information see Sauer-Danfoss publication:  
*JS7000 Joystick Technical Information, L1125277.*

## Dimensions and Pin Connections

mm [in]



## 18 pin Deutsch® connector (DRC23-18SA)



P200 065

### CAN with Analog Pinout

Pin number	Signal name
1	Battery Ground
2	Battery Power
3	CAN Hi
4	CAN Lo
5	CAN Shield
6	Not Connected
7	Reference Ground
8	Reference +5V
9	Not Connected
10	Not Connected
11	Not Connected
12	Not Connected
13	Not Connected
14	Not Connected
15	Y Axis 1
16	X Axis 1
17	Y Axis 2
18	X Axis 2

### Analog Pinout

Pin number	Signal name
1	Battery Ground
2	+5V
3	Proportional1 (Grip)
4	Proportional2 (Grip)
5	Proportional3 (Grip)
6	Proportional4 (Grip)
7	Digital1 (Grip)
8	Digital2 (Grip)
9	Digital3 (Grip)
10	Digital4 (Grip)
11	Digital5 (Grip)
12	Digital6 (Grip)
13	Digital7 (Grip)
14	Digital8 (Grip)
15	Y Axis 1
16	X Axis 1
17	Y Axis 2
18	X Axis 2

## Specifications

Electrical characteristics	
Sensor type	Hall Effect with redundant sensors
Resolution	Infinite
Supply voltage (Vs)	Analog: 5 ± 0.5 Vdc CAN with redundant analog outputs: 9 to 60 Vdc
Output	Analog: 0.5 to 4.5 Vdc CAN: 2.0 B, J1939 and CANopen protocols
Maximum current consumption (base without grip)	Analog output: 45 mA CAN output: 120 mA at 9 V
Mechanical characteristics	
Lever mechanical angle	± 20° ± 25°
Lever operating torque	Medium: 0.8 Nm
Operating life (on each axis)	> 15 million cycles
Vibration (random)	7.7 Grms
Shock	50 G
Weight (base without grip)	725 G (1.8 lb)
Horizontal load maximum (125 mm from the pivot)	1335 N (300 lbs)
Vertical load maximum	6000 N (1350 lbs)

Environmental parameters	
Operating temperature	-40° C to 85° C (-40° F to 185° F)
Storage temperature	-55° C to 85° C (-67° F to 185° F)
Ingress protection (IP) rating	
Push-button and trigger configuration	IP 67 above and below mount
Proportional roller	IP 43 in cab use only
Proportional slider	IP 66 above and below mount
Slider switch	IP 66 above and below mount
Rocker switch	IP 68 above and below mount
EMI/RFI rating	150 V/m
Ordering Information	
Reference JS7000 Joystick Technical Information, L1125277	
Related product	Sauer-Danfoss part number
Mating connector bag assembly	11012648
Mating connector with 400 mm (15.75 in) wire harness	11012646

Sauer-Danfoss product literature is on line at:  
[www.sauer-danfoss.com](http://www.sauer-danfoss.com)