



Data sheet

## JS120 Single Axis Fingertip Joystick

### Mobile Machine Management

The JS120 single axis fingertip joystick is an element of the flexible, powerful, expandable, and affordable joystick family of mobile machine management products. The JS120 has been specially designed to provide proportional control in a slim low profile joystick that meets the harsh operating requirements of today's mobile machine market.

### Ergonomic and Precise Operation

Developed for applications where ergonomics and precise proportional control are required, the JS120's slim low profile design provides smooth fingertip control with low operating forces that minimize repetitive stresses and operator fatigue.

### Compact Design

The compact design of the JS120 is ideal for improving operator panel layouts, and installs easily into chest packs and seating arm rests.

### Multi-function

The long life conductive plastic potentiometer technology used in the JS120 to provide the ratiometric sensor output, also incorporates direction switch outputs for independent forward and reverse signals.



JS120 Long and Short Levers

### Features and Options

- Long life potentiometric sensing
- Single axis
- Spring center return and end return options
- Slim profile with low operating forces
- Easy installation
- Operating life > 5 million cycles
- Output options:
  - 10 to 90 % Vs
  - 25 to 75 % Vs
- IP 66 environmental sealing above panel
- Independent direction switch signals

Local Address:

## JS120 Dimensions and Installation Details

mm [in]

30° 30°  
+Y Forward -Y Backward

**Long Lever**

63.75 [2.51]  
9.0 [0.354]  
15.5 max. [0.61] max.  
26.5 [1.043]  
Connector

Joystick fitted with 2 x M3 inserts  
Maximum screw penetration 6 [0.236]

Panel clearance holes 3.1 [0.122]  
33.0 [1.3]  
25.0 [0.984]  
Panel cut out  
7.0 [0.276]  
3.35 [0.132]

**Short Lever**

54.0 [2.126]  
26.5 [1.043]

**Output Voltage**

90%  
50%  
10%  
+Y -Y

**Pinout and wiring information**

Pin 1	Direction switch common
Pin 2	Direction switch +Y (N/O)
Pin 3	Direction switch -Y (N/O)
Pin 4	(-) supply (ground)
Pin 5	Output voltage
Pin 6	(+) supply (power)
Pin 7	Center tap

7 6 5 4 3 2 1

P108024

## Specifications

### Electrical Characteristics

<b>Sensor type</b>	Potentiometric
<b>Electrical angle of movement</b>	± 28 degrees
<b>Total track resistance</b>	4 kΩ or 5 kΩ (± 20%)
<b>Maximum supply voltage (Vs)</b>	35 Vdc
<b>Maximum wiper current</b>	5 mA (non-destructive)
<b>Maximum power dissipation</b>	0.25 W at 20 °C [at 68 °F]
<b>Wiper circuit impedance</b>	200 kΩ minimum
<b>Output voltage</b>	10 to 90 % Vs 25 to 75 % Vs
<b>Resolution</b>	Infinite
<b>Center tap voltage (no load)</b>	50 % Vs ± 2%
<b>Center tap angle</b>	± 2.5° either side of center (±1° tolerance)
<b>Insulation resistance</b>	> 50 MΩ at 500 Vdc
<b>Connector</b>	7 pin AMP® series latching male
<b>Switch operating angle</b>	± 5° of center (± 1° tolerance)
<b>Load resistance minimum</b>	10 kΩ
<b>Load current maximum</b>	2 mA resistive

### Mechanical Characteristics

Lever type	Short lever	Long lever
Breakout force (at lever tip)	3.1 N [0.70 lbf]	2.3 N [0.52 lbf]
Operating force (at tip, full deflection)	5.1 N [1.15 lbf]	3.4 N [0.76 lbf]
Maximum allowable force	50 N [11.24 lbf]	35 N [7.87 lbf]
Lever operating angle	± 30 degrees	
Lever action	Self centering or end return	
Expected life	> 5 million cycles	
Weight	0.045 kg [0.099 lb]	

### Environmental Parameters

<b>Operating temperature</b>	-25°C to 70°C [-13 °F to +158°F]
<b>Storage temperature</b>	-40°C to 85°C [-40°F to +185°F]
<b>Environmental sealing above the flange</b>	IP 66 - BS EN 60529

### Mating Connector – AMPMODU™ MTE Series

Connector	AMP ordering number
7 pin	103957-6

### Mating Connector Assembly

Type	Sauer-Danfoss ordering number
7 pin with 610 mm [24.02 in] leads	10101762

Comprehensive technical information: *JS120 Single Axis Fingertip Joystick Technical Information*, **520L0877**  
Sauer-Danfoss product literature is on line at: [www.sauer-danfoss.com](http://www.sauer-danfoss.com)