

# JC100

## SINGLE AXIS JOYSTICK

Developed for applications where ergonomics and system integrity are paramount, the JC100 is a compact, low profile joystick that provides smooth, precise fingertip control in one axis. The JC100 is sealed to IP66 to enable it to operate in extreme environments. With all the components contained within the handle, and standing only 70mm high, it is ideal for mounting in low profile panels and arm rests. Installation time has been reduced through the use of a standard electronic connector, and the joystick has been designed for maintenance-free operation throughout its operating life of greater than five million operations.

Typical applications include remote control chest packs and the control of construction, agricultural or material handling equipment.

### PERFORMANCE MECHANICAL

Breakout force	N	2.3*
Operating force	N	3.4* Full deflection
Maximum allowable force	N	50* Full deflection
Lever operating angle	°	±30
Lever action		Self centering
Expected life (operations)		>5 million
Weight	g	45

\*At top of handle

### ENVIRONMENTAL

Operating temperature	°C	-25 to +70
Storage temperature	°C	-40 to +85
Environmental protection above flange		IP66† IEC 60529 Unit supplied with foam gasket seal

†Seal integrity can only be achieved when using sealing gasket supplied and screws are tightened to 0.7Nm. The installer should also ensure the mounting screws are adequately sealed.

### ELECTRICAL

#### Analogue Track

Resolution		Virtually infinite
Track resistance (±20%)	kΩ	4 or 5
Track electrical angle	°	±28
Output voltage range	%	0-100, 10-90 or 25-75 of input (±2%)
Center tap voltage (no load)	%	48 - 52 of applied voltage
Center tap angle	°	2.5 either side of center
Supply voltage - maximum	Vdc	32
Wiper circuit impedance	MΩ	Greater than 0.1**
Power dissipation @ 25°C	W	0.25 (no load)

\*\* The long life resistive elements require a high impedance load in the wiper circuit to minimise the current flowing through the wiper for optimum conditions

#### Switch -

#### Directional or Center Off

Switch operating angle	°	5 either side of center
Supply voltage - maximum	Vdc	35
Load resistance - minimum	kΩ	10
Load current - maximum	mA	2 (resistive)
Typical contact resistance	Ω	150

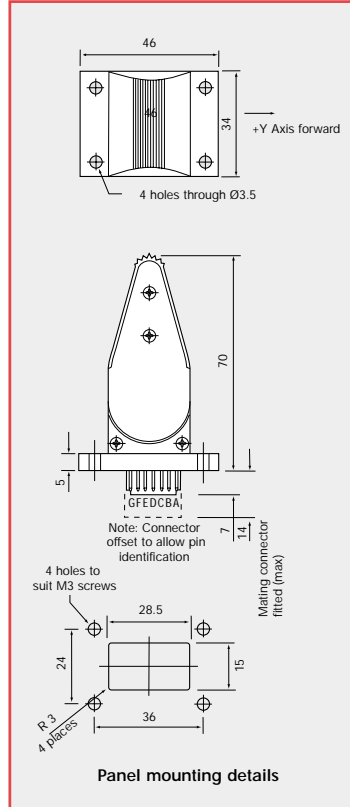
## ORDERING CODES

0-100% output voltage range, 4k	<b>JC100-006</b>
10-90% output voltage range, 5k	<b>JC100-002</b>
25-75% output voltage range, 5k	<b>JC100-007</b>
Mating connector kit	<b>SA47269</b>

## DIMENSIONS AND MOUNTING OPTIONS

### JC100

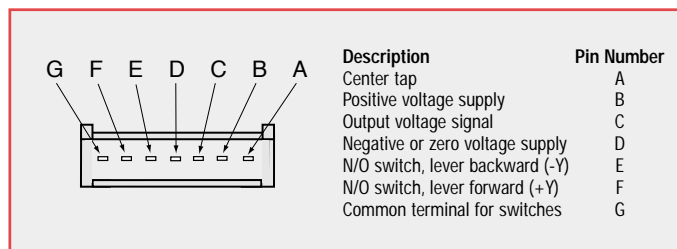
It is recommended that the JC100 joystick is fitted from the top of the mounting panel using four M3 screws (not supplied). The panel cut-out and centers for the screw positions are as shown in the panel mounting detail below.



## ELECTRICAL CONNECTIONS

Connection  
Mating connector kit (order separately)

FCI DUBOX™ 7 way male connector (76382-307)  
SA47269 (contains DUBOX™ 65240-007 female connector and 7 pins 76357-301 suitable for AWG 22-30 wire size). Requires crimping pliers (FCI No. HT234) to fit pins to wires.



# JC120

## SINGLE AXIS JOYSTICK

Developed for applications where ergonomics and system integrity are paramount, the JC120 is a minimum width, low profile joystick that provides smooth, precise fingertip control in one axis with a choice of two lever lengths. The JC120 is sealed to IP66 to enable it to operate in extreme environments. Standing only 54 or 64mm high, the JC120 is less susceptible to unintentional operation. With all of the components contained within the handle, it is ideal for mounting in low profile panels and arm rests. Installation time has been reduced through the use of a standard electronic connector, and the joystick has been designed for maintenance-free operation throughout on operating life of greater than five million operations. An optional neoprene boot is available for the short handle version, allowing operation in environments where aggressive materials are present, protecting from dust and dirt ingress.

Typical applications include remote control chest packs and the control of construction, agricultural or material handling equipment.

### PERFORMANCE MECHANICAL

		Short handle	Short handle with boot	Long handle
Breakout force	N	3.1*	3.8*	2.3*
Operating force	N	5.1*	13.2*	3.4* Full deflection
Maximum allowable force	N	50*	50*	35* Full deflection
Lever operating angle	°	±30	±30	±30 (or 0-60)
Lever action		Self centering	Self centering	Self centering or end return
Expected life (operations)		>5 million	>1million for boot (replaceable)	>5 million
Weight	g	45	47	45

\*At top of handle

### ENVIRONMENTAL

Operating temperature	°C	-25 to +70
Storage temperature	°C	-40 to +85
Environmental protection above flange		IP66† IEC 60529

†Seal integrity can only be achieved when using sealing gasket supplied and screws are tightened to 1Nm. Sealing gasket not required when neoprene boot is fitted to short handle version.

### ELECTRICAL

#### Analogue Track

Resolution		Virtually infinite
Track resistance (±20%)	kΩ	4 or 5
Track electrical angle	°	±28
Output voltage range	%	0-100, 10-90 or 25-75 of input (±2%)
Center tap voltage (no load)	%	48 - 52 of applied voltage
Center tap angle	°	2.5 either side of center
Supply voltage - maximum	Vdc	32
Wiper circuit impedance	MΩ	Greater than 0.1**
Power dissipation @ 20°C	W	0.25 (no load)

\*\* The long life resistive elements require a high impedance load in the wiper circuit to minimise the current flowing through the wiper for optimum conditions

#### Switch - Directional or Center Off

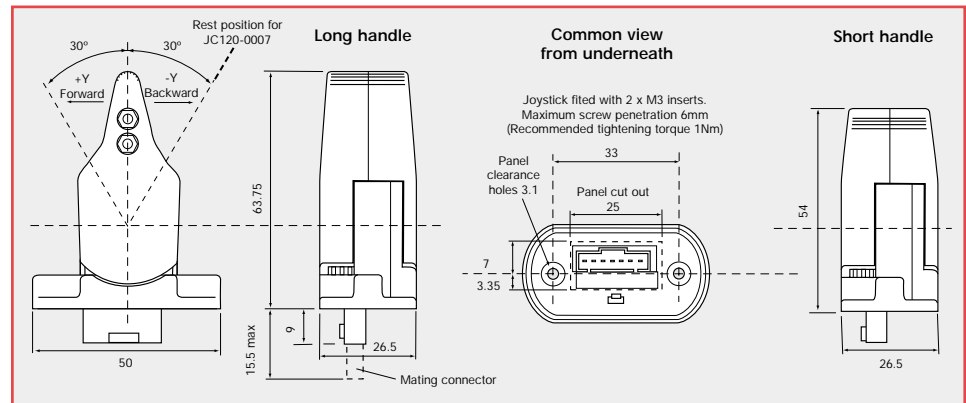
Switch operating angle	°	5 either side of center
Supply voltage - maximum	Vdc	35
Load resistance - minimum	kΩ	10
Load current - maximum	mA	2 (resistive)
Typical contact resistance	Ω	150

## ORDERING CODES

<b>Short handle</b>	0-100% output voltage range, 4k with boot fitted	<b>JC120-0001</b>
	10-90% output voltage range, 5k with boot fitted	<b>JC120-0002</b>
	25-75% output voltage range, 5k with boot fitted	<b>JC120-0003</b>
		<b>JC120-0013</b>
<b>Long handle</b>	0-100% output voltage range, 4k	<b>JC120-0004</b>
	10-90% output voltage range, 5k	<b>JC120-0005</b>
	25-75% output voltage range, 5k	<b>JC120-0006</b>
<b>Long handle</b>	0-100% output voltage range, 4k With lever return to backward position Ask for full specification details	<b>JC120-0007</b>
<b>Mating connector</b>	With 0.5m flyleads	<b>SA301649</b>
<b>Neoprene boot</b>	For short handle version only	<b>P304856</b>

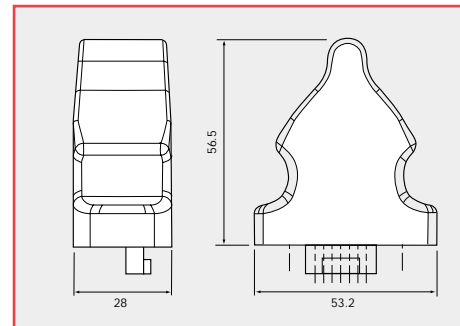
## DIMENSIONS AND MOUNTING OPTIONS

### JC120



### JC120 short handle - neoprene boot option

Recommended JC120 pitch spacing is 39mm minimum when neoprene boot is fitted



## ELECTRICAL CONNECTIONS

Connection

Mating connector kit (order separately)

7 pin Molex series latching male (70553-0006)

SA301649 (7 pin Molex series latching female with 0.5m flyleads fitted)

	Description	Pin Number	Mating Connector/Flylead colour
A	Center tap	A	Orange
B	Positive voltage supply	B	Yellow
C	Output voltage signal	C	Green
D	Negative or zero voltage supply	D	Blue
E	N/O switch, lever backward (-Y)	E	Red
F	N/O switch, lever forward (+Y)	F	White
G	Common terminal for switches	G	Black

Pin A and E are not connected on JC 120-0007