

Conductive Plastic Technology

JOYSTICK CONTROLLERS

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. The low profile lever makes the JC120 less susceptible to unintentional operation and the minimal under panel space makes it ideal for mounting in panels and operator arm rests. The JC120 is sealed to IP66 to enable it to operate in extreme environments.

- Slim profile
- Simple to install
- Long operating life
- Superior reliability
- Rapid despatch

Innovative design

Designed for use with electronic controllers the joystick generates analogue and switched reference signals proportional to the distance and direction over which the handle is moved. The output is configured to provide signals for fault detection circuits and a centre tap provides an accurate voltage reference for the lever in its released position, or a zero point for a bipolar supply voltage. An electrically independent switch operates with separate contacts each side of the lever centre position.

Typical applications include remote control chest packs and the control of off-highway or material handling equipment.

Total reliability

The JC120 joystick incorporates conductive plastic track technology which provides absolute position control and facilitates a maintenance free operating life in excess of five million cycles.

Features	Benefits
<ul style="list-style-type: none"> • Width only 26.5mm • Ergonomic design 	<ul style="list-style-type: none"> • Increased control density • Reduced operator fatigue
<ul style="list-style-type: none"> • Choice of low profile lever heights <ul style="list-style-type: none"> • Long life • Sealed to IP66 	<ul style="list-style-type: none"> • Unintentional operation reduced • Maintenance free operation • Operation in hostile environments
<ul style="list-style-type: none"> • Choice of output voltage ranges 	<ul style="list-style-type: none"> • Maximum interface flexibility



NO MAINTENANCE

JOYSTICK CONTROLLERS

SINGLE-AXIS

Selection Guide

Penny+Giles offers the widest choice of options to suit your application.



Rapid Despatch



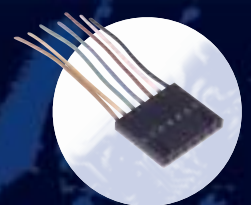
JC 120 - Short lever

The JC 120 supplied with the short lever presents the lowest profile, ensuring less susceptibility to unintentional operation.



JC 120 - Long lever

The JC 120 supplied with the long lever provides increased fingertip control, but still ensures a lower lever profile than the JC 100 model.



JC 120 - Connector

The JC 120 is supplied with a 7 pin latching connector for easy installation. The mating connector assembly is ordered separately.



EMC Directive 89/336/EEC

The products detailed in this document are supplied as components for installation into an electrical apparatus or system. They are outside the scope of the EEC directive and will not be CE marked.

PERFORMANCE

MECHANICAL

Breakout force (at handle tip)
 Operating force (at tip, full deflection)
 Maximum allowable force
 Lever operating angle
 Lever action
 Expected life (operations)
 Weight

Short handle

3.1N
 5.1N
 50N
 $\pm 30^\circ$
 self centring
 >5 million
 45g

Long handle

2.3N
 3.4N
 35N
 $\pm 30^\circ$
 self centring
 >5 million
 45g

ENVIRONMENTAL

Operating temperature
 Storage temperature
 Environmental sealing
 above the flange

-25° to +70°C
 -40° to +85°C

IP66 - BS EN 60529†

ELECTRICAL

Analogue track

Electrical angle of movement
 Total track resistance
 Supply voltage - maximum (Vs)
 Wiper current - maximum
 Power dissipation - maximum
 Wiper circuit impedance
 Output voltage
 Resolution
 Centre tap voltage (no load)
 Centre tap angle
 Insulation resistance

$\pm 28^\circ$
 4k Ω or 5k Ω ($\pm 20\%$)
 35Vd.c.
 5mA (non derangement)
 0.25W at 20°C
 200k Ω minimum
 0% to 100%Vs 10% to 90%Vs 25% to 75%Vs
 Virtually infinite
 50%Vs $\pm 2\%$
 $\pm 2.5^\circ$ either side of centre ($\pm 1^\circ$ tolerance)
 >50M Ω at 500Vd.c.

Switch

Switch operating angle
 Supply voltage - maximum
 Load resistance - minimum
 Load current - maximum (resistive)
 Typical contact resistance
 Connection
 Mating Connector

5° either side of centre ($\pm 1^\circ$ tolerance)
 35Vdc
 10k Ω
 2mA
 150 Ω
 7 pin Molex series latching male
 7 pin Molex series latching female, with 0.5m leads (order separately as SA301649)

CUSTOM BUILD OPTIONS

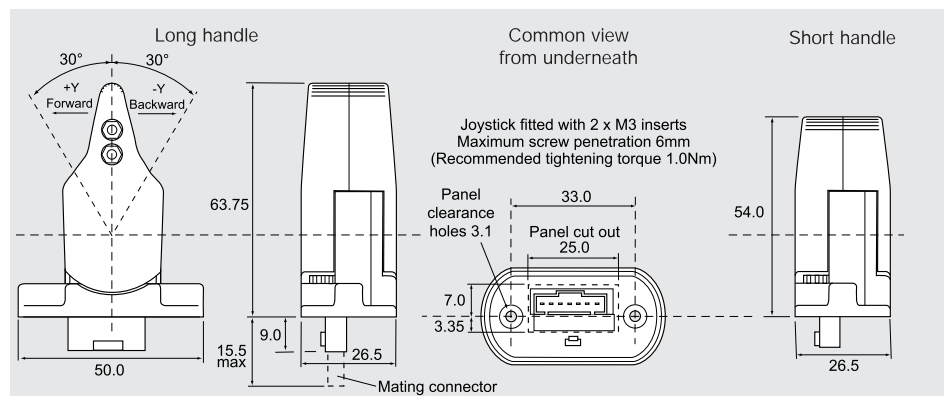
Lever return to one end.

ORDERING CODES

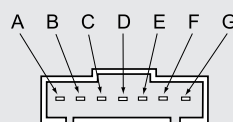
<i>Short handle</i>	0% to 100% output voltage range	JC120-0001 (4k)
	10% to 90% output voltage range	JC120-0002 (5k)
	25% to 75% output voltage range	JC120-0003 (5k)
<i>Long handle</i>	0% to 100% output voltage range	JC120-0004 (4k)
	10% to 90% output voltage range	JC120-0005 (5k)
	25% to 75% output voltage range	JC120-0006 (5k)
<i>Connector</i>	7 way mating connector with 0.5m flyleads	SA301649 (order separately)

DIMENSIONS AND MOUNTING OPTIONS

† Seal integrity can only be achieved when using sealing gasket supplied and screws are tightened to 1Nm (9lbf/in)



ELECTRICAL CONNECTIONS



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