

- **Contactless – Hall-effect technology**
- **Single axis control with spring to center or friction hold lever action**
- **Choice of grips including Center and End Locking**
- **5Vdc or 9-30Vdc supply**
- **Dual channel output with optional ramp directions**
- **Analogue (Vdc) or Digital (PWM) outputs**
- **Extremely low signal noise – less than 1mV rms**
- **Operating temperature -40 to +85°C**
- **Environmental protection up to IP69K above the panel – dependent on grip selected**
- **Electronics sealed to IP69K**
- **53mm under-panel depth**



The JC1500 joystick utilizes contactless rotary position sensor technology combined with a rugged, low profile design.

The joystick provides reliable and accurate output signals - and includes a second output to enable error checking of the system integrity. The JC1500 is intended for use in the off-highway specialist vehicles market - particularly where reliability and strength are paramount e.g. Aerial Work Platforms.

The JC1500 joystick complements the existing range of JC150 potentiometer track joysticks and has the same panel mounting details – allowing replacement or upgrade with no panel modifications. If a JC1500 is used to replace a JC150 joystick then due consideration needs to be taken of the supply voltage

This JC1500 joystick is designed to share the same range of handles and grips as used in the JC150 and JC6000 models.

SPECIFICATIONS

SUPPLY

SUPPLY VOLTAGE	5Vdc \pm 0.5Vdc or 9-30Vdc
SUPPLY CURRENT	< 25mA (12.5mA per channel)
OVER VOLTAGE	up to 40Vdc (-40° to +60°C)
REVERSE POLARITY PROTECTED	Yes
POWER-ON TIME	< 1s
CONNECTIONS	220 mm long 4 core (24 AWG) Flying lead

ANALOGUE OUTPUT

OUTPUT VOLTAGE (5V)	10–90% \pm 1% of Vsupply
OUTPUT VOLTAGE (9-30V)	0.5–4.5V \pm 3%
OUTPUT NOISE	<1mV rms
INPUT/OUTPUT DELAY	2.5ms

DIGITAL (PWM) OUTPUT

PWM FREQUENCY	244Hz \pm 20% over temperature range
PWM LEVEL (5V)	0-Vsupply \pm 1%
PWM LEVEL (9-30V)	0-5V nominal \pm 3%
PWM DUTY CYCLE	10-90% over measurement range
PWM RISE/FALL TIME	<20 μ s typical

GENERAL OUTPUT DATA

RESOLUTION	12 Bit (0.025% of measurement range)
NON-LINEARITY	< \pm 0.4%
LOAD RESISTANCE	10k Ω min. to GND
SHORT CIRCUIT PROTECTION	Output to GND and output to supply in 5V mode

MECHANICAL

ANGLE	\pm 30° forward/reverse	
WEIGHT	530g without handle fitted	
LEVER OPERATING FORCE (spring return to center)	Breakout Operating Maximum allowable (Spring return and friction)	0.75Nm or 1.50Nm 1.25Nm or 1.85Nm (full deflection) 110Nm on axis of movement 70Nm across axis of movement 1,000N vertical load
LEVER OPERATING FORCE (Friction)	Breakout and Operating	1.50 Nm

ENVIRONMENTAL

OPERATING TEMPERATURE	-40°C to 85°C
STORAGE TEMPERATURE	-50°C to 85°C
VIBRATION	Level \pm 3g, 10Hz to 200Hz (random) @ 3.6g(rms)
LIFE	10 million operations (1 million for Friction and center and end locks versions)
SHOCK	20g, 6mS, half sine profile
EMC IMMUNITY LEVEL	100V/m, 30MHz to 1GHz, 1KHz 80% sine wave modulation, EN50082-2
EMC EMISSIONS LEVEL	Complies with EN50081-2 (1993), 150kHz to 30MHz, level B
PROTECTION	DIN 40050-9 IP69K (fitted with HKN handle) DIN 40050-9 IP69K (electronics) Mechanics not sealed below the panel