



DICKEY-john[®]
CORPORATION

The ControlKING is a modular joystick controller where 1 to 4 joystick controllers can be assembled as a group on a common mounting plate. Four modulation frequencies are selectable via circuit board mounted dip switches. Three "active" modulation ranges (to accommodate valves with differing PWM offset and saturation values) are selectable via circuit board mounted dip switches. A BangBang mode is also selectable. Two modules are available:

1. Two axis (x and y) dual drive. Each axis drives two solenoid valves.
2. Single axis (y) single drive with safety switch. Drives two solenoids only when top momentary switch is depressed.

Each joystick module is comprised of a section of extruded channel and is open to the rear/bottom and sides.

CONTROLKING[®] JOYSTICKS

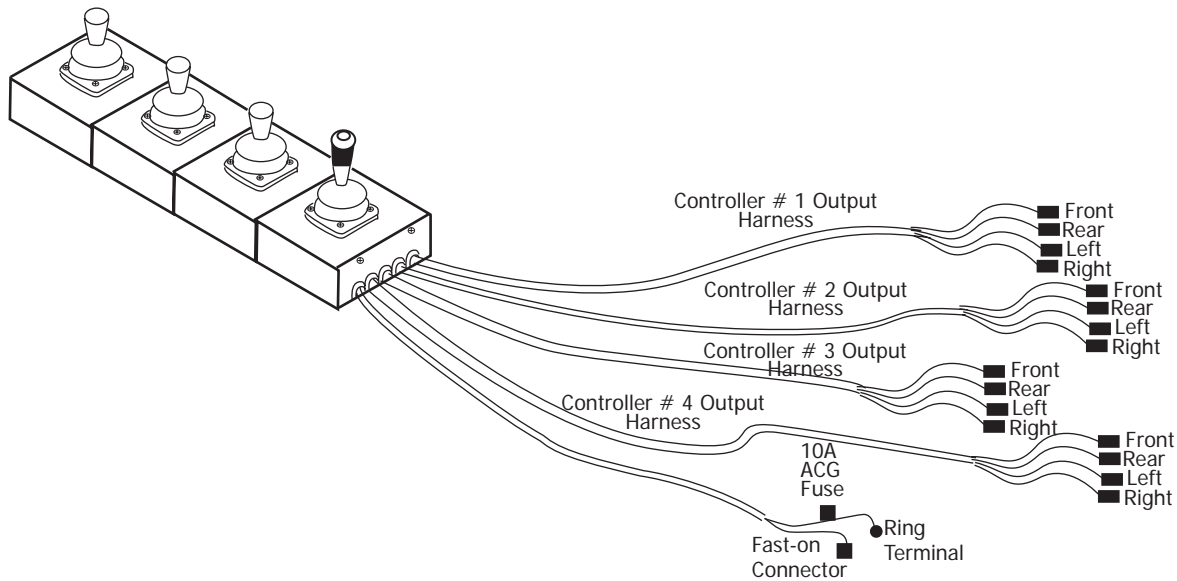


Features and Options:

- Total feathering capabilities for adjustable hydraulic speed control.
- Self-contained for easy installation – joystick and electronics are in one unit.
- Controls proportional or "bang-bang" valves.
- Customizable – install multiple joysticks for multiple uses.
- Automatic float control (dual axis).
- Gated for single motion action.
- Electromagnetic interference (EMI) and electrostatic discharge (ESD) protected.

Mounting:

The individual joystick modules are "snapped" onto a rear cover mounting plate that is cut to length to accommodate the number of joystick controllers (up to 4). This plate is mounted to the vehicle. End plates are installed on the extreme ends with a threaded rod, tying all of the controllers together and attaching the end plates. The end plates overlap the rear mounting plate, keeping the controllers from sliding side to side. One end plate has a grommet for the harnessing to exit.



Harnessing

One external power cable assembly is shipped with the package. It is connected (via an AMP Mate-N-Lock 2-pin connector) to the right most unit's power pigtail. That unit has a power pigtail that connects to the power pigtail of the next unit in line.

Environment

The unit is spec'd to survive in the typical truck cab environment. Operating temperature is -40°C to $+70^{\circ}\text{C}$. Storage includes the temperature range of -40°C to $+85^{\circ}\text{C}$. Operating voltage range is 9VDC to 16VDC.

Physical Specifications

Module Dimensions

4" W x 1 3/4" H x 4 1/2" D (approximate)

Cables

1. Power Cable 10' Ring Terminals
2. Controller Cable 15' Four 2-pin Package Weather Pack Connectors

Fuse

There is a 10 AMP fuse integrated into the Power Cable Assembly, located at the Quick Connect Flag/Ring Terminal end of the harness.

Pin Out and Wiring Information

Module Pin	Wire Color	Connector	User Pin	Function
1	Red	1	A	Forward
2	Black	1	B	GND
3	White	2	A	Rear
4	Brown	2	B	GND
5	Gray	3	A	Left
6	Green	3	B	GND
7	Orange	4	A	Right
8	Blue	4	B	GND

Electrical Specifications

Input Supply – Operating Voltage

9 VDC Minimum (Proper valve operation may require higher voltages)
 13 VDC Nominal
 16 VDC Maximum

Input Supply - Operating Current

.1 amp max per Module with outputs off
 Add valve current when operating. Max specified valve drive current = 2 amp which gives 2.1 amp max per Module during operation.

Output Drivers – Output Voltage

$V_{\text{supply}} - .7$ volts Minimum @ 2 amp Drive current
 V_{supply} volts Maximum

Output Drivers – Output Current

2 amps max continuous operating current per Driver Line
 Max intermittent short circuit surge current = 140 amps

Output Drivers – Inductive Load Clamp Diode

A 3 amp continuous 100 amp surge clamp diode clamps the inductive load switching voltage to one diode drop below ground.

Environmental Specifications

The Joystick Controller Modules will conform to the DICKEY-john Environmental Standard 0884-020-0002 Issue 15 unless otherwise specified.

Low/High Voltage

9.0 – 16.0 VDC

Reverse Polarity

The harness integral 10 amp fuse will blow with a -26.5 VDC for 5 minutes (reverse voltage).

Temperature – Operating

Exception: -40°C to $+70^{\circ}\text{C}$

Temperature – Storage

Level 2 - -40°C to $+85^{\circ}\text{C}$