



## DEPENDABLE CONTROLS FOR PROPORTIONAL MULTI-FUNCTION PLOW TRUCKS

The Black Tip™ series from Cirus Controls offers fully proportional capabilities and multi-function control. Delivering effective operations with multiple joystick options, the Black Tip™ Series comes in 1 or 2 joystick configurations that provide powerful performance and dependable accuracy for up to 4 devices. Utilizing Cirus Controls' Mako™ software, the Black Tip™ series additionally allows for programming the speed of each direction of motion individually without changing wiring or implementing hydraulic modifications.



Black Tip Console Mount



Black Tip Pedestal Mount

### Device Capacity

- BT 108 - up to 2 independent devices
- BT 210 - up to 4 independent devices
- Programmable safety features for interlock operation

### Proportional Signal Capacity

- BT 108 - 8 independent PWM channels
- BT 210 - 10 independent PWM channels
- Frequency Settable from 40-450 Hz

### Axis & Range of Joystick Motion

- 1 or 2 axes of joystick motion: X and Y
- 27 degrees of motion available in each axis

### Joystick Signal

- True Hall effect (magnetic) joystick with no mechanical contacts

### Joystick Self Test

- SafeStik™ automatically disables the axis if an axis fails during use
- Joystick diagnostics for each axis of motion is visible on LED
- Channel Safe™ detects and protects against open or short circuits in hydraulic drive channels

### Plow Control Interlocked Features

- Hoist lock, hoist limit, plow, wing and blade lock (requires external sensor, key or switch)

### Mode Display Type

- LED for hoist and plow diagnostics

### Spreader Combination Options

- Compatible with all Cirus Spreaders (EZ Spread™, Dual Spread™, SpreadSmart Rx™)

### Accessory Switches

- Up to 5 Sprague® switches for accessory control (on/off or momentary function)

### Warning Indicators

- Up to 2 labeled and colored indicators integrated

### Operating Temperature Range

- Minimum: -20 degrees Celsius; maximum: 70 degrees Celsius

### Power Requirements

- Minimum: 11 Volts DC
- Maximum: 15 Volts DC
- Maximum: 10 Amps
- Internal fuse rated at 10 Amps

