



## FULLY PROPORTIONAL CAPABILITIES WITH PRECISION MULTI-FUNCTION JOYSTICKS

The Multi-Stix™ series from Cirus Controls brings you precision proportional plow control amplified with function and power. Offering multiple joystick options, Multi-Stix™ helps provide meticulous operations in three configurations with fully proportional capabilities and multi-function control. Multi-Stix™ configurations additionally provide the ability to individually program the speed of each direction of motion without changing wiring or making hydraulic modifications by utilizing Cirus Controls' Mako™ software.

### MULTI-STIX™ SERIES

- Multi-Stix™ 216, 320 and 420 models
- Fully proportional, 1 or 2 axis joysticks
- Multi-function control on any joystick
- Selectable safety triggers
- Hoist, wing or blade lock and limits available
- Controls up to 6 devices
- Control up to 20 proportional channels on multiple joysticks
- Easy capability upgrade options with Mako™ electronics platform
- Configurable for snow and ice patrol, garbage and leaf collection trucks



Multi-Stix 216



Multi-Stix 320



Multi-Stix 420 Joystick Shown Mounted on an Armadillo Arm Unit with SpreadSmart Rx™ Controller





## Multi-Stix™ Proportional Plow Control System

### Product Summary

- Multiple joysticks for proportional control of hydraulic devices (e.g., hoist, plow, wing)
- Utilizes Mako Trim™, a Windows compatible program to set the speed of each direction of motion individually without wiring or hydraulic modifications

### Product Application

- Multiple vehicle types (patrol trucks for snow/ice, garbage, leaf collection)
- Control of each hydraulic function on an individual joystick

### Device & Signal Capacity

- MS 216 up to 4 devices; 16 independent PWM channels
- MS 320 up to 6 devices; 20 independent PWM channels
- MS 420 up to 8 devices; 20 independent PWM channels
- Frequency settable from 40 – 450 Hz

### Joystick Button

- IP 68 top switch for safety interlock (hoist) or second mode actuation

### 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 Diagnostics with CAN Bus

- Mako™ uses CAN Bus for a self test of the joystick during power cycle
- 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

### Combo-up (Panic) Button

- Momentary button trigger for parking of up to 6 devices

### Float Functions

- User settable float controls for plow, wing toe, wing heel and blade

### Plow Control Interlocked Features

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

### Electronic Backpack

- Mako™ multiplexed on CAN Bus and Cirrus Bus

### System Controller

- Mako Trim™ works on any Windows 2000 or newer computer
- Software included
- Field configurable buttons and function names

### System Mounting

- Seat mounted or pedestal mounted

### Warning Indicators

- Up to 8 labeled and colored indicators integrated into the joystick housing

### Optional Equipment

- Uni-Grip™ control of plow float and Moray™ system

### 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

