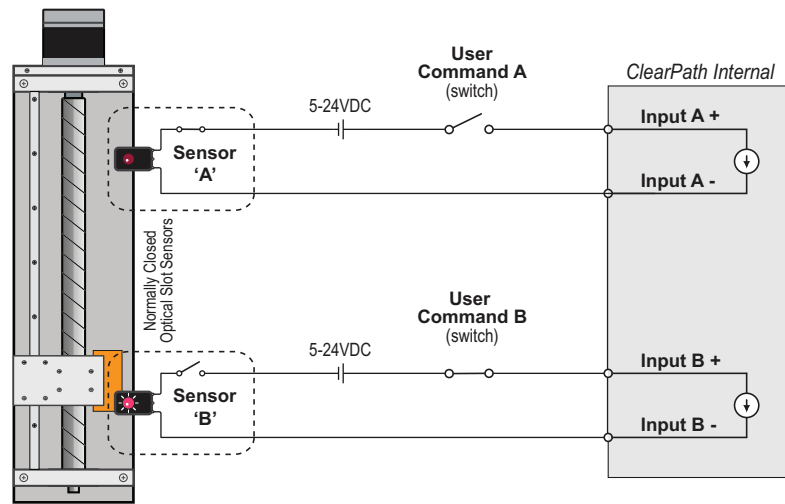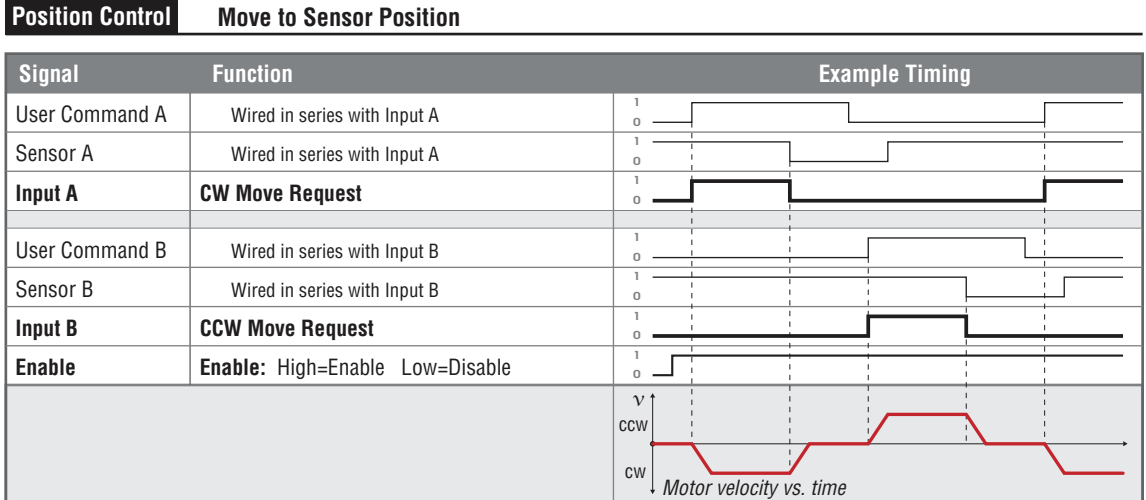## MOVE TO SENSOR POSITION

Available on
MCVC + MCPV

MODE DESCRIPTION

This mode is mainly intended to be used in two-position back and forth applications (like replacing a pneumatic cylinder). Use ClearPath digital inputs to spin the shaft CW or CCW. Wire position sensors or switches in series with ClearPath inputs to make an inexpensive two position actuator.

Place sensors at opposite ends of your motion path and wire them into the appropriate ClearPath inputs. See illustration below.

Assert the Enable Input to energize the motor. Apply User Commands to start motion. ClearPath moves CW or CCW until it interrupts a sensor. It then holds position until you issue a new User Command in the opposing direction. See table below for Input states and timing details.

Position Control	Move to Sensor Position	
Signal	**Function**	**Example Timing**
User Command A	Wired in series with Input A	
Sensor A	Wired in series with Input A	
Input A	**CW Move Request**	
User Command B	Wired in series with Input B	
Sensor B	Wired in series with Input B	
Input B	**CCW Move Request**	
Enable	**Enable:** High=Enable Low=Disable	
		Motor velocity vs. time

Move to Sensor: Inputs and Timing Diagram with example application sketch

I/O FUNCTIONS

Enable Input - Asserting this input energizes the motor shaft.

Input A - This input is used to make the motor spin in the CW (clockwise) direction.

Input B - This input is used to make the motor spin in the CCW (counterclockwise) direction.

Output (HLFB) - See HLFB section for available modes.

Notes:

- Position sensors (switches) are used to set the stopping points.
- In the typical application, the switch that detects the end of CW travel is wired in series with Input A so that the command to move is interrupted and the motor stops at the desired location. The CCW switch is similarly wired in series with Input B.
- CCW (counterclockwise) and CW (clockwise) are defined when you view the motor with the shaft pointing toward you.
- When a switch interrupts the move input, the motor will begin to decelerate, so the stopped position will be a repeatable distance beyond the switch. Make sure you leave enough room after the sensor to avoid hitting the end stops.
- ClearPath will not allow two successive moves in the same direction, so you don't have to worry about the motor moving past the switch as it decelerates (and thereby re-asserting the move input).
- Changing the state of either Input A or Input B while ClearPath is in motion effectively cancels the move in progress. ClearPath immediately ramps to a stop and holds position until a new move request[3] is received.
- Disable time = 10 mS

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[3] In this scenario, the next move request must be in the opposite direction from the previous move request. Thus, if the motor was spinning in the CW direction when the move was canceled, ClearPath will only respond to a CCW move request.

MODE CONTROLS

Enter max velocity desired for CW rotation.

Enter max velocity desired for CCW rotation.

Click to open Torque Limit Setup dialog.

CW Vel Limit (RPM)
`200.`

CCW Vel Limit (RPM)
`200.`

Torque Limit
OVR
`Setup...`

Torque Override Indicator
When lit, the main torque limit is being overridden by a secondary, user-set torque limit (e.g., when an axis is homing, the main torque limit may be overridden by the separate homing torque limit setting).

Accel (RPM/s)
`5,000`

☒ Decel = Accel

Decel (RPM/s)
`5,000`

Profile Conversion
`g-Stop™ 62 ms`
`Setup...`

Enter desired motor acceleration rate.

Check here to set motor deceleration rate to same value as acceleration rate.

Enter desired motor deceleration rate.

Adjust settings for **RAS™** (or optional **g-Stop™**) to convert standard trapezoidal move profiles into profiles that reduce noise, resonance, and vibration.

Hardware Input Status LEDs
Light = Input asserted (on)
Dark = Input de-asserted (off)

Inputs and Commands

Enable On/Off

Input A CW Request

Input B CCW Request

ServoOn Output
`Servo On`

☐ Override Inputs
☐ ◉   ☐ ◉   ☐ ◉

Check to turn on Soft Controls. Override cannot be activated when ClearPath is hardware enabled.

Soft Inputs and LEDs emulate hardware inputs. For use only when Soft Controls are active. **Caution: motor may spin when enabled.**

Displays HLFB output status.