RAMP UP/DOWN TO SELECTED VELOCITY

Available on
MCVC + MCPV

MODE DESCRIPTION

Changing the digital inputs on ClearPath (using your PLC, switches, etc.) causes ClearPath to smoothly ramp between any of four user defined velocities.

Assert the Enable Input to get started. Once enabled, ClearPath reads the state of Inputs A and B and immediately accelerates to the target velocity indicated. For example, if **Input A is high** and **Input B is low** ClearPath will ramp to "Velocity 2". Change to a different velocity by changing Inputs A and B

Velocity Control	**Ramp Up/Down to Selected Velocity (4 Velocity Programmable)**				

Signal	Function	Velocity Settings (logic levels)				Example Timing
		Velocity 1	Velocity 2	Velocity 3	Velocity 4	
Input A	Velocity Select A	LOW	HIGH	LOW	HIGH	
Input B	Velocity Select B	LOW	LOW	HIGH	HIGH	
Enable	Enable	Logic: High=Enable Low=Disable				
Trigger	NA	NA				
Tip: Setting one of the programmable velocities to zero (Velocity 3 in the example at right) provides a convenient way to stop the motor via the ClearPath inputs.						*Motor velocity vs. time*

Ramp Up/Down to Selected Velocity Mode: Inputs and Timing Diagram

I/O FUNCTIONS

Enable Input - Asserting this input energizes the motor shaft.

Input A - This input, along with Input B, selects which of the four defined velocities ClearPath will run at.

Input B - This input, along with Input A, selects which of the four defined velocities ClearPath will run at.

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

Notes:

- As soon as a new velocity command is received by ClearPath—as happens when Inputs A and/or B are changed—ClearPath immediately ramps to the new target velocity without delay.

- For a convenient way to command ClearPath to stop, set one of the velocity settings to zero. We did this with "Velocity 3" in the table above.

- Disable time = 10 mS

MODE CONTROLS

Enter target velocity for each input state here.

Click to open Torque Limit Setup dialog.

Velocity Selection Setup (RPM)

1) A off B off
`0.`

2) A on B off
`+10.`

3) A off B on
`+20.`

4) A on B on
`+30.`

Torque Limit
OVR
Setup...

Accel (RPM/s)
`1,000`

☐ Decel = Accel

Decel (RPM/s)
`20`

Profile Conversion
RAS™ 25 ms
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).

Enter maximum desired motor acceleration rate.

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

Enter maximum 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)

Displays commanded velocity (when using hard inputs).

Inputs and Commands

Enable On/Off	Input A V-sel A	Input B V-sel B	Commanded Velocity (RPM)	Servo On Output
◉	◉	◉	+20.	Servo On

☐ Override Inputs
☐ ◉   ☐ ◉   ☐ ◉   0.

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 commanded velocity (when using soft inputs).

Displays HLFB output status.