

ClearLink Motion Examples README Document

For Use with Allen-Bradley CompactLogix Controllers

Revision Date: 5/25/2021

This zip file contains example ladder logic routines designed for use with Teknic ClearLink Motion and I/O Modules as used with Allen-Bradley CompactLogix¹ controllers. All example routines were created in Rockwell Studio 5000 Logix Designer. Each example includes a PDF of the actual ladder diagram (with rung comments).

List of Example Routines Included

- SD_Position_Move.L5K (example of basic positioning moves).
- SD_Velocity_Move.L5K (example of basic velocity moves).
- SD_Homing.L5K (example of hard stop homing and sensor homing).

Components Used To Create These Routines

- Allen-Bradley CompactLogix Controller, Model # 1769-L16ER-BB1B.
- Teknic ClearLink Motion Control & IO Module.
- Teknic ClearPath-SD (Step & Direction) motor. Any ClearPath-SD model will work.
- ClearLink compatible home sensor (needed only for sensor homing example, omit for hard stop homing).
- Appropriate power supplies for above components.

How to Use These Examples:

- Create a new project by importing the L5K file of interest into Studio 5000.
- Set the controller model to match your controller.
- Point the controller Path setting to your controller.
- Set ClearLink IP address to that of your ClearLink module.
- **IMPORTANT:** For all explicit messages in the routine (MSG tags), change tag properties to point to your ClearLink's IP address. The routine will not work otherwise.

READ THESE IMPORTANT USE NOTES

- **Read the rung comments in each routine.** The rung comments contain important instructions you will need. If you do not see rung comments in your project's ladder layout, turn them on in Studio 5000. See Studio 5000 "Help" for guidance on how to turn on rung comments.
- **Configure Your ClearPath motor before use.** You must AutoTune your motor while connected to the mechanics you intend to use (see ClearPath User Manual), and set the correct HLFb mode and sub-settings (see ClearLink EtherNet/IP Object Reference). Links to documentation are provided below.
 - https://www.teknic.com/files/downloads/clearlink_ethernet-ip_object_reference.pdf
 - https://www.teknic.com/files/downloads/clearpath_user_manual.pdf (User Manual for ClearPath-MC/SD NEMA 23 and 34 models)
 - https://www.teknic.com/files/downloads/ac_clearpath-mc-sd_manual.pdf (User Manual for ClearPath-MC/SD NEMA 56, 143, 145, and IEC D100 models)

¹ Other Allen-Bradley controller models/families may be compatible with these examples. Please contact Allen-Bradley with questions regarding the features and capabilities of your specific controller.