[Instruction Set](#) > Motion Configuration Instructions

Motion Configuration Instructions

Configuration instructions include all motion instructions that are used to establish and apply servo configuration parameters to an axis. This group of instructions includes hookup diagnostic instructions and tuning instructions.

Use the motion configuration instructions to tune an axis and run diagnostics tests for the servo system. The tests include:

- A motor encoder hookup test
- An encoder hookup test
- A marker test
- A commutation test (for PM motors only)
- Determine important motor parameters

Available Instructions

Ladder Diagram and Structured Text

MAAT	MRAT	MAHD	MRHD

Function Block

Not available

Important: Tags used for the motion control attribute of instructions should only be used once. Re-use of the motion control tag in other instructions can cause unintended operation. This may result in damage to equipment or personal injury.

Configuration instructions include all motion instructions that are used to establish and apply servo configuration parameters to an axis. This group of instructions includes hookup test diagnostic instructions and tuning instructions.

Use the motion configuration instructions to tune an axis and to run diagnostic tests for the servo system. These tests include:

- A motor encoder hookup test.
- An encoder hookup test.
- A marker test
- A commutation test (for PM motors only)
- Determine important motor parameters

The motion configuration instructions are:

If you want to:	Use this instruction:
Compute a complete set of servo gains and dynamic limits based on a previously executed MRAT instruction. The MAAT instruction also updates the servo module with the new gain parameters.	MAAT
Command the servo module to run a tuning motion profile for an axis.	MRAT

Apply the results of a previously executed MRHD instruction. The MAHD instruction generates a new set of encoder and servo polarities based on the observed direction of motion during the MRHD instruction.	MAHD
Command the servo module to run one of three diagnostic tests on an axis.	MRHD

See also

[Motion Event Instructions](#)

[Motion Group Instructions](#)

[Motion Move Instructions](#)

[Motion State Instructions](#)

[Multi-Axis Coordinated Motion Instructions](#)

How are we doing?