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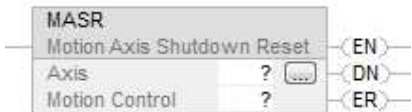
# Motion Axis Shutdown Reset (MASR)

This information applies to the CompactLogix 5370, ControlLogix 5570, Compact GuardLogix 5370, GuardLogix 5570, Compact GuardLogix 5380, CompactLogix 5380, CompactLogix 5480, ControlLogix 5580, and GuardLogix 5580 controllers. Controller differences are noted where applicable.

Use the Motion Axis Shutdown (MASR) instruction to transition an axis from an existing Shutdown state to an Axis Ready state. All faults associated with the specified axis are automatically cleared. If, as a result of this instruction, all axes of the associated motion module are no longer in the Shutdown condition, the OK relay contacts for the module close.

## Available Languages

### Ladder Diagram



## Function Block

This instruction is not available in function block.

## Structured Text

MASR(Axis,MotionControl);

## Operands

### Ladder Diagram and Structured Text

Operand	Type	Type	Format	Description
	<b>CompactLogix 5370, Compact GuardLogix 5370, Compact GuardLogix 5380, CompactLogix 5380, CompactLogix 5480</b>	<b>ControlLogix 5570, GuardLogix 5570, ControlLogix 5580, and GuardLogix 5580 controllers</b>		
Axis	AXIS_CIP_DRIVE  AXIS_VIRTUAL	AXIS_CIP_DRIVE  AXIS_GENERIC  AXIS_GENERIC_DRIVE  AXIS_SERVO  AXIS_SERVO_DRIVE  AXIS_VIRTUAL  <b>Tip:</b> AXIS_GENERIC is supported by the ControlLogix 5570 and the GuardLogix 5570 controllers only.	Tag	Name of the axis to perform operation on

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Motion Control	MOTION_INSTRUCTION	MOTION_INSTRUCTION	Tag	Structure used to access instruction status parameters.
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See *Structured Text Syntax* for more information on the syntax of expressions within structured text.

## MOTION\_INSTRUCTION Structure

Mnemonic	Description
.EN (Enable) Bit 31	It is set when the rung makes a false-to-true transition and remains set until the servo message transaction is completed and the rung goes false.
.DN (Done) Bit 29	It is set when the axes is successfully reset from Shutdown state.
.ER (Done) Bit 28	It is set to indicate that the instruction detected an error, such as if you specified an unconfigured axis.

## Description

The MASR instruction clears all axis faults and takes the specified axis out of the Shutdown state. If the motion module supports an OK contact, and no other module axis is in the Shutdown state, the MASR instruction results in closure of the module’s OK solid-state relay contact. Regardless of the OK contact condition, execution of the MASR places the axis into the Axis Ready state.

Just as the Motion Axis Shutdown (MASD) instruction forces the targeted axis into the Shutdown state, the MASR instruction takes the axis out of the Shutdown state into the Axis Ready state. One of the unique characteristics of the Shutdown state is that any associated OK solid state relay contact for the motion module is Open. If, as a result of an MASR instruction there are no axes associated with a given motion module in the Shutdown state, the OK relay contacts close as a result of the MASR. This feature can be used to close the E-Stop string that controls main power to the drive system and, thus, permit the customer to reapply power to the drive. Note that there is typically only one OK contact per motion module which means that execution of the MASR instruction may be required for all axes associated with a given module for the OK contact to close.

The MASR instruction is a procedure type command that is processed from the Logix controller, through the associated motion module, and to the associated drives.

Important:

The instruction execution may take multiple scans to execute because it requires multiple coarse updates to complete the request. The Done (.DN) bit is not set immediately, but only after the request is completed.

In this transitional instruction, the relay ladder, toggle the rung-condition-in from cleared to set each time the instruction should execute.

## Affects Math Status Flags

No

## Major/Minor Faults

None specific to this instruction. See *Common Attributes* for operand-related faults.

### Instructions

- ▷ [Motion Event Instructions](#)
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# Execution Ladder Diagram

Condition/State	Action Taken
Prescan	The .EN, .DN, and .ER are cleared to false.
Rung-condition-in is false	The .EN bit is cleared to false if the .DN or .ER bit is true.
Rung-condition-in is true	The .EN bit is set to true and the instruction executes. If the .EN bit is set to false, no action is taken.
Postscan	N/A

## Structured Text

Condition/State	Action Taken
Prescan	See Prescan in the Ladder Diagram table
Normal execution	See Rung-condition-in is false, followed by rung is true in the Ladder Diagram table.
Postscan	See Postscan in Ladder Diagram table.

## Error Codes

See *Motion Error Codes (.ERR)* for Motion Instructions.

## Extended Error Codes

Extended Error Codes provide additional instruction specific information for the Error Codes that are generic to many instructions. See *Motion Error Codes (.ERR)* for Motion Instructions.

## Status Bits

Bit Name	State	Meaning
ShutdownStatus	FALSE	The axis is not in the shutdown state.

## Examples

When the input conditions are true, the controller resets axis1 from a previous shutdown operating state into an axis ready operating state.

## Ladder Diagram



## Structured Text

MASR(myAxis, myMotionControl);

## See also

[Motion State Instructions](#)

[Motion State Instructions](#)

[Common Attributes](#)

[Structured Text Syntax](#)

[Motion Error Codes \(.ERR\)](#)

[MASR Flow Chart](#)

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