

WAGO_75067X v1.2
 WAGO

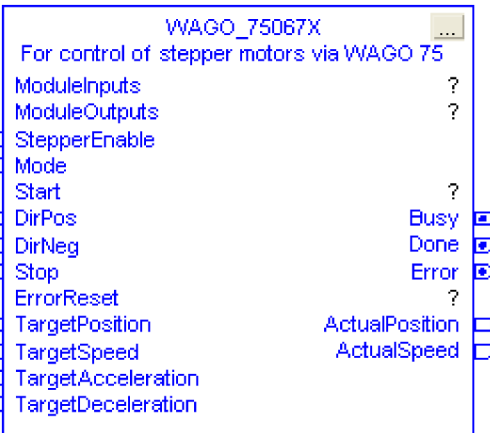
For control of stepper motors via WAGO 750-670 or 750-671 Stepper Modules

Available Languages

Relay Ladder



Function Block



Structured Text

WAGO_75067X(ModuleInputs, ModuleOutputs, StepperEnable, Mode, Start, DirPos, DirNeg, Stop, ErrorReset, TargetPosition, TargetSpeed, TargetAcceleration, TargetDeceleration);

Parameters

Required	Name	Data Type	Usage	Description
X	WAGO_75067X	WAGO_75067X	InOut	For control of stepper motors via WAGO 750-670 or 750-671 Stepper Modules
	EnableIn	BOOL	Input	
	EnableOut	BOOL	Output	
X	ModuleInputs	SINT	InOut	Input process image of WAGO 750-670 or 750-671 module.
X	ModuleOutputs	SINT	InOut	Output process image of WAGO 750-670 or 750-671 module.
X	StepperEnable	BOOL	Input	Set TRUE to enable stepper motor functions
X	Mode	INT	Input	1:MoveAbs 2:MoveRel 3:Reference 4:Jog 5:SetPosition
X	Start	BOOL	InOut	Set TRUE to initiate Reference, Move Absolute, Move Relative, and Set Position operations.
X	DirPos	BOOL	Input	Selects positive direction of travel for reference and jog operations.
X	DirNeg	BOOL	Input	Selects negative direction of travel for reference and jog operations.
X	Stop	BOOL	Input	Stops all motion when set TRUE.
	Busy	BOOL	Output	Indicates that an operation is in process.
	Done	BOOL	Output	Indicates that an operation has been completed.
	Error	BOOL	Output	WAGO 750-670 or 750-671 stepper module has faulted.
X	ErrorReset	BOOL	InOut	Set TRUE to clear 750-670 or 750-671 module error. StepperEnable input must be set.
X	TargetPosition	DINT	Input	Position entry for Move Absolute, Move Relative, and Set Position operations.
X	TargetSpeed	INT	Input	Speed entry for Move Absolute, Move Relative, and Jog operations.
X	TargetAcceleration	INT	Input	Acceleration entry for Move Absolute, Move Relative, and Jog operations.
X	TargetDeceleration	INT	Input	Deceleration entry for Move Absolute, Move Relative, and Jog operations.
	ActualPosition	DINT	Output	Current stepper motor position.
	ActualSpeed	INT	Output	Current stepper motor velocity.

Extended Description

The WAGO_67X instruction allows stepper motor and drive control via WAGO 750-670 and 750-671 Stepper Controller Modules. Five operating modes are supported: absolute positioning, relative positioning, homing, jogging, and setting of actual position.

The 'ModuleInputs' and 'ModuleOutputs' arrays must be mapped to the 12-byte (SINT) input and output process images of the respective WAGO 750-67X Stepper Controller Modules.

Use the Copy (COP) instruction to copy the 750-67X module's 12-byte (SINT) input process image (see 'Controller Tags') to a SINT[12] array for passing data to the 'ModuleInputs' InOut array. Perform this operation before calling the 750_67X Add-On Instruction.

Use the Copy (COP) instruction to copy the 750-67X module's 12-byte (SINT) output process image (see 'Controller Tags') from a SINT[12] array for passing data from the 'ModuleOutputs' InOut array. Perform this operation after calling the 750_67X Add-On Instruction.

The operating mode is selected via the 'Mode' input, and is defined as follows:

- 0 : NoOp
- 1 : MoveAbs
- 2 : MoveRel
- 3 : Home
- 4 : Jog
- 5 : SetPos

The input parameters TargetPosition, TargetSpeed, TargetAccel, and TargetDecel determine the performance of the stepper motor. The permissible ranges for these parameters are as follows:

- TargetPosition : -8388607 to +8388607
- TargetSpeed : 1 to 25000
- TargetAccel : 1 to 32767
- TargetDecel : 1 to 32767

Two other configuration variables, Freq_Div and Acc_Fact, act as scaling factors for the TargetSpeed and TargetAccel/Decel parameters respectively. Changing these variables can expand stepper motor performance when using the WAGO_75067X instruction. These variables are not settable via this instruction, but can be changed by one of two methods: Using WAGO-I/O-Check start-up and diagnostic software (p/n 759-302), or using the ConfigValueReadWrite_Internal instruction provided with the WAGO_75067X instruction. Below is some basic information about these configuration variables. Consult the WAGO 750-67X Product Manual or contact WAGO's Technical Support for further information.

Freq_Div (Address 0x04) Default Value: 200 Range: 4 to 65535
Sets the prescaler for maximum velocity (decrease Freq_Div value to increase maximum velocity)

Acc_Fact (Address 0x06) Default Value: 80 Range: 1 to 65535
Sets factor for maximum acceleration (decrease Acc_Fact value to increase maximum accel/decel)

Consult the WAGO 750-670 or 750-671 Product Manual for further information about the Stepper Controller Modules.

Execution

<u>Condition</u>	<u>Description</u>
EnableIn is true	

Revision v1.2 Notes

Changed name of instruction and parameters for consistency with other WAGO Add-On Instructions. No change in functionality.