

### WAGO-I/O-PRO CAA library

# Stepper\_03.lib

The Stepper\_03.lib library provides function blocks which allow to configure the stepper modules 750-670, 750-671, 750-672 and 750-673 as well as to run a stepper motor.



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1.100_1.10 .01 014000	



# Stepper\_03.lib

### Commen

# ${\bf MC3\_StepperCommunication}$

WAGO-I/O-PRO 32 Library elements					
Category:		Motion Co	ontrol		
Name:	MC			mmunication	
Type:			Function Function block X Program		
Library name:		Stepper_03.lib			
Requiered libraries					
Applicable to:		750-670, 750-671, 750-672, 750-673			
Input parameter:	Data	type:	Com	ment:	
aMoveIn	Array BYTE	[011] of	Input	array of stepper m	odule
Input/Output parameter:	Data	type:		Comment:	
Output parameter:	Data	type:	Comm	ent:	
aMoveOut	Array BYTE		Output	array of stepper m	nodule
Graphical description	1:				
Stepper_673  MC3_StepperCommunication  Stepper1In-aMoveIn aMoveOut-Stepper1Out					
Functional description:  This function block handles the access to the stepper module. The variables aMoveIn and aMoveOut should be mapped to the input and output addresses of the module. This block should be used once for each stepper module.					



### MC3\_Power

WAGO-I/O-PRO 32 Library elements					
Category:	Motion Co	Motion Control			
Name:	MC3_Pow	MC3_Power			
Type:	Function	Function Function block X Program			
Library name:	Stepper_0	Stepper_03.lib			
Requiered libraries					
Applicable to:	750-670, 7	750-670, 750-671, 750-672, 750-673			
Input parameter:	Data type:	Com	ment:		
xExecute	BOOL	Execu	ute action		
				_	
Input/Output parameter:	Data type:		Comment:		
Stepper	MC3_Stepp		Instance of the sto		
	mmunication	n	communication fu	nction block	
Output parameter:	Data type:		ment:		
xStatus	BOOL	Powe	r stage enabled		
Onembical descriptions					
Graphical description:					
	P3				
	MC3_Pd	war	$\neg$		
enablePower-	_	xStat	tusPowerEna	hled	
Stepper_673-		XOIG	1 0 1 0 1 0 1 0 1 0 1	bica	
510,010					
Functional description:					
This functionblock ena	bles the powe	r stage	of the stepper mo	dule.	
Bit 0 in the Control Byte	e 1 ist directly	contro	lled		
The output xStatus dis	plays directly l	Bit 0 fr	om Status Byte 1		



### MC3\_Stop

WAG	D-I/O- <i>PRO</i>	32 Li	brary elements	<b>3</b>		
Category:	Motion Co	ntrol				
Name:	MC3_Stop	)				
Type:	Function	Function Function block X Program				
Library name:	Stepper_0	Stepper_03.lib				
Requiered libraries						
Applicable to:	750-670, 7	750-67	1, 750-672, 750-67	<b>'3</b>		
Input parameter:	Data type:		ment:			
xExecute	BOOL	Exec	ute action			
	T		T			
Input/Output parameter:	Data type:		Comment:			
Stepper	MC3_Stepp		Instance of the sto			
	mmunication	n	communication fu	nction block		
Output naramatari	Data tuma.	C				
	Data type: BOOL		ment:			
xDone	BOOL	Stepp	per stopped			
Craphical descriptions						
Graphical description:						
		83				
	MC:	3_Stop				
executeSto	p xExecute		xDonedoneSt	ор		
Stepper_67	73-Stepper⊳					
Functional description:						
This functionblock allow	ic to ctop the	ctopp	or motor. The deep	loration ramp is		
determined by the confi				leration ramp is		
actorniniod by the confin	garadon valu	J / 100C	noration otopi dot.			

- Bit 1 in the Control Byte 1 ist directly controlled
- The output xDone displays the inverted Bit 1 from Status Byte 1.



### MC3\_Reset

WAG	0-I/0- <i>PRO</i>	32 Li	brary elements	S	
Category:	Motion Co	ntrol			
Name:	MC3_Res				
Type:	Function	Function Function block X Program			
Library name:	Stepper_0	Stepper_03.lib			
Requiered libraries					
Applicable to:	750-670, 7	750-670, 750-671, 750-672, 750-673			
Input parameter:	Data type:	Com	ment:		
xExecute	BOOL	Execu	ute reset		
	T				
Input/Output parameter:	Data type:		Comment:		
Stepper	MC3_Stepp		Instance of the st		
	mmunication	n	communication fu	inction block	
Output parameter:	Data type:	Comi	ment:		
xDone	BOOL		t performed		
ADONG	BOOL	11000	perionnea		
Graphical description:					
Re3  MC3_Reset executeReset—xExecute xDone Stepper_673—Stepper >					
	MC3_ et-xExecute	Reset	Done doneRe	set	
	MC3_et – xExecute 3 – Stepper ⊳  orms a reset. te 3 ist directly	Reset xl	blled	set	



### MC3\_ReadActualPosition

Category:	Motion Co	ntrol			
Name:		MC3 Rea		alPosition	
Type:		unction		Function block X	Program
Library name:		Stepper_0		dilotion blook 2	Togram
Requiered libraries		stoppoi_c	70.110		
Applicable to: 750-670, 750-671, 750-672, 750-673			<b>'</b> 3		
- фр		,		, ,	
Input parameter:	Da	ata type:	Com	ment:	
xEnable	ВС	OOL	Read	position and speed	d
Input/Output paramete	r: Da	ta type:		Comment:	
Stepper		C3_Stepp municatio		Instance of the ste communication fu	
Output parameter:	Data	a type:	Comi	ment:	
xValid	BOO		• • • • • • • • • • • • • • • • • • • •	on valid	
diActualPosition	DIN			Il position	
iActualSpeed	INT			ıl speed	
bActualMode	WO	RD		ıl mode:	
				gle Positioning	
			1	ve Program	
			4: Ho	•	
xMailboxActive	BOO	DL	Mailb	ox active	
xModuleReset	BOO	DL	The n	nodul has a reset p	erformed
Graphical description:					
		ualPositio		¬	
	_ReadA	ActualPosi		-1	DesitionVolid
enableRead xEnable		diActual	XValit Booitio	_	—PositionValid
Stepper_673-Stepper	۲		alSpee	1	
			ualMod:		
l		xMailboxActive—MailboxActive xModulReset—			
		XIVIOO	ianizese		
		XIVIOC	idiixese	_	
		XIVIOO	idiixese		

The output bActualMode displays the operating modes according to the manual: 1:Single positioning,2:Drive program,4:Homing,8:VelocityControl,16:Drive by Mailbox



### MC3\_MoveAbsolute

WAG	0-I/0- <i>PRO</i>	32 Li	brary elements	5	
Category:	Motion Co	ntrol			
Name:	MC3_Mov	eAbso	lute		
Type:	Function	Function Function block X Program			
Library name:	Stepper_0	Stepper_03.lib			
Requiered libraries					
Applicable to:	750-670, 7	750-670, 750-671, 750-672, 750-673			
·					
Input parameter:	Data type:	Com	ment:		
xExecute	BOOL	Execu	ıte absolute positic	oning job	
iSpeed	INT	Refer	ence speed		
wAcceleration	WORD	Refer	ence acceleration		
diPosition	DINT	Refer	ence position		
Input/Output parameter:	Data type:		Comment:		
Stepper	MC3_Stepp	erCo	Instance of the stepper		
	mmunication	n	communication fu	nction block	
Output parameter:	Data type:	Com	ment:		
xDone	BOOL	Positi	oning job finished		
xBusy	BOOL	Busy			
xError	BOOL	Error	occurred while pos	sitioning	
Graphical description:					
	Abs3 MC3_MoveAbso	luto	٦		
executeMoveAbsolute—xExe		nate xDon	e	doneMoveAbsolute	
SpeedMoveAbsolute-iSpe		хВus	-1		
AccelerationMoveAbsolute-wAc	celeration				
PositionMoveAbsolute—diPo					
Stepper_673-Step	per >				
Functional description:					
The positioning job is contained.	lefined by the	innute	iSpeed wAccelers	ation and diPosition	
The positioning job is continued in the parameter is peed.					
deceleration are allowed					
xExecute.			<del>,</del>	•	
Parameter changes on	the fly are no	t sunn	orted		
i didinotoi ondingos on	and my did no	. oapp			



### MC3\_MoveRelative

WAG	0-I/0- <i>PRO</i>	32 Li	brary elements	
Category:	Motion Co	ntrol		
Name:	MC3_Mov	eRelat	ive	
Type:	Function	I	Function block X Program	
Library name:	Stepper_0	Stepper_03.lib		
Requiered libraries				
Applicable to:	750-670,	750-67	1, 750-672, 750-673	
Input parameter:	Data type:	Com	ment:	
xExecute	BOOL	Exec	ute relative positioning job	
diDistance	DINT	-	ence distance	
iVelocity	INT	Refer	ence velocity	
wAcceleration	WORD	<b>†</b>	ence acceleration	
wDeceleration	WORD	Refer	ence deceleration	
Input/Output parameter:	Data type:		Comment:	
Stepper	MC3_Stepp	orCo	Instance of the stepper	
Oteppei	mmunicatio		communication function block	
Output parameter:	Data type:	Com	ment:	
xDone	BOOL		oning job finished	
xBusy	BOOL	Busy	og joboou	
xError	BOOL		occurred while positioning	
wStatus	WORD	<b>†</b>	MailboxOpcode	
			Opcode details	
			ls in the stepper manual	
Graphical description:				
	R3			
	MC3_MoveRelat	ive	1	
executeMoveRelative—xExe		xDon		
SpeedMoveRelative iSpe		xBus xErro		
AccelerationMoveRelative—wAcc DecelerationMoveRelative—wDe		xErro wStatu:	1	
PositionMoveRelative—diPo		WOLAIU		
Stepper_673-Stepp				
			_	
_				
Functional description:				
and diPosition. The pa	rameter iSpee eration are all	d is all	iSpeed, wAcceleration, wDeceleration owed in the range of 125000 while rom 032767. The job will be started	



### MC3\_Home

WAG	O-I/O- <i>PRO</i> 32 L	ibrary elements		
Category:				
Name:	MC3 Home			
Type:	Function	Function Function block X Program		
Library name:	Stepper_03.lib	1 5		
Requiered libraries				
Applicable to:	750-670, 750-67	71, 750-672, 750-673		
	•			
Input parameter:	Data type:	Comment:		
xExecute	BOOL	Execute relative homing job		
xRefPositive	BOOL	Reference in positive direction		
xRefNegative	BOOL	Reference in negative direction		
Input/Output parameter:	Data type:	Comment:		
Stepper	MC3_StepperCo mmunication	Instance of the stepper communication function block		
Output parameter:	Data type:	Comment:		
xDone				
	BOOL	Positioning job finished		
xBusy	BOOL	Positioning job finished Busy		
xBusy		_		
	BOOL	_		
xBusy	BOOL M3	_		
xBusy  Graphical description:	M3 MC3_Home	Busy		
xBusy  Graphical description:  executeHoming—xExe	M3 MC3_Home cute xDor	Busy  doneHoming		
xBusy  Graphical description:  executeHoming—xExeromingPositive—xReff	M3 MC3_Home cute xDor	Busy  doneHoming		
xBusy  Graphical description:  executeHoming—xExel HomingPositive—xRefl HomingNegative—xRefl	M3 MC3_Home cute xDor Positive xBus	Busy  doneHoming		
xBusy  Graphical description:  executeHoming—xExeromingPositive—xReff	M3 MC3_Home cute xDor Positive xBus	Busy  doneHoming		
xBusy  Graphical description:  executeHoming—xExel HomingPositive—xRefl HomingNegative—xRefl	M3 MC3_Home cute xDor Positive xBus	Busy  doneHoming		
xBusy  Graphical description:  executeHoming—xExel HomingPositive—xRefl HomingNegative—xRefl	M3 MC3_Home cute xDor Positive xBus	Busy  doneHoming		
xBusy  Graphical description:  executeHoming—xExel HomingPositive—xRefl HomingNegative—xRefl	M3 MC3_Home cute xDor Positive xBus	Busy  doneHoming		
xBusy  Graphical description:  executeHoming—xExel HomingPositive—xRefl HomingNegative—xRefl	M3 MC3_Home cute xDor Positive xBus	Busy  doneHoming		
xBusy  Graphical description:  executeHoming—xExe HomingPositive—xRefl HomingNegative—xRefl Stepper_673—Step	M3 MC3_Home cute xDor Positive xBu	Busy  ———————————————————————————————————		
Raphical description:  executeHoming—xExecuteHomingPositive—xReffHomingNegative—xReffStepper_673—Stepp	M3 MC3_Home cute xDor Positive xBur Negative per >	Busy  ———————————————————————————————————		
executeHoming—xExer HomingPositive—xRefl HomingNegative—xRefl Stepper_673—Step	M3 MC3_Home cute xDor Positive xBus Negative per >	Busy  nedoneHoming sybusyHoming		



### MC3\_DriveProgram

Category:	Motion Control	brary elements			
Category: Name:	MC3_DriveProgram				
Type:	1 19 11				
Library name:	Stepper_03.lib				
Requiered libraries	750-670, 750-671, 750-672, 750-673				
Applicable to:	730-070, 730-07	1, 730-072, 730-073			
Input parameter:	Data type:	Comment:			
xExecute	BOOL	Execute relative homing job			
wStartPositionDriveProgram	WORD	Start position of the drive program			
	1				
Input/Output parameter:	Data type:	Comment:			
Stepper	MC3_Stepper Communicati on	Instance of the stepper communication function block			
Output parameter:	Data type:	Comment:			
xDone	BOOL	Positioning job finished			
xBusy	BOOL	Busy			
wActualDriveProgramPosition	WORD	This line of the drive programm will be executed actually			
Graphical description:					
Grapinical description.	MvDn				
executeDP—xExecute startpositionDP—wStartPositionDriveP Stepper_673—Stepper ⊳		xDonedoneDP xBusybusyDP eProgramPositionactualpositionDP			
Functional description: This functionblock allows to e	xecute a drive pro	ogram. The input			



### MC3\_SetPosition

WAG	0-I/0- <i>PRO</i>	32 Li	brary elements	<u> </u>
Category:	Motion Co	ntrol		
Name:	MC3_SetF	Position	1	
Type:	Function	F	unction block X	Program
Library name:	Stepper_0	3.lib		
Requiered libraries				
Applicable to:	750-670, 7	750-670, 750-671, 750-672, 750-673		73
Input parameter:	Data type:	Comi	nent:	
xExecute	BOOL	Execu	ute movement	
diPosition	DINT	Refer	ence position	
	<b>-</b>	ı	•	
Input/Output parameter:	Data type:		Comment:	
Stepper	MC3_Stepp		Instance of the st	
	mmunicatio	n	communication fu	inction block
_				
Output parameter:	Data type:	Comi		
xDone	BOOL	Positi	on set	
xBusy	BOOL	Busy		
xError	BOOL	Error	occurred while wri	tting position
Graphical description:				
- '				
	MySetPos		_	
ove suite Cet	MC3_SetP		n a da	no Cot
executeSet- positionSet-	1	xDo xBu		neSet
Stepper_673-	1	хЕп	1 '	
otepper_or 5-	orebbei s	, LII	oieiioioet	
Functional description:				
<ul> <li>This functionblock allow</li> <li>This block activate</li> </ul>			osition.	
This block activate				



# ${MC3\_StepperControl\_Basic}$

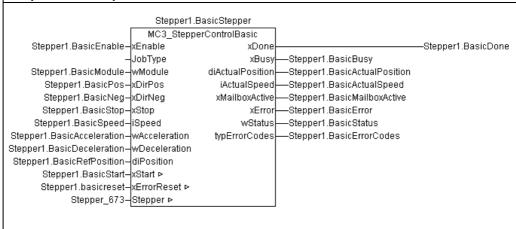
WAC	GO-I/O- <i>PRO</i>	32 Li	brary elements	5
Category:	Motion Co	ntrol		
Name:	MC3 Step	perCo	ntrol_Basic	
Type:	Function	•	unction block <b>X</b>	Program
Library name:	Stepper_0	3.lib		
Requiered libraries				
Applicable to:				
Input parameter:	Data type:	Cor	nment:	
xEnable	BOOL	Ena	ble module	
JobType	MC3_Mode	0:M	oveAbsolute	
		1:M	oveRelative	
		2:H	oming	
		3:Jc	gging	
			elocity Control	
			rive program	
wModule	WORD	670	:Module 750-670	
		671:Module 750-671 672:Module 750-672		
		673	673:Module 750-673	
xDirPos	BOOL	Pos	itive direction for J	og mode and
			homing mode	
xDirNeg	BOOL	Neg hom	Negative direction for Jog mode and homing mode	
xStop	BOOL	valu	Stop movement, Acceleration_Stop_Fas value(see configuration table) used for ramp down	
iSpeed	INT	Spe		
wAcceleration	WORD		eleration	
wDeceleration	WORD	Dec	eleration	
diPosition	DINT	Tar	get position for pos	sitionina
		1,	у	
	•	•		
Input/Output parameter:	Data type:		Comment:	
Stepper	MC3_Stepp		Instance of the st	
	mmunication	1	communication fu	inction block
xStart	BOOL		Start movement	
xErrorReset	BOOL		Reset error	
	<del>,</del>			
Output parameter:	Data type:	Com	ment:	
xDone	BOOL	Job fi	nished	



#### MC3\_StepperControl\_Basic

V	/AGO-I/O- <i>PRO</i>	32 Library elements
xBusy	BOOL	Job busy
diActualPosition	DINT	Actual position
iActualSpeed	INT	Actual speed
xMailboxActive	BOOL	Due to active mailbox, the values for diActualPosition and diActualSpeed are latched and will no more be updated
xError	BOOL	Error
wStatus	WORD	MSB MailboxOpcode
		LSB Opcode details
		Details in the stepper manual
typErrorCodes	MC1_ERRO R_CODES	Error description

#### **Graphical description:**



#### **Functional description:**

#### Appendix A – Additional libraries



#### WAGO-I/O-PRO 32 Library elements

- This functionblock supports different modes of the stepper modul.
- 0:Absolute positioning
- 1:Relative positioning
- 2:Homing
- 3:Jogging
- 4:Velocity control
- 6: Drive program
- Absolute positioning

The positioning job is defined by the inputs iSpeed, wAcceleration, wDeceleration and diPosition. The parameter iSpeed is allowed in the range of 1..25000 while acceleration and deceleration are allowed from 0..32767.

The job will be started by the variable xStart. If the job is done, the variable xStart will be reset by the functionblock.

#### Relative positioning

The positioning job is defined by the inputs iSpeed, wAcceleration, wDeceleration and diPosition. The parameter iSpeed is allowed in the range of 1..25000 while acceleration and deceleration are allowed from 0..32767. The job will be started by the variable xStart. If the job is done, the variable xStart will be reset by the functionblock.



#### WAGO-I/O-PRO 32 Library elements

#### Homing

The Homing job is defined by the inputs xDirPos or xDirNeg and xStart. The job will be started by the variable xStart. If the job is done, the variable xStart will be reset by the functionblock. Homing speed, acceleration and mode are defined through the values in the configuration table.

#### Jogging

Depending on the used module the jogging mode is started differently.

750-670,750-671:

The Jogging job is defined by the inputs xDirPos or xDirNeg and xStart. The job will be started by the variable xDirPos or xDirNeg and xStart=True, and runs as long as the appropriate input xDirPos or xDirNeg is true.

Jogging speed and acceleration are defined through the values in the configuration table(SetupSpeed and Acceleration\_Setup).

#### 750-672,750-673:

The Jogging job is defined by the input xStart. The job will be started by physical inputs of the module.

Jogging speed and acceleration are defined through the values in the configuration table(SetupSpeed and Acceleration\_Setup).

#### Appendix A - Additional libraries



#### WAGO-I/O-PRO 32 Library elements

#### Velocity Control

The Velocity control job is defined by the inputs iSpeed, wAcceleration, wDecceleration. The parameter iSpeed is allowed in the range of -25000..25000.

While running it is possible to change the speed. Therfore the input iSpeed has to be set to the new speed and the xStart variable needs to be set again.

#### General Inputs:

- The input xStop will stop each movement. The stop ramp is defined by the configuration parameter Acceleration\_Stop\_Fast (address 46).
- The input xEnable needs to be true to run the stepper. If this variable is set to zero the module will stop immediately without any ramp.
- xReset allows to reset an error.

#### **General Outputs**

- xDone indicates that a positioning or homing job is finished. In case of the velocity control mode this output indicates that the reference speed is reached.
- xBusy is high while a job is running
- xMailBoxActive indicates, that the values for diActualPosition and diActualSpeed are latched and will no more be updated
- xError indicates any error
- wError shows details according to the type MC3\_ERROR\_CODES
- typErrorCodes shows details according to the type MC3\_ERROR\_CODES in verbal form



# MC3\_ConfigurationTable

	WAGC	)-I/O- <i>PRO</i>	32 Lik	ora	ary elements	S 	
Category:		Motion Co	Motion Control				
Name:		MC3_Con	figuration	onT	Table		
Type:		Function	Function Function block X Program			Program	
Library name:		Stepper_0	3.lib				
Requiered libraries	1						
Applicable to:							
Input parameter:	Dat	a type:			Comment:		
xExecute	ВО				Execute action	า	
xRead	ВО	OL			Read configur	ation table	
xWrite	ВО	OL			Write configura		
ptData		DINTER TO RAY[0511] OF BYTE		Έ	A user defined configuration \	d data type with all values	
Input/Output param	neter:	Data type:		Comment:			
Stepper N					Instance of the stepper communication function block		
		mmamoatio	11	COI	mmunication it	INCTION DIOCK	
Output parameter:		Data type:	Comm	nen	nt:	Inction Diock	
xDone	E	Data type:	<b>Comm</b> Opera	nen	nt: ned finished	Inction Diock	
xDone xBusy	E	Data type: BOOL BOOL	Comm Opera Opera	nen itior	nt: ned finished n busy		
xDone	E .	Data type:	Comn Opera Opera An erro	nen itior	nt: ned finished		
xDone xBusy xError	E .	Data type: BOOL BOOL WORD	Comm Opera Opera An erro	nen itior itior or o	nt: ned finished n busy occurred while		
xDone xBusy xError	E .	Data type: BOOL BOOL WORD	Comm Opera Opera An erro MSB M	nen itior or o Mai Opco	nt: ned finished n busy occurred while ilboxOpcode ode details ccording to the		
xDone xBusy xError	E E \ \	Data type: BOOL BOOL WORD	Opera Opera An erro MSB M LSB O Details	nen itior or o Mai Opco	nt: ned finished n busy occurred while ilboxOpcode ode details ccording to the	executing	
xDone xBusy xError wStatus	E E \ \	Data type: BOOL BOOL WORD WORD	Comm Opera An erro MSB M LSB O Details 16#99	nen itior or o Mai Opco	nt: ned finished n busy occurred while ilboxOpcode ode details ccording to the	executing	
xDone xBusy xError wStatus	E E \ \	Data type: BOOL BOOL WORD WORD	Comm Opera Opera An erro MSB M LSB O Details 16#99	mention or of o Mai	nt: ned finished n busy occurred while ilboxOpcode ode details occording to the meout	executing	
xDone xBusy xError wStatus  Graphical descripti	ion:	Data type: BOOL BOOL WORD WORD	Comm Opera Opera An erro MSB M LSB O Details 16#99	nentior or of Mai Opcos ao o:Tin	nt: ned finished n busy occurred while ilboxOpcode ode details occording to the meout	executing	
xDone xBusy xError wStatus  Graphical descripti	ion:	Data type: BOOL BOOL WORD WORD  MC3_Conf	Comm Opera Opera An erro MSB M LSB O Details 16#99	nen itior or ( Mai )pc s ac 9:Tir	nt: ned finished n busy occurred while liboxOpcode ode details ccording to the meout	executing stepper manual —doneCT	
xDone xBusy xError wStatus  Graphical descripti	ion:	Data type: BOOL BOOL WORD WORD WORD  M MC3_Conf -xExecute -xRead -xWrite	Comm Opera Opera An erro MSB M LSB O Details 16#99	nen ttior or ( Mai )pc s ac s:Tir nTa xE	nt: ned finished n busy occurred while liboxOpcode ode details occording to the meout	executing stepper manual —doneCT	
xDone xBusy xError wStatus  Graphical descripti  ext	ion:	Data type: BOOL BOOL WORD WORD WORD  M MC3_Conf -xExecute -xRead -xWrite	Common Opera An error MSB M LSB O Details 16#99	nention or of Mai Dpcas ac D:Tin	nt: ned finished n busy occurred while lboxOpcode ode details occording to the meout	executing stepper manual —doneCT	



#### Appendix A - Additional libraries

#### WAGO-I/O-PRO 32 Library elements

#### **Functional description:**

- This functionblock allows to read and write the configuration table at once
   To start the process set xExecute to True. If the action is finished the output
   xDone becomes True.
- The output wStatus shows any error. Therfore the word is separated in two Bytes. The MSB shows the actual Mailbox Opcode and the LSB the error details for this special opcode,e.g.:16#4331->Opcode 0x43, error 0x31.

After writing the configuration table the modul resets itself. Therefore the actual position will be reset to Zero.



# MC3\_ConfigurationValue

WAG	0-I/0- <i>PRO</i>	32 Li	brary elements	5	
Category:	Motion Co	ntrol			
Name:	MC3_Con	figurat	onValue		
Type:	Function	F	unction block X	Program	
Library name:	Stepper_0	3.lib		<u> </u>	
Requiered libraries					
Applicable to:					
Input parameter:	Data type:	Comi	ment:		
xExecute	BOOL	Exec	ute read or write pr	ocess	
wAddress	WORD		ess of the paramete		
		configuration table			
bReadWrite	BYTE	0:Rea	nd parameter		
		1:Wri	te parameter		
		2:Wri	te and safe parame	eter	
bValueSize	BYTE		n byte of the parar	neter according to	
		config	juration table		
	T				
Input/Output parameter:	Data type:		Comment:		
dwValue	DWORD		Parameter value		
Stepper	MC3_Stepp				
	mmunicatio	n	communication function block		
		1			
Output parameter:	Data type:	Com			
xDone	BOOL	Opera	ationed finished		
xBusy	BOOL		ation busy		
xError	WORD	An er	ror occurred while	executing	
wStatus	WORD	MSB	MailboxOpcode		
		LSB (	Opcode details		
		Detai	Details according to the stepper manual		
		16#99	9:Timeout		
Graphical description:					
	MyCV3	1			
Г	MC3_Configura		ue		
executeCV—xi			I	doneCV	
addressCV-w			usy—busyCV		
readwriteCV-b	ReadWrite		rror—errorCV		
valuesizeCV—b'	ValueSize	wSta	atus —statusCV		
valueCV-d					
Stepper_673-S	tepper ⊳				

#### Appendix A – Additional libraries

#### WAGO-I/O-PRO 32 Library elements

#### **Functional description:**

- This functionblock allows to read and write a single parameter from the configuration table. Writing differentiates between temporarily changes which are lost after power on of the stepper modul and permant fixed changes.
- The output wStatus shows any error. Therfore the word is separated in two Bytes. The MSB shows the actual Mailbox Opcode and the LSB the error details for this special opcode,e.g.:16#5123->Opcode 0x51, error 0x23.



### ${\bf MC3\_DriveProgramTable}$

WAG	0-I/O- <i>PRO</i>	32 Li	brary elements	S	
Category:	Motion Co				
Name:	MC3_Drive	eProgr	amTable		
Type:	Function	F	Function block <b>X</b>	Program	
Library name:	Stepper_0	3.lib			
Requiered libraries					
Applicable to:					
		1			
Input parameter:	Data type:	Com	ment:		
xExecute	BOOL	Execu	ute drive program o	download or upload	
xRead	BOOL	Read	drive program tab	le	
xWrite	BOOL	Write drive program table			
xFlashProgram	BOOL	Flash	drive program		
wDataCount	WORD	Numb	er of data sets (1.	.400)	
Input/Output parameter:	Data type:		Comment:		
aData	ARRAY[0g veProgram7 Size] OF BY	Table	An array defining details	drive program	
Stepper	MC3_Stepp mmunication		Instance of the stepper communication function block		
Output parameter:	Data type:	Comi	ment:		
xDone	BOOL	Opera	ationed finished		
xBusy	BOOL	•	ion busy		
xError	WORD	An error occurred while executing			
wStatus	WORD	MSB MailboxOpcode			
		LSB Opcode details			
		Details according to the stepper manual			
		16#99:Timeout			
		l			
Graphical description:					
	MyD1	Г			
	MC3_DrivePro		able		
executeDPT-xEx	_	granni	xDone	doneDPT	
readDPT-xRe		xBusy—busyDPT			
writeDPT-xWr			xError—errorDP1		
flashprogramDPT—xFla		١	wStatus — statusDF		
dataCountDPT-wD:					
DataDPT—aDa	ata ⊳				
Stepper_673-Ste	oper⊳				

# **K/450**<sup>®</sup>

#### Appendix A – Additional libraries

#### WAGO-I/O-PRO 32 Library elements

#### **Functional description:**

This functionblock allows to read and write the drive program table.

- If the input xFlashProgram is True the drive program will be stored to the flash memory after it is downloaded to the module. After power on reset the drive program is therefore still available can be directly executed by using the function block MC3\_DriveProgram.
- The output wStatus shows any error. Therfore the word is separated in two Bytes. The MSB shows the actual Mailbox Opcode and the LSB the error details for this special opcode,e.g.:16#4331->Opcode 0x43, error 0x31.



### MC3\_ReadError

W	AGO	-I/O- <i>PRO</i>	32 Li	brary elements		
Category:		Motion Co	ntrol			
Name:		MC3_Rea	dError			
Type:		Function	F	Function block <b>X</b> Program		
Library name:		Stepper_0	3.lib			
Requiered libraries						
Applicable to:		750-670, 7	<b>750-67</b>	1, 750-672, 750-673		
Input parameter:		Data type:	Com	ment:		
xEnable BOOL			Read	error code		
Input/Output paramet		Data type:		Comment:		
Stepper		MC3_Stepp		Instance of the stepper		
		mmunicatio	1	communication function block		
0		-11				
Output parameter:		ata type:				
xDone		00L				
xBusy		00L	Operation busy			
xError		ORD	An error occurred while executing			
wStatus		ORD -	Error codes according to the manual			
typErrorCodes	M	C3_Error	Verba	al error description of wStatus		
Cranbinal description						
Graphical description	1:					
	MVF	ReadError3				
		ReadError				
enableReadError-xEna			xDone	doneReadError		
Stepper_673-Stepp	oer⊳		xBusy	—busyReadError		
			xError	—StepperError		
			vStatus	l .		
		typErro	Codes	ErrorDescription		
Functional descriptio	n:					
This functionblock LED.	allows	to read the	error c	code which is displayed by the modules		
The output xError s     is independent from				of Bit 7 from Status Byte 2. This output		

is independend from the input xEnable

The error code wStatus will only be get from the module if the input xEnable is True. In this case the mailbox mode is activated to perform the command 16#49(GetErrorInformation). Make sure no other functionblock is in need of the mailbox or the process image Byte 2 up to Byte 8.



### MC3\_PositionTable

Category:	Motion Control	
Name:	MC3_PositionTab	leReadWrite
Type:	Function	Function block X Program
Library name:	Stepper_03.lib	, , ,
Requiered libraries		
Applicable to:	750-670, 750-671	, 750-672, 750-673
	•	
Input parameter:	Data type:	Comment:
xWrite	BOOL	False:Read position table
		True: Write position table
wDataCount	WORD	Number of data sets for up-/download
	•	
Input/Output parameter:	Data type:	Comment:
xEnable	BOOL	Enable read or write process.Will be reset by the functionblock.
aData	Array[0199] of	50 Positions á 4 bytes
	BYTE	(LSB MSB)
Stepper	MC3_StepperCo	Instance of the stepper
	mmunication	communication function block
	<b>I 5</b>	To .
Output parameter:	Data type:	Comment:
xDone	BOOL	Operationed finished
VRIIEV	BOOL	Operation busy
xBusy	MODD	
xError	WORD	An error occurred while executing
•	WORD WORD	MSB MailboxOpcode
xError		MSB MailboxOpcode LSB Opcode details
xError		MSB MailboxOpcode LSB Opcode details Details according to the stepper
xError		MSB MailboxOpcode LSB Opcode details Details according to the stepper manual
xError wStatus		MSB MailboxOpcode LSB Opcode details Details according to the stepper
xError		MSB MailboxOpcode LSB Opcode details Details according to the stepper manual
xError wStatus		MSB MailboxOpcode LSB Opcode details Details according to the stepper manual
xError wStatus	WORD	MSB MailboxOpcode LSB Opcode details Details according to the stepper manual 99:Timeout
xError wStatus	MyPT MC3_PositionTable	MSB MailboxOpcode LSB Opcode details Details according to the stepper manual 99:Timeout
xError wStatus  Graphical description:  executePT-xE readPT-xF	MyPT MC3_PositionTable Execute xD Read xE	MSB MailboxOpcode LSB Opcode details Details according to the stepper manual 99:Timeout
xError wStatus  Graphical description:  executePT-xF readPT-xF writePT-x6	MyPT  MC3_PositionTable Execute xD Read xE Arite xE	MSB MailboxOpcode LSB Opcode details Details according to the stepper manual 99:Timeout  gone donePT Busy busyPT Error errorPT
xError wStatus  Graphical description:  executePT-xE readPT-xE writePT-xh dataCountPT-b	MyPT  MC3_PositionTable Execute xD Read xE Write xE DataCount wSt	MSB MailboxOpcode LSB Opcode details Details according to the stepper manual 99:Timeout  gone donePT Busy busyPT Error errorPT
xError wStatus  Graphical description:  executePT-xF readPT-xF writePT-x6	MyPT  MC3_PositionTable Execute xD Read xE Write xE DataCount wSta	MSB MailboxOpcode LSB Opcode details Details according to the stepper manual 99:Timeout  gone donePT Busy busyPT Error errorPT



#### MC3\_PositionTable

### WAGO-I/O-PRO 32 Library elements

#### **Functional description:**

• This functionblock allows to read and write the position table at once If the inpux xWrite is false, the table will be read. To start the reading process it is necessary to set the variable xEnable to True. The functionblock will reset the variable if the job is finished.

To write data to the position table the variable xWrite needs to be True.

• The output wStatus shows any error. Therfore the word is separated in two Bytes. The MSB shows the actual Mailbox Opcode and the LSB the error details for this special opcode, e.g.:16#4331->Opcode 0x43, error 0x31.



### MC3\_RestoreDefault

<u> </u>					element	
Category:		Motion C		اد د اد		
Name:		MC3_Res			hlad: V	Drawar
Type:		Function		-unction	block X	Program
Library name:		Stepper_03.lib				
Requiered libraries		750 670	750 G7	1 750 6	72 750 6	72
Applicable to:		750-670,	750-67	1, 750-0	672, 750-6	13
Input parameter:	Data	type:	Comi	ment:		
wFactoryDefault_No	WOR			tory De	fault 1	
detery 2 eradit_rte				tory De		
	1					
Input/Output parameter:	Data	Data type:		Comm	ent:	
xEnable	BOO	L			the restor by the func	re process.Will be tionblock.
Stepper	MC3_ nicati	_StepperC	ommu	Instand	ce of the st	
	moati	OII		COMMIN	ariication re	diction block
Output namenator	Data	4	Comm			
Output parameter:		type:	Comm			
wStatus	WOR	D MSB MailboxOpcode  LSB Opcode details				
				Details according to the stepper manual		
				Timeou	•	noppor mandai
			10,,001		<u> </u>	
Graphical description	ո։					
•						
		RestoreDef				
executeDefault_xExecut		_RestoreD	efault	VDono.		doneDefault
2-wFactor		t No		xDone xBusy	busyDef	
Stepper_673-Stepper	-	_140		xError		
orobbor-are larabbar			,	wStatus		
Functional description	n:					
This functionblock allo		estore fact	orv defa	ults To	start the r	process it is
necessary to set the va					, otali 1110 h	
The output wStatus sh MSB shows the actual opcode,e.g.:16#4331-:	Mailbo	x Opcode	and the	LSB th		
•						



### MC3\_ModeSelect

W	AGO-	1/0- <i>PRC</i>	32 Li	brary elemen	ts		
Category:		Motion C	ontrol				
Name:		MC3_Mo	deSele	ct			
Type:		Function	Х	- unction block	Program		
Library name:		Stepper_	er_03.lib				
Requiered libraries							
Applicable to:		750-670,	750-67	1, 750-672, 750-	673		
- 1 1				<u> </u>			
Input parameter:	Dat	a type:	Com	Comment:			
xMoveAbsoluteReques	t BO	OL	Choo	se absolute posit	tioning mode		
xMoveRelativeRequest	BO	OL	Choo	se relativee posit	tioning mode		
xHomingRequest	BOOL		Choo	se homing mode			
xJoggingRequest	•		Choo	se jogging mode			
xVelocityCtrlRequest	ВО	OL .		se velocity contro	ol mode		
xDrivePrgRequest	BO		_	se drive program			
xTorqueEdge	BO	OL.	_	se torque edge n			
xTorqueLevel	BO		_	se torque level m			
x. o. quo=0.0.		<u>-                                      </u>	1000	<u> </u>			
Input/Output	Data	type:		Comment:			
parameter:	Dutu	typo.		Commont.			
				l .			
Output parameter:	Data	type:	Comm	ent:			
MC3 ModeSelect		Mode	MC3 N	MC3_MoveAbsolute:=0,			
	_		MC3_MoveRelative:=1,				
			MC3_Homing:=2,				
			MC3_JogMode:=3,				
			MC3_VelocityControl:=4,				
				MC3_DriveProgramMode := 6,			
			MC3_TorqueControl_Edge:=7,				
			MC3_TorqueControl_Level:=8				
			MOS_TOTQUEGOTICO_EEVEL.=0				
Graphical description	:						
Г		MC	3 Mod	eSelect			
Stepper1.MoveAbs-	:MoveA		_		auxSelect		
Stepper1.MoveRel->	:MoveF	RelativeReq	uest				
Stepper1.Homing->							
Stepper1.Jog->	Joggir	ngRequest					
Stepper1.Velocity->	Meloci	tyCtrlReque	est				
Stepper1.Drive->							
Stepper1.TorqueEdge-							
stepper1.TorqueLevel-	Torqu	eLevel					
Functional description	1.						
Select one operating m							
Select one operating III	oue						

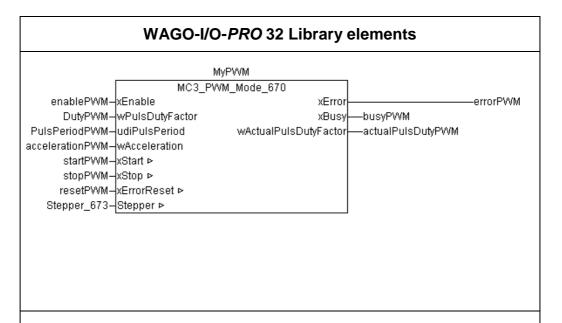


# 750-670

### MC3\_PWM\_Mode\_670

Category:	Motion Co	ontrol			
Name:	MC3_PW	M_Mod	de_670		
Type:	Function	I	Function block <b>X</b>	Program	
Library name:	Stepper_0	03.lib			
Requiered libraries					
Applicable to:	750-670				
	T	1			
Input parameter:	Data type:		mment:		
xEnable	BOOL				
wPulsDutyFactor	WORD	_	s duty of the signal	e.g. 5000=50%	
udiPulsPeriod	UDINT		iode in µs		
				<del>→</del> 2100.000.000)	
wAcceleration	WORD	Acc	eleration		
Input/Output parameter	: Data type:		Comment:		
Stepper	MC3_Step		Instance of the st		
	mmunicatio	n	communication function block		
xStop	BOOL	Stop outputs			
xStart	BOOL		Start outputs		
xErrorReset	BOOL		Reset error		
Output parameter:	Data type:	Com	ment:		
xDone	BOOL	Oper	ationed finished		
xBusy	BOOL	Oper	Operation busy		
xError	WORD	An er	An error occurred while executing		
wStatus	WORD	MSB	MailboxOpcode		
		LSB (	Opcode details		
		l l	Is according to the	stepper manual	
		99:Ti	meout		
	WORD	1	Actual puls duty factor		





#### **Functional description:**

This functionblock supports the pulswidth mode of the stepper modul 750-670. The inputs wPulsDutyFactor, udiPulsPeriod and wAcceleration define the output

The inputs wPulsDutyFactor, udiPulsPeriod and wAcceleration define the output signal.

High wAcceleration values ensure a quick increase of the pulswidth rate. Additional it may be necessary to increase the default value for ACC\_Fact(see the configuration table) from 80 to 10000 to archieve an even steaper increase.

Once started, changes in the input parameters will only be overtaken by a positive edge of the xStart input.



### MC3\_Jog\_670

Category:	Motion Co	ntrol		
Name:	MC3_Jog_	_670		
Type:	Function	F	unction block X	Program
Library name:	Stepper_0	3.lib		<u> </u>
Requiered libraries	• • • • • • • • • • • • • • • • • • • •			
Applicable to:	750-670, 7	750-67	1	
	1	I _		
Input parameter:	Data type:		ment:	
xEnable	BOOL	Activate jog mode		
xPos	BOOL		n positive direction	
xNeg	BOOL	Jog ir	n negative direction	1
wJogTimeout	WORD	0:no 1	time limit	
		165	535 time limit in me	3
Input/Output parameter:	Data type:		Comment:	
		orCo		onnor
Stepper	MC3_Stepp		o Instance of the stepper communication function block	
	mmamoano	•	oonminarii oalion i	
Output parameter:	Data type:	Comi	ment:	
	Data type:		ment:	
• •		<b>Com</b> i Busy	ment:	
кВusy			ment:	
xBusy			ment:	
xBusy	BOOL			
xBusy  Graphical description:	MyJo	Busy	}	
xBusy	MyJo	Busy g670_3	3	yJOG
xBusy  Graphical description:	MyJon MC3_c xEnable	Busy g670_3	3	yJOG
xBusy  Graphical description:  enableJOG	MyJo MC3 xEnable xPos	Busy g670_3	3	yJOG
xBusy  Graphical description:  enableJOG- posJog- negJog-	MyJo MC3 xEnable xPos	Busy g670_3 Jog_67	3	yJOG
xBusy  Graphical description:  enableJOG- posJog- negJog-	MyJos MC3 -xEnable -xPos -xNeg -wJogTimeOut	Busy g670_3 Jog_67	3	yJOG
xBusy  Graphical description:  enableJOG- posJog- negJog- jogTimeout	MyJos MC3 -xEnable -xPos -xNeg -wJogTimeOut	Busy g670_3 Jog_67	3	yJOG
xBusy  Graphical description:  enableJOG- posJog- negJog- jogTimeout	MyJos MC3 -xEnable -xPos -xNeg -wJogTimeOut	Busy g670_3 Jog_67	3	yJOG
posJog negJog jogTimeout	MyJos MC3 -xEnable -xPos -xNeg -wJogTimeOut	Busy g670_3 Jog_67	3	yJOG



### MC3\_MoveVelocity\_670

WAG	0-I/O- <i>PR</i>	32 Li	brary elements	3	
Category:	Motion C	ontrol			
Name:	MC3_Mc	veVelo	city_670		
Type:	Function	I	Function block X	Program	
Library name:	Stepper	03.lib			
Requiered libraries					
Applicable to:	750-670,	750-67	1		
Input parameter:	Data type:	ata type: Comment:			
xExecute	BOOL	Exec	ute movement		
iVelocity	INT	Refe	ence speed		
wAcceleration	WORD	Refe	ence acceleration		
Input/Output parameter:	Data type:		Comment:		
Stepper	MC3_Step		Instance of the ste		
	mmunicati	on	communication fu	inction block	
	T	1			
Output parameter:	Data type:	ta type: Comment:			
xInVelocity	BOOL	— <u> </u>	Target speed reached		
xBusy	BOOL	Busy			
Graphical description:					
	MyVelocity67	70 3			
	MC3_MoveVelo		$\neg$		
executeMoveVelocity—xEx		xinVelo	ity	doneMoveVelocity	
SpeedMoveVelocity—iSp		хΒι	ısy busyMoveVeloci	ity	
AccelerationMoveVelocity—wA					
Stepper_673-Ste	pper ⊳				
Functional description:					
This functionblock allows	velocity contro	ol of a s	tepper motor.		
^					
This block change	es the configu	uration v	alue "Application S	Selector". Please	
make sure this parameter					
modes like positioning. Ple	ease use MC	3_Confi	gurationValue to m	odity this value.	



# 750-672

### MC3\_MoveVelocity\_672

Category:	Motion Co	ntrol				
Name:	MC3_Mov	MC3_MoveVelocity_672				
Type:	Function	Function Function block X Program				
Library name:	Stepper_0	3.lib				
Requiered libraries						
Applicable to:	750-672, 7	750-67	3			
Input parameter:	Data type:	Comi	ment:			
xExecute	BOOL	Execu	ute movement			
iSpeed	INT	Refer	ence speed			
wAcceleration	WORD	Refer	ence acceleration	·		
			<b>I</b>			
Input/Output parameter:	Data type:		Comment:			
Stepper	MC3_Stepp		Instance of the st			
	mmunicatio	n	communication function block			
Output parameters	Data tumar	Com				
Output parameter:	Data type:	Comi				
xInVelocity	BOOL		arget speed reached			
xBusy xError	BOOL	Busy	occurred while pos	aitioning		
XEIIOI	BOOL	EIIOI	occurred write pos	Silloring		
Graphical description:						
Orapinical description.						
	MyVelocity672	_3				
	IC3_MoveVelocit	y_672	$\neg$			
M		InVeloci	ity	—doneMoveVelocity		
executeMoveVelocity—xExe			I	,		
executeMoveVelocity—xExe SpeedMoveVelocity—iSpe	ed	хВu	sy-busyMoveVelocit	,		
executeMoveVelocity—xExe SpeedMoveVelocity—iSpe AccelerationMoveVelocity—wAcc	ed celeration	хВи	sy-busyMoveVelocit	,		
executeMoveVelocity—xExe SpeedMoveVelocity—iSpe	ed celeration	хВи	sybusyMoveVelocit	,		
executeMoveVelocity—xExe SpeedMoveVelocity—iSpe AccelerationMoveVelocity—wAcc	ed celeration	хВи	sybusyMoveVelocit	,		
executeMoveVelocity—xExe SpeedMoveVelocity—iSpe AccelerationMoveVelocity—wAcc	ed celeration	хВия	sybusyMoveVelocit	,		
executeMoveVelocity—xExe SpeedMoveVelocity—iSpe AccelerationMoveVelocity—wAcc Stepper_673—Step	ed celeration	хВи	sybusyMoveVelocit	,		
executeMoveVelocity—xExe SpeedMoveVelocity—iSpe AccelerationMoveVelocity—wAcc Stepper_673—Step  Functional description:	ed ≎eleration per ⊳			,		
executeMoveVelocity—xExe SpeedMoveVelocity—iSpe AccelerationMoveVelocity—wAcc Stepper_673—Step	ed ≎eleration per ⊳			,		



### MC3\_Jog\_672

0-I/0- <i>PRO</i>	32 Li	brary elements	<b>S</b>				
Motion Co	Motion Control						
MC3_Jog_	MC3_Jog_672						
Function	F	unction block X	Program				
e: Function ary name: Stepper_03.l							
Requiered libraries							
750-672, 7	750-672, 750-673						
Data type:	Com	ment:					
BOOL	Activate jog mode						
WORD	0:	no time limit					
	165	165535: Time limit in ms					
Data type:		Comment:					
		Co Instance of the stepper communication function block					
Immunication		Communication function block					
Data type:	ta type: Comment:						
BOOL							
	, ,						
MyJog672_3							
MC3_Jog_672							
enableJOG-xEnable xBusybusyJOG							
jogTimeout_wJogTimeOut							
Stepper_673- Stepper ⊳							
Functional description:  This functionblock allows to jog a stepper motor.							
יוטע מ אנכטטפ	The jogging is performed by digital inputs directly on the module.						
	Motion Co  MC3_Jog_ Function Stepper_Co  750-672, 7  Data type: BOOL WORD  Data type: MC3_Stepp mmunication  Data type: BOOL  MyJog_  MC3_  ×Enable  wJogTimeOu  Stepper ▷	Motion Control  MC3_Jog_672  Function   F Stepper_03.lib  750-672, 750-67  Data type: Come BOOL   Activativativativativativativativativativa	Function Function block X  Stepper_03.lib  750-672, 750-673  Data type: Comment:  BOOL Activate jog mode  WORD 0: no time limit 165535: Time limit in  Data type: Comment:  MC3_StepperCommunication Instance of the stepper communication function  Data type: Comment:  BOOL Busy  MyJog672_3  MC3_Jog_672  xEnable xBusy  wJogTimeOut Stepper ▷				



# MC3\_MoveTorque

Category:	Motion Co	Motion Control				
Name:		MC3 MoveTorque				
Type:	Function					
Library name:		Stepper_03.lib				
Requiered libraries	Gtoppoi_o	Otoppor_00.iib				
Applicable to:	750-673	750-673				
Input parameter:	Data type:	Comi	ment:			
xExecute	BOOL	Execu	ute job			
iSpeed	INT		rence speed			
wCurrent	WORD		rence current			
	1	1				
Input/Output parameter:	Data type:		Comment:			
Stepper	MC3_Stepp	erCo	Instance of the stepper			
	mmunication	n	communication function block			
Output parameter:	Data type:	••••	ment:			
Output parameter: xDone	Data type:	••••	ment: oning job finished			
• •		••••				
xDone xBusy	BOOL	Positi				
xDone	BOOL	Positi				
xDone xBusy	BOOL BOOL	Positi				
xDone xBusy	BOOL BOOL Torque3	Positi				
xDone xBusy  Graphical description:	BOOL BOOL Torque3 MC3_MoveTor	Positi	oning job finished			
xDone xBusy  Graphical description:  executeTorque—xE	BOOL BOOL  Torque3 MC3_MoveTorexecute	Positi Busy que xDone	oning job finished doneTorque			
xDone xBusy  Graphical description:  executeTorque—xE speedTorque—is	BOOL BOOL  Torque3 MC3_MoveTorexecute peed	Positi	oning job finished doneTorque			
xDone xBusy  Graphical description:  executeTorque—xE	BOOL BOOL  Torque3 MC3_MoveTorExecute peed Current	Positi Busy que xDone	oning job finished doneTorque			
xDone xBusy  Graphical description:  executeTorque—xE speedTorque—iS currentTorque—w	BOOL BOOL  Torque3 MC3_MoveTorExecute peed Current	Positi Busy que xDone	oning job finished doneTorque			
xDone xBusy  Graphical description:  executeTorque—xE speedTorque—iS currentTorque—w	BOOL BOOL  Torque3 MC3_MoveTorExecute peed Current	Positi Busy que xDone	oning job finished doneTorque			
xDone xBusy  Graphical description:  executeTorque—xE speedTorque—is currentTorque—w	BOOL BOOL  Torque3 MC3_MoveTorExecute peed Current	Positi Busy que xDone	oning job finished doneTorque			
xDone xBusy  Graphical description:  executeTorque—xE speedTorque—is currentTorque—w Stepper_673—St  Functional description:  • The move torque job is	BOOL  Torque3  MC3_MoveTor Execute peed Current tepper >	Positi Busy que xDone xBusy	oning job finished doneTorque			



### MC3\_MoveTorque2

WAG	0-I/0- <i>PRO</i>	32 Li	brary elements	5		
Category:	Motion Co	Motion Control				
Name:	MC3_Mov	MC3_MoveTorque2				
Type:	Function	F	unction block <b>X</b>	Program		
Library name:	Stepper_0	Stepper_03.lib				
Requiered libraries		=				
Applicable to:	750-673	750-673				
Input parameter:	Data type:	Com	Comment:			
xEnable	BOOL	Enab	e speed job with to	orque control		
iSpeed	INT	Refer	ence speed			
wCurrent	WORD	Refer	ence current			
	-	•				
Input/Output parameter:	Data type:		Comment:			
Stepper	MC3_Stepp	erCo	Instance of the stepper			
	mmunication	n	communication function block			
Output parameter:	Data type:	ta type: Comment:				
xDone	BOOL	Job fi	nished			
xBusy	BOOL	Busy				
Graphical description:						
Torque3_2  MC3_MoveTorque2 enableTorque-xEnable xDone speedTorque-iSpeed xBusy—busyTorque2 currentTorque-wCurrent Stepper_673-Stepper >						
<ul> <li>Functional description:</li> <li>The job is defined by the inputs iSpeed and wCurrent. The parameter iSpeed is allowed in the range of 125000 while wCurrent is allowed from 1150. The job will be enabled by the variable xEnable.</li> <li>Parameter changes on the fly are supported.</li> </ul>						



