MCx 401	Write Parameter: _MCx401_WriteParameter

Basic function	Writes an axis servo parameter.
Symbol	
File name	Lib\FBL\omronlib\ PositionController \MCx_MCx401_WriteParameter10.cxf
Applicable models	Motion Control Unit — CS1W-MC221(-V1)/421(-V1)
	CPU Unit — CS1*-CPU**H Unit version 3.0 or higher CJ1*-CPU**H Unit version 3.0 or higher CJ1M-CPU** Unit version 3.0 or higher CP1H
	CX-Programmer — Version 5.0 or higher
Conditions for usage	None
Function description	Parameter value (Value) is written to the parameter specified with Parameter No. (ParameterNo) of the axis specified with Unit No. (UnitNo) and Axis No. (Axis). When the Start trigger turns ON, Parameter value (Value) is written to the specified parameter for the applicable Motion Control Unit. For details of Paramater value (Value), refer to the manuals listed in Parameter No. below. If Parameter Write ends with an error, the error code will be output from Error code (ErrorID). ■ Reference This FB executes Parameter Write using the IOWR instruction for the applicable Motion Control Unit. For details, refer to the manuals listed in Related manuals below.
FB precautions	• This FB is processed over multiple cycles. The Busy flag (Busy) can be used to check whether or not the FB is being processed. • The Parameter Write completed (Done) or Error flag (Error) will be turned ON only for one cycle after processing is completed. Use either flag to detect the end of FB processing.
EN input condition	• As shown above, connect EN to an OR circuit between an upwardly differentiated condition for the Start trigger and the Busy flag (BUSY) output from this FB.
Restrictions Input Variable	• Always use an upwardly differentiated condition for EN. • If any of the Input Variables is set out of range, the output from ENO will turn OFF and the FB will not be processed.
Output Variable	• This FB requires several cycles to process. Always connect an OR circuit including the Busy flag (BUSY) output to ensure that it will be processed to completion. • Do not turn ON or OFF the Busy flag (BUSY) output from outside of this FB.

Application example	When the Bit A turns from OFF to ON, Parameter value (Value) is written to the parameter (the Feed-rate Parameter (X-axis acceleration time) in this example) of the Motion Control Unit of the Unit No. 0.

Related manuals	CS1W-MC221(-V1)/421(-V1) Motion Control Units Operation Manual (W359) 3-3 System Parameter
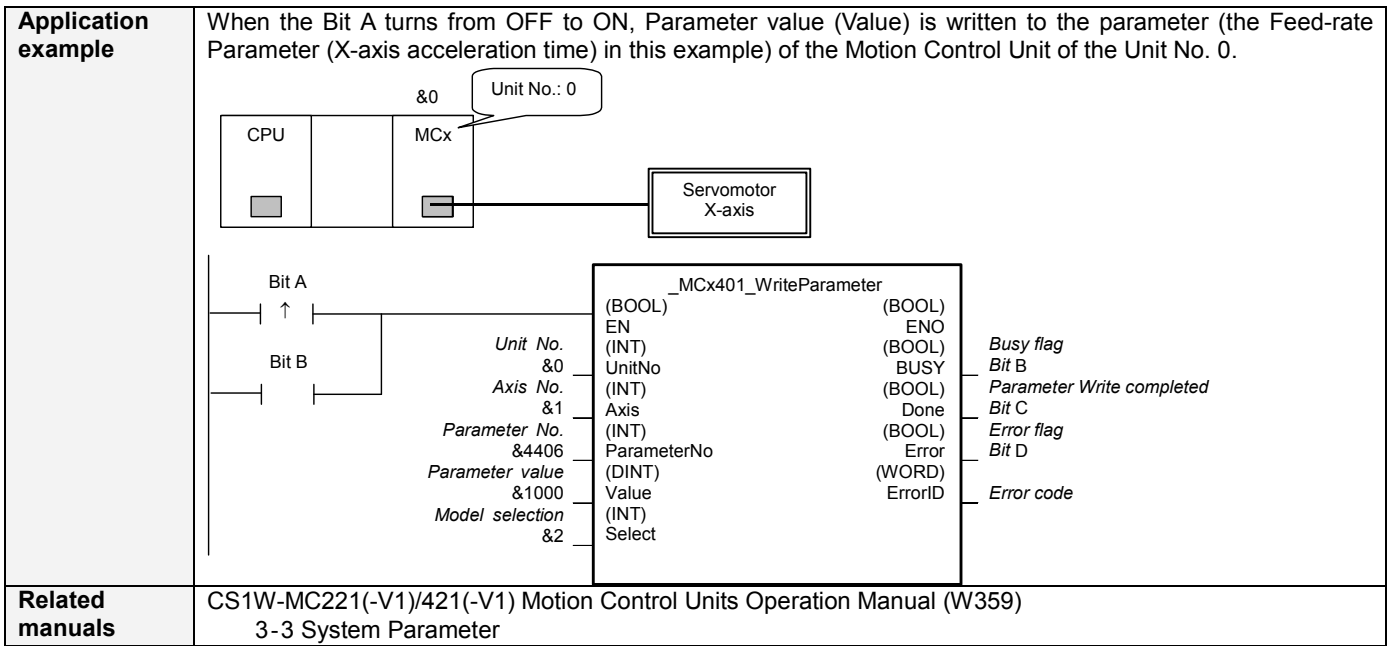
■ **Variable Tables**
Input Variables

Name	Variable name	Data type	Default	Range	Description
EN	EN	BOOL			1 (ON): Starts FB 0 (OFF): Does not start FB
Unit No.	UnitNo	INT	&0	&0 to &93 &0 to &91	Depends on the model of Motion Control Units. &0 to &95 (MC221) &0 to &91 (MC421)
Axis No.	Axis	INT	&1	&1 to &4	&1: X-axis &2: Y-axis &3: Z-axis &4: U-axis
Parameter No.	ParameterNo	INT	&0		Refer to the tables ■ **Parameter No.** below.
Parameter value	Value	DINT	&0		Specify a value to be written using the IOWR instruction here. Refer to the manual listed in Related manuals for details.
Model selection	Select	INT	&4	&2, &4	&2: 2-axis Unit (MC221) &4: 4-axis Unit (MC421)

■ **Parameter No.**
Coordinate Parameters
(Z and U axes can not be used with the CS1W-MC221 Motion Control Units.)

Parameter No.	Name	Address of Motion Control Units			
		X-axis	Y-axis	Z-axis	U-axis
4300	Reference origin offset value	10CCh(4300)	10E5h(4325)	10FEh(4350)	1117h(4375)
4301	Work-piece origin offset value	10CDh(4301)	10E6h(4326)	10FFh(4351)	1118h(4376)

Feed Rate Parameters
(Z and U axes can not be used with the CS1W-MC221 Motion Control Units.)

Parameter No.	Name	Address of Motion Control Units			
		X-axis	Y-axis	Z-axis	U-axis
4406	Acceleration time	1136h(4406)	114Fh(4431)	1168h(4456)	1181h(4481)
4407	Deceleration time	1137h(4407)	1150h(4432)	1169h(4457)	1182h(4482)
4408	Interpolation acceleration time	1138h(4408)	1151h(4433)	116Ah(4458)	1183h(4483)
4409	Interpolation deceleration time	1139h(4409)	1152h(4434)	116Bh(4459)	1184h(4484)
4410	MPG ratio numerator (1) / electronic gear ratio numerator (1)	113Ah(4410)	1153h(4435)	116Ch(4460)	1185h(4485)
4411	MPG ratio denominator (1) / electronic gear ratio denominator (1)	113Bh(4411)	1154h(4436)	116Dh(4461)	1186h(4486)
4412	MPG ratio numerator (2) / electronic gear ratio numerator (2)	113Ch(4412)	1155h(4437)	116Eh(4462)	1187h(4487)
4413	MPG ratio denominator (2) / electronic gear ratio denominator (2)	113Dh(4413)	1156h(4438)	116Fh(4463)	1188h(4488)
4414	MPG ratio numerator (3) / electronic gear ratio numerator (3)	113Eh(4414)	1157h(4439)	1170h(4464)	1189h(4489)

4415	MPG ratio denominator (3) / electronic gear ratio denominator (3)	113Fh(4415)	1158h(4440)	1171h(4465)	118Ah(4490)
4416	MPG ratio numerator (4) / electronic gear ratio numerator (4)	1140h(4416)	1159h(4441)	1172h(4466)	118Bh(4491)
4417	MPG ratio denominator (4) / electronic gear ratio denominator (4)	1141h(4417)	115Ah(4442)	1173h(4467)	118Ch(4492)

Zone Parameters

(Z and U axes can not be used with the CS1W-MC221 Motion Control Units.)

Parameter No.	Name	Address of Motion Control Units			
		X-axis	Y-axis	Z-axis	U-axis
4500	Zone specification	1194h(4500)	11ADh(4525)	11C6h(4550)	11DFh(4575)
4501	Zone 1 negative direction setting	1195h(4501)	11AEh(4526)	11C7h(4551)	11E0h(4576)
4502	Zone 1 positive direction setting	1196h(4502)	11AFh(4527)	11C8h(4552)	11E1h(4577)
4503	Zone 2 negative direction setting	1197h(4503)	11B0h(4528)	11C9h(4553)	11E2h(4578)
4504	Zone 2 positive direction setting	1198h(4504)	11B1h(4529)	11CAh(4554)	11E3h(4579)
4505	Zone 3 negative direction setting	1199h(4505)	11B2h(4530)	11CBh(4555)	11E4h(4580)
4506	Zone 3 positive direction setting	119Ah(4506)	11B3h(4531)	11CCh(4556)	11E5h(4581)
4507	Zone 4 negative direction setting	119Bh(4507)	11B4h(4532)	11CDh(4557)	11E6h(4582)
4508	Zone 4 positive direction setting	119Ch(4508)	11B5h(4533)	11CEh(4558)	11E7h(4583)
4509	Zone 5 negative direction setting	119Dh(4509)	11B6h(4534)	11CFh(4559)	11E8h(4584)
4510	Zone 5 positive direction setting	119Eh(4510)	11B7h(4535)	11D0h(4560)	11E9h(4585)
4511	Zone 6 negative direction setting	119Fh(4511)	11B8h(4536)	11D1h(4561)	11EAh(4586)
4512	Zone 6 positive direction setting	11A0h(4512)	11B9h(4537)	11D2h(4562)	11EBh(4587)
4513	Zone 7 negative direction setting	11A1h(4513)	11BAh(4538)	11D3h(4563)	11ECh(4588)
4514	Zone 7 positive direction setting	11A2h(4514)	11BBh(4539)	11D4h(4564)	11EDh(4589)
4515	Zone 8 negative direction setting	10A3h(4515)	11BCh(4540)	11D5h(4565)	11EEh(4590)
4516	Zone 8 positive direction setting	10A4h(4516)	11BDh(4541)	11D6h(4566)	11EFh(4591)

Servo Parameters

(Z and U axes can not be used with the CS1W-MC221 Motion Control Units.)

Parameter No.	Name	Address of Motion Control Units			
		X-axis	Y-axis	Z-axis	U-axis
4600	Error counter warning value	11F8h(4600)	1211h(4625)	122Ah(4650)	1243h(4675)
4601	In-position range	11F9h(4601)	1212h(4626)	122Bh(4651)	1244h(4676)
4602	Position loop gain	11FAh(4602)	1213h(4627)	122Ch(4652)	1245h(4677)
4603	Position loop FF gain	11FBh(4603)	1214h(4628)	122Dh(4653)	1246h(4678)
4604	Backlash correction value	11FCh(4604)	1215h(4629)	122Eh(4654)	1247h(4679)
4605	Brake OFF time	11FDh(4605)	1216h(4630)	122Fh(4655)	1248h(4680)
4606	Brake On time	11FEh(4606)	1217h(4631)	1230h(4656)	1249h(4681)

Output Variables

Name	Variable name	Data type	Range	Description
ENO	ENO	BOOL		1 (ON): FB operating normally 0 (OFF): FB not operating normally or FB ended with an error
Busy flag	BUSY	BOOL		The output from this Output Variable will automatically turns OFF after completion of Parameter Write.
Parameter Write completed	Done	BOOL		This turns ON only for 1 cycle when the FB ends its processing normally.
Error flag	Error	BOOL		This turns ON only for 1 cycle when the FB ends with an error.
Error code	ErrorID	WORD		The error code of the error occurred in the FB will be output. For details of the errors, refer to the manual listed in the Related manuals above. When Unit No. or Axis No. is out of the range or when a bit to be used for this FB is already ON, #0000 will be output.

Version History

Version	Date	Contents
1.00	2005.4	Original production

Note

This manual is a reference that explains the function block functions.
It does not explain the operational limitations of Units, components, or combinations of Units and components. Always read and understand the Operation Manuals for the system's Units and other components before using them.