MELSEC-L LD75P/LD75D Positioning Module Sample Ladder Reference Manual

Applicable modules:
LD75P4, LD75D4

<Contents>

Reference Manual Revision History

Reference Manual Number	Date	Description
LDM-M022-A	2011/09/26	First edition

1 Overview

Overview of the Sample Ladder Programs

The sample ladder programs support a system that uses the MELSEC-L LD75P/LD75D positioning module (LD75P4 and LD74D4).

Sample Ladder Program Functions

The programs have the following functions.

(1) When Using the Module in Standard System Configuration

No.	Project name	Program name	Item	Description	Version
1	LD-LD75_NML_V100A_E	01SetPRM	Parameter setting	Sets the basic parameters, OPR basic parameters, and speed-position switching control (ABS) parameters.	1.00A
2		02SetPOS	Positioning data setting	Sets the positioning data.	1.00A
3		03SetBlk	Block start data setting	Sets the block start data.	1.00A
4		04OffBas	OPR request OFF	Turns OFF the OPR request for Axis 1.	1.00A
5		05SetOut	External command function valid setting	Validates/invalidates the external command function.	1.00A
6		06OnRdy	PLC READY signal [Y0] ON	Turns ON the PLC READY signal [Y0].	1.00A
7		07SetNum	Positioning start No. setting	Sets the positioning start number.	1.00A
8		08StaPOS	Positioning start	Performs the positioning start for Axis 1.	1.00A
9		09MCode	M code OFF	Sets the M code OFF request.	1.00A
10		10SetJOG	JOG operation setting	Makes the JOG operation setting for Axis 1.	1.00A
11		11SetINT	Inching operation setting	Makes the inching operation setting for Axis 1.	1.00A

No.	Project name	Program name	Item	Description	Version
12	LD-LD75_NML_V100A_E	12RunJOG	JOG operation/inching operation execution	Performs the JOG operation/inching operation for Axis 1.	1.00A
13		13RunMPG	Manual pulse generator operation	Performs manual pulse generator operation for Axis 1.	1.00A
14		14ChgSpd	Speed change	Performs the speed change for Axis 1.	1.00A
15		15OvrRid	Override	Sets the override value for Axis 1.	1.00A
16		16ChgTim	Acceleration/deceleration time change	Changes the acceleration/deceleration time for Axis 1.	1.00A
17		17RunStp	Step operation	Performs the step operation for Axis 1.	1.00A
18		18RunSkp	Skip	Performs the skip operation.	1.00A
19		19Teach	Teaching	Performs the teaching operation.	1.00A
20		20StpCon	Continuous operation interrupt	Makes a request to interrupt the continuous operation for Axis 1.	1.00A
21		21ChgPOS	Target position change	Performs the target position change for Axis 1.	1.00A
22		22Abrst	Absolute position restoration	Performs absolute position restoration processing for Axis 1.	1.00A
23		23Restat	Restart	Performs the restart operation for Axis 1.	1.00A
24		24IniPRM	Parameter initialization	Initializes the parameters.	1.00A
25		25WrtROM	Flash ROM write	Writes data to the flash ROM.	1.00A
26		26RstErr	Error reset	Reads error codes and resets errors for Axis 1.	1.00A
27		27Stop	Stop	Performs the axis stop for Axis 1.	1.00A

(2) When Connecting the Module to the Head Module

No.	Project	Program	Item	Description	Version
1	LD-LD75_IEF_V100A_E	01SetPRM	Parameter setting	Sets the basic parameters, OPR basic parameters, and speed-position switching control (ABS) parameters.	1.00A
2		02SetPOS	Positioning data setting	Sets the positioning data.	1.00A
3		03SetBlk	Block start data setting	Sets the block start data.	1.00A
4		04OffBas	OPR request OFF	Turns OFF the OPR request for Axis 1.	1.00A
5		05SetOut	External command function valid setting	Validates/invalidates the external command function.	1.00A
6		06OnRdy	PLC READY signal [Y0] ON	Turns ON the PLC READY signal [Y0].	1.00A
7		07SetNum	Positioning start No. setting	Sets the positioning start number.	1.00A
8		08StaPOS	Positioning start	Performs the positioning start for Axis 1.	1.00A
9		09MCode	M code OFF	Sets the M code OFF request.	1.00A
10		10SetJOG	JOG operation setting	Makes the JOG operation setting for Axis 1.	1.00A
11		11SetINT	Inching operation setting	Makes the inching operation setting for Axis 1.	1.00A
12		12RunJOG	JOG operation/inching operation execution	Performs the JOG operation/inching operation for Axis 1.	1.00A
13		13RunMPG	Manual pulse generator operation	Performs manual pulse generator operation for Axis 1.	1.00A
14		14ChgSpd	Speed change	Performs the speed change for Axis 1.	1.00A

No.	Project	Program	Item	Description	Version
15	LD-LD75_IEF_V100A_E	15OvrRid	Override	Sets the override value for Axis 1.	1.00A
16		16ChgTim	Acceleration/deceleration time change	Changes the acceleration/deceleration time for Axis 1.	1.00A
17		17RunStp	Step operation	Performs the step operation for Axis 1.	1.00A
18		18RunSkp	Skip	Performs the skip operation.	1.00A
19		19StpCon	Continuous operation interrupt	Makes a request to interrupt the continuous operation for Axis 1.	1.00A
20		20ChgPOS	Target position change	Performs the target position change for Axis 1.	1.00A
21		21Restat	Restart	Performs the restart operation for Axis 1.	1.00A
22		22IniPRM	Parameter initialization	Initializes the parameters.	1.00A
23		23WrtROM	Flash ROM write	Writes data to the flash ROM.	1.00A
24		24RstErr	Error reset	Reads error codes and resets errors for Axis 1.	1.00A
25		25Stop	Stop	Performs the axis stop for Axis 1.	1.00A

Relevant Manuals

MELSEC-L LD75P/LD75D Positioning Module User's Manual

MELSEC-Q CC-Link IE Field Network Master/Local Module User's Manual

MELSEC-L CC-Link IE Field Network Master/Local Module User's Manual

MELSEC-L CC-Link IE Field Network Head Module User's Manual

QCPU User's Manual(Hardware Design, Maintenance and Inspection)

MELSEC-L CPU Module User's Manual (Hardware Design, Maintenance and Inspection)

GX Works2 Version 1 Operating Manual (Common)

GX Developer Version 8 Operating Manual

Note

This manual describes the functions of the sample ladder programs. It does not include information on restrictions of use such as combination with modules or programmable controller CPUs. Before using any Mitsubishi products, please read all the relevant manuals.

For information on the detailed specifications and operation timings of the sample ladder programs, refer to the MELSEC-L LD75P/LD75D Positioning Module User's Manual. The descriptions of the sample ladder programs in this manual may be different from the ones found in the MELSEC-L LD75P/LD75D Positioning Module User's Manual depending on the date created.

2 When Using the Module in Standard System Configuration

2.1 Parameter Setting

Function overview

This program sets the basic parameters, OPR basic parameters, and speed-position switching control (ABS) parameters.

Program

This function uses the project (program name).

•LD-LD75_NML_V100A_E(01SetPRM)

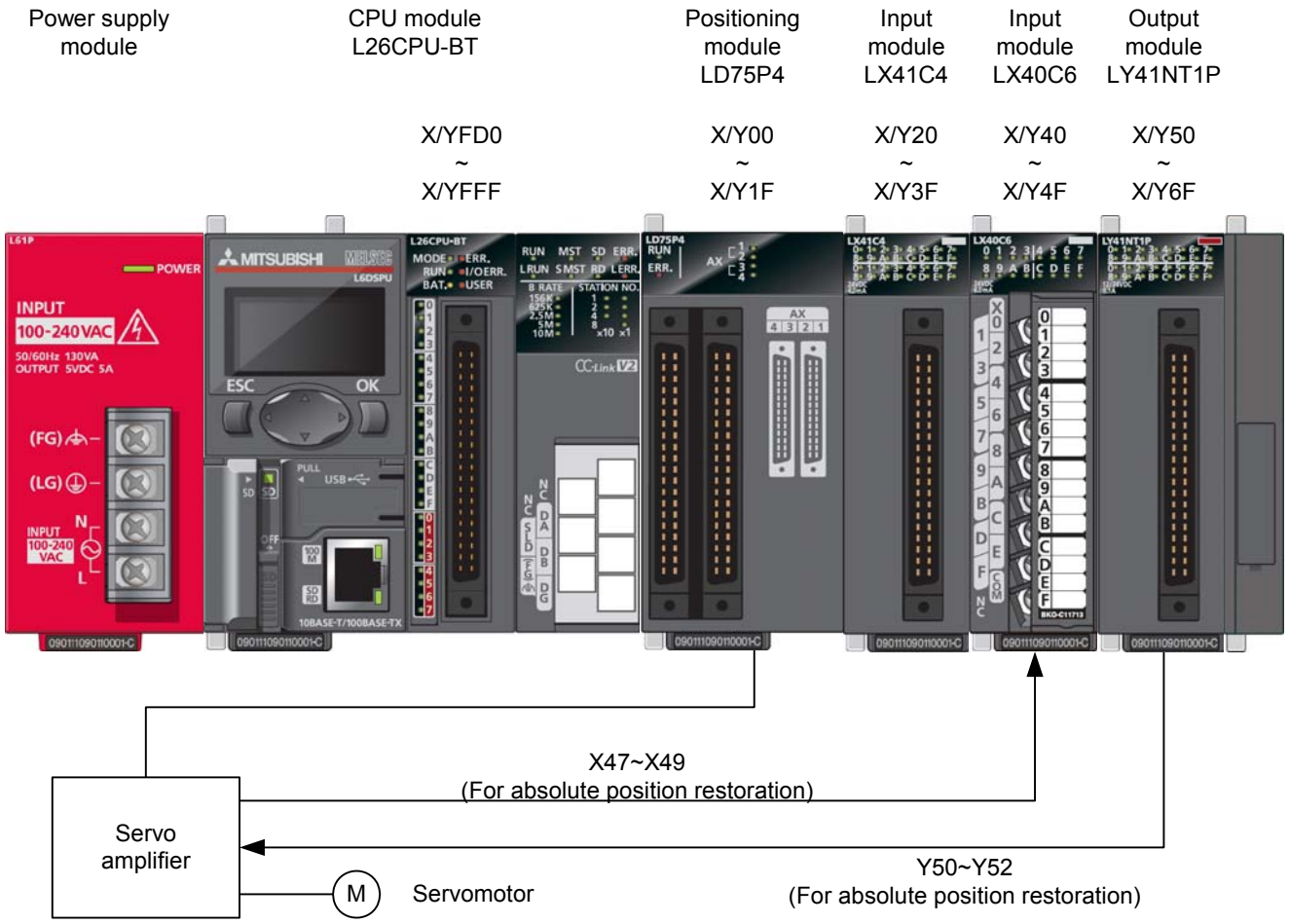
Applicable Hardware and Software

The following are the hardware and software applicable to the sample ladder programs.

<table>
<tr><th>Model</th><th>Description</th></tr>
<tr><td>Positioning module</td><td>LD75P4 and LD75D4</td></tr>
<tr><td>CPU module</td><td><table><tr><td>Series</td><td>Model</td></tr><tr><td>MELSEC-L series</td><td>LCPU</td></tr></table></td></tr>
<tr><td>Input Module</td><td>MELSEC-L series input module</td></tr>
<tr><td>Output Module</td><td>MELSEC-L series output module</td></tr>
<tr><td>Compatible software</td><td>GX Works2, GX Developer *1 *2
*1 For software versions applicable to the module used, refer to "Relevant manuals".
*2 When using GX Developer, use GX Configurator-QP to set the intelligent function module parameters.</td></tr>
</table>

System Configuration

The following system configuration is used for the sample ladder programs.



This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X4D	Bit	Speed-position switching control (ABS mode) setting command	-

Conditions for Using Sample Ladder Programs

●Positioning Data Setting

The following explains the settings for the LD75 positioning module that the programs use.

(1) Setting for Positioning Data

a) Open the positioning data axis #1 setting screen and configure the setting as follows.

Project window→[Intelligent Function Module]→Module name→[Positioning_Data_Axis_#1]

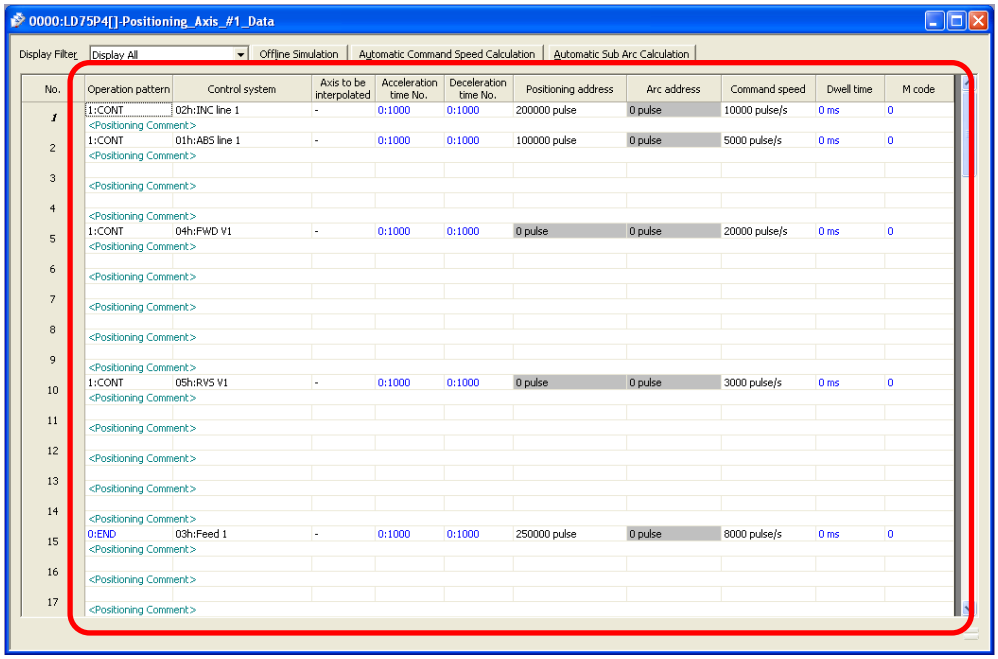


Table 2-1-2 Positioning Data for Axis 1

No.	Operation pattern	Control system	Acceleration time No.	Deceleration time No.	Positioning address	Command speed
1	1:Continuous positioning control	02h:INC linear 1	0:1000	0:1000	200000 pulses	10000 pulses/s
2	1:Continuous positioning control	01h:ABS Linear 1	0:1000	0:1000	100000 pulses	5000 pulses/s
5	1:Continuous positioning control	04h:1-axis speed control (forward run)	0:1000	0:1000		20000 pulses/s
10	1:Continuous positioning control	05h:1-axis speed control (reverse run)	0:1000	0:1000		3000 pulses/s
15	0:Positioning complete	03h:1-axis fixed-feed control	0:1000	0:1000	250000 pulses	8000 pulses/s

Devices

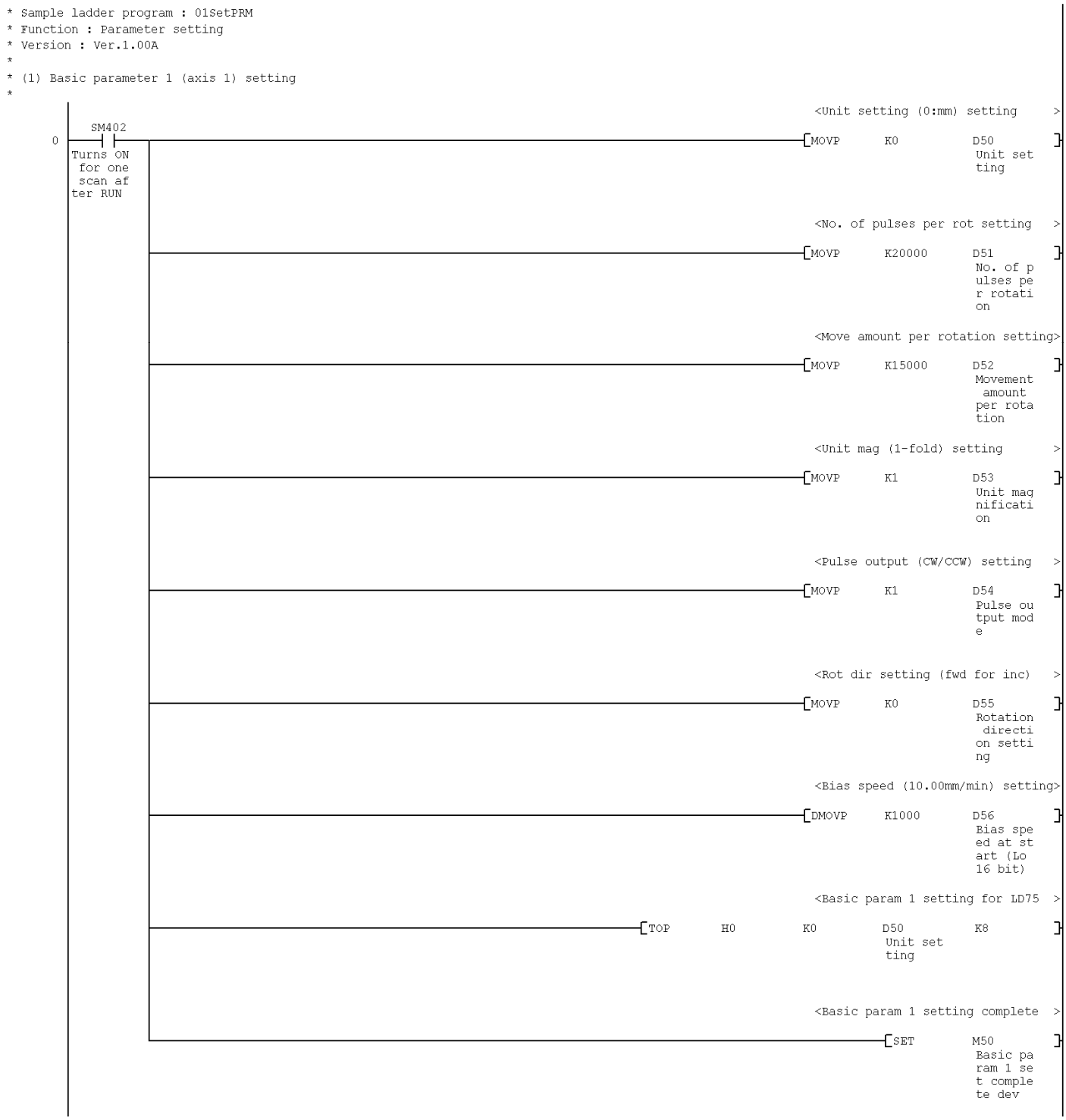
This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	SM402	Bit	Data setting processing start trigger	Turns ON for one scan after RUN.
2	X4D	Bit	Speed-position switching control (ABS mode) setting command	-
3	D50	Word	Unit setting	Sets the unit setting.
4	D51	Word	No. of pulses per rotation	Sets the number of pulses per rotation.
5	D52	Word	Movement amount per rotation	Sets the movement amount per rotation.
6	D53	Word	Unit magnification	Sets the unit magnification.
7	D54	Word	Pulse output mode	Sets the pulse output mode.
8	D55	Word	Rotation direction setting	Sets the rotation direction.
9	D56	Word	Bias speed at start (low-order 16 bits)	Sets the bias speed at start.
10	D57	Word	Bias speed at start (high-order 16 bits)	
11	D200	Word	OPR method	Sets the OPR method for Axis 1.
12	D201	Word	OPR direction	Sets the OPR direction for Axis 1.
13	D202	Word	OP address (low-order 16 bits)	Sets the OP address for Axis 1.
14	D203	Word	OP address (high-order 16 bits)	
15	D204	Word	OPR speed (low-order 16 bits)	Sets the OPR speed for Axis 1.
16	D205	Word	OPR speed (high-order 16 bits)	
17	D206	Word	Creep speed (low-order 16 bits)	Sets the creep speed for Axis 1.
18	D207	Word	Creep speed (high-order 16 bits)	
19	D208	Word	OPR retry	Enables/disables the OPR retry for Axis.
20	M50	Bit	Basic parameter 1 setting complete device	-
21	M51	Bit	OPR basic parameter setting complete device	-

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program



Continues on next page.

```
*
* (2) OPR basic parameter (axis 1) setting
*
                                                            <OPR method set to near-point dog>
      SM402
 256 ─┤ ├──┬────────────────────────────────────────────[MOVP     K0        D200           ]
   Turns ON│                                                                  OPR meth
   for one │                                                                  od
   scan af │
   ter RUN │
           │                                                <OPR direction set to positive  >
           ├────────────────────────────────────────────[MOVP     K0        D201           ]
           │                                                                  OPR dire
           │                                                                  ction
           │
           │                                                <OP address set to 0            >
           ├────────────────────────────────────────────[DMOVP    K0        D202           ]
           │                                                                  OP addre
           │                                                                  ss (Lo 1
           │                                                                  6 bit)
           │
           │                                                <OPR speed (50.00mm/min) setting >
           ├────────────────────────────────────────────[DMOVP    K5000     D204           ]
           │                                                                  OPR spee
           │                                                                  d (Lo 16
           │                                                                   bit)
           │
           │                                                <Creep spd (15.00mm/min) setting >
           ├────────────────────────────────────────────[DMOVP    K1500     D206           ]
           │                                                                  Creep sp
           │                                                                  eed (Lo
           │                                                                  16 bit)
           │
           │                                                <Set to OPR retry               >
           ├────────────────────────────────────────────[MOVP     K1        D208           ]
           │                                                                  OPR retr
           │                                                                  y
           │
           │                                                <OPR basic param setting for LD75>
           ├─────────────────────────────────[TOP     H0      K70      D200      K9        ]
           │                                                       OPR meth
           │                                                       od
           │
           │                                                <OPR basic param setting complete>
           └───────────────────────────────────────────────────[SET        M51             ]
                                                                             OPR basi
                                                                             c param
                                                                             set comp
                                                                             lete dev
*
* (3) Speed-position switching control (ABS) parameter setting
* <For axis 1>
* (Not required when spd-pos sw ctrl (ABS) is not executed)
* <X4D turns ON before startup>
*
                                                            <Unit setting (2:degree) setting >
      SM402      X4D
 439 ─┤ ├───────┤ ├──┬──────────────────────────[TOP     H0      K0       K2        K1        ]
   Turns ON  Spd-pos │
   for one   sw ctrl │
   scan af   (ABS) se│
   ter RUN   t cmd   │
                     │                                      <(Software stroke lmt upr lmt)=0 >
                     ├──────────────────────────[DTOP    H0      K18      K0        K1        ]
                     │                                      <(Software stroke lmt lwr lmt)=0 >
                     ├──────────────────────────[DTOP    H0      K20      K0        K1        ]
                     │                                      <(Cur feed val during spd ctrl)=1>
                     ├──────────────────────────[TOP     H0      K30      K1        K1        ]
                     │                                      <Speed-position fnc selection ABS>
                     └──────────────────────────[TOP     H0      K34      K2        K1        ]

 660 ──────────────────────────────────────────────────────────────────────[END             ]
```

2.2 Positioning Data Setting

Function overview

This program sets the positioning data.

Program

This function uses the project (program name).

•LD-LD75_NML_V100A_E(02SetPOS)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "2.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "2.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	-	-	-	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "2.1 Parameter Setting"

Devices

This program uses the following devices.

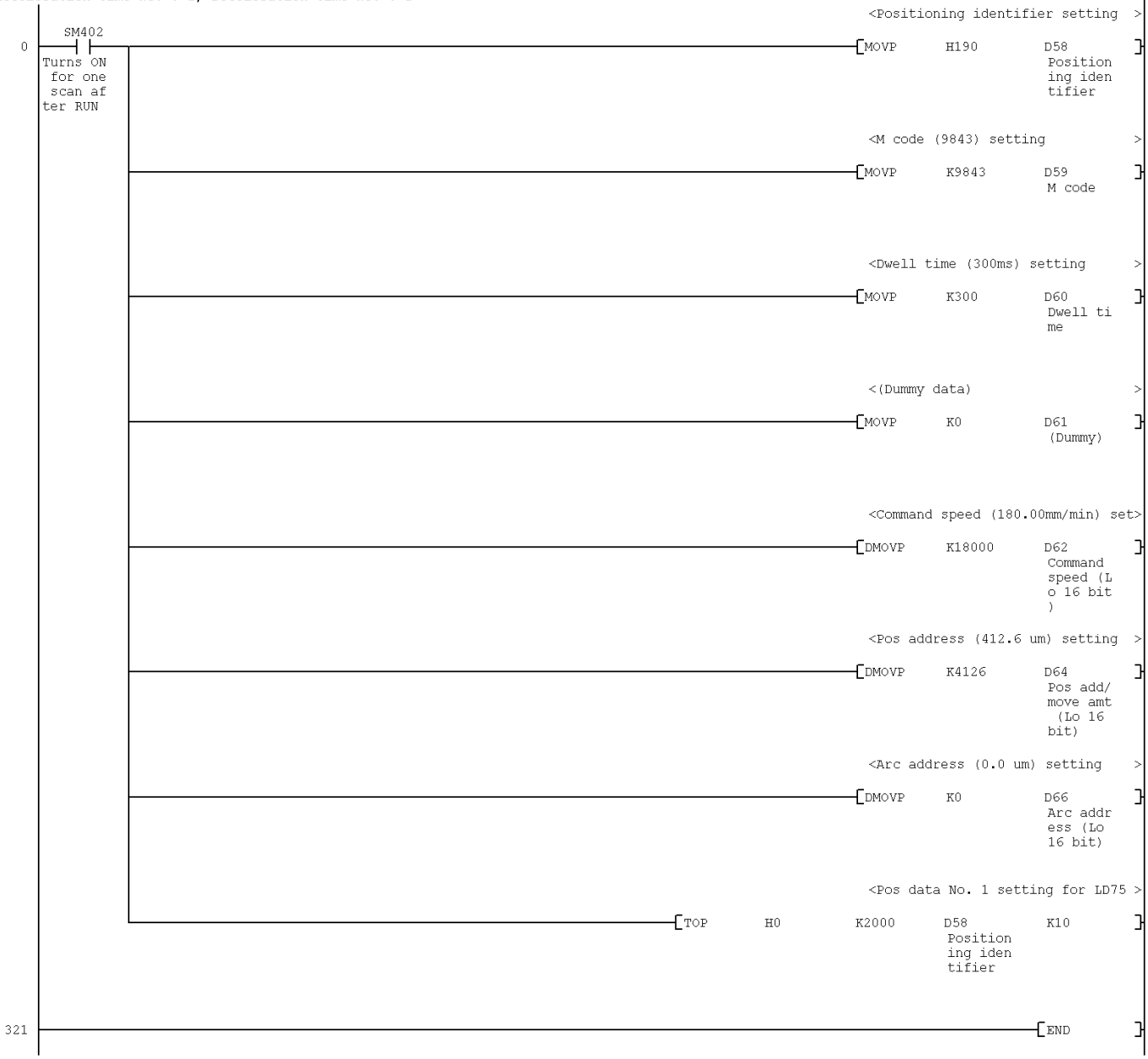
No.	Device	Data Type	Application	Remarks
1	SM402	Bit	Positioning data setting trigger	Turns ON for one scan after RUN.
2	D58	Word	Positioning identifier	Sets the positioning identifier.
3	D59	Word	M code	Sets the M code.
4	D60	Word	Dwell time	Sets the dwell time.
5	D61	Word	(Dummy)	-
6	D62	Word	Command speed (low-order 16 bits)	Sets the command speed.
7	D63	Word	Command speed (high-order 16 bits)	
8	D64	Word	Positioning address/movement amount (low-order 16 bits)	Sets the positioning address.
9	D65	Word	Positioning address/movement amount (high-order 16 bits)	
10	D66	Word	Arc address (low-order 16 bits)	Sets the arc address.
11	D67	Word	Arc address (high-order 16 bits)	

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program

```
* Sample ladder program : 02SetPOS
* Function : Positioning data setting
* Version : Ver.1.00A
*
* (For positioning data No.1 <axis 1>)
* <Positioning identifier>
* Operation pattern : Positioning complete
* Control system : 1-axis linear control (ABS)
*  Acceleration time No. : 1, Deceleration time No. : 2
```



2.3 Block Start Data Setting

Function Overview

This program sets the block start data.

Program

This function uses the project (program name).

•LD-LD75_NML_V100A_E(03SetBlk)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "2.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "2.1 Parameter Setting"

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "2.1 Parameter Setting"

Devices

This program uses the following devices.

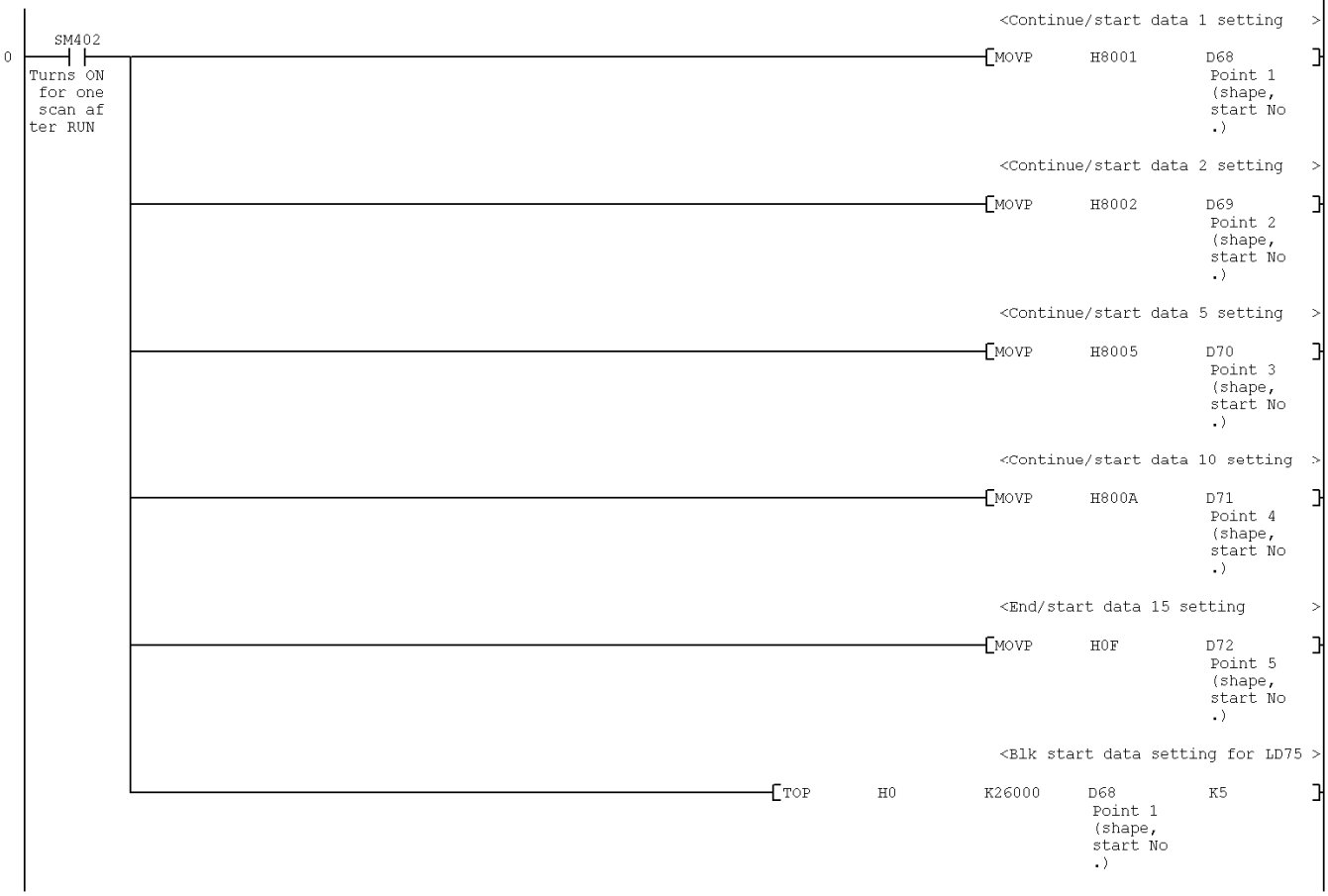
No.	Device	Data Type	Application	Remarks
1	SM402	Bit	Block start data setting trigger	Turns ON for one scan after RUN.
2	D68	Word	Point 1 (shape, start No.)	Sets continue/start data No.1.
3	D69	Word	Point 2 (shape, start No.)	Sets the continue and start data No.2.
4	D70	Word	Point 3 (shape, start No.)	Sets the continue and start data No.5.
5	D71	Word	Point 4 (shape, start No.)	Sets the continue and start data No. 10.
6	D72	Word	Point 5 (shape, start No.)	Sets the end and start data No.15.
7	D73	Word	Point 1 (special start instruction)	Sets the special start instruction (point 1).
8	D74	Word	Point 2 (special start instruction)	Sets the special start instruction (point 2).
9	D75	Word	Point 3 (special start instruction)	Sets the special start instruction (point 3).
10	D76	Word	Point 4 (special start instruction)	Sets the special start instruction (point 4).
11	D77	Word	Point 5 (special start instruction)	Sets the special start instruction (point 5).

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program

```
* Sample ladder program : 03SetBlk
* Function : Block start data setting
* Version : Ver.1.00A
*
*   Block start data of start block 0 (axis 1)
*   For setting of points 1 to 5
*     (Conditions)
*     Shape : Continued at points 1 to 4, ended at point 5
*     Special start inst: Normal start at all of points 1 to 5
*     <Positioning data are already preset>
*
*
*
*      [Set shape and start No.]
*
*
```



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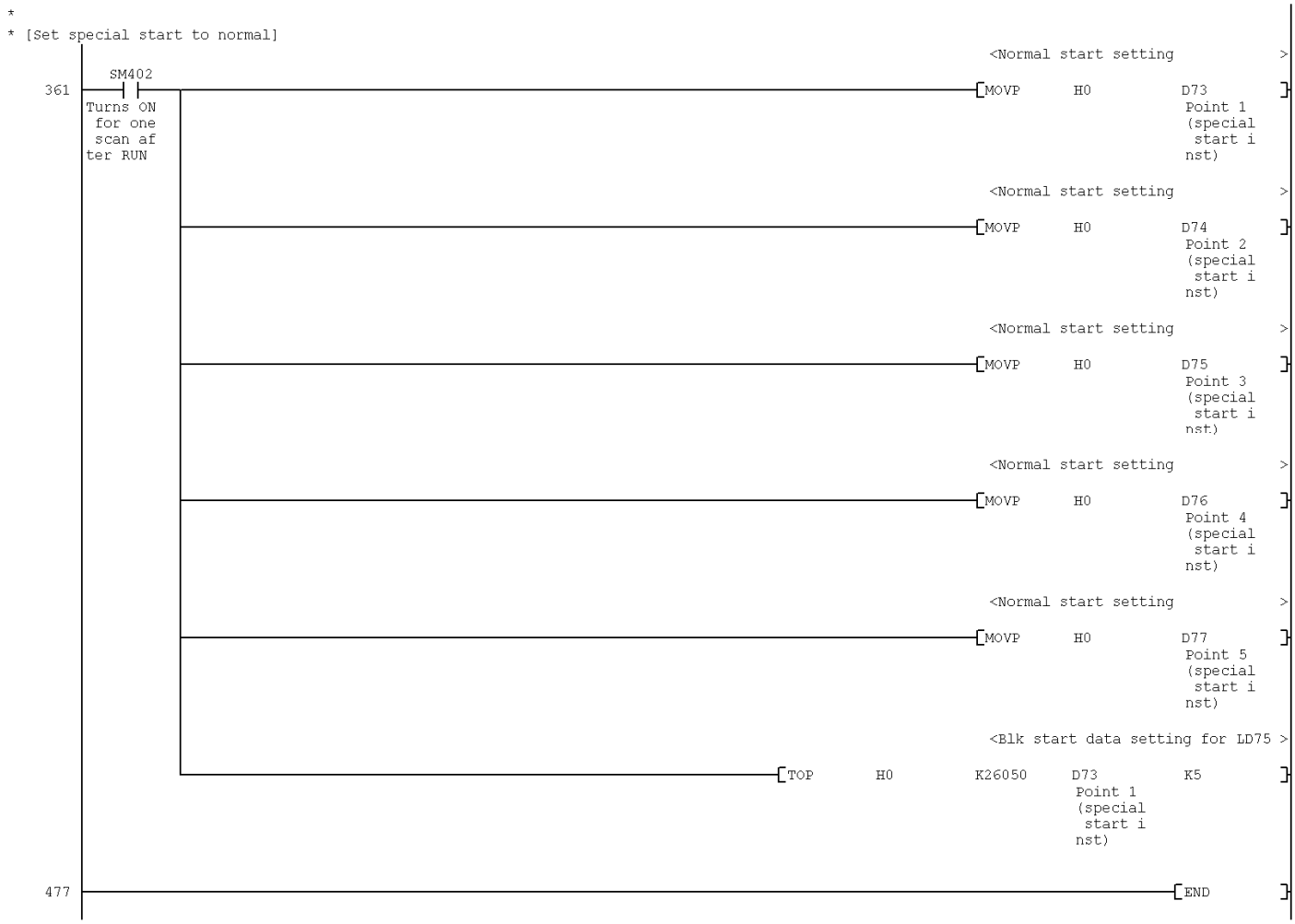

*
* [Set special start to normal]
<Normal start setting >
SM402
361
MOVP H0 D73
Turns ON for one scan af ter RUN
Point 1 (special start i nst)
<Normal start setting >
MOVP H0 D74
Point 2 (special start i nst)
<Normal start setting >
MOVP H0 D75
Point 3 (special start i nst)
<Normal start setting >
MOVP H0 D76
Point 4 (special start i nst)
<Normal start setting >
MOVP H0 D77
Point 5 (special start i nst)
<Blk start data setting for LD75 >
TOP H0 K26050 D73 K5
Point 1 (special start i nst)
477
END

2.4 OPR Request OFF

Function Overview

This program turns OFF the OPR request for Axis 1.

Program

This function uses the project (program name).

•LD-LD75_NML_V100A_E(04OffBas)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "2.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "2.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X10	Bit	Axis 1 Start complete signal	-
2	X20	Bit	OPR request OFF command	-
3	Y10	Bit	Axis 1 Positioning start signal	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "2.1 Parameter Setting"

Devices

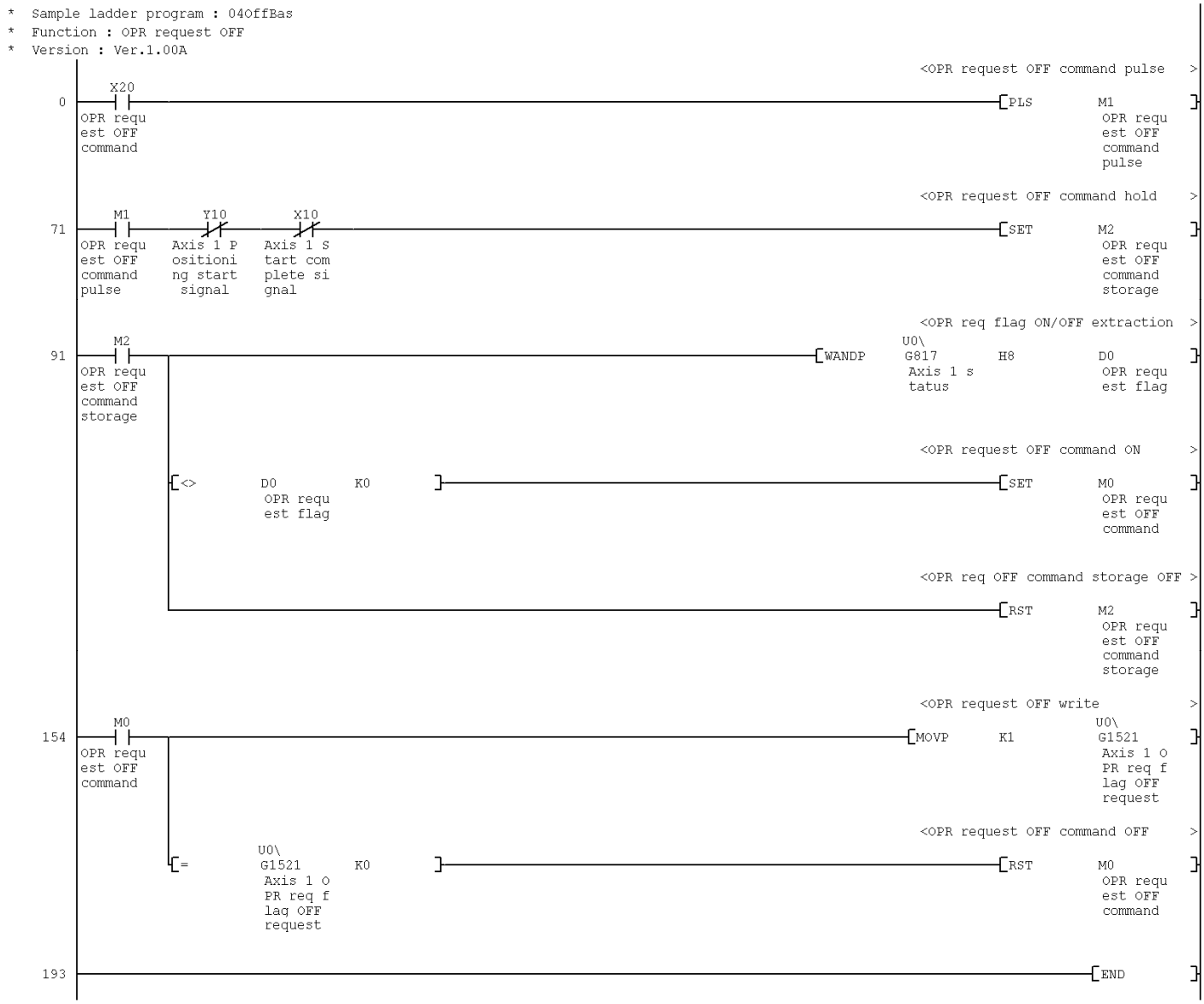
This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X10	Bit	Axis 1 Start complete signal	-
2	X20	Bit	OPR request OFF command	-
3	Y10	Bit	Axis 1 Positioning start signal	-
4	M0	Bit	OPR request OFF command	-
5	M1	Bit	OPR request OFF command pulse	-
6	M2	Bit	OPR request OFF command storage	Stores the OPR request OFF command.
7	D0	Word	OPR request flag	-

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program


* Sample ladder program : 040ffBas
* Function : OPR request OFF
* Version : Ver.1.00A
<OPR request OFF command pulse >
X20
0
OPR requ
est OFF
command
PLS
M1
OPR requ
est OFF
command
pulse
<OPR request OFF command hold >
M1
Y10
X10
71
OPR requ
est OFF
command
pulse
Axis 1 P
ositioni
ng start
signal
Axis 1 S
tart com
plete si
gnal
SET
M2
OPR requ
est OFF
command
storage
<OPR req flag ON/OFF extraction >
M2
91
OPR requ
est OFF
command
storage
WANDP
U0\
G817
Axis 1 s
tatus
H8
D0
OPR requ
est flag
<OPR request OFF command ON >
<>
D0
OPR requ
est flag
K0
SET
M0
OPR requ
est OFF
command
<OPR req OFF command storage OFF >
RST
M2
OPR requ
est OFF
command
storage
<OPR request OFF write >
M0
154
OPR requ
est OFF
command
MOVP
K1
U0\
G1521
Axis 1 O
PR req f
lag OFF
request
<OPR request OFF command OFF >
=
U0\
G1521
Axis 1 O
PR req f
lag OFF
request
K0
RST
M0
OPR requ
est OFF
command
193
END

2.5 External Command Function Valid Setting

Function Overview

This program validates/invalidates the external command function.

Program

This function uses the project (program name).

•LD-LD75_NML_V100A_E(05SetOut)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "2.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "2.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X21	Bit	External command valid command	-
2	X22	Bit	External command invalid command	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "2.1 Parameter Setting"

Devices

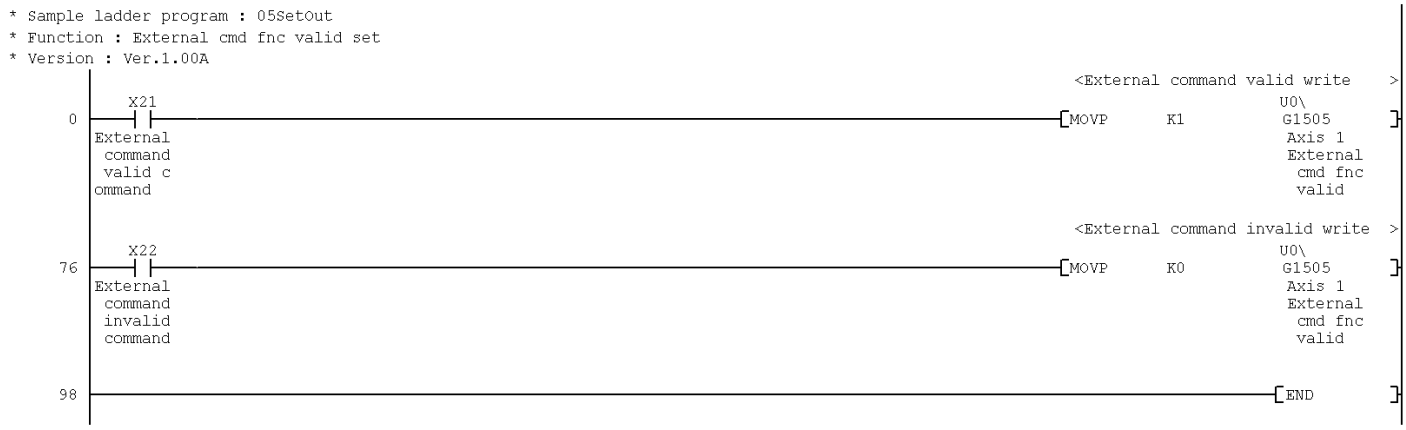
This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X21	Bit	External command valid command	-
2	X22	Bit	External command invalid command	-

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program


* Sample ladder program : 05SetOut
* Function : External cmd fnc valid set
* Version : Ver.1.00A
<External command valid write >
X21
0
MOVP K1 U0\G1505
External command valid command
Axis 1 External cmd fnc valid
<External command invalid write >
X22
76
MOVP K0 U0\G1505
External command invalid command
Axis 1 External cmd fnc valid
98
END

2.6 PLC READY Signal [Y0] ON

Function Overview

This program turns ON the PLC READY signal [Y0].

Program

This function uses the project (program name).

•LD-LD75_NML_V100A_E(06OnRdy)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "2.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "2.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	Y0	Bit	PLC READY signal	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "2.1 Parameter Setting"

Devices

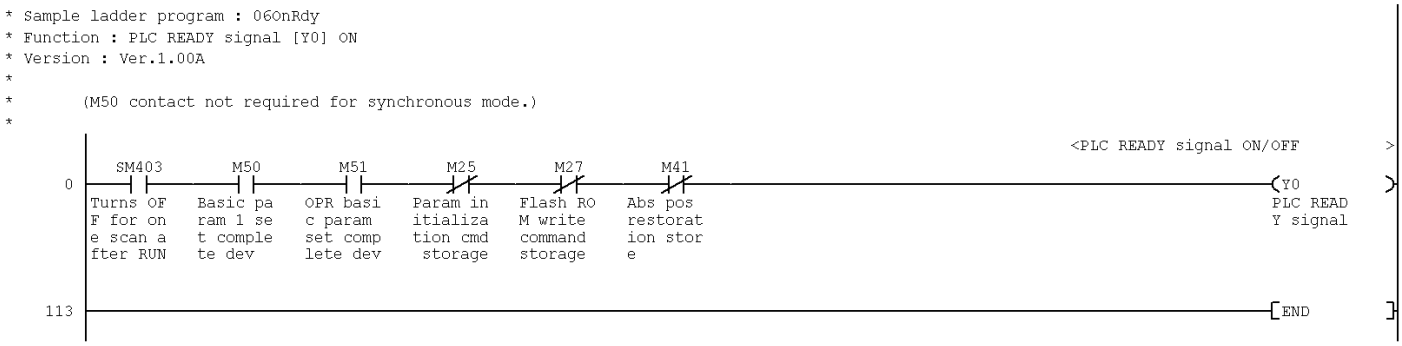
This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	SM403	Bit	PLC READY signal [Y0] ON trigger	Turns OFF for one scan after RUN.
2	Y0	Bit	PLC READY signal	-
3	M25	Bit	Parameter initialization command storage	-
4	M27	Bit	Flash ROM write command storage	-
5	M41	Bit	Absolute position restoration instruction storage	-
6	M50	Bit	Basic parameter 1 setting complete device	-
7	M51	Bit	OPR basic parameter setting complete device	-

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program


* Sample ladder program : 060nRdy
* Function : PLC READY signal [Y0] ON
* Version : Ver.1.00A
*
* (M50 contact not required for synchronous mode.)
*
<PLC READY signal ON/OFF >
SM403
M50
M51
M25
M27
M41
0
Turns OF F for on e scan a fter RUN
Basic pa ram 1 se t comple te dev
OPR basi c param set comp lete dev
Param in itializa tion cmd storage
Flash RO M write command storage
Abs pos restorat ion stor e
Y0
PLC READ Y signal
113
END

2.7 Positioning Start No. Setting

Function Overview

This program sets the positioning start number.

Program

This function uses the project (program name).

•LD-LD75_NML_V100A_E(07SetNum)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "2.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "2.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X23	Bit	Machine OPR command	-
2	X24	Bit	Fast OPR command	-
3	X25	Bit	Positioning start command	-
4	X26	Bit	Speed-position switching operation command	-
5	X27	Bit	Speed-position switching enable command	-
6	X28	Bit	Speed-position switching prohibit command	-
7	X29	Bit	Movement amount change command	-
8	X2A	Bit	High-level positioning control start command	-
9	X40	Bit	Position-speed switching operation command	-
10	X41	Bit	Position-speed switching enable command	-
11	X42	Bit	Position-speed switching prohibit command	-
12	X43	Bit	Speed change command	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "2.1 Parameter Setting"

Devices

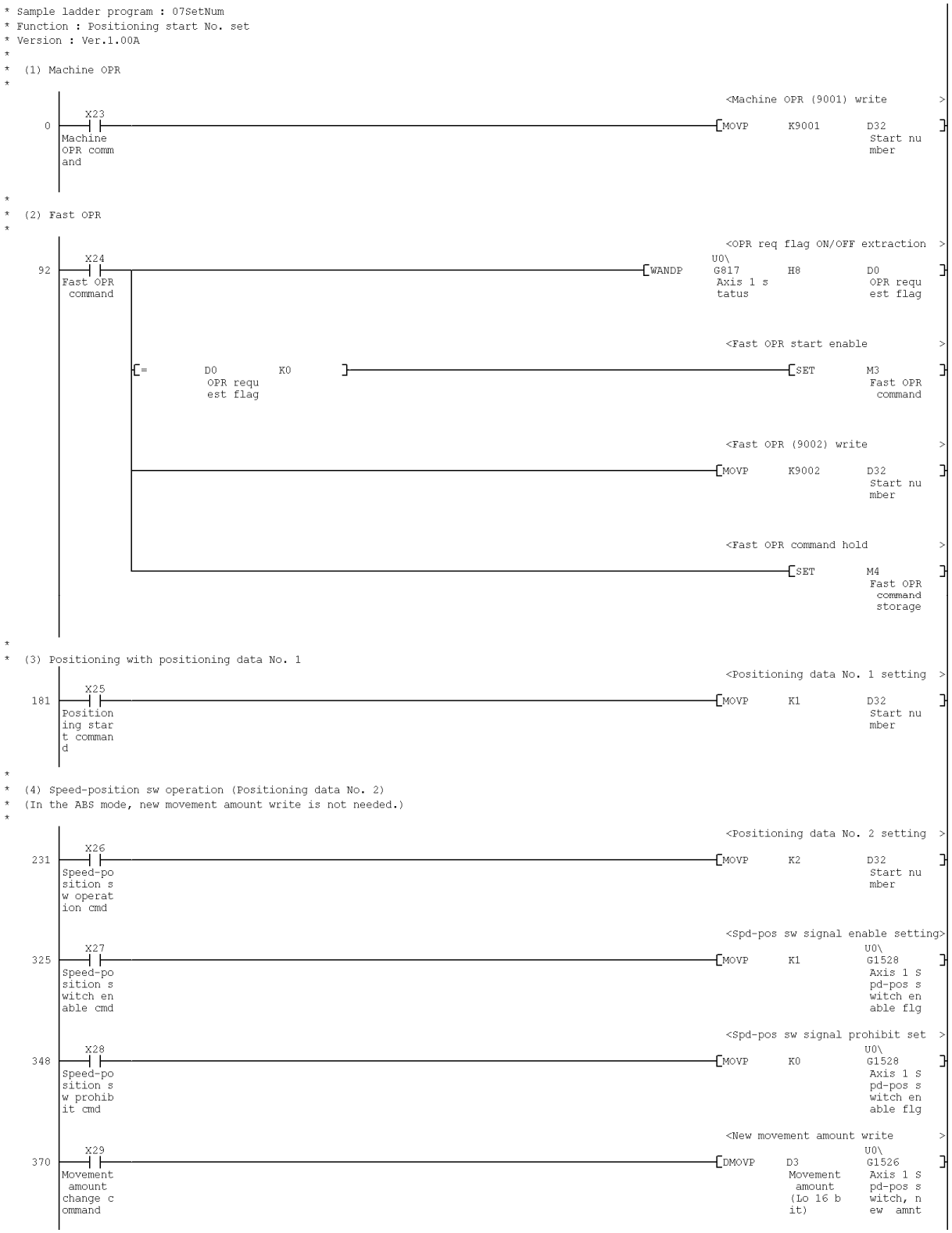
This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X23	Bit	Machine OPR command	-
2	X24	Bit	Fast OPR command	-
3	X25	Bit	Positioning start command	-
4	X26	Bit	Speed-position switching operation command	-
5	X27	Bit	Speed-position switching enable command	-
6	X28	Bit	Speed-position switching prohibit command	-
7	X29	Bit	Movement amount change command	-
8	X2A	Bit	High-level positioning control start command	-
9	X40	Bit	Position-speed switching operation command	-
10	X41	Bit	Position-speed switching enable command	-
11	X42	Bit	Position-speed switching prohibit command	-
12	X43	Bit	Speed change command	-
13	M3	Bit	Fast OPR command	-
14	M4	Bit	Fast OPR command storage	-
15	M6	Bit	Positioning start command storage	-
16	D0	Word	OPR request flag	Extracts the ON/OFF status of the OPR request flag.
17	D1	Word	Speed (low-order 16 bits)	Stores the speed.
18	D2	Word	Speed (high-order 16 bits)	
19	D3	Word	Movement amount (low-order 16 bits)	Stores the movement amount setting value.
20	D4	Word	Movement amount (high-order 16 bits)	
21	D32	Word	Start number	Stores the positioning start number.

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program



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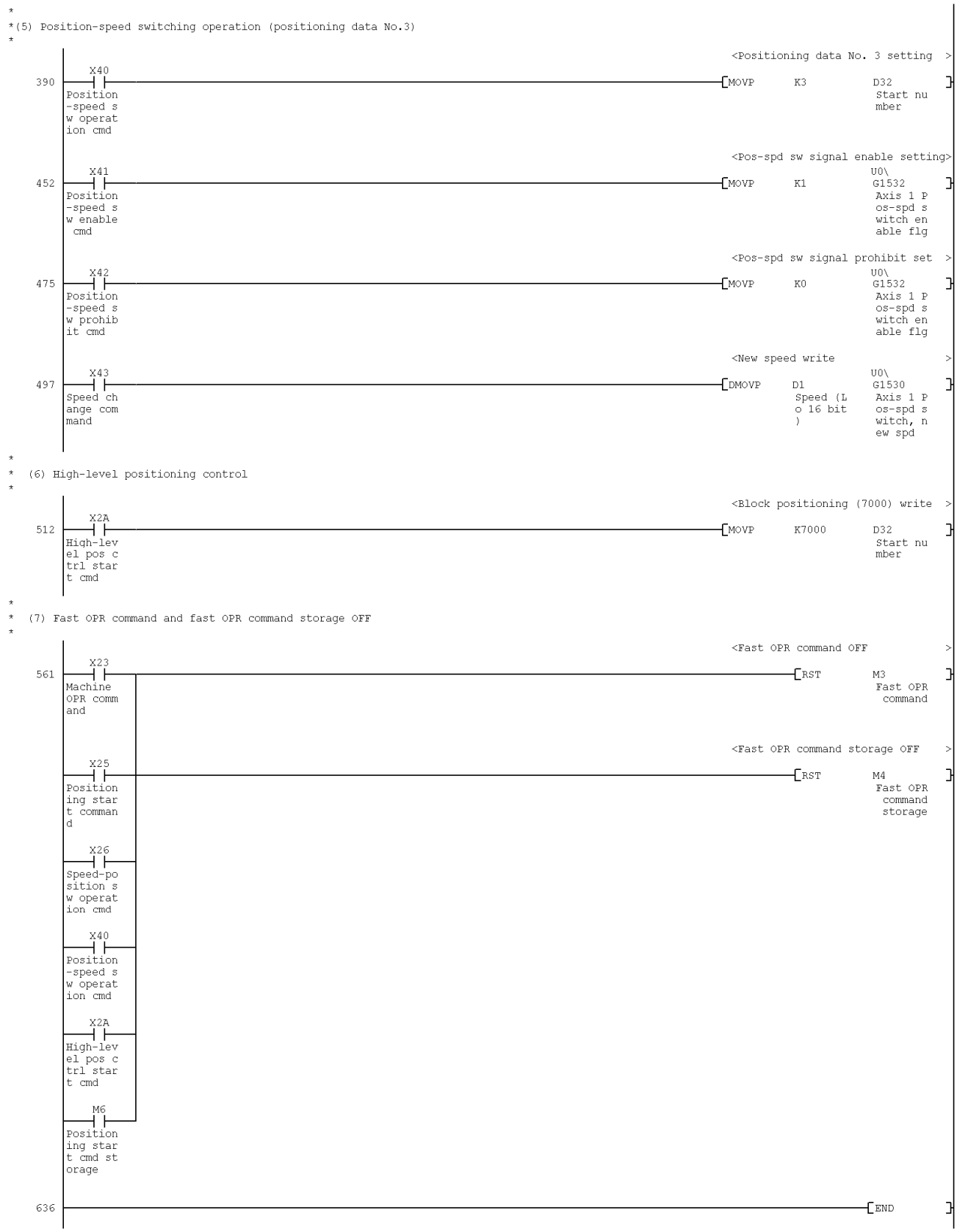

*
*(5) Position-speed switching operation (positioning data No.3)
*
<Positioning data No. 3 setting >
X40
390
Position -speed s w operat ion cmd
MOVP K3 D32 Start nu mber
<Pos-spd sw signal enable setting>
X41
452
Position -speed s w enable cmd
MOVP K1 U0\ G1532 Axis 1 P os-spd s witch en able flg
<Pos-spd sw signal prohibit set >
X42
475
Position -speed s w prohib it cmd
MOVP K0 U0\ G1532 Axis 1 P os-spd s witch en able flg
<New speed write >
X43
497
Speed ch ange com mand
DMOVP D1 Speed (L o 16 bit) U0\ G1530 Axis 1 P os-spd s witch, n ew spd
*
* (6) High-level positioning control
*
<Block positioning (7000) write >
X2A
512
Hiqh-lev el pos c trl star t cmd
MOVP K7000 D32 Start nu mber
*
* (7) Fast OPR command and fast OPR command storage OFF
*
<Fast OPR command OFF >
X23
561
Machine OPR comm and
RST M3 Fast OPR command
<Fast OPR command storage OFF >
X25
Position ing star t comman d
RST M4 Fast OPR command storage
X26
Speed-po sition s w operat ion cmd
X40
Position -speed s w operat ion cmd
X2A
High-lev el pos c trl star t cmd
M6
Position ing star t cmd st orage
636
END

2.8 Positioning Start

Function Overview

This program performs the positioning start for Axis 1.

Program

This function uses the project (program name).

•LD-LD75_NML_V100A_E(08StaPOS)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "2.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "2.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X4	Bit	Axis 1 M code ON signal	Not required when an M code is not used.
2	X8	Bit	Axis 1 Error detection signal	-
3	X0C	Bit	Axis 1 BUSY signal	-
4	X10	Bit	Axis 1 Start complete signal	-
5	X2B	Bit	Positioning start command (dedicated instruction)	-
6	X4E	Bit	Positioning start command (Y start)	-
7	Y10	Bit	Axis 1 Positioning start signal	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "2.1 Parameter Setting"

Devices

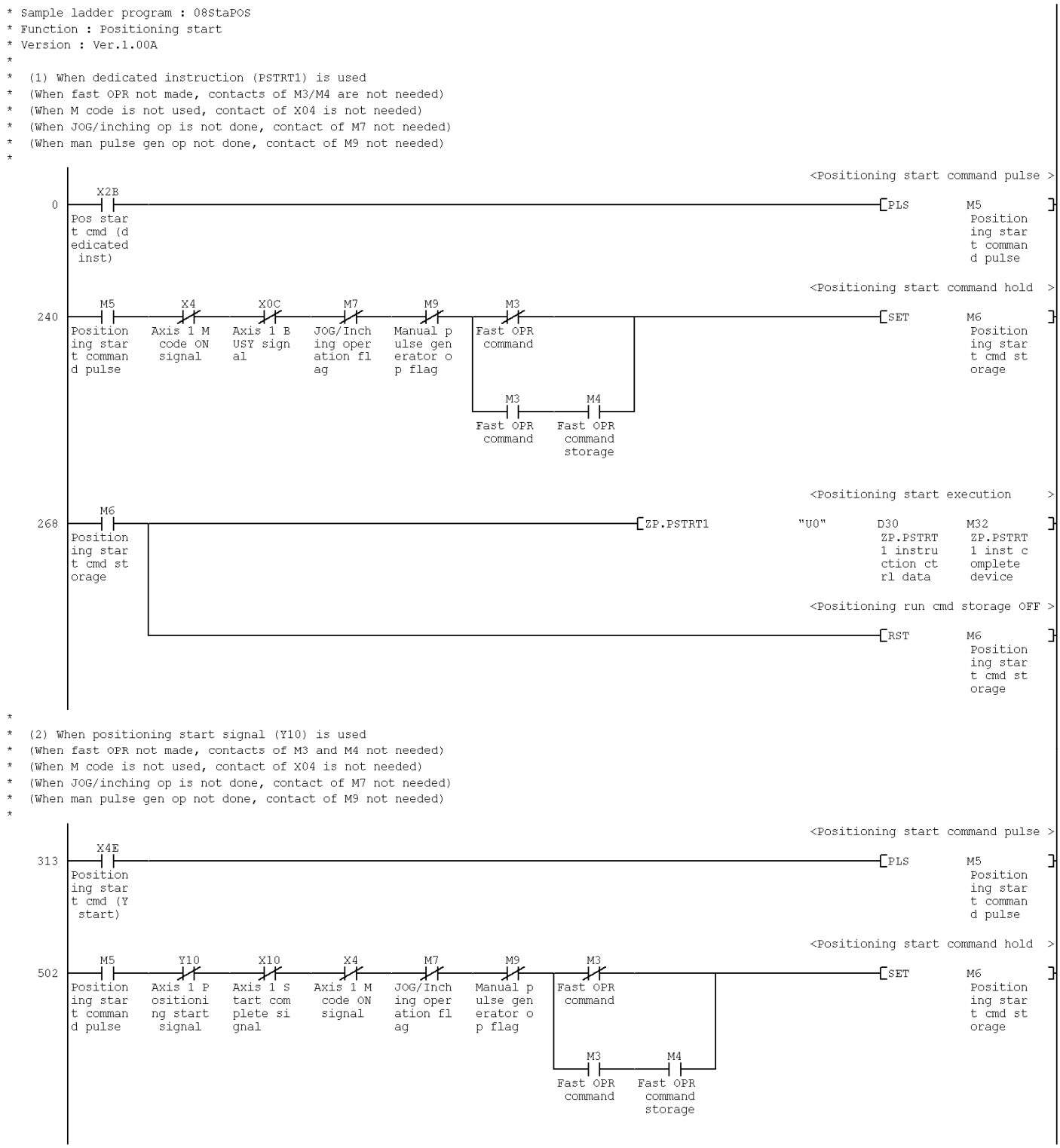
This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X4	Bit	Axis 1 M code ON signal	Not required when an M code is not used.
2	X8	Bit	Axis 1 Error detection signal	-
3	X0C	Bit	Axis 1 BUSY signal	-
4	X10	Bit	Axis 1 Start complete signal	-
5	X2B	Bit	Positioning start command (dedicated instruction)	-
6	X4E	Bit	Positioning start command (Y start)	-
7	Y10	Bit	Axis 1 Positioning start signal	-
8	M3	Bit	Fast OPR command	Not required when a fast OPR is not performed.
9	M4	Bit	Fast OPR command storage	
10	M5	Bit	Positioning start command pulse	-
11	M6	Bit	Positioning start command storage	-
12	M7	Bit	JOG/Inching operation flag	Not required when JOG/Inching operation is not performed.
13	M9	Bit	Manual pulse generator operating flag	Not required when manual pulse generator operation is not performed.
14	M32	Bit	ZP.PSTRT1 instruction complete device	Notifies that the dedicated instruction (PSTRT1) is completed.
15	D30	Word	ZP.PSTRT1 instruction control data	Used for the dedicated instruction (PSTRT1).
16	D32	Word	Start number	Sets the positioning data number.

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program



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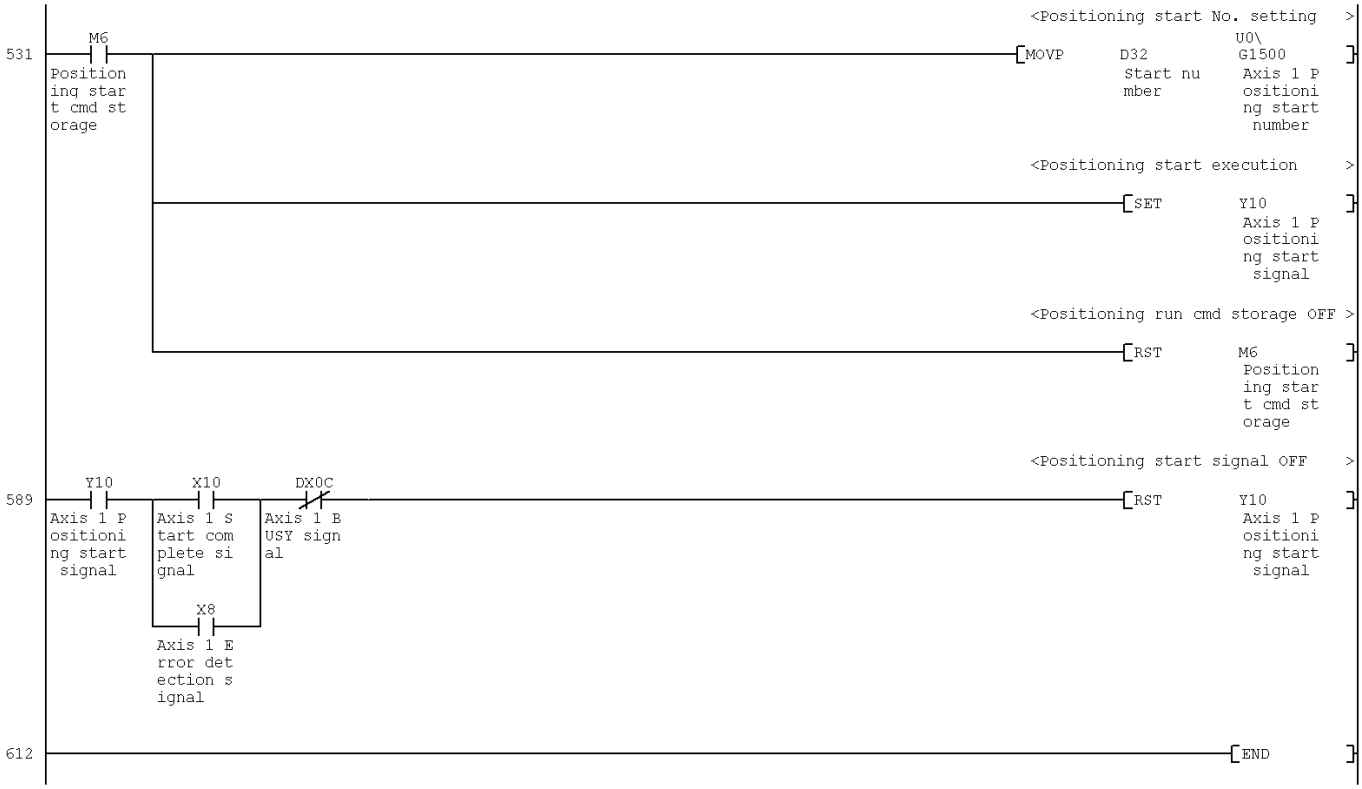

531
M6
Positioning start cmd storage
<Positioning start No. setting >
MOVP
D32
Start number
U0\G1500
Axis 1 Positioning start number
<Positioning start execution >
SET
Y10
Axis 1 Positioning start signal
<Positioning run cmd storage OFF >
RST
M6
Positioning start cmd storage
<Positioning start signal OFF >
589
Y10
Axis 1 Positioning start signal
X10
Axis 1 Start complete signal
DX0C
Axis 1 BUSY signal
X8
Axis 1 Error detection signal
RST
Y10
Axis 1 Positioning start signal
612
END

2.9 M Code OFF

Function Overview

This program sets the M code OFF request.

Program

This function uses the project (program name).

•LD-LD75_NML_V100A_E(09MCode)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "2.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "2.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X2C	Bit	M code OFF command	-
2	X4	Bit	Axis 1 M code ON signal	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "2.1 Parameter Setting"

Devices

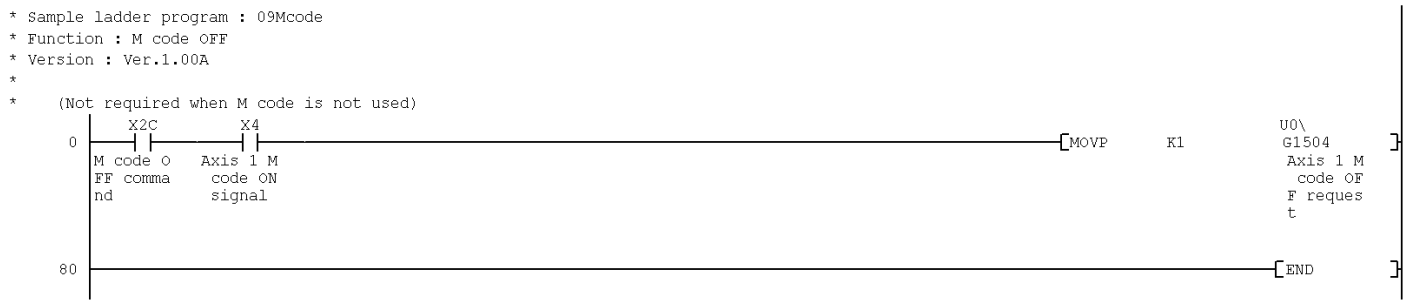
This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X2C	Bit	M code OFF command	-
2	X4	Bit	Axis 1 M code ON signal	-

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program


* Sample ladder program : 09Mcode
* Function : M code OFF
* Version : Ver.1.00A
*
* (Not required when M code is not used)
X2C
M code OFF command
X4
Axis 1 M code ON signal
0
MOVP
K1
U0\G1504
Axis 1 M code OFF request
80
END

2.10 JOG Operation Setting

Function Overview

This program makes the JOG operation setting for Axis 1.

Program

This function uses the project (program name).

•LD-LD75_NML_V100A_E(10SetJOG)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "2.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "2.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X2D	Bit	JOG operation speed setting command	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "2.1 Parameter Setting"

Devices

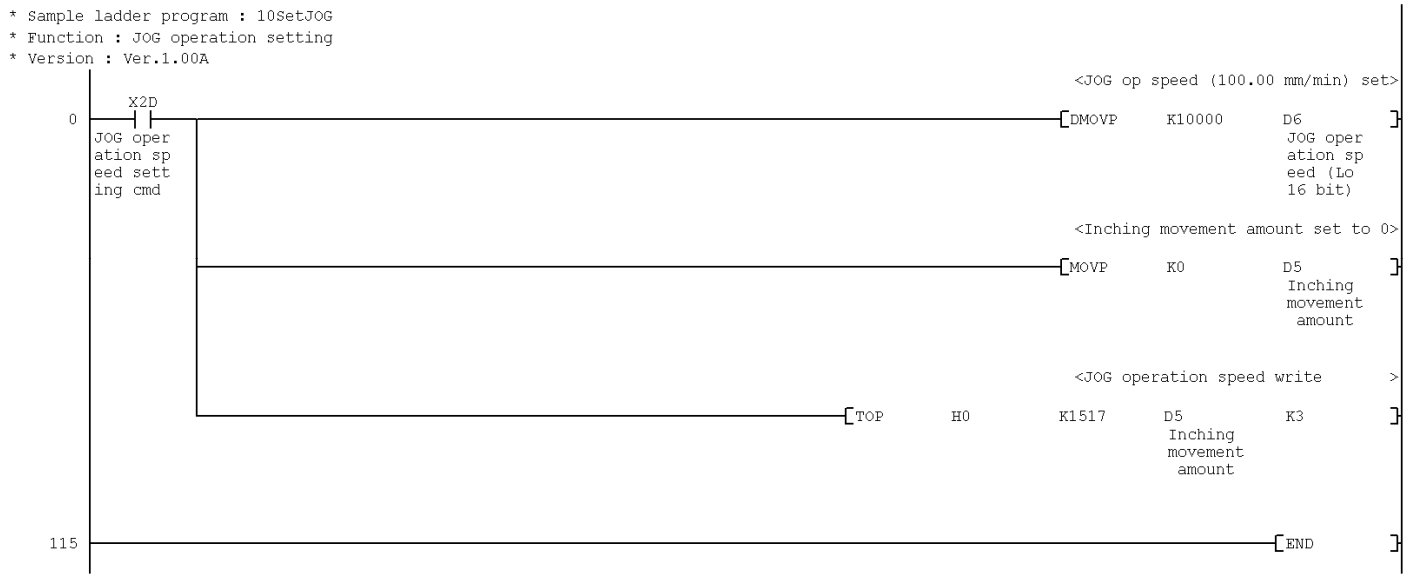
This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X2D	Bit	JOG operation speed setting command	-
2	D5	Word	Inching movement amount	Sets the inching movement amount.
3	D6	Word	JOG operation speed (low-order 16 bits)	Sets the JOG operation speed.
4	D7	Word	JOG operation speed (high-order 16 bits)	

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program


* Sample ladder program : 10SetJOG
* Function : JOG operation setting
* Version : Ver.1.00A
<JOG op speed (100.00 mm/min) set>
0
X2D
JOG oper ation sp eed sett ing cmd
DMOVP K10000 D6
JOG oper ation sp eed (Lo 16 bit)
<Inching movement amount set to 0>
MOVP K0 D5
Inching movement amount
<JOG operation speed write >
TOP H0 K1517 D5 K3
Inching movement amount
115
END

2.11 Inching Operation Setting

Function Overview

This program makes the inching operation setting for Axis 1.

Program

This function uses the project (program name).

•LD-LD75_NML_V100A_E(11SetINT)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "2.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "2.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X44	Bit	Inching movement amount setting command	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "2.1 Parameter Setting"

Devices

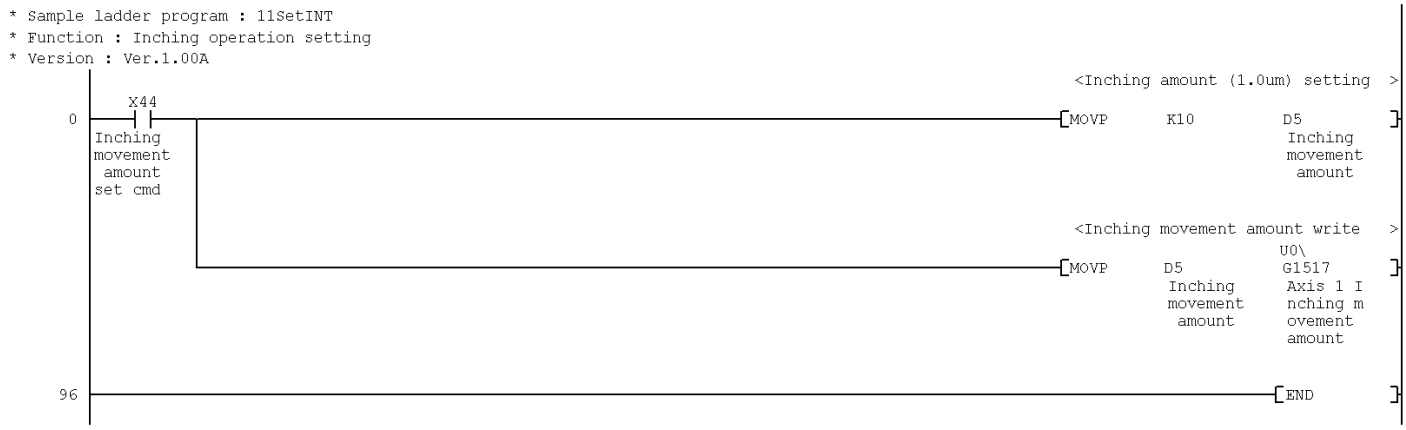
This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X44	Bit	Inching movement amount setting command	-
2	D5	Word	Inching movement amount	Sets the inching movement amount.

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program


* Sample ladder program : 11SetINT
* Function : Inching operation setting
* Version : Ver.1.00A
<Inching amount (1.0um) setting >
0
X44
Inching movement amount set cmd
MOVP
K10
D5
Inching movement amount
<Inching movement amount write >
U0\
MOVP
D5
Inching movement amount
G1517
Axis 1 I nching m ovement amount
96
END

2.12 JOG Operation/Inching Operation Execution

Function Overview

This program performs the JOG operation/inching operation for Axis 1.

Program

This function uses the project (program name).

•LD-LD75_NML_V100A_E(12RunJOG)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "2.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "2.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X0	Bit	LD75 READY signal	-
2	X0C	Bit	Axis 1 BUSY signal	-
3	X2E	Bit	Forward run JOG/inching command	-
4	X2F	Bit	Reverse run JOG/inching command	-
5	Y8	Bit	Axis 1 Forward run JOG start signal	Performs the forward run JOG operation.
6	Y9	Bit	Axis 1 Reverse run JOG start signal	Performs the reverse run JOG operation.

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "2.1 Parameter Setting"

Devices

This program uses the following devices.

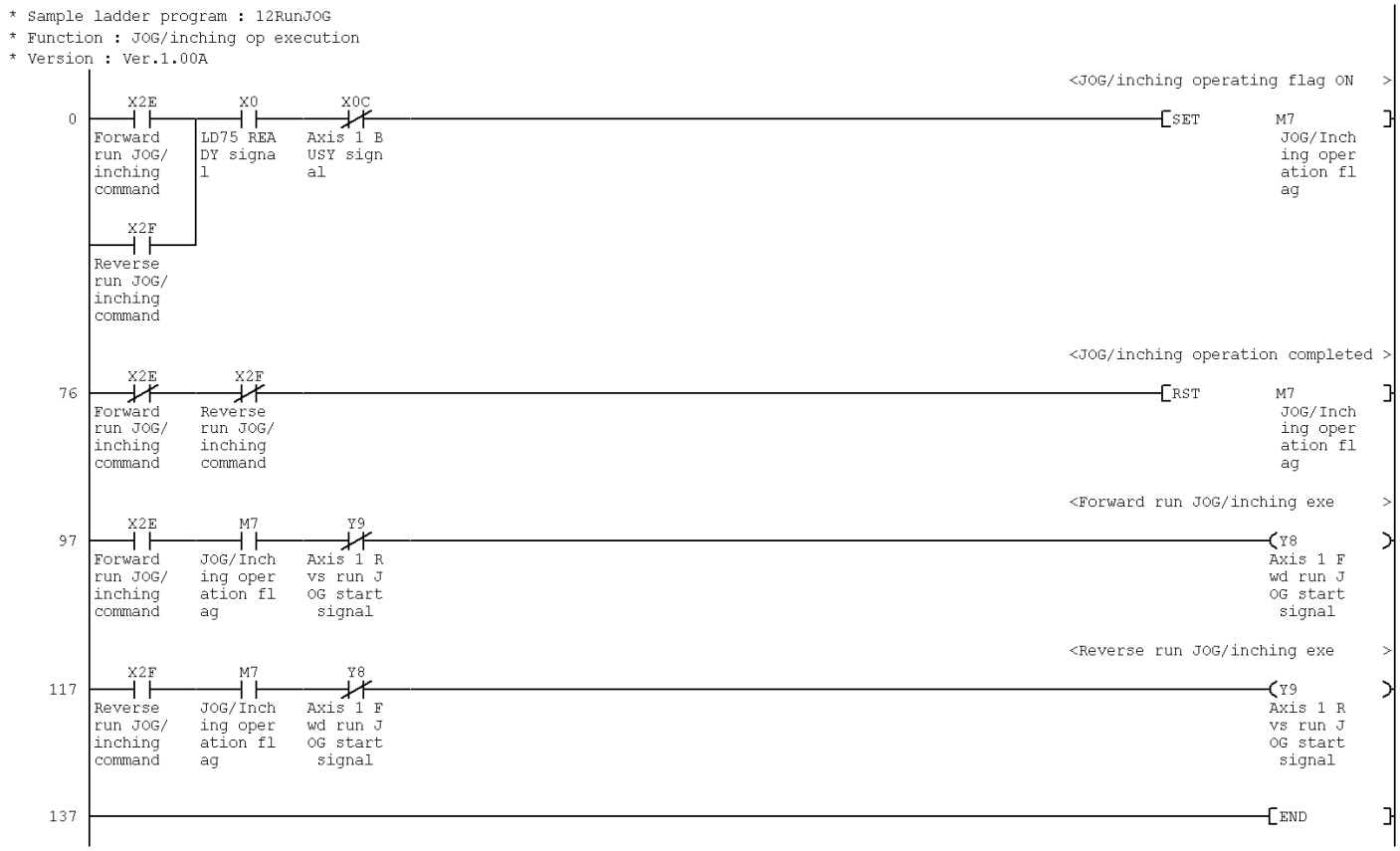
No.	Device	Data Type	Application	Remarks
1	X0	Bit	LD75 READY signal	-
2	X0C	Bit	Axis 1 BUSY signal	-
3	X2E	Bit	Forward run JOG/inching command	-
4	X2F	Bit	Reverse run JOG/inching command	-
5	Y8	Bit	Axis 1 Forward run JOG start signal	Performs the forward run JOG operation.

No.	Device	Data Type	Application	Remarks
6	Y9	Bit	Axis 1 Reverse run JOG start signal	Performs the reverse run JOG operation.
7	M7	Bit	JOG/Inching operation flag	-

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program



2.13 Manual Pulse Generator Operation

Function Overview

This program performs the manual pulse generator operation for Axis 1.

Program

This function uses the project (program name).

•LD-LD75_NML_V100A_E(13RunMPG)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "2.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "2.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X0	Bit	LD75 READY signal	-
2	X0C	Bit	Axis 1 BUSY signal	-
3	X30	Bit	Manual pulse generator operation enable command	Enables the manual pulse generator operation.
4	X31	Bit	Manual pulse generator operation disable command	Disables the manual pulse generator operation.

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "2.1 Parameter Setting"

Devices

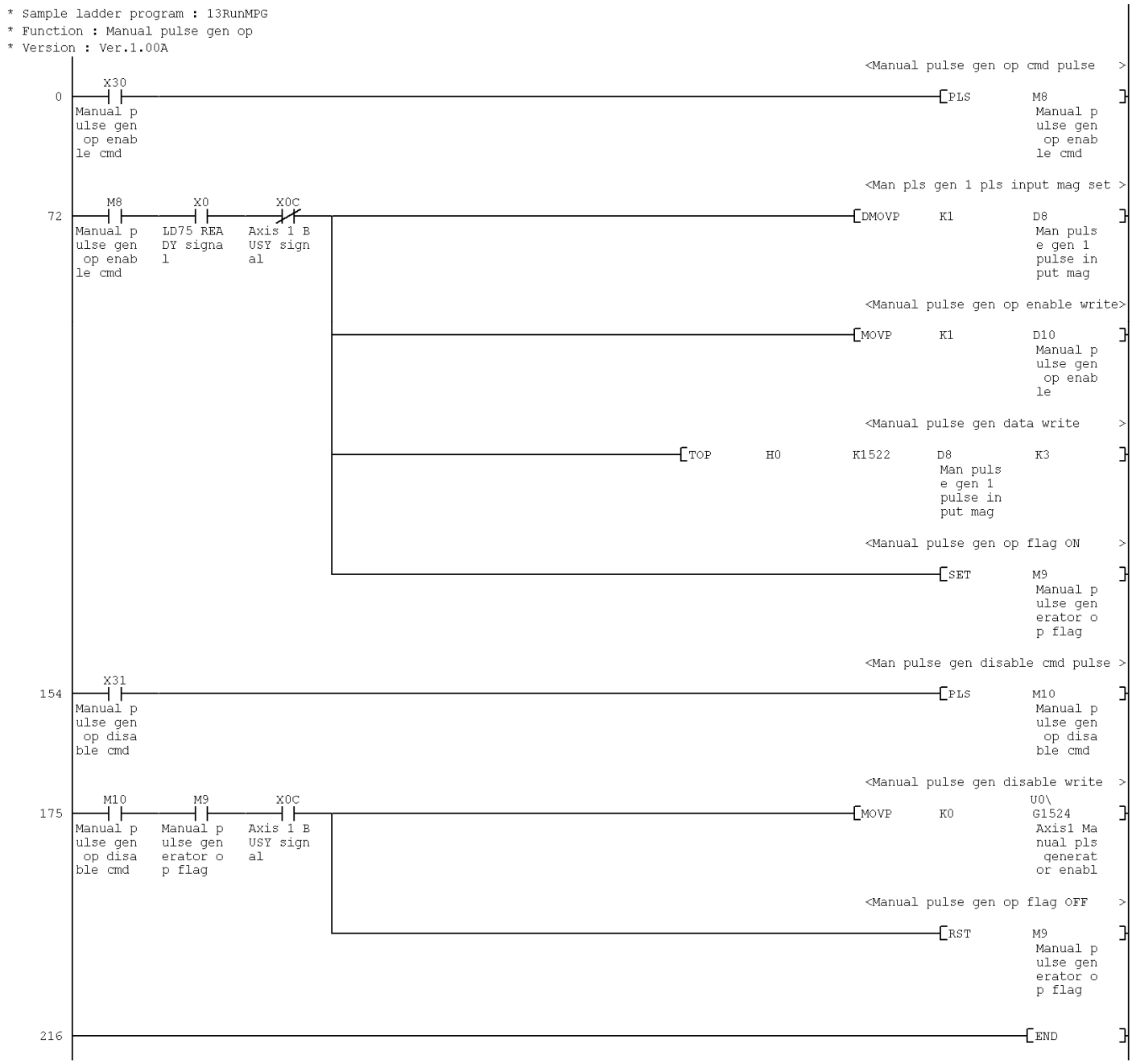
This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X0	Bit	LD75 READY signal	-
2	X0C	Bit	Axis 1 BUSY signal	-
3	X30	Bit	Manual pulse generator operation enable command	Enables the manual pulse generator operation.
4	X31	Bit	Manual pulse generator operation disable command	Disables the manual pulse generator operation.
5	M8	Bit	Manual pulse generator operation enable command	-
6	M9	Bit	Manual pulse generator operating flag	-
7	M10	Bit	Manual pulse generator operation disable command	-
8	D8	Word	Manual pulse generator 1 pulse input magnification (low-order 16 bits)	Sets the manual pulse generator 1 pulse input magnification.
9	D9	Word	Manual pulse generator 1 pulse input magnification (high-order 16 bits)	
10	D10	Word	Manual pulse generator operation enable	-

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program


* Sample ladder program : 13RunMPG
* Function : Manual pulse gen op
* Version : Ver.1.00A
<Manual pulse gen op cmd pulse >
X30
0
Manual p ulse gen op enab le cmd
PLS M8
Manual p ulse gen op enab le cmd
<Man pls gen 1 pls input mag set >
M8 X0 X0C
72
Manual p ulse gen op enab le cmd
LD75 REA DY signa l
Axis 1 B USY sign al
DMOVP K1 D8
Man puls e gen 1 pulse in put mag
<Manual pulse gen op enable write>
MOVP K1 D10
Manual p ulse gen op enab le
<Manual pulse gen data write >
TOP H0 K1522 D8 K3
Man puls e gen 1 pulse in put mag
<Manual pulse gen op flag ON >
SET M9
Manual p ulse gen erator o p flag
<Man pulse gen disable cmd pulse >
X31
154
Manual p ulse gen op disa ble cmd
PLS M10
Manual p ulse gen op disa ble cmd
<Manual pulse gen disable write >
M10 M9 X0C
175
Manual p ulse gen op disa ble cmd
Manual p ulse gen erator o p flag
Axis 1 B USY sign al
MOVP K0 U0\ G1524
Axis1 Ma nual pls genera tor enabl
<Manual pulse gen op flag OFF >
RST M9
Manual p ulse gen erator o p flag
216
END

2.14 Speed Change

Function Overview

This program performs the speed change for Axis 1.

Program

This function uses the project (program name).

•LD-LD75_NML_V100A_E(14ChgSpd)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "2.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "2.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X0C	Bit	Axis 1 BUSY signal	-
2	X32	Bit	Speed change command	Performs the speed change.

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "2.1 Parameter Setting"

Devices

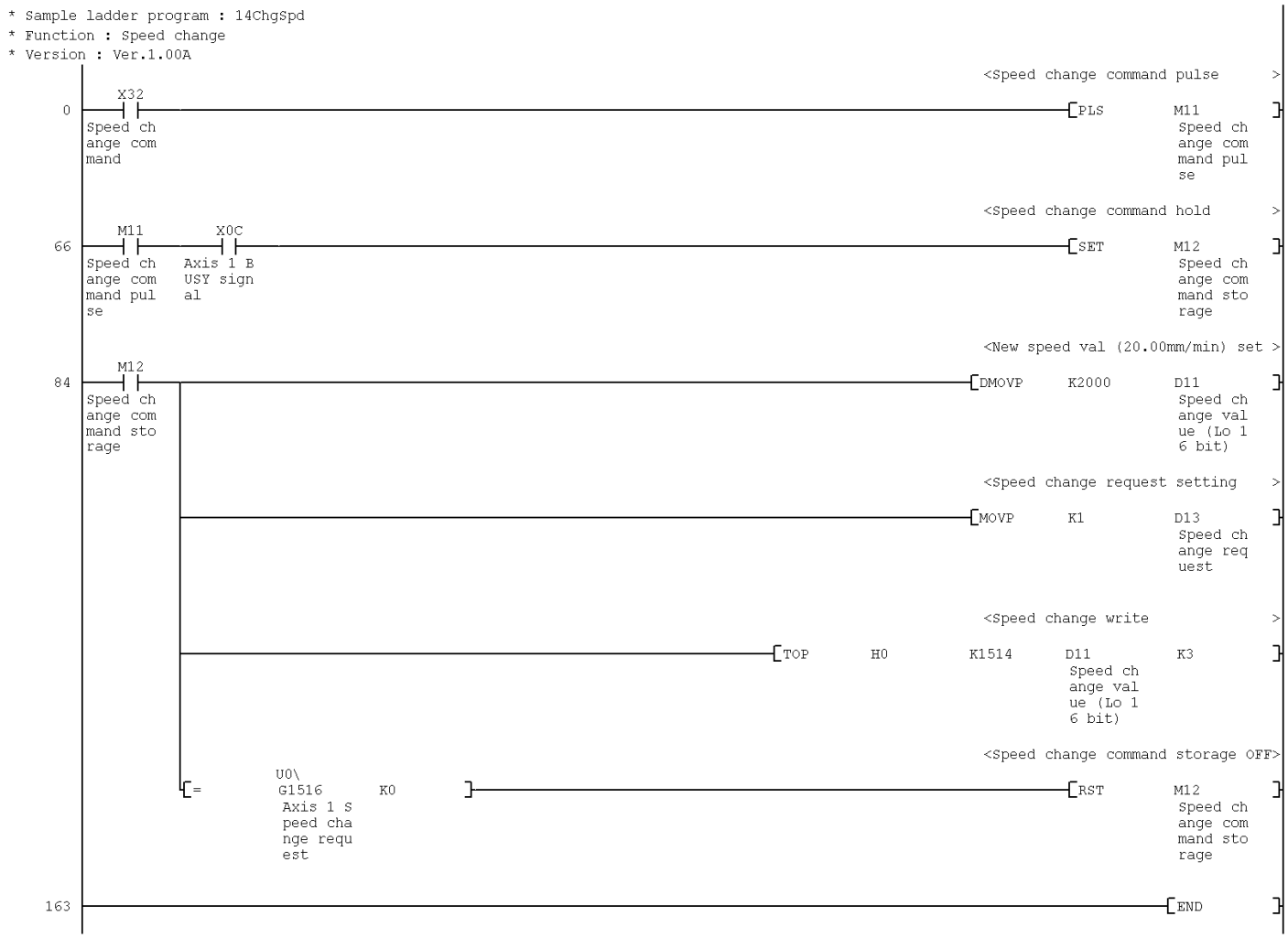
This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X0C	Bit	Axis 1 BUSY signal	-
2	X32	Bit	Speed change command	Performs the speed change.
3	M11	Bit	Speed change command pulse	-
4	M12	Bit	Speed change command storage	-
5	D11	Word	Speed change value (low-order 16 bits)	Sets the speed change value.
6	D12	Word	Speed change value (high-order 16 bits)	
7	D13	Word	Speed change request	Sets the speed change request.

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program



2.15 Override

Function Overview

This program sets the override value for Axis 1.

Program

This function uses the project (program name).

•LD-LD75_NML_V100A_E(15OvrRid)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "2.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "2.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X0C	Bit	Axis 1 BUSY signal	-
2	X33	Bit	Override command	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "2.1 Parameter Setting"

Devices

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X0C	Bit	Axis 1 BUSY signal	-
2	X33	Bit	Override command	-
3	M13	Bit	Override command	-
4	D14	Word	Override value	Sets the override value.

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program


* Sample ladder program : 150vrRid
* Function : Override
* Version : Ver.1.00A
<Override command pulse >
0
X33
Override command
PLS
M13
Override command
<Override value set to 200% >
62
M13
Override command
X0C
Axis 1 BUSY signal
MOV
K200
D14
Override value
<Override value write >
MOV
D14
Override value
U0\G1513
Axis 1 Pos op speed override
97
END

2.16 Acceleration/Deceleration Time Change

Function Overview

This program changes the acceleration/deceleration time for Axis 1.

Program

This function uses the project (program name).

•LD-LD75_NML_V100A_E(16ChgTim)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "2.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "2.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X0C	Bit	Axis 1 BUSY signal	-
2	X34	Bit	Acceleration/deceleration time change command	Turns ON when the acceleration/deceleration time change is enabled.
3	X35	Bit	Acceleration/deceleration time change disable command	Turns ON when the acceleration/deceleration time change is disabled.

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "2.1 Parameter Setting"

Devices

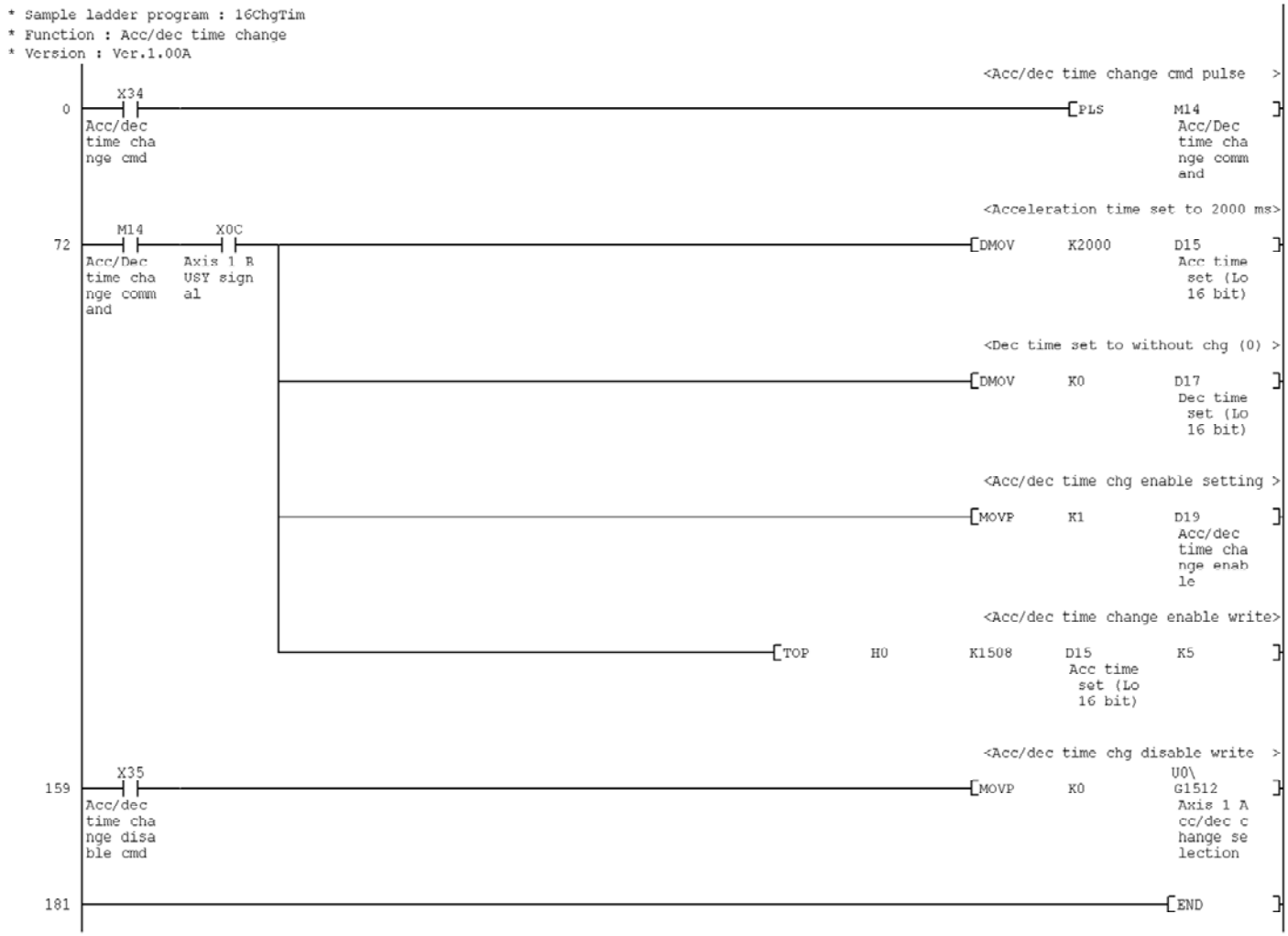
This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X0C	Bit	Axis 1 BUSY signal	-
2	X34	Bit	Acceleration/deceleration time change command	Turns ON when the acceleration/deceleration time change is enabled.
3	X35	Bit	Acceleration/deceleration time change disable command	Turns ON when the acceleration/deceleration time change is disabled.
4	M14	Bit	Acceleration/deceleration time change command	-
5	D15	Word	Acceleration time setting (low-order 16 bits)	Sets the acceleration time setting value.
6	D16	Word	Acceleration time setting (high-order 16 bits)	
7	D17	Word	Deceleration time setting (low-order 16 bits)	Sets the deceleration time setting value.
8	D18	Word	Deceleration time setting (high-order 16 bits)	
9	D19	Word	Acceleration/deceleration time change enable	Turns ON when the acceleration/deceleration time is changed.

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program


* Sample ladder program : 16ChgTim
* Function : Acc/dec time change
* Version : Ver.1.00A
<Acc/dec time change cmd pulse >
X34
0
Acc/dec time change cmd
PLS
M14
Acc/Dec time change command
<Acceleration time set to 2000 ms>
M14
X0C
72
Acc/Dec time change command
Axis 1 BUSY signal
DMOV
K2000
D15
Acc time set (Lo 16 bit)
<Dec time set to without chg (0) >
DMOV
K0
D17
Dec time set (Lo 16 bit)
<Acc/dec time chg enable setting >
MOVP
K1
D19
Acc/dec time change enable
<Acc/dec time change enable write>
TOP
H0
K1508
D15
Acc time set (Lo 16 bit)
K5
<Acc/dec time chg disable write >
X35
159
Acc/dec time change disable cmd
MOVP
K0
U0\G1512
Axis 1 Acc/dec change selection
181
END

2.17 Step Operation

Function Overview

This program performs the step operation for Axis 1.

Program

This function uses the project (program name).

•LD-LD75_NML_V100A_E(17RunStp)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "2.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "2.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X10	Bit	Axis 1 Start complete signal	-
2	X37	Bit	Step operation command	-
3	Y10	Bit	Axis 1 Positioning start signal	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "2.1 Parameter Setting"

Devices

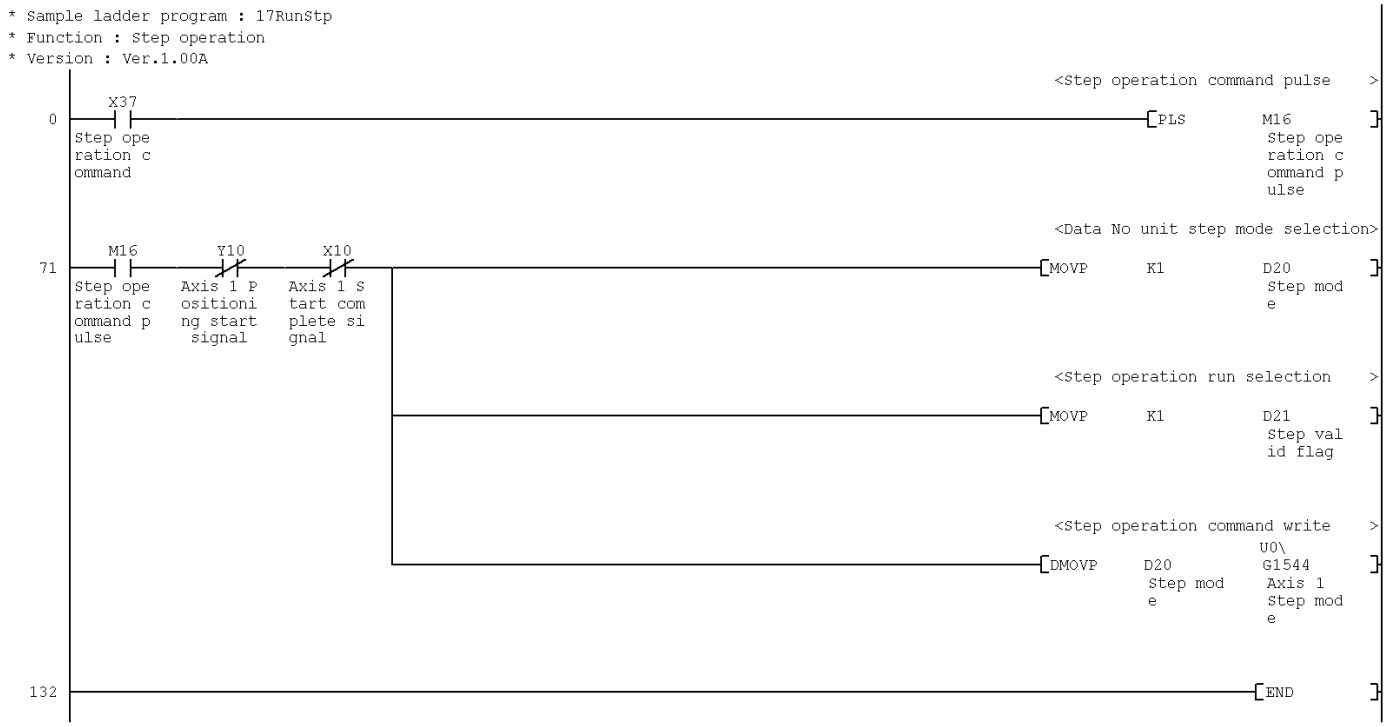
This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X10	Bit	Axis 1 Start complete signal	-
2	X37	Bit	Step operation command	-
3	Y10	Bit	Axis 1 Positioning start signal	-
4	M16	Bit	Step operation command pulse	-
5	D20	Word	Step mode	Sets the step mode setting value.
6	D21	Word	Step valid flag	Sets the step valid flag.

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program


* Sample ladder program : 17RunStp
* Function : Step operation
* Version : Ver.1.00A
<Step operation command pulse >
X37
0
Step ope ration c ommand
PLS M16
Step ope ration c ommand p ulse
<Data No unit step mode selection>
M16 Y10 X10
71
Step ope ration c ommand p ulse
Axis 1 P ositioni ng start signal
Axis 1 S tart com plete si gnal
MOVP K1 D20
Step mod e
<Step operation run selection >
MOVP K1 D21
Step val id flag
<Step operation command write >
U0\
DMOVP D20 G1544
Step mod e
Axis 1 Step mod e
132
END

2.18 Skip

Function Overview

This program performs the skip operation.

Program

This function uses the project (program name).

•LD-LD75_NML_V100A_E(18RunSkp)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "2.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "2.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X0C	Bit	Axis 1 BUSY signal	-
2	X38	Bit	Skip operation command	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "2.1 Parameter Setting"

Devices

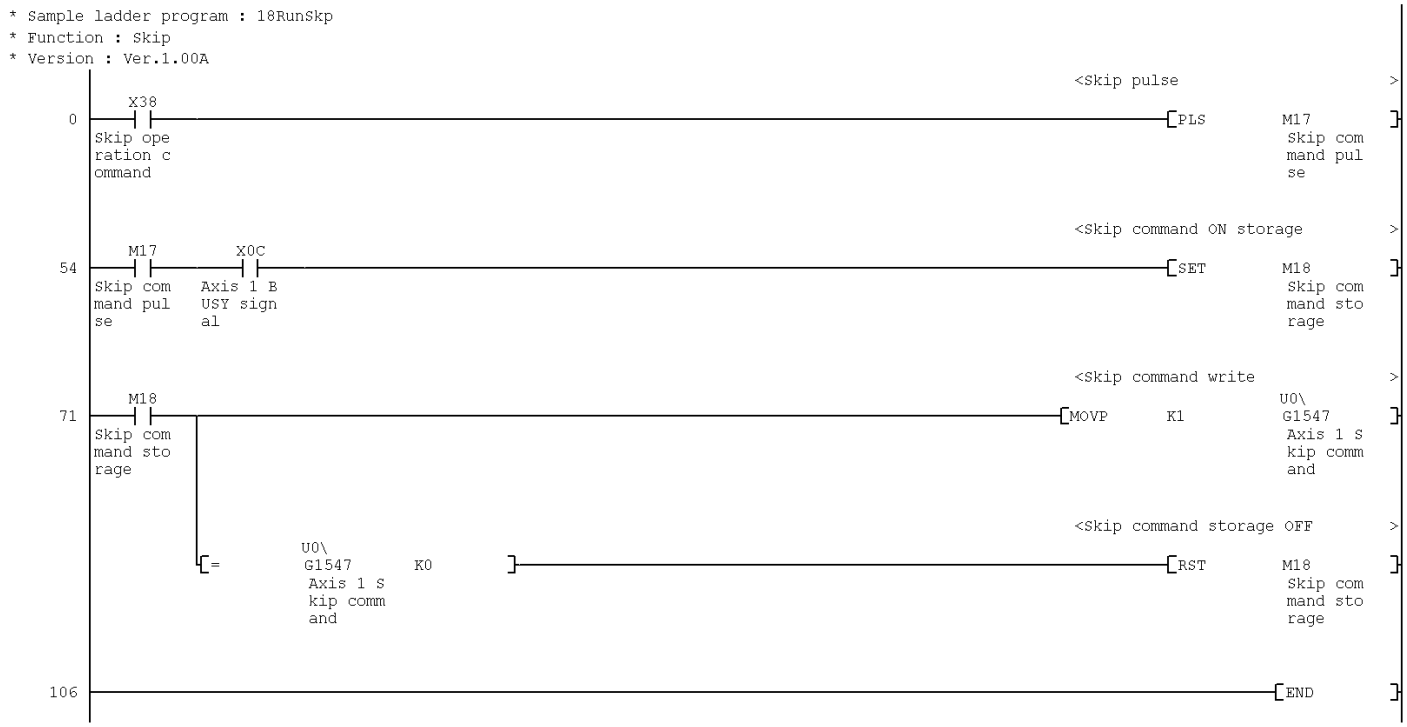
This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X0C	Bit	Axis 1 BUSY signal	-
2	X38	Bit	Skip operation command	-
3	M17	Bit	Skip command pulse	-
4	M18	Bit	Skip command storage	-

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program


* Sample ladder program : 18RunSkp
* Function : Skip
* Version : Ver.1.00A
<Skip pulse >
0
X38
Skip ope ration c ommand
PLS M17
Skip com mand pul se
<Skip command ON storage >
54
M17
Skip com mand pul se
X0C
Axis 1 B USY sign al
SET M18
Skip com mand sto rage
<Skip command write >
71
M18
Skip com mand sto rage
MOVP K1 U0\ G1547
Axis 1 S kip comm and
<Skip command storage OFF >
= U0\ G1547 Axis 1 S kip comm and K0
RST M18
Skip com mand sto rage
106
END

2.19 Teaching

Function Overview

This program performs the teaching operation.

Program

This function uses the project (program name).

•LD-LD75_NML_V100A_E(19Teach)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "2.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "2.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X0C	Bit	Axis 1 BUSY signal	-
2	X39	Bit	Teaching command	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "2.1 Parameter Setting"

Devices

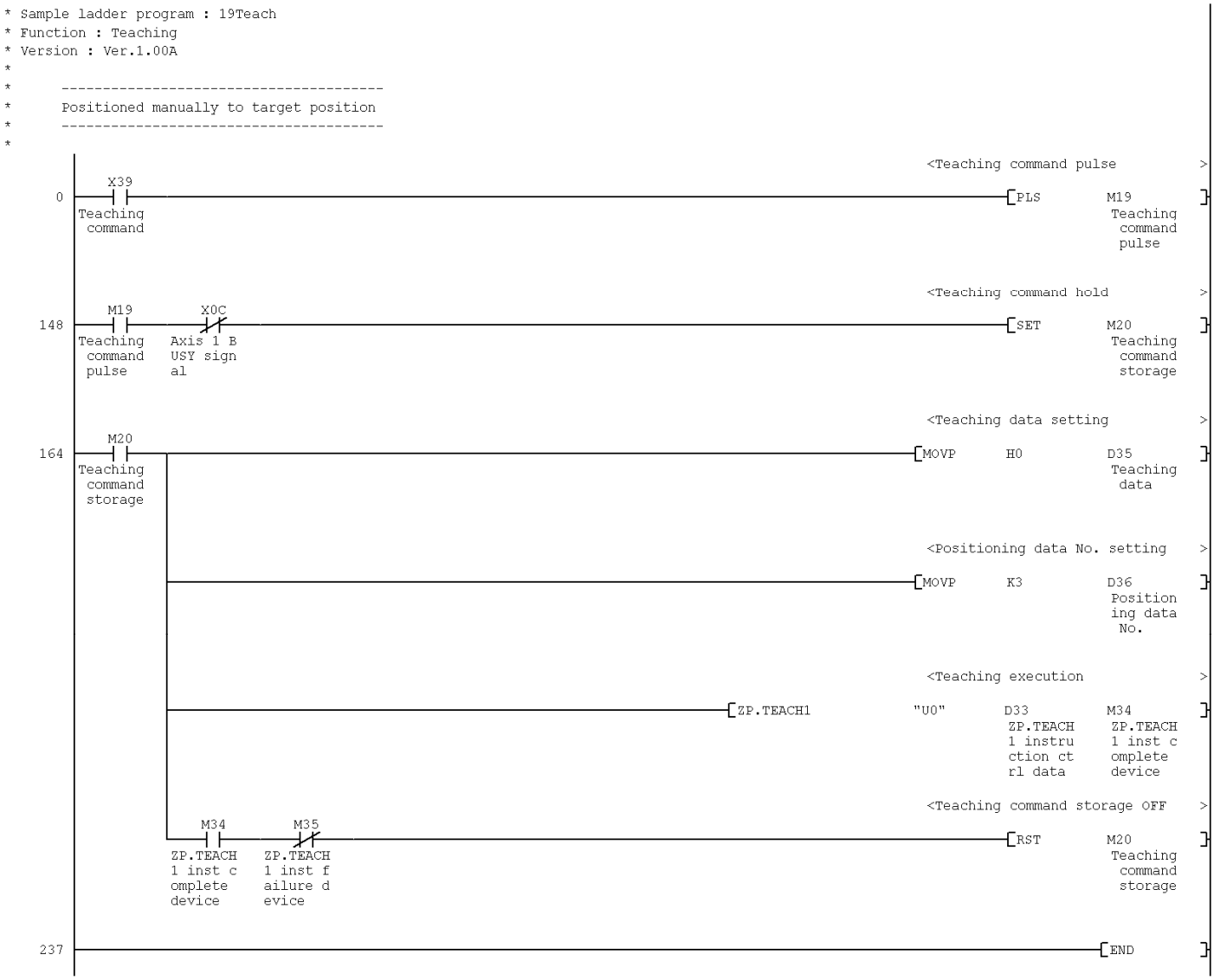
This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X0C	Bit	Axis 1 BUSY signal	-
2	X39	Bit	Teaching command	-
3	M19	Bit	Teaching command pulse	-
4	M20	Bit	Teaching command storage	-
5	M34	Bit	ZP.TEACH1 instruction complete device	Turns ON when the TEACH1 instruction is completed normally.
6	M35	Bit	ZP.TEACH1 instruction failure device	Turns ON when the TEACH1 instruction is completed abnormally.
7	D33	Word	ZP.TEACH1 instruction control data	Used for the dedicated instruction (TEACH1).
8	D35	Word	Teaching data	Sets the teaching data to write.
9	D36	Word	Positioning data No.	Sets the positioning data No. to which the teaching data is written.

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program


* Sample ladder program : 19Teach
* Function : Teaching
* Version : Ver.1.00A
*
* ----------
* Positioned manually to target position
* ----------
*
<Teaching command pulse >
0
X39
Teaching command
PLS M19
Teaching command pulse
<Teaching command hold >
148
M19
Teaching command pulse
X0C
Axis 1 BUSY signal
SET M20
Teaching command storage
<Teaching data setting >
164
M20
Teaching command storage
MOVP H0 D35
Teaching data
<Positioning data No. setting >
MOVP K3 D36
Positioning data No.
<Teaching execution >
ZP.TEACH1 "U0" D33
ZP.TEACH 1 instruction ctrl data
M34
ZP.TEACH 1 instruction complete device
M35
ZP.TEACH 1 instruction failure device
<Teaching command storage OFF >
RST M20
Teaching command storage
237
END

2.20 Continuous Operation Interrupt

Function Overview

This program makes a request to interrupt the continuous operation for Axis 1.

Program

This function uses the project (program name).

•LD-LD75_NML_V100A_E(20StpCon)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "2.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "2.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X0C	Bit	Axis 1 BUSY signal	-
2	X3A	Bit	Continuous operation interrupt command	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "2.1 Parameter Setting"

Devices

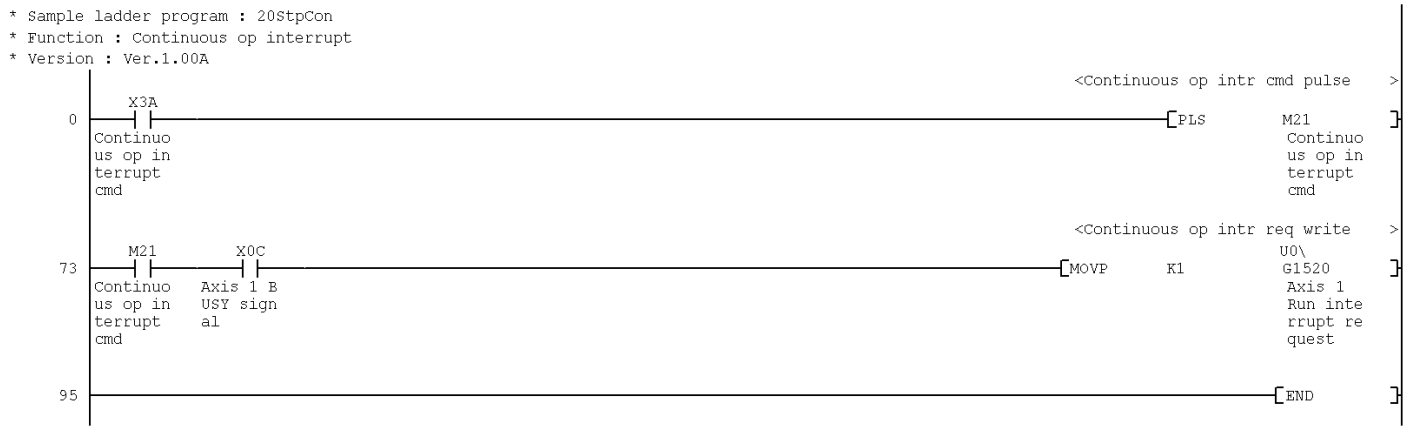
This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X0C	Bit	Axis 1 BUSY signal	-
2	X3A	Bit	Continuous operation interrupt command	-
3	M21	Word	Continuous operation interrupt command	-

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program


* Sample ladder program : 20StpCon
* Function : Continuous op interrupt
* Version : Ver.1.00A
<Continuous op intr cmd pulse >
X3A
0
Continuo
us op in
terrupt
cmd
PLS
M21
Continuo
us op in
terrupt
cmd
<Continuous op intr req write >
M21
X0C
U0\
73
Continuo
us op in
terrupt
cmd
Axis 1 B
USY sign
al
MOVP
K1
G1520
Axis 1
Run inte
rrupt re
quest
95
END

2.21 Target Position Change

Function Overview

This program performs the target position change for Axis 1.

Program

This function uses the project (program name).

•LD-LD75_NML_V100A_E(21ChgPOS)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "2.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "2.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X0C	Bit	Axis 1 BUSY signal	-
2	X45	Bit	Target position change command	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "2.1 Parameter Setting"

Devices

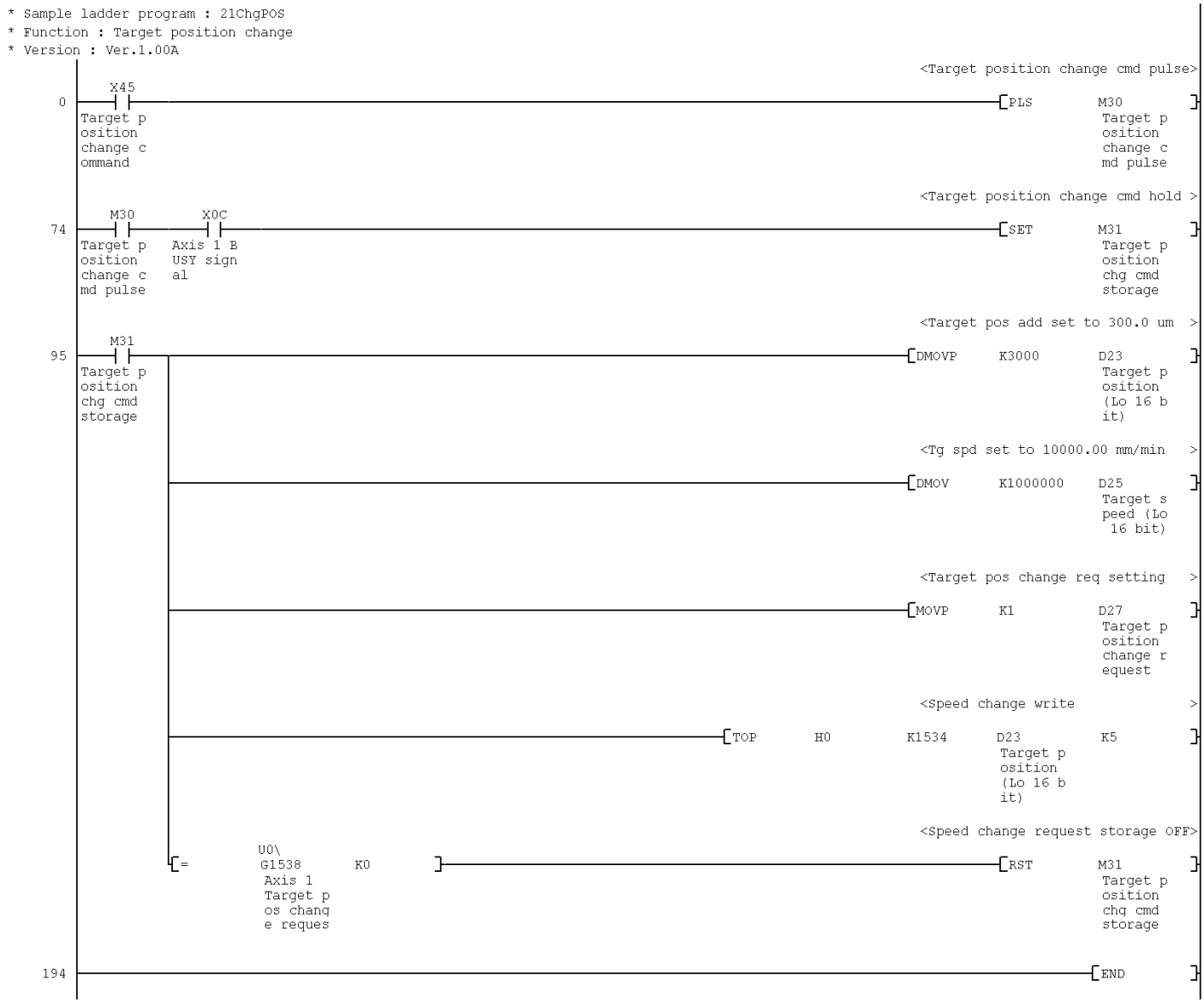
This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X0C	Bit	Axis 1 BUSY signal	-
2	X45	Bit	Target position change command	-
3	M30	Bit	Target position change command pulse	-
4	M31	Bit	Target position change command storage	-
5	D23	Word	Target position (low-order 16 bits)	Stores the target position setting value.
6	D24	Word	Target position (high-order 16 bits)	
7	D25	Word	Target speed (low-order 16 bits)	Stores the target speed setting value.
8	D26	Word	Target speed (high-order 16 bits)	
9	D27	Word	Target position change request	Sets the target position change request.

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program


* Sample ladder program : 21ChgPOS
* Function : Target position change
* Version : Ver.1.00A
<Target position change cmd pulse>
X45
0
Target p
osition
change c
ommand
PLS
M30
Target p
osition
change c
md pulse
<Target position change cmd hold >
M30
X0C
74
Target p
osition
change c
md pulse
Axis 1 B
USY sign
al
SET
M31
Target p
osition
chg cmd
storage
<Target pos add set to 300.0 um >
M31
95
Target p
osition
chg cmd
storage
DMOVP
K3000
D23
Target p
osition
(Lo 16 b
it)
<Tg spd set to 10000.00 mm/min >
DMOV
K1000000
D25
Target s
peed (Lo
16 bit)
<Target pos change req setting >
MOVP
K1
D27
Target p
osition
change r
equest
<Speed change write >
TOP
H0
K1534
D23
Target p
osition
(Lo 16 b
it)
K5
<Speed change request storage OFF>
U0\
=
G1538
Axis 1
Target p
os chang
e reques
K0
RST
M31
Target p
osition
chq cmd
storage
194
END

2.22 Absolute Position Restoration

Function Overview

This program performs absolute position restoration processing for Axis 1.

Program

This function uses the project (program name).

•LD-LD75_NML_V100A_E(22Abrst)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "2.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "2.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X0	Bit	LD75 READY sign	-
2	X47	Bit	ABS data bit 0	-
3	X48	Bit	ABS data bit 1	-
4	X49	Bit	Transmission data READY flag	-
5	Y50	Bit	Servo ON signal	Outputs to the servo.

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "2.1 Parameter Setting"

Devices

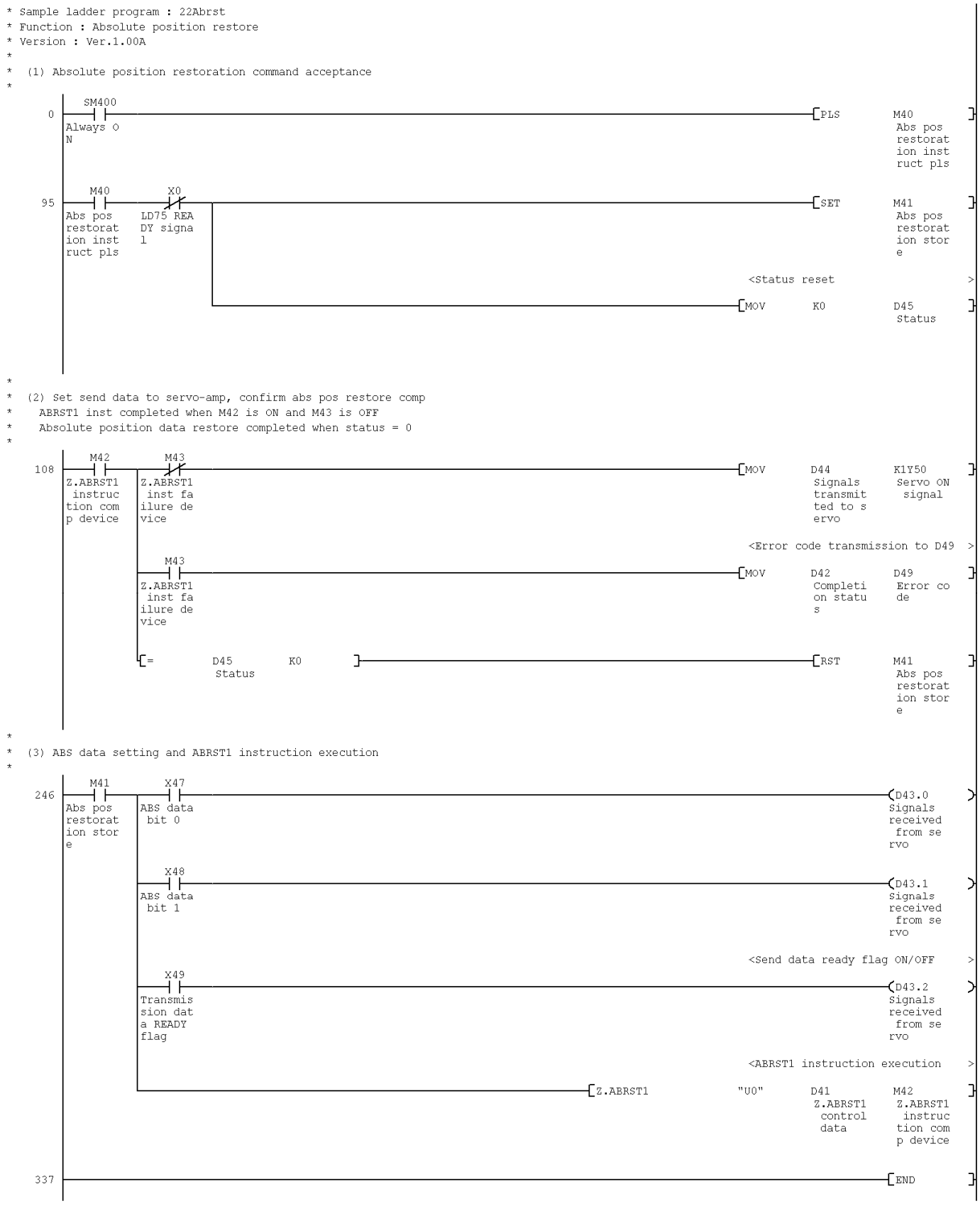
This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	SM400	Bit	Absolute position restoration command acceptance trigger	Always ON
2	X0	Bit	LD75 READY sign	-
3	X47	Bit	ABS data bit 0	-
4	X48	Bit	ABS data bit 1	-
5	X49	Bit	Transmission data READY flag	-
6	Y50	Bit	Servo ON signal	Outputs to the servo.
7	M40	Bit	Absolute position restoration instruction pulse	-
8	M41	Bit	Absolute position restoration instruction storage	-
9	M42	Bit	Z.ABRST1 instruction complete device	-
10	M43	Bit	Z.ABRST1 instruction failure device	-
11	D41	Word	Z.ABRST1 control data	Used for the dedicated instruction (ABRST1).
12	D42	Word	Completion status	-
13	D43	Word	Signals received from servo	Receives from the servo.
14	D44	Word	Signals transmitted to servo	Transmits to the servo.
15	D45	Word	Status	Stores the status.
16	D49	Word	Error code	Stores an error code.

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program


* Sample ladder program : 22Abrst
* Function : Absolute position restore
* Version : Ver.1.00A
*
* (1) Absolute position restoration command acceptance
*
0 SM400 Always ON
PLS M40 Abs pos restoration instruct pls
95 M40 Abs pos restoration instruct pls
X0 LD75 READY signal
SET M41 Abs pos restoration store
<Status reset
MOV K0 D45 Status
*
* (2) Set send data to servo-amp, confirm abs pos restore comp
* ABRST1 inst completed when M42 is ON and M43 is OFF
* Absolute position data restore completed when status = 0
*
108 M42 Z.ABRST1 instruction comp device
M43 Z.ABRST1 inst failure device
MOV D44 Signals transmitted to servo K1Y50 Servo ON signal
<Error code transmission to D49
M43 Z.ABRST1 inst failure device
MOV D42 Completion status D49 Error code
= D45 Status K0
RST M41 Abs pos restoration store
*
* (3) ABS data setting and ABRST1 instruction execution
*
246 M41 Abs pos restoration store
X47 ABS data bit 0
D43.0 Signals received from servo
X48 ABS data bit 1
D43.1 Signals received from servo
<Send data ready flag ON/OFF
X49 Transmission data READY flag
D43.2 Signals received from servo
<ABRST1 instruction execution
Z.ABRST1 "U0" D41 Z.ABRST1 control data M42 Z.ABRST1 instruction comp device
337 END

2.23 Restart

Function Overview

This program performs the restart operation for Axis 1.

Program

This function uses the project (program name).

•LD-LD75_NML_V100A_E(23Restat)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "2.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "2.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X10	Bit	Axis 1 Start complete signal	-
2	X14	Bit	Axis 1 Positioning complete signal	-
3	X3B	Bit	Restart command	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "2.1 Parameter Setting"

Devices

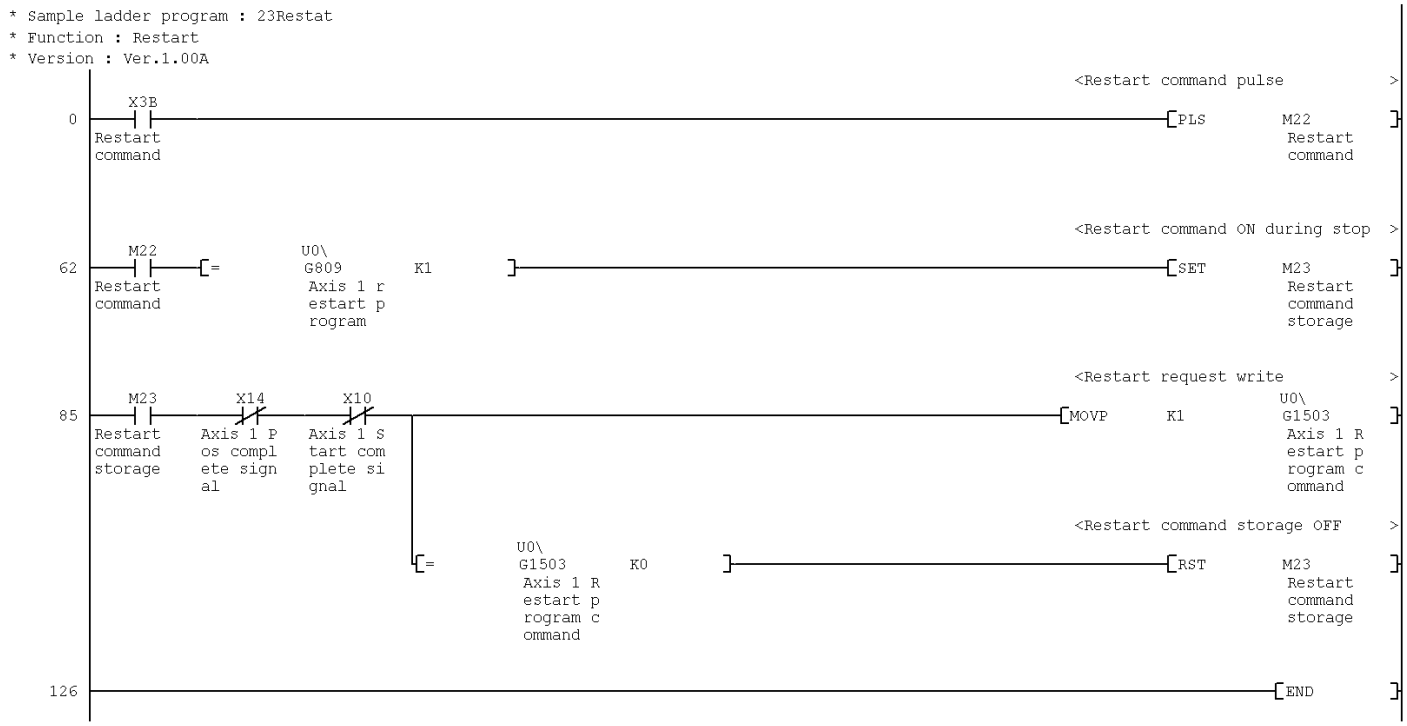
This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X10	Bit	Axis 1 Start complete signal	-
2	X14	Bit	Axis 1 Positioning complete signal	-
3	X3B	Bit	Restart command	-
4	M22	Bit	Restart command	-
5	M23	Bit	Restart command storage	-

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program


* Sample ladder program : 23Restat
* Function : Restat
* Version : Ver.1.00A
<Restart command pulse >
0
X3B
Restart command
PLS
M22
Restart command
<Restart command ON during stop >
62
M22
Restart command
=
U0\G809
Axis 1 restart program
K1
SET
M23
Restart command storage
<Restart request write >
85
M23
Restart command storage
X14
Axis 1 Pos complete signal
X10
Axis 1 Start complete signal
MOVP
K1
U0\G1503
Axis 1 Restart program command
<Restart command storage OFF >
=
U0\G1503
Axis 1 Restart program command
K0
RST
M23
Restart command storage
126
END

2.24 Parameter Initialization

Function Overview

This program initializes the parameters.

Program

This function uses the project (program name).

•LD-LD75_NML_V100A_E(24IniPRM)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "2.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "2.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X0C	Bit	Axis 1 BUSY signal	-
2	X0D	Bit	Axis 2 BUSY signal	-
3	X0E	Bit	Axis 3 BUSY signal	-
4	X0F	Bit	Axis 4 BUSY signal	-
5	X3C	Bit	Parameter initialization command	-
6	Y0	Bit	PLC READY signal	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "2.1 Parameter Setting"

Devices

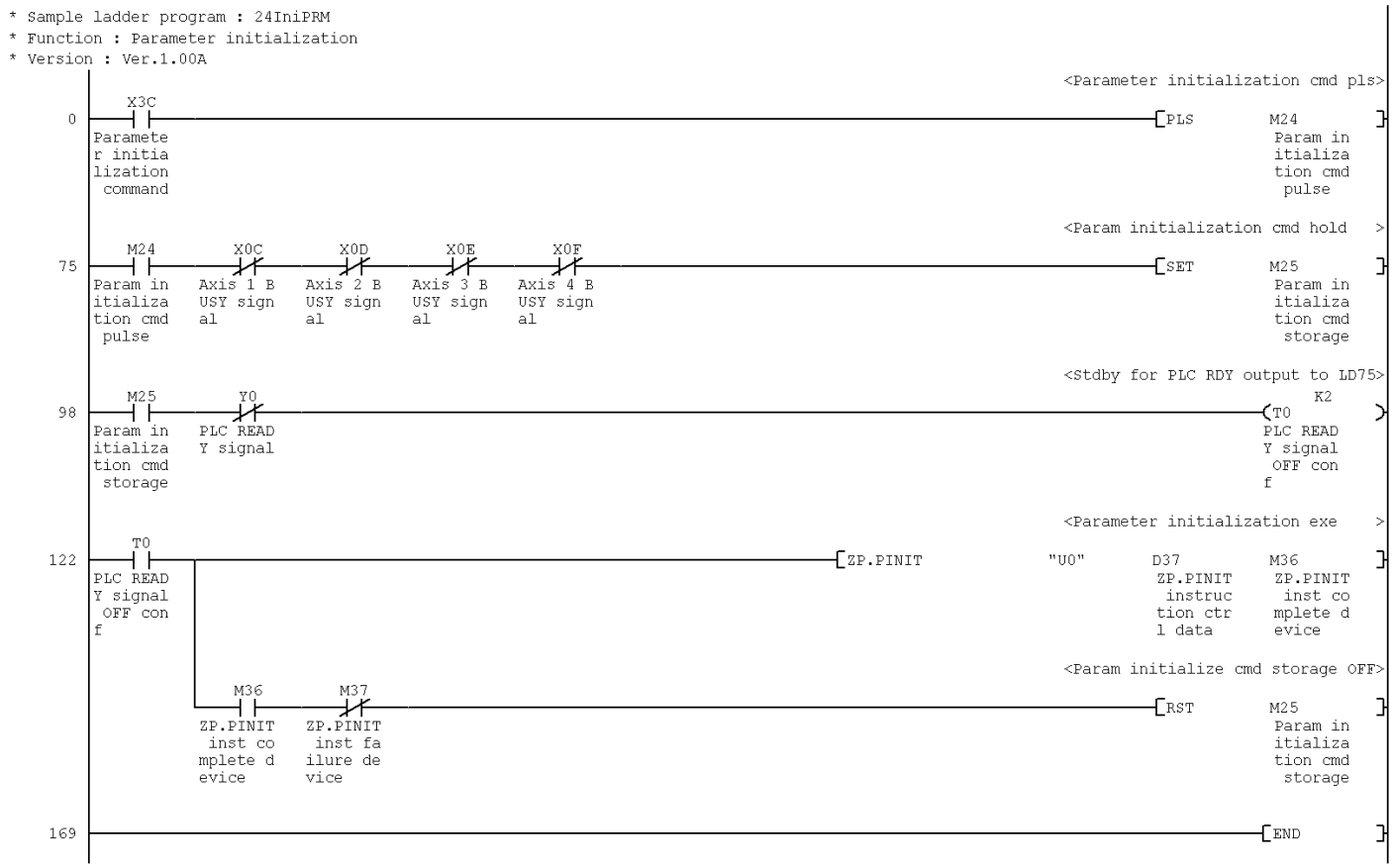
This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X0C	Bit	Axis 1 BUSY signal	-
2	X0D	Bit	Axis 2 BUSY signal	-
3	X0E	Bit	Axis 3 BUSY signal	-
4	X0F	Bit	Axis 4 BUSY signal	-
5	X3C	Bit	Parameter initialization command	-
6	Y0	Bit	PLC READY signal	-
7	M24	Bit	Parameter initialization command pulse	-
8	M25	Bit	Parameter initialization command storage	-
9	M36	Bit	ZP.PINIT instruction complete device	Turns ON when the PINIT instruction is completed normally.
10	M37	Bit	ZP.PINIT instruction failure device	Turns ON when the PINIT instruction is completed abnormally.
11	D37	Word	ZP.PINIT instruction control data	Used for the dedicated instruction (PINIT).
12	T0	Bit	PLC READY signal OFF confirmation	-

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program


* Sample ladder program : 24IniPRM
* Function : Parameter initialization
* Version : Ver.1.00A
<Parameter initialization cmd pls>
X3C
0
Parameter initialization command
PLS
M24
Param in itialization cmd pulse
<Param initialization cmd hold >
M24
X0C
X0D
X0E
X0F
75
Param in itialization cmd pulse
Axis 1 BUSY signal
Axis 2 BUSY signal
Axis 3 BUSY signal
Axis 4 BUSY signal
SET
M25
Param in itialization cmd storage
<Stdby for PLC RDY output to LD75>
M25
Y0
98
Param in itialization cmd storage
PLC READY signal
K2
T0
PLC READY signal OFF conf
<Parameter initialization exe >
T0
122
PLC READY signal OFF conf
ZP.PINIT
"U0"
D37
ZP.PINIT instruction ctrl data
M36
ZP.PINIT inst complete device
<Param initialize cmd storage OFF>
M36
M37
ZP.PINIT inst complete device
ZP.PINIT inst failure device
RST
M25
Param in itialization cmd storage
169
END

2.25 Flash ROM Write

Function Overview

This program writes data to the flash ROM.

Program

This function uses the project (program name).

•LD-LD75_NML_V100A_E(25WrtROM)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "2.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "2.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X0C	Bit	Axis 1 BUSY signal	-
2	X0D	Bit	Axis 2 BUSY signal	-
3	X0E	Bit	Axis 3 BUSY signal	-
4	X0F	Bit	Axis 4 BUSY signal	-
5	X3D	Bit	Flash ROM write command	-
6	Y0	Bit	PLC READY signal	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "2.1 Parameter Setting"

Devices

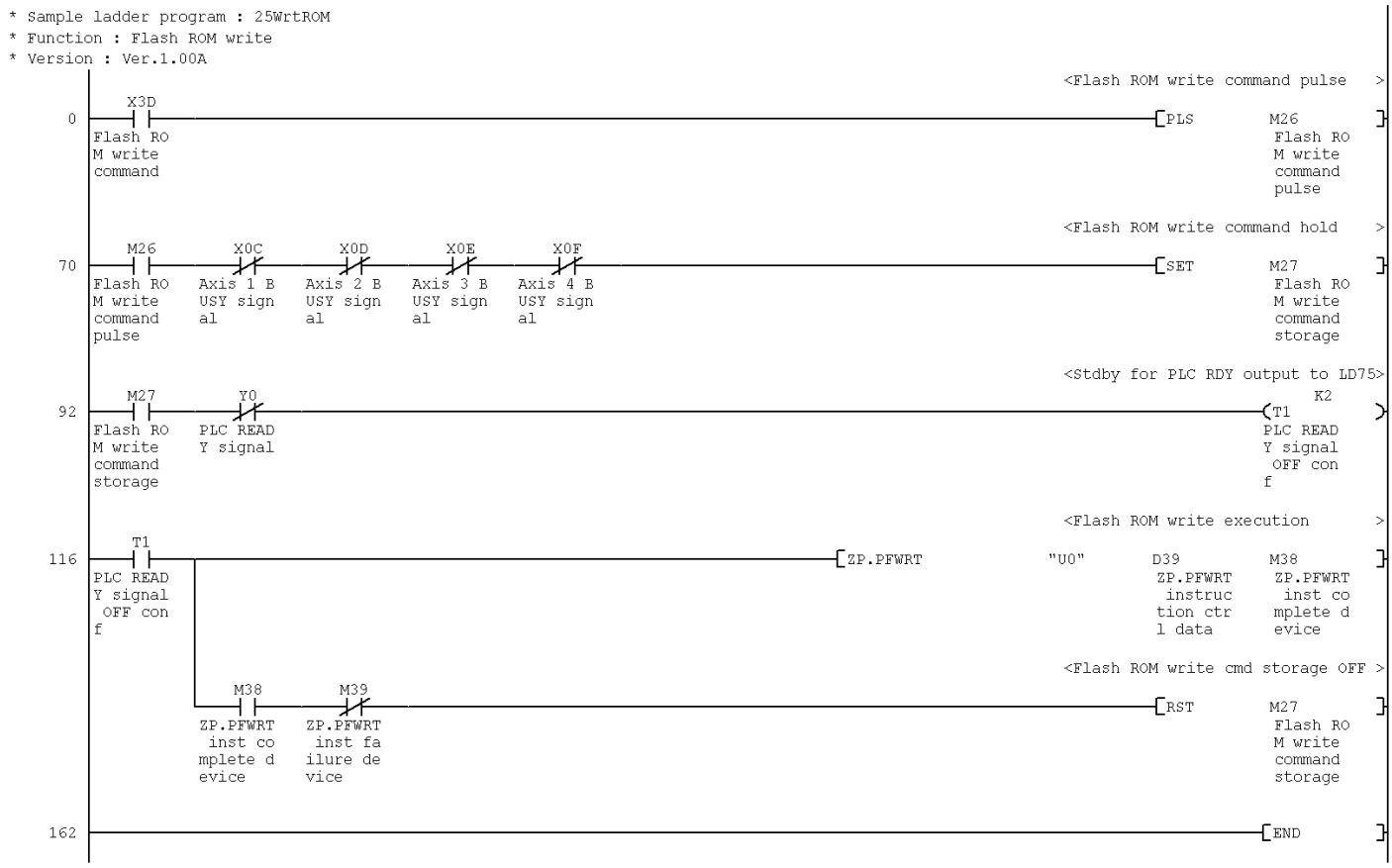
This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X0C	Bit	Axis 1 BUSY signal	-
2	X0D	Bit	Axis 2 BUSY signal	-
3	X0E	Bit	Axis 3 BUSY signal	-
4	X0F	Bit	Axis 4 BUSY signal	-
5	X3D	Bit	Flash ROM write command	-
6	Y0	Bit	PLC READY signal	-
7	M26	Bit	Flash ROM write command pulse	-
8	M27	Bit	Flash ROM write command storage	-
9	M38	Bit	ZP.PFWRT instruction complete device	Turns ON when the PFWRT instruction is completed normally.
10	M39	Bit	ZP.PFWRT instruction failure device	Turns ON when the PFWRT instruction is completed abnormally.
11	D39	Word	ZP.PFWRT instruction control data	Used for the dedicated instruction (PFWRT).
12	T1	Bit	PLC READY signal OFF confirmation	-

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program


* Sample ladder program : 25WrtROM
* Function : Flash ROM write
* Version : Ver.1.00A
<Flash ROM write command pulse >
X3D
0
Flash RO M write command
PLS
M26 Flash RO M write command pulse
<Flash ROM write command hold >
M26
X0C
X0D
X0E
X0F
70
Flash RO M write command pulse
Axis 1 B USY sign al
Axis 2 B USY sign al
Axis 3 B USY sign al
Axis 4 B USY sign al
SET
M27 Flash RO M write command storage
<Stdby for PLC RDY output to LD75>
M27
Y0
92
Flash RO M write command storage
PLC READ Y signal
K2
T1 PLC READ Y signal OFF con f
<Flash ROM write execution >
T1
116
PLC READ Y signal OFF con f
ZP.PFWRT
"U0"
D39 ZP.PFWRT instruc tion ctr l data
M38 ZP.PFWRT inst co mplete d evice
<Flash ROM write cmd storage OFF >
M38
M39
ZP.PFWRT inst co mplete d evice
ZP.PFWRT inst fa ilure de vice
RST
M27 Flash RO M write command storage
162
END

2.26 Error Reset

Function Overview

This program reads error codes and resets errors for Axis 1.

Program

This function uses the project (program name).

•LD-LD75_NML_V100A_E(26RstErr)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "2.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "2.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X8	Bit	Axis 1 Error detection signal	-
2	X3E	Bit	Error reset command	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "2.1 Parameter Setting"

Devices

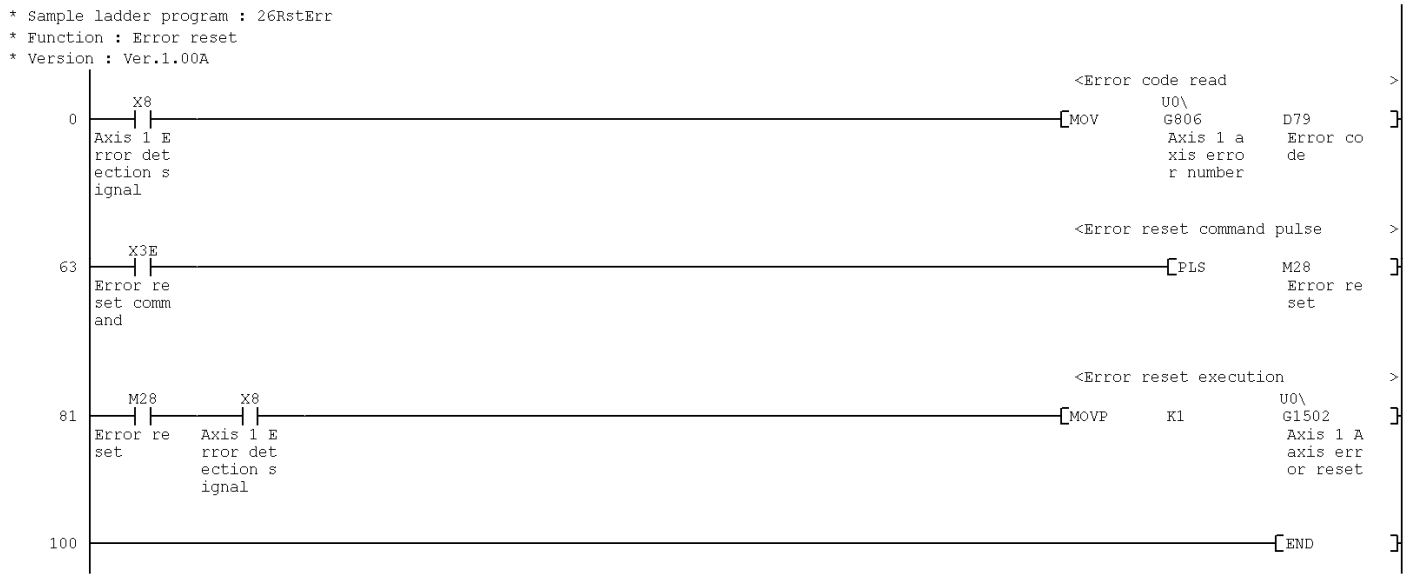
This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X8	Bit	Axis 1 Error detection signal	-
2	X3E	Bit	Error reset command	-
3	M28	Bit	Error reset	-
4	D79	Word	Error code	Stores an error code.

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program


* Sample ladder program : 26RstErr
* Function : Error reset
* Version : Ver.1.00A
<Error code read >
0
X8
Axis 1 E rror det ection s ignal
MOV
U0\ G806
Axis 1 a xis erro r number
D79
Error co de
<Error reset command pulse >
63
X3E
Error re set comm and
PLS
M28
Error re set
<Error reset execution >
81
M28
Error re set
X8
Axis 1 E rror det ection s ignal
MOVP
K1
U0\ G1502
Axis 1 A axis err or reset
100
END

2.27 Stop

Function Overview

This program performs the axis stop for Axis 1.

Program

This function uses the project (program name).

•LD-LD75_NML_V100A_E(27Stop)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "2.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "2.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X0C	Bit	Axis 1 BUSY signal	-
2	X3F	Bit	Stop command	-
3	Y4	Bit	Axis 1 Axis stop signal	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "2.1 Parameter Setting"

Devices

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X0C	Bit	Axis 1 BUSY signal	-
2	X3F	Bit	Stop command	-
3	Y4	Bit	Axis 1 Axis stop signal	-
4	M29	Bit	Stop command pulse	-

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program


* Sample ladder program : 27Stop
* Function : Stop
* Version : Ver.1.00A
<Stop command pulse >
0
X3F
Stop com mand
PLS
M29
Stop com mand pul se
<Stop execution >
57
M29
X0C
Stop com mand pul se
Axis 1 B USY sign al
SET
Y4
Axis 1 A xis stop signal
<Axis stop sig OFF for axis stop >
69
X3F
X0C
Stop com mand
Axis 1 B USY sign al
RST
Y4
Axis 1 A xis stop signal
90
END

3 When Connecting the Module to the Head Module

3.1 Parameter Setting

Function Overview

This program sets the basic parameters, OPR basic parameters, and speed-position switching control (ABS) parameters.

Program

This function uses the project (program name).

•LD-LD75_IEF_V100A_E(01SetPRM)

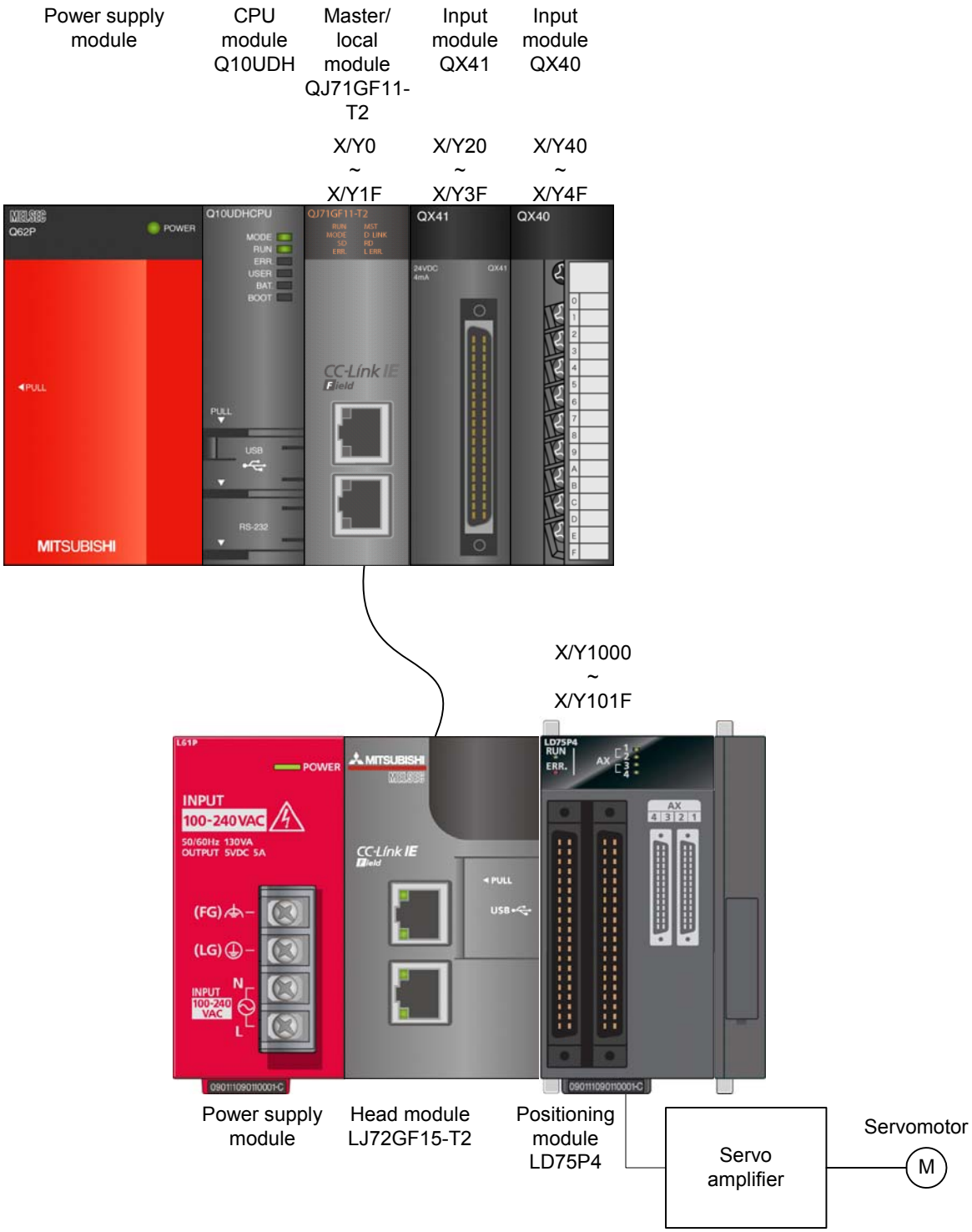
Applicable Hardware and Software

The following are the hardware and software applicable to the sample ladder programs.

<table>
<tr><th>Model</th><th>Description</th></tr>
<tr><td>Positioning module</td><td>LD75P4 and LD75D4</td></tr>
<tr><td>CC-Link IE Field Network module</td><td>CC-Link IE Field Network master/local module
CC-Link IE Field Network head module</td></tr>
<tr><td>CPU module</td><td><table><tr><th>Series</th><th>Model</th></tr><tr><td>MELSEC-Q series</td><td>Universal model QCPU *1</td></tr><tr><td>MELSEC-L series</td><td>LCPU *2</td></tr></table>*1 The first five digits of the serial number are "12012" or later.
*2 The first five digits of the serial number are "13012" or later.</td></tr>
<tr><td>Input Module</td><td>MELSEC-Q series input module</td></tr>
<tr><td>Output Module</td><td>MELSEC-L series output module</td></tr>
<tr><td>Compatible software</td><td>GX Works2 *1
*1 For software versions applicable to the module used, refer to "Relevant manuals".</td></tr>
</table>

System Configuration

The following system configuration is used for the sample ladder programs.



This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X4D	Bit	Speed-position switching control (ABS mode) setting command	-

Conditions for Using Sample Ladder Programs

Use GX Works2 when connecting to the head module.

●Network parameter setting

The following explains the settings for the CC-Link IE field that the programs use.

(1) Network Parameter Setting

a) Open the network parameter setting screen for the master/local module and configure the setting as follows.

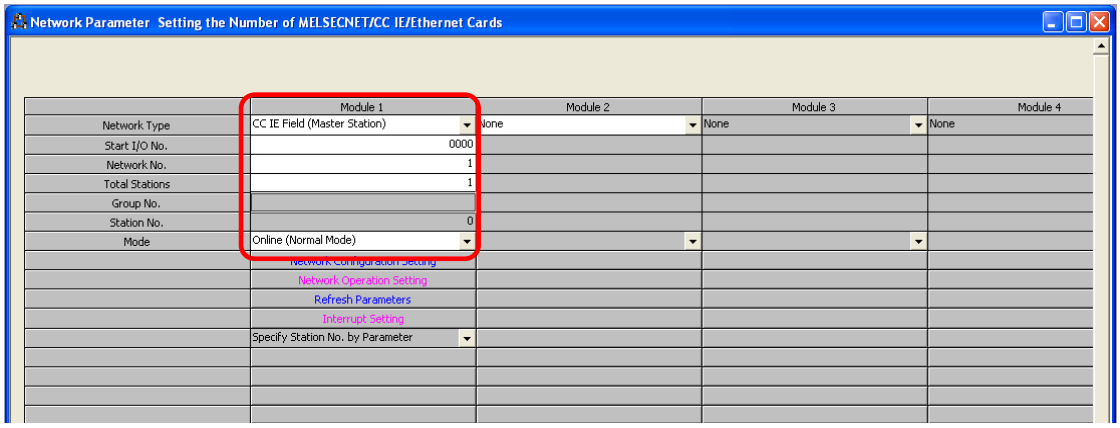


Table 3-1-2 Network parameter setting

	Module 1
Network Type	CC IE Field (Master Station)
Start I/O No.	0000
Network No.	1
Total stations	1

(2) Network Configuration Setting

a) Open the network configuration setting screen and configure the setting as follows.

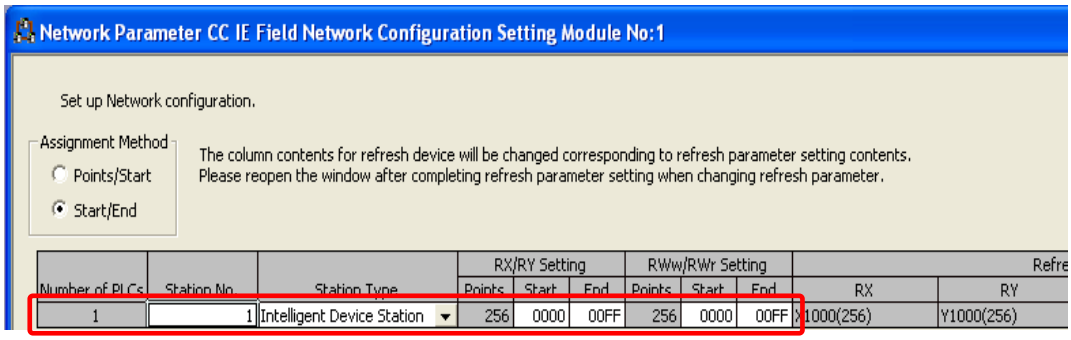


Table 3-3-4 Network configuration setting

	Station No.	Station type	RX/RY Setting		RWw/RWr Setting	
			Start	End	Start	End
1	1	Intelligent Device Station	0000	00FF	0000	00FF

(3) Refresh Parameter Setting

a) Open the refresh parameter setting screen and configure the setting as follows.

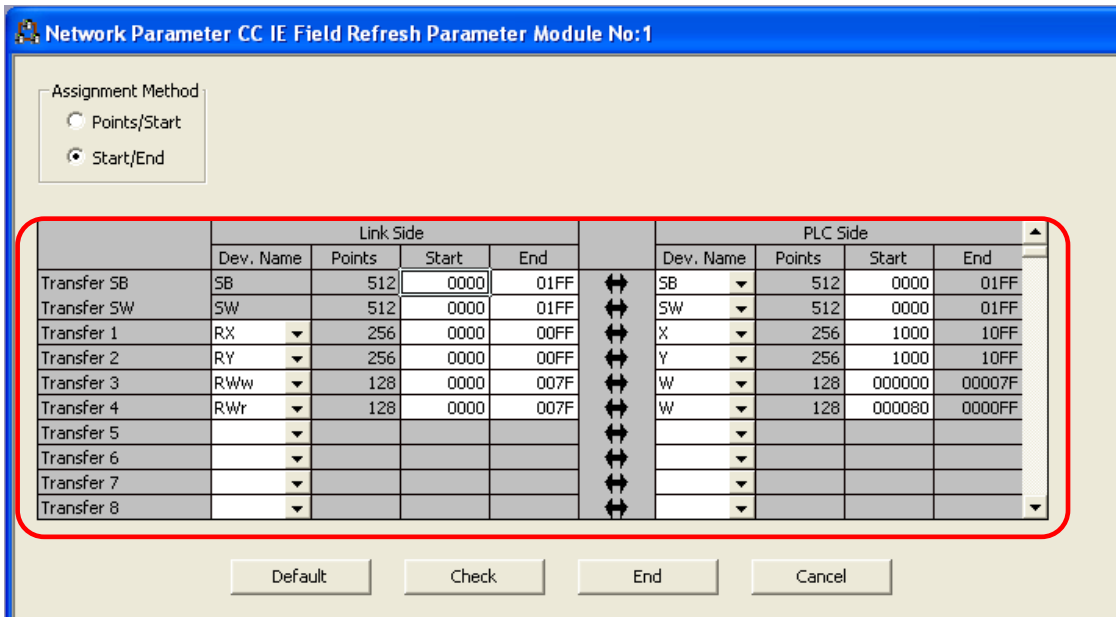


Table 3-5-6 Refresh parameter setting

Link Side				PLC side	
Device name	Start	End		Device name	Start
SB	0000	01FF	↔	SB	0000
SW	0000	01FF	↔	SW	0000
RX	0000	00FF	↔	X	1000
RY	0000	00FF	↔	Y	1000
RWw	0000	007F	↔	W	000000
RWr	0000	007F	↔	W	000080

●Positioning Data Setting

The following explains the settings for the LD75 positioning module that the programs use.

(1) Setting for Positioning Data

a) Open the positioning data axis #1 setting screen and configure the setting as follows.

Project window→[Intelligent Function Module]→Module name→[Positioning_Data_Axis_#1"]

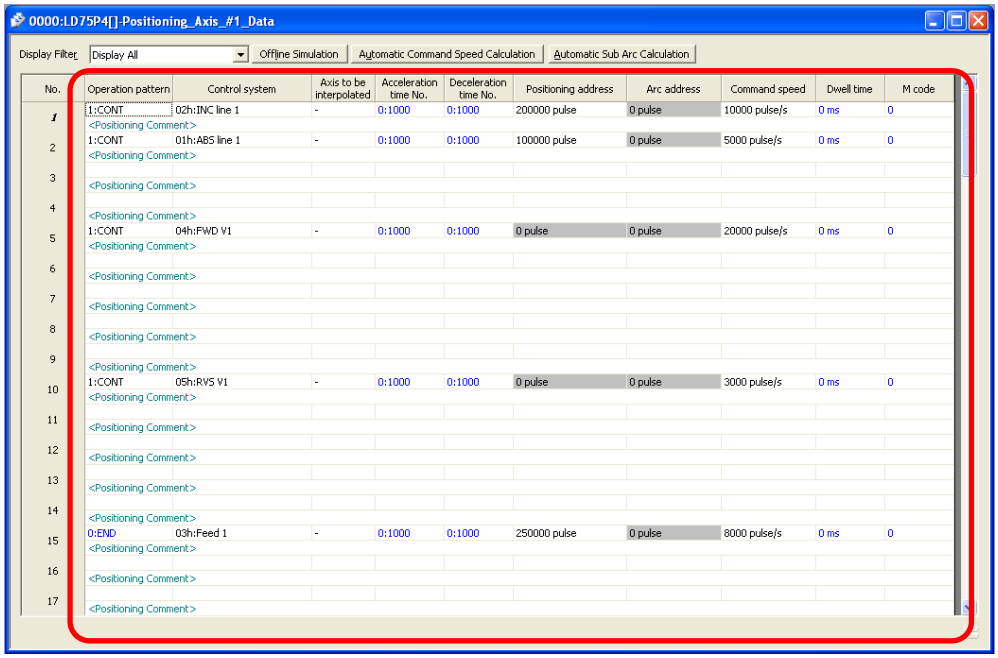


Table 3-7-8 Positioning Data for Axis 1

No.	Operation pattern	Control system	Acceleration time No.	Deceleration time No.	Positioning address	Command speed
1	1:Continuous positioning control	02h:INC linear 1	0:1000	0:1000	200000 pulses	10000 pulses/s
2	1:Continuous positioning control	01h:ABS Linear 1	0:1000	0:1000	100000 pulses	5000 pulses/s
5	1:Continuous positioning control	04h:1-axis speed control (forward run)	0:1000	0:1000		20000 pulses/s
10	1:Continuous positioning control	05h:1-axis speed control (reverse run)	0:1000	0:1000		3000 pulses/s
15	0:Positioning complete	03h:1-axis fixed-feed control	0:1000	0:1000	250000 pulses	8000 pulses/s

●Creating Interlock Programs

Interlock programs must be created for the programs. The following is an example of an interlock program.

(Set a sample ladder program that is used between MC and MCR instructions.)

For a sample of an interlock program, refer to the following project (program name.)

(1)LD-LD75_IEF_V100A_E(00Main)

Use the following link special relay (SB) and link special register (SW) to create interlocks for the programs.

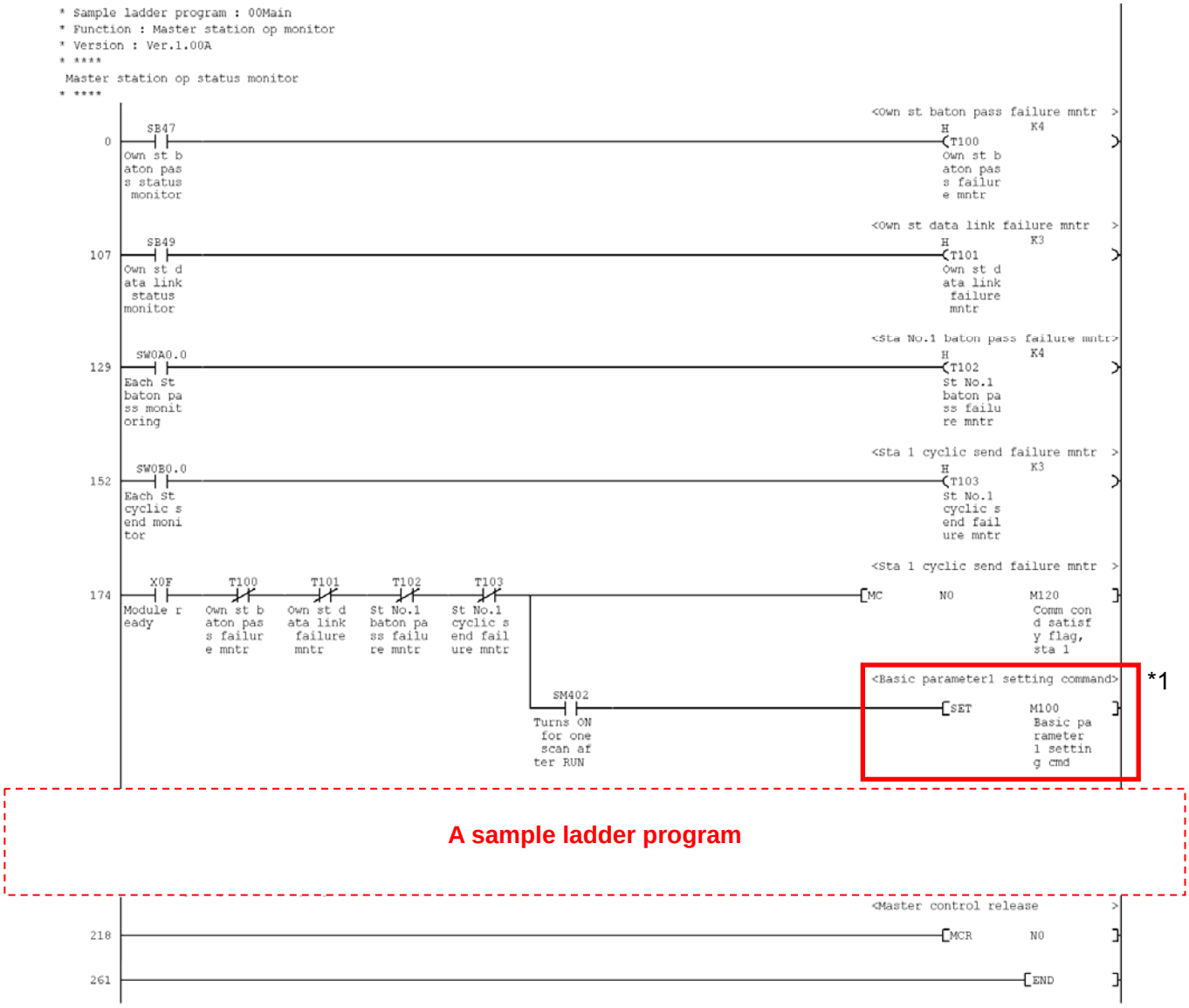
(1)Own station baton pass status (SB0047)

(2)Own station data link status (SB0049)

(3)Each station baton pass status (SW00A0 to SW00A7)

(4)Each station data link status (SW00B0 to SW00B7)

Example: Interlock program (station No.1)



*1 After the completion of the interlock program operation, turn ON the basic parameter 1 setting command (M100) of the parameter setting (01SetPRM).

Devices

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X4D	Bit	Speed-position switching control (ABS mode) setting command	-
2	M50	Bit	Basic parameter 1 setting complete device	-
3	M51	Bit	OPR basic parameter setting complete device	-
4	M52	Bit	Speed-position switching control (ABS) parameter setting complete device	-
5	M100	Bit	Basic parameter 1 setting command	-
6	M101	Bit	OPR basic parameter setting command	-
7	M102	Bit	Speed-position switching control (ABS) parameter setting command	-
8	M103	Bit	Positioning data setting command	-
9	M5000	Bit	Basic parameter 1 complete device	-
10	M5001	Bit	Basic parameter 1 failure device	-
11	M5010	Bit	OPR basic parameter complete device	-
12	M5011	Bit	OPR basic parameter failure device	-
13	M5020	Bit	Unit setting complete device	-
14	M5021	Bit	Unit setting failure device	-
15	M5022	Bit	Software stroke limit complete device	-
16	M5023	Bit	Software stroke limit failure device	-
17	M5024	Bit	Current feed value during speed control complete device	-
18	M5025	Bit	Current feed value during speed control failure device	-
19	M5026	Bit	Speed-position switching operation setting complete device	-
20	M5027	Bit	Speed-position switching operation setting failure device	-
21	D50	Word	Unit setting	Sets the unit setting (0: mm).
22	D51	Word	No. of pulses per rotation	Sets the number of pulses per rotation.
23	D52	Word	Movement amount per rotation	Sets the movement amount per rotation.
24	D53	Word	Unit magnification	Sets the unit magnification.

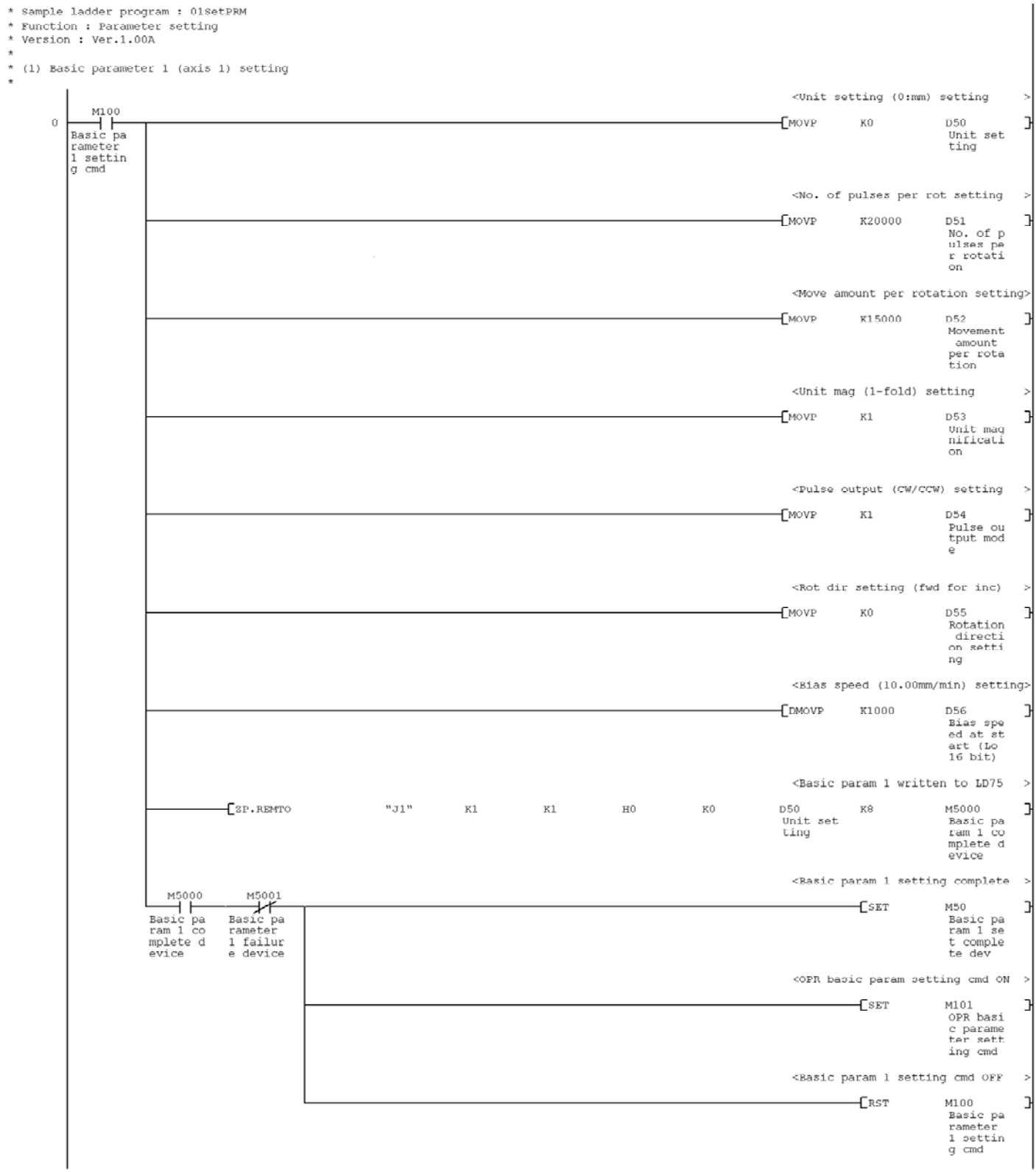
No.	Device	Data Type	Application	Remarks
25	D54	Word	Pulse output mode	Sets the pulse output mode.
26	D55	Word	Rotation direction setting	Sets the rotation direction.
27	D56	Word	Bias speed at start (low-order 16 bits)	Sets the bias speed at start.
28	D57	Word	Bias speed at start (high-order 16 bits)	
29	D150	Word	Unit setting	Sets the unit setting (2: degree).
30	D151	Word	Software stroke limit upper limit value (low-order 16 bits)	Sets the software stroke limit upper limit value.
31	D152	Word	Software stroke limit upper limit value (high-order 16 bits)	
32	D153	Word	Software stroke limit lower limit value (low-order 16 bits)	Sets the software stroke limit lower limit value.
33	D154	Word	Software stroke limit lower limit value (high-order 16 bits)	
34	D155	Word	Current feed value during speed control	Sets the current feed value during speed control.
35	D156	Word	Speed-position function selection (ABS mode)	Sets the speed-position function selection (ABS mode).
36	D200	Word	OPR method	Sets the OPR method.
37	D201	Word	OPR direction	Sets the OPR direction.
38	D202	Word	OP address (low-order 16 bits)	Sets the OP address.
39	D203	Word	OP address (high-order 16 bits)	
40	D204	Word	OPR speed (low-order 16 bits)	Sets the OPR speed.
41	D205	Word	OPR speed (high-order 16 bits)	
42	D206	Word	Creep speed (low-order 16 bits)	Sets the creep speed.
43	D207	Word	Creep speed (high-order 16 bits)	
44	D208	Word	OPR retry	Sets the OPR retry.

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program

*An interlock program is required for this program. For an interlock program, refer to "Creating Interlock Programs" of "Conditions for Using Sample Ladder Programs" in Section 3 "When Connecting the Module to the Head Module".



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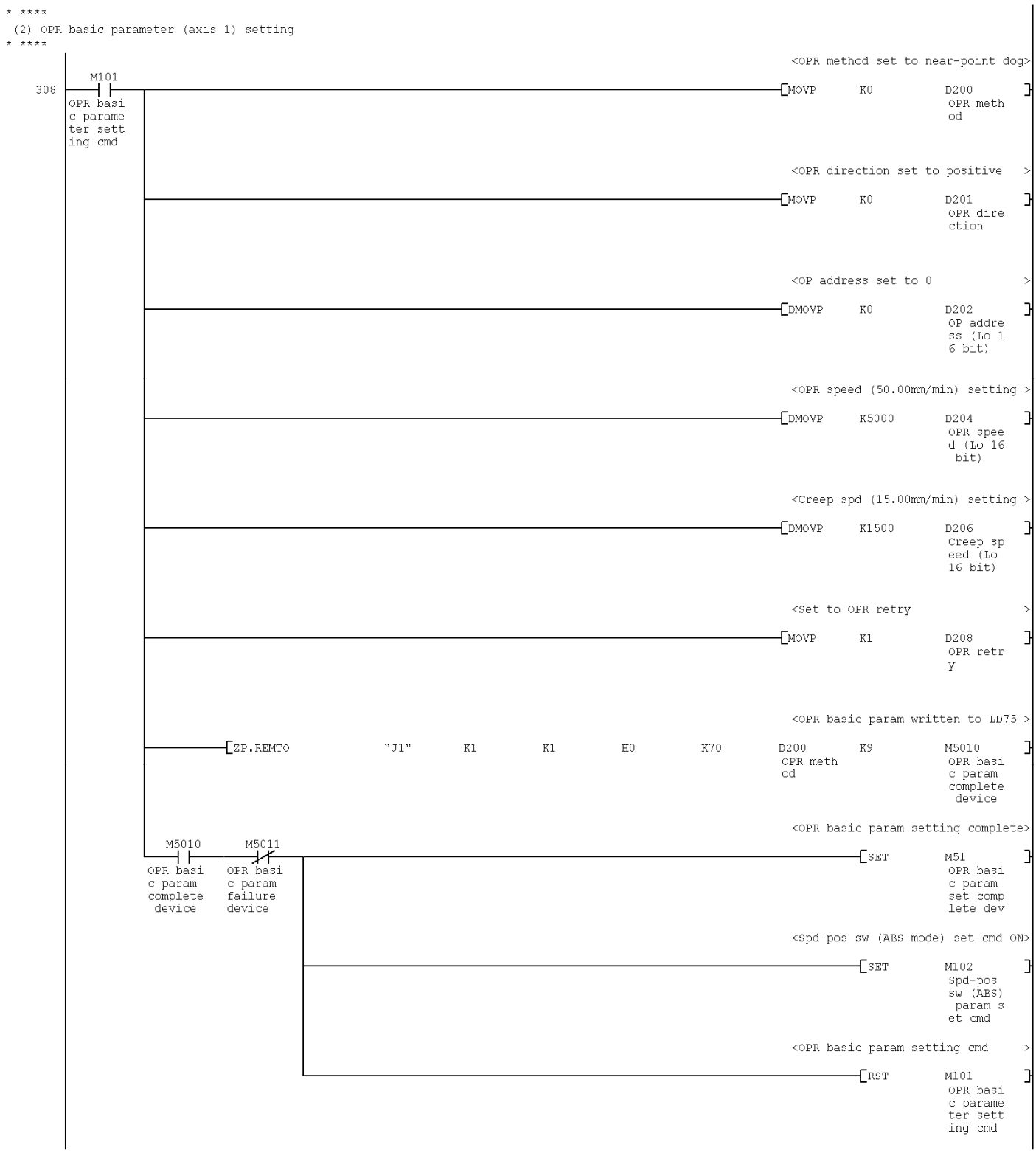

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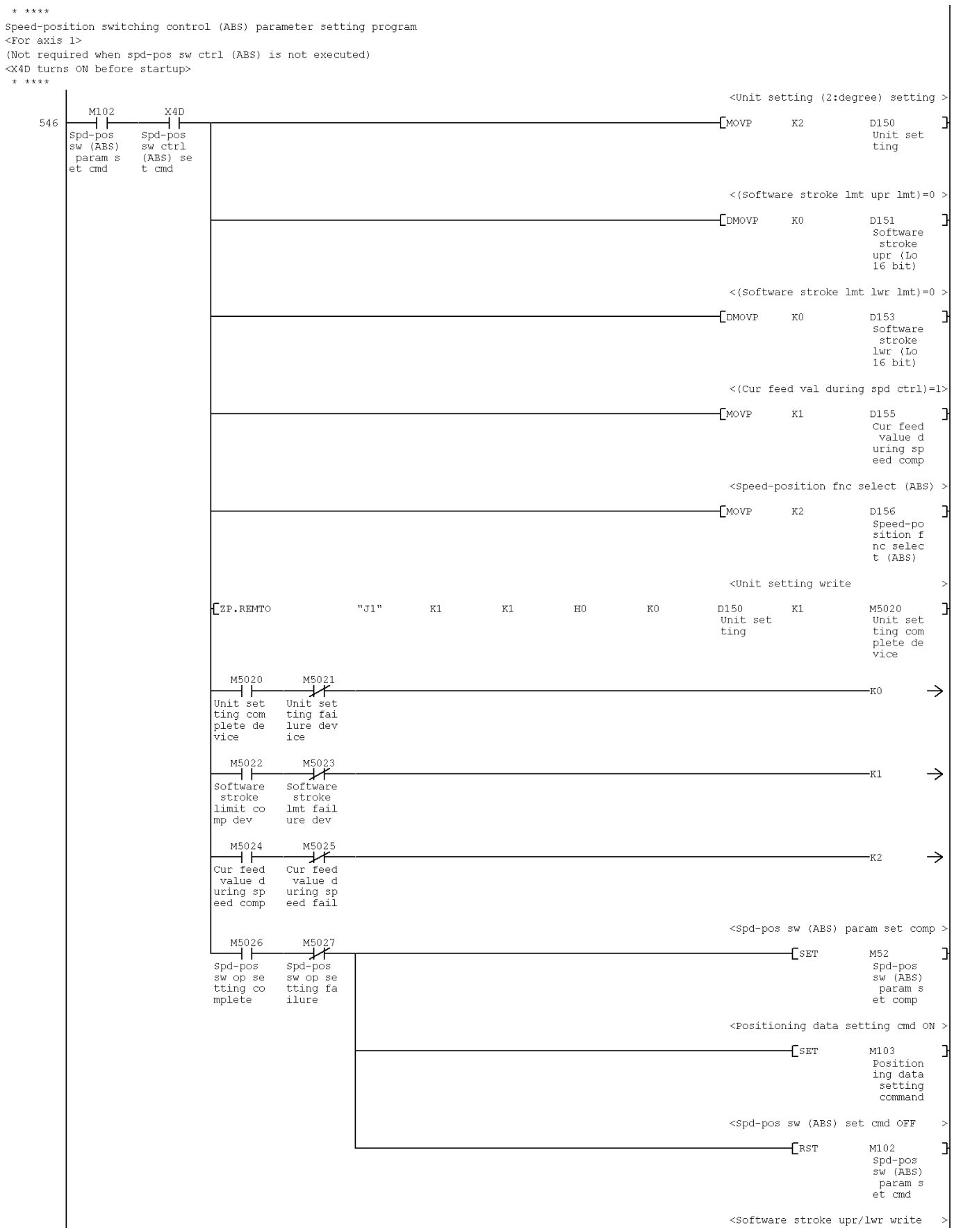

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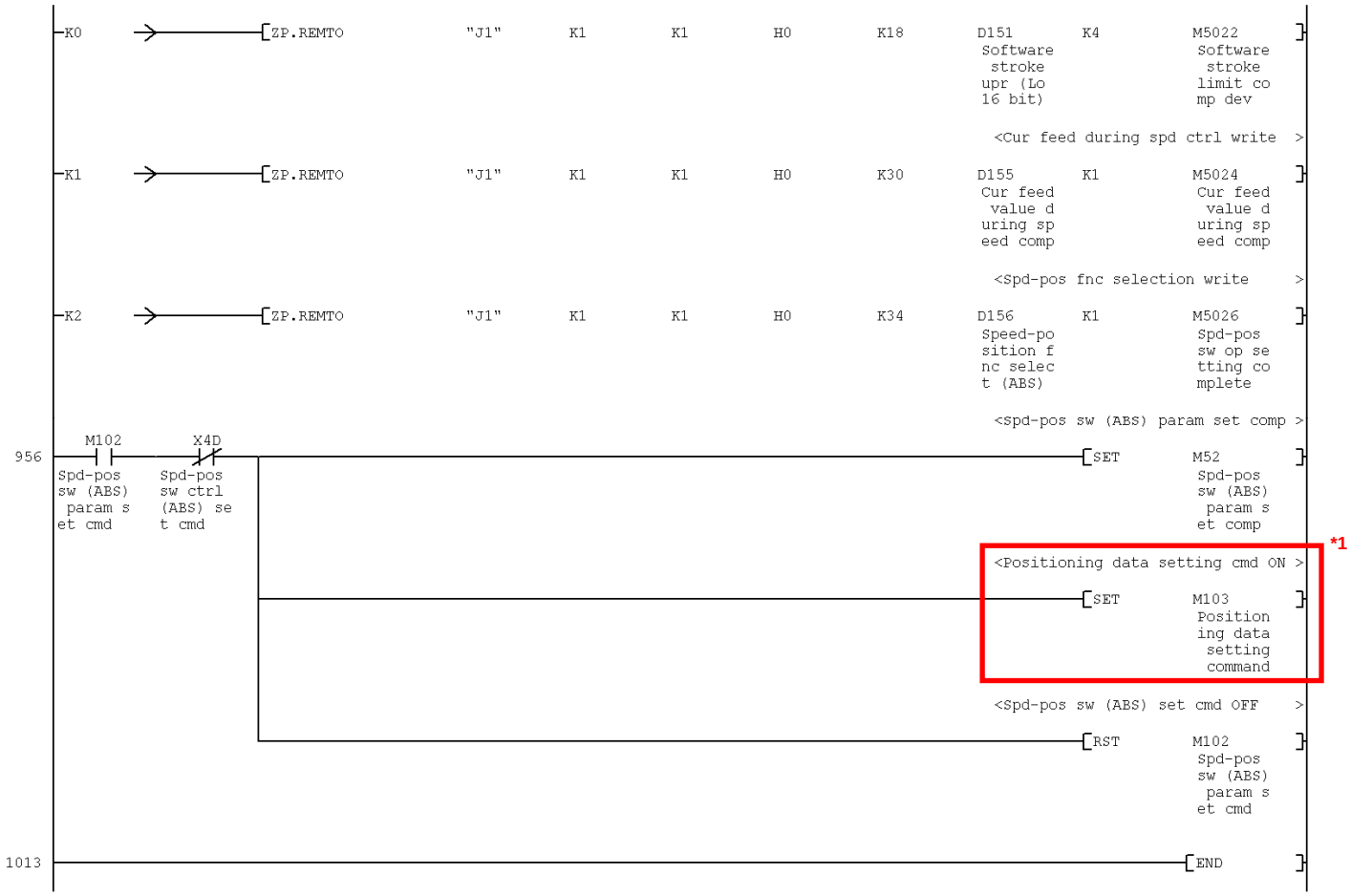


*1 After the completion of the program operation, turn ON the positioning data setting command (M103) of the positioning data setting (02SetPOS).

3.2 Positioning Data Setting

Function Overview

This program sets the positioning data.

Program

This function uses the project (program name).

•LD-LD75_IEF_V100A_E(02SetPOS)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "3.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "3.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	-	-	-	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "3.1 Parameter Setting"

Devices

This program uses the following devices.

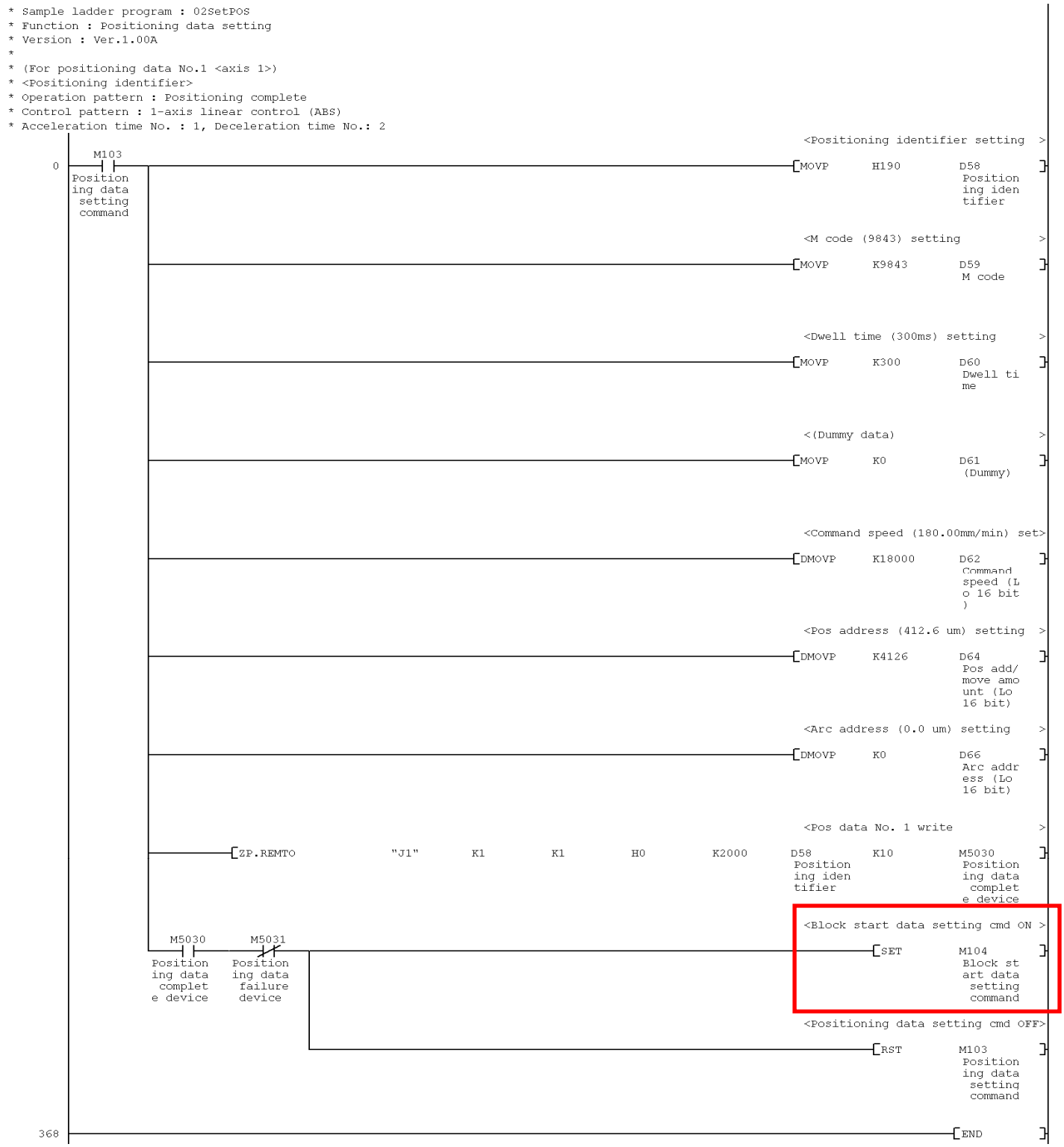
No.	Device	Data Type	Application	Remarks
1	M103	Bit	Positioning data setting command	-
2	M104	Bit	Block start data setting command	-
3	M5030	Bit	Positioning data complete device	-
4	M5031	Bit	Positioning data failure device	-
5	D58	Word	Positioning identifier	Sets the positioning identifier.
6	D59	Word	M code	Sets an M code.
7	D60	Word	Dwell time	Sets the dwell time.
8	D61	Word	(Dummy)	-
9	D62	Word	Command speed (low-order 16 bits)	Sets the command speed.
10	D63	Word	Command speed (high-order 16 bits)	
11	D64	Word	Positioning address/movement amount (low-order 16 bits)	Sets the positioning address.
12	D65	Word	Positioning address/movement amount (high-order 16 bits)	
13	D66	Word	Arc address (low-order 16 bits)	Sets the arc address.
14	D67	Word	Arc address (high-order 16 bits)	

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program

*An interlock program is required for this program. For an interlock program, refer to "Creating Interlock Programs" of "Conditions for Using Sample Ladder Programs" in Section 3 "When Connecting the Module to the Head Module".



*1 After the completion of the program operation, turn ON the block start data setting command (M104) of the block start data setting (03SetBlk).

3.3 Block Start Data Setting

Function Overview

This program sets the block start data.

Program

This function uses the project (program name).

•LD-LD75_IEF_V100A_E(03SetBlk)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "3.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "3.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	-	-	-	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "3.1 Parameter Setting"

Devices

This program uses the following devices.

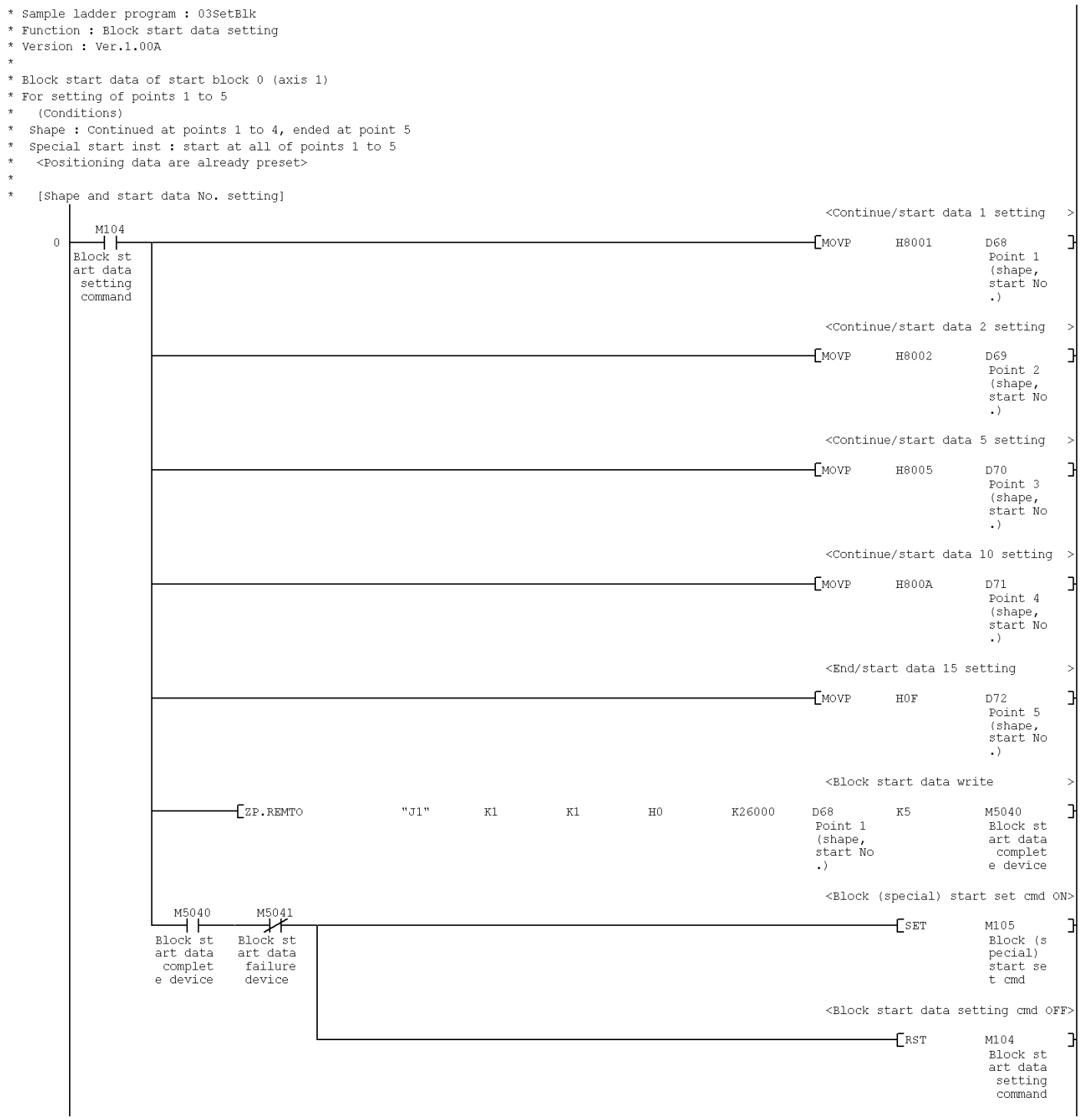
No.	Device	Data Type	Application	Remarks
1	M104	Bit	Block start data setting command	-
2	M105	Bit	Block start (special start) setting command	-
3	M5040	Bit	Block start data complete device	-
4	M5041	Bit	Block start data failure device	-
5	M5050	Bit	Block star (special start) complete device	-
6	M5051	Bit	Block start (special start) failure device	-
7	D68	Word	Point 1 (shape, start No.)	Sets the continue and start data No.1.
8	D69	Word	Point 2 (shape, start No.)	Sets the continue and start data No.2.
9	D70	Word	Point 3 (shape, start No.)	Sets the continue and start data No.5.
10	D71	Word	Point 4 (shape, start No.)	Sets the continue and start data No.10.
11	D72	Word	Point 5 (shape, start No.)	Sets the end and start data No.15.
12	D73	Word	Point 1 (special start instruction)	Sets the special start instruction (point 1).
13	D74	Word	Point 2 (special start instruction)	Sets the special start instruction (point 2).
14	D75	Word	Point 3 (special start instruction)	Sets the special start instruction (point 3).
15	D76	Word	Point 4 (special start instruction)	Sets the special start instruction (point 4).
16	D77	Word	Point 5 (special start instruction)	Sets the special start instruction (point 5).

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program

*An interlock program is required for this program. For an interlock program, refer to "Creating Interlock Programs" of "Conditions for Using Sample Ladder Programs" in Section 3 "When Connecting the Module to the Head Module".



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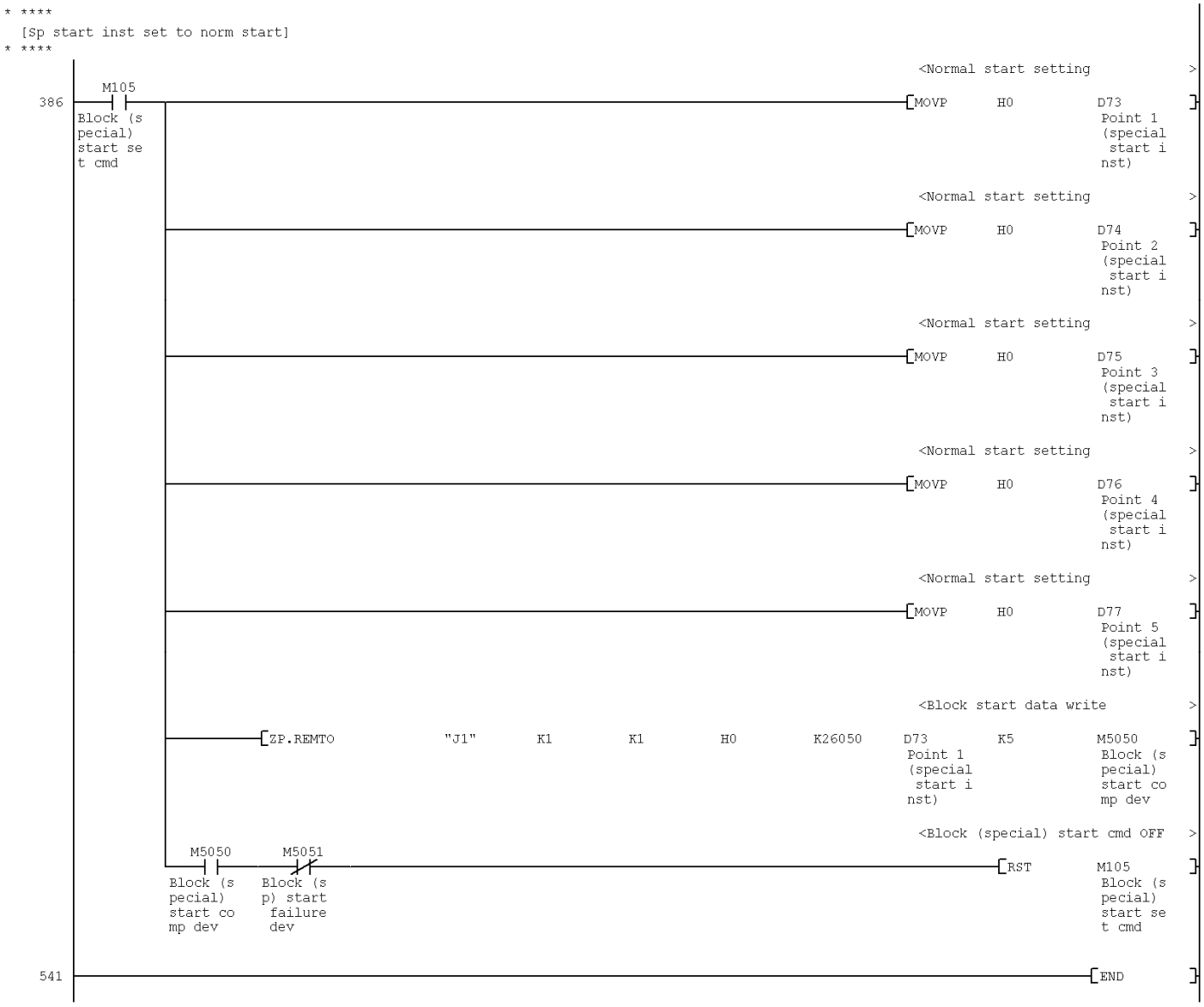

* ****
[Sp start inst set to norm start]
* ****
<Normal start setting >
386
M105
Block (special) start set cmd
MOVP H0 D73 Point 1 (special start inst)
<Normal start setting >
MOVP H0 D74 Point 2 (special start inst)
<Normal start setting >
MOVP H0 D75 Point 3 (special start inst)
<Normal start setting >
MOVP H0 D76 Point 4 (special start inst)
<Normal start setting >
MOVP H0 D77 Point 5 (special start inst)
<Block start data write >
ZP.REMTO "J1" K1 K1 H0 K26050 D73 Point 1 (special start inst) K5 M5050 Block (special) start comp dev
<Block (special) start cmd OFF >
M5050 Block (special) start comp dev
M5051 Block (sp) start failure dev
RST M105 Block (special) start set cmd
541
END

3.4 OPR Request OFF

Function Overview

This program turns OFF the OPR request for Axis 1.

Program

This function uses the project (program name).

•LD-LD75_IEF_V100A_E(04OffBas)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "3.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "3.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X20	Bit	OPR request OFF command	-
2	X1010	Bit	Axis 1 Start complete signal	-
3	Y1010	Bit	Axis 1 Positioning start signal	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "3.1 Parameter Setting"

Devices

This program uses the following devices.

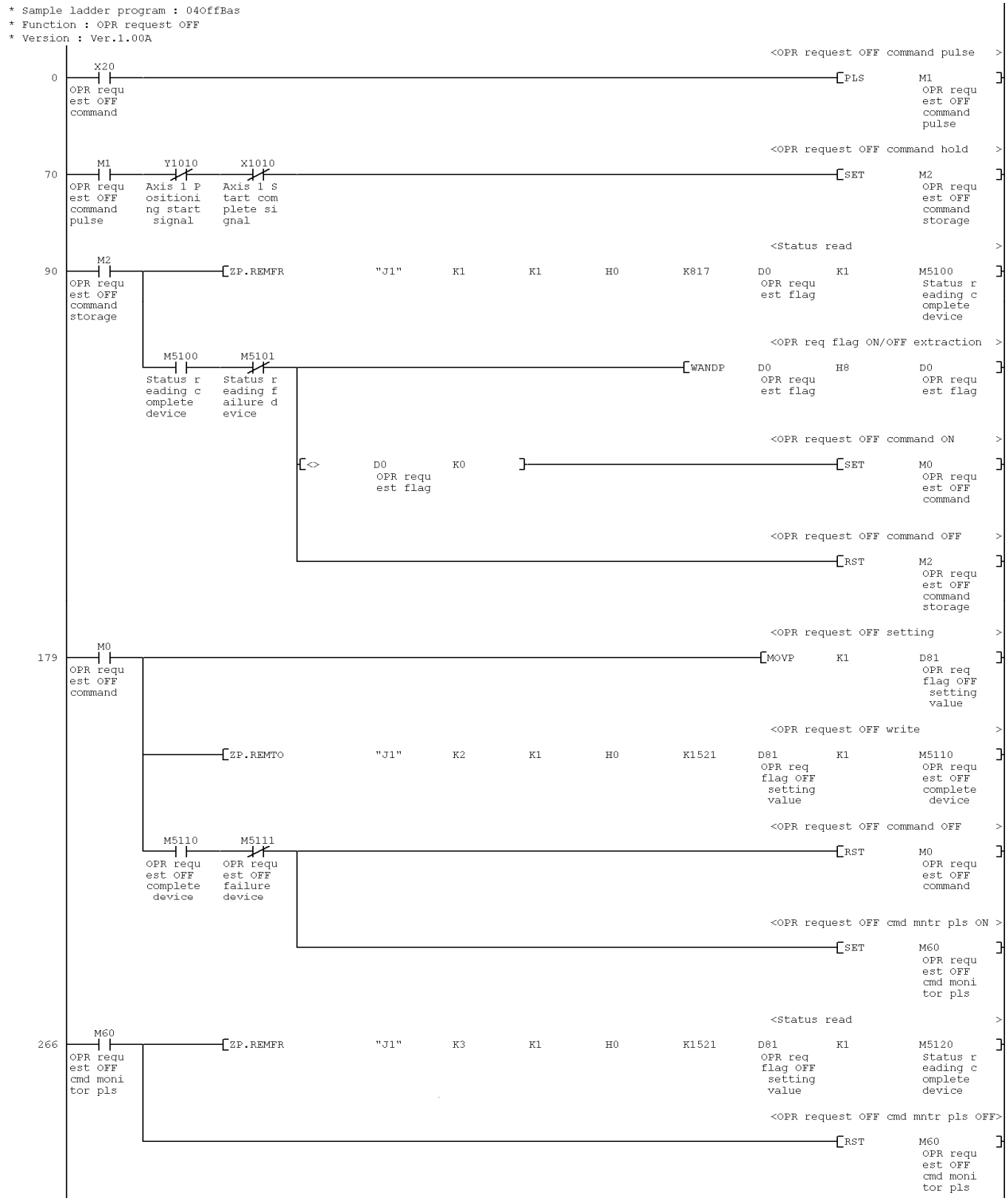
No.	Device	Data Type	Application	Remarks
1	X20	Bit	OPR request OFF command	-
2	X1010	Bit	Axis 1 Start complete signal	-
3	Y1010	Bit	Axis 1 Positioning start signal	-
4	M0	Bit	OPR request OFF command	-
5	M1	Bit	OPR request OFF command pulse	-
6	M2	Bit	OPR request OFF command storage	-
7	M60	Bit	OPR request OFF command monitoring pulse	-
8	M5100	Bit	Status reading complete device	-
9	M5101	Bit	Status reading failure device	-
10	M5110	Bit	OPR request OFF complete device	-
11	M5111	Bit	OPR request OFF failure device	-
12	M5120	Bit	Status reading complete device	-
13	M5121	Bit	Status reading failure device	-
14	D0	Word	OPR request flag	Obtains the OPR request flag.
15	D81	Word	OPR request flag OFF setting value	Sets the OPR request flag OFF setting value.

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program

*An interlock program is required for this program. For an interlock program, refer to "Creating Interlock Programs" of "Conditions for Using Sample Ladder Programs" in Section 3 "When Connecting the Module to the Head Module".



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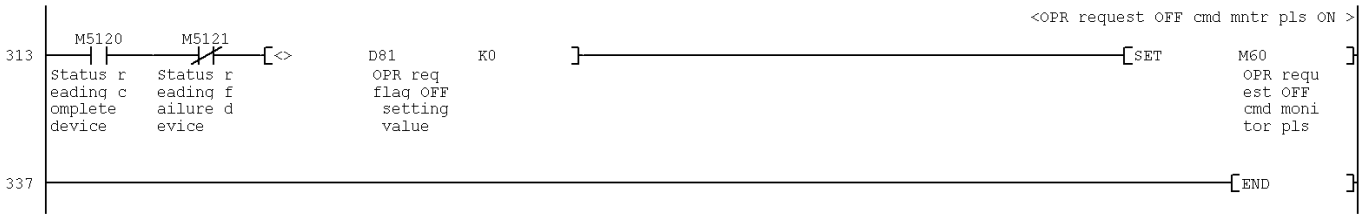

<OPR request OFF cmd mntr pls ON >
313
M5120
Status r eading c omplete device
M5121
Status r eading f ailure d evice
<>
D81
OPR req flag OFF setting value
K0
SET
M60
OPR requ est OFF cmd moni tor pls
337
END

3.5 External Command Function Valid Setting

Function Overview

This program validates/invalidates the external command function.

Program

This function uses the project (program name).

•LD-LD75_IEF_V100A_E(05SetOut)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "3.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "3.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X21	Bit	External command valid command	Turns ON when the external command is validated.
2	X22	Bit	External command invalid command	Turns ON when the external command is invalidated.

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "3.1 Parameter Setting"

Devices

This program uses the following devices.

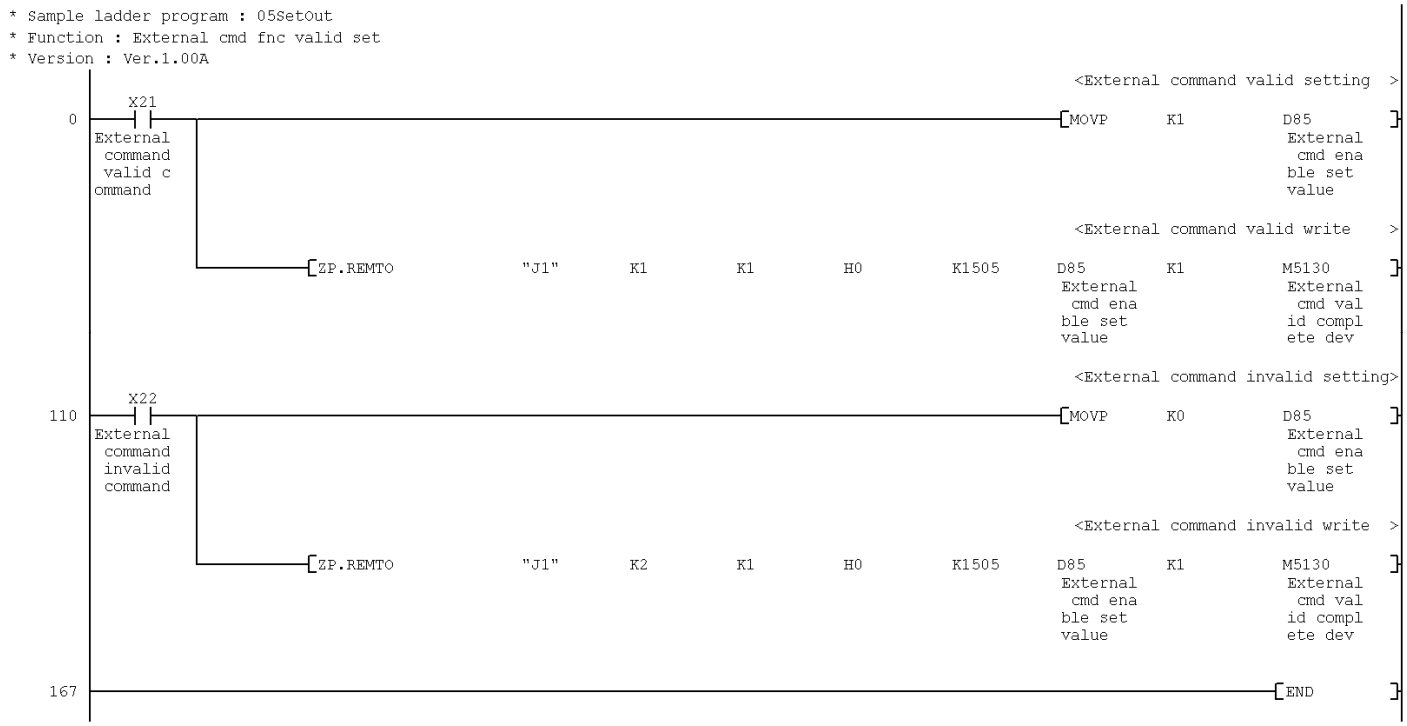
No.	Device	Data Type	Application	Remarks
1	X21	Bit	External command valid command	Turns ON when the external command is validated.
2	X22	Bit	External command invalid command	Turns ON when the external command is invalidated.
3	M5130	Bit	External command valid complete device	-
4	D85	Word	External command enable setting value	Sets the external command enable setting value.

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program

*An interlock program is required for this program. For an interlock program, refer to "Creating Interlock Programs" of "Conditions for Using Sample Ladder Programs" in Section 3 "When Connecting the Module to the Head Module".



3.6 PLC READY Signal [Y0] ON

Function Overview

This program turns ON the PLC READY signal [Y0].

Program

This function uses the project (program name).

•LD-LD75_IEF_V100A_E(06OnRdy)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "3.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "3.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	Y1000	Bit	PLC READY signal	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "3.1 Parameter Setting"

Devices

This program uses the following devices.

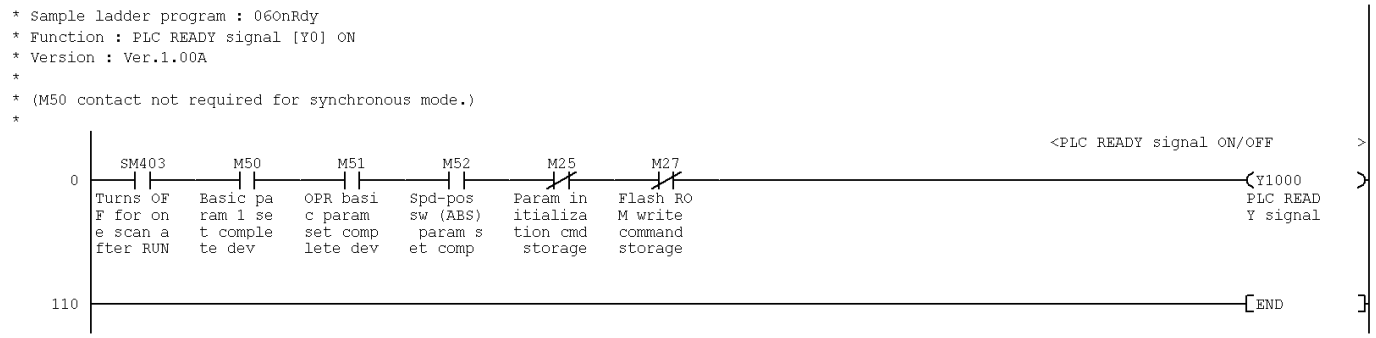
No.	Device	Data Type	Application	Remarks
1	SM403	Bit	PLC READY signal [Y0] ON trigger	Turns OFF for one scan after RUN.
2	Y1000	Bit	PLC READY signal	-
3	M25	Bit	Parameter initialization command storage	-
4	M27	Bit	Flash ROM write command storage	-
5	M50	Bit	Basic parameter 1 setting complete device	-
6	M51	Bit	OPR basic parameter setting complete device	-
7	M52	Bit	Speed-position switching control (ABS) parameter setting complete device	-

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program

*An interlock program is required for this program. For an interlock program, refer to "Creating Interlock Programs" of "Conditions for Using Sample Ladder Programs" in Section 3 "When Connecting the Module to the Head Module".



3.7 Positioning Start No. Setting

Function Overview

This program sets the positioning start number.

Program

This function uses the project (program name).

•LD-LD75_IEF_V100A_E(07SetNum)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "3.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "3.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X23	Bit	Machine OPR command	-
2	X24	Bit	Fast OPR command	-
3	X25	Bit	Positioning start command	-
4	X26	Bit	Speed-position switching operation command	-
5	X27	Bit	Speed-position switching enable command	-
6	X28	Bit	Speed-position switching prohibit command	-
7	X29	Bit	Movement amount change command	-
8	X2A	Bit	High-level positioning control start command	-
9	X40	Bit	Position-speed switching operation command	-
10	X41	Bit	Position-speed switching enable command	-
11	X42	Bit	Position-speed switching prohibit command	-
12	X43	Bit	Speed change command	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "3.1 Parameter Setting"

Devices

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X23	Bit	Machine OPR command	-
2	X24	Bit	Fast OPR command	-
3	X25	Bit	Positioning start command	-
4	X26	Bit	Speed-position switching operation command	-
5	X27	Bit	Speed-position switching enable command	-
6	X28	Bit	Speed-position switching prohibit command	-
7	X29	Bit	Movement amount change command	-
8	X2A	Bit	High-level positioning control start command	-
9	X40	Bit	Position-speed switching operation command	-
10	X41	Bit	Position-speed switching enable command	-
11	X42	Bit	Position-speed switching prohibit command	-
12	X43	Bit	Speed change command	-
13	M3	Bit	Fast OPR command	-
14	M4	Bit	Fast OPR command storage	-
15	M6	Bit	Positioning start command storage	-
16	M5100	Bit	Status reading complete device	-
17	M5101	Bit	Status reading failure device	-
18	M5140	Bit	Speed-position switching enable complete device	-
19	M5150	Bit	Movement amount change complete device	-
20	M5160	Bit	Position-speed switching enable complete device	-
21	M5170	Bit	Speed change complete device	-
22	D0	Word	OPR request flag	Obtains the OPR request flag.
23	D1	Word	Speed (low-order 16 bits)	Sets the speed.
24	D2	Word	Speed (high-order 16 bits)	
25	D3	Word	Movement amount (low-order 16 bits)	Sets the movement amount.
26	D4	Word	Movement amount (high-order 16 bits)	
27	D32	Word	Start number	Sets the start number.
28	D86	Word	Speed-position switching enable setting value	Sets the speed-position switching enable setting.

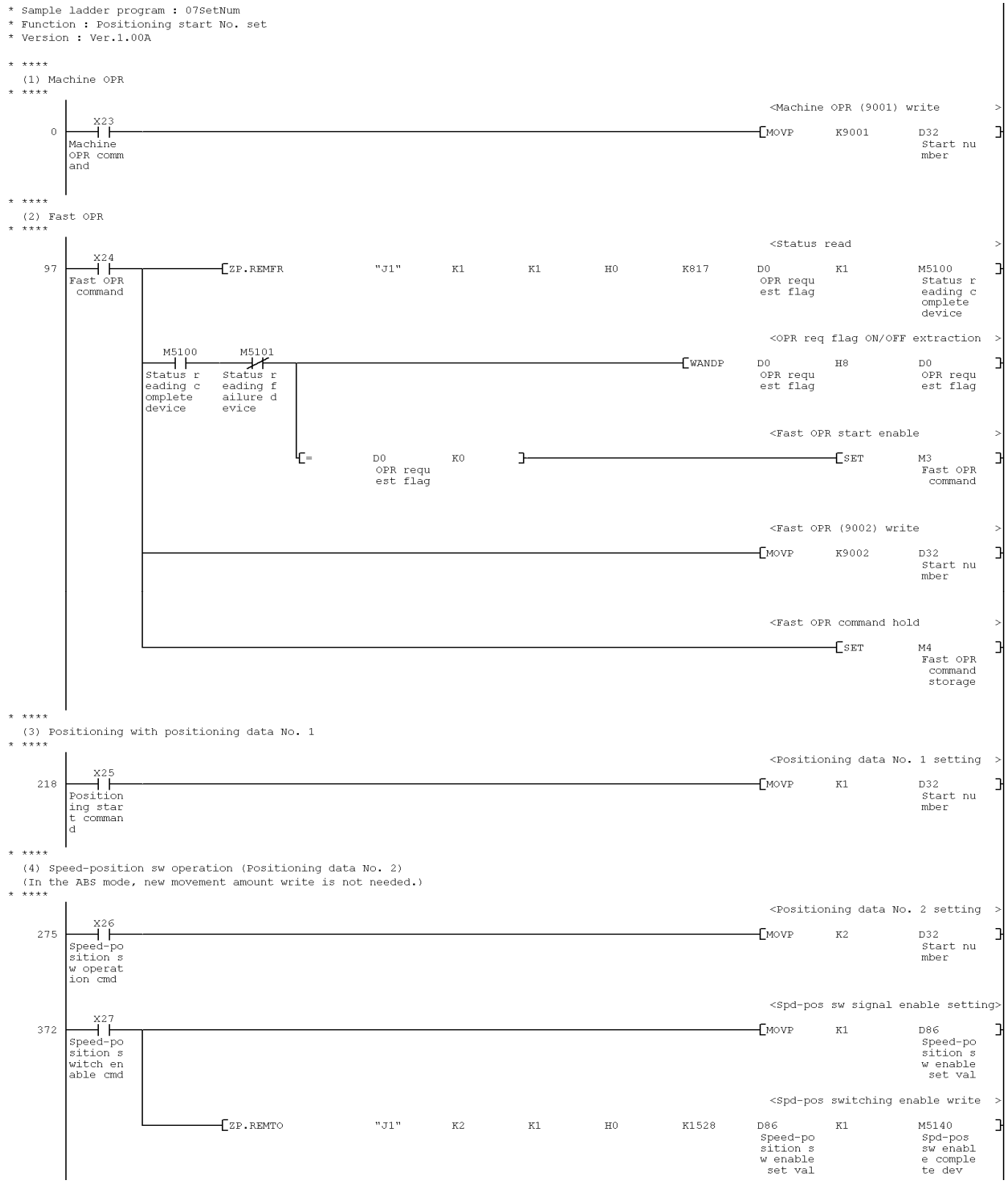
No.	Device	Data Type	Application	Remarks
29	D87	Word	Position-speed switching enable setting value	Sets the position-speed switching enable setting.

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program

*An interlock program is required for this program. For an interlock program, refer to "Creating Interlock Programs" of "Conditions for Using Sample Ladder Programs" in Section 3 "When Connecting the Module to the Head Module".



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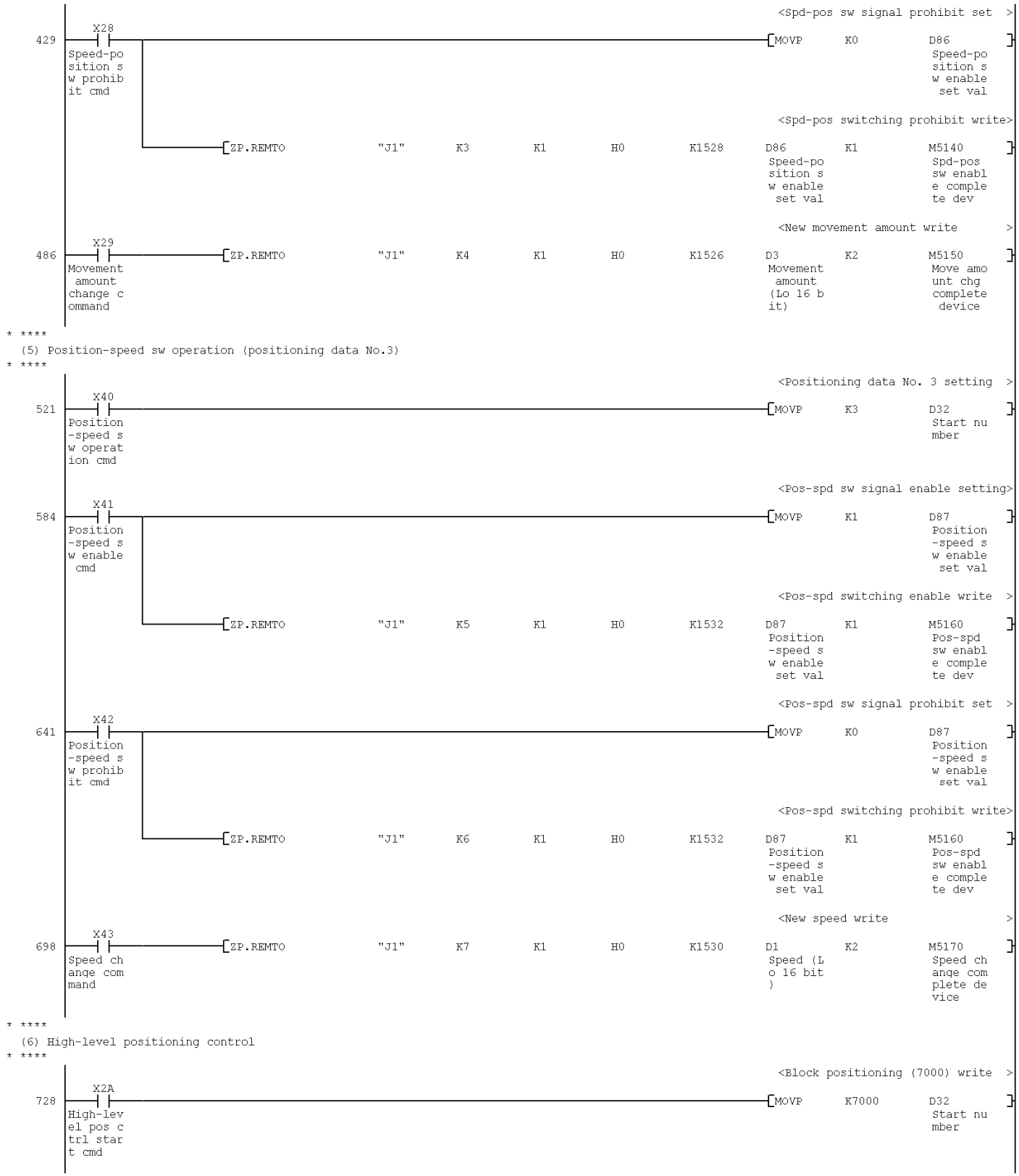


Continues on next page.


<Fast OPR command OFF >
781
X23
Machine OPR command
RST M3 Fast OPR command
<Fast OPR command storage OFF >
X25
Positioning start command
RST M4 Fast OPR command storage
X26
Speed-position sw operation cmd
X40
Position-speed sw operation cmd
X2A
High-level pos ctrl start cmd
M6
Positioning start cmd storage
817
END

3.8 Positioning Start Program

Function Overview

This program performs the positioning start for Axis 1.

Program

This function uses the project (program name).

•LD-LD75_IEF_V100A_E(08StaPOS)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "3.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "3.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X4E	Bit	Positioning start command (Y start)	-
2	X1000	Bit	LD75 READY signal	-
3	X1008	Bit	Axis 1 Error detection signal	-
4	X100C	Bit	Axis 1 BUSY signal	-
5	X1010	Bit	Axis 1 Start complete signal	-
6	X1004	Bit	Axis 1 M code ON signal	-
7	Y1010	Bit	Axis 1 Positioning start signal	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "3.1 Parameter Setting"

Devices

This program uses the following devices.

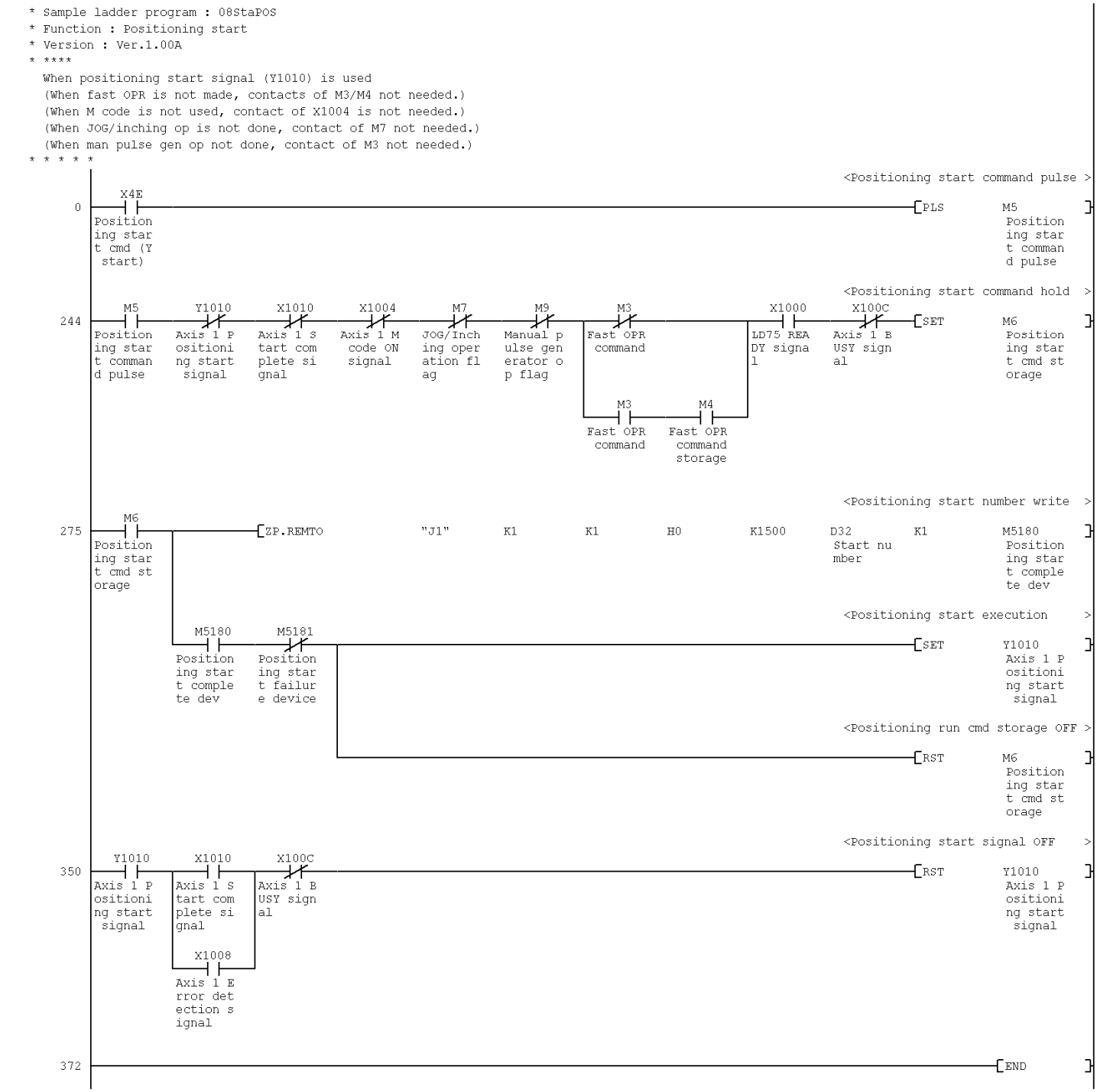
No.	Device	Data Type	Application	Remarks
1	X4E	Bit	Positioning start command (Y start)	-
2	X1000	Bit	LD75 READY signal	-
3	X1008	Bit	Axis 1 Error detection signal	-
4	X100C	Bit	Axis 1 BUSY signal	-
5	X1010	Bit	Axis 1 Start complete signal	-
6	X1004	Bit	Axis 1 M code ON signal	-
7	Y1010	Bit	Axis 1 Positioning start signal	-
8	M3	Bit	Fast OPR command	-
9	M4	Bit	Fast OPR command storage	-
10	M5	Bit	Positioning start command pulse	-
11	M6	Bit	Positioning start command storage	-
12	M7	Bit	JOG/Inching operation flag	-
13	M9	Bit	Manual pulse generator operating flag	-
14	M5180	Bit	Positioning start complete device	-
15	M5181	Bit	Positioning start failure device	-
16	D32	Word	Start number	Sets the start number.

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program

*An interlock program is required for this program. For an interlock program, refer to "Creating Interlock Programs" of "Conditions for Using Sample Ladder Programs" in Section 3 "When Connecting the Module to the Head Module".



3.9 M Code OFF

Function Overview

This program sets the M code OFF request.

Program

This function uses the project (program name).

•LD-LD75_IEF_V100A_E(09MCode)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "3.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "3.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X2C	Bit	M code OFF command	-
2	X1004	Bit	Axis 1 M code ON signal	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "3.1 Parameter Setting"

Devices

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X2C	Bit	M code OFF command	-
2	X1004	Bit	Axis 1 M code ON signal	-
3	M5200	Bit	M code request complete device	-
4	D90	Word	M code OFF request setting value	Sets the M code OFF request setting value.

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program

*An interlock program is required for this program. For an interlock program, refer to "Creating Interlock Programs" of "Conditions for Using Sample Ladder Programs" in Section 3 "When Connecting the Module to the Head Module".

3.10 JOG Operation Setting

Function Overview

This program makes the JOG operation setting for Axis 1.

Program

This function uses the project (program name).

•LD-LD75_IEF_V100A_E(10SetJOG)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "3.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "3.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X2D	Bit	JOG operation speed setting command	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "3.1 Parameter Setting"

Devices

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X2D	Bit	JOG operation speed setting command	-
2	M5210	Bit	JOG operation speed setting complete device	-
3	D5	Word	Inching movement amount	Sets the inching movement amount.
4	D6	Word	JOG operation speed (low-order 16 bits)	Sets the JOG operation speed.
5	D7	Word	JOG operation speed (high-order 16 bits)	

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program

*An interlock program is required for this program. For an interlock program, refer to "Creating Interlock Programs" of "Conditions for Using Sample Ladder Programs" in Section 3 "When Connecting the Module to the Head Module".

3.11 Inching Operation Setting

Function Overview

This program makes the inching operation setting for Axis 1.

Program

This function uses the project (program name).

•LD-LD75_IEF_V100A_E(11SetINT)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "3.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "3.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X44	Bit	Inching movement amount setting command	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "3.1 Parameter Setting"

Devices

This program uses the following devices.

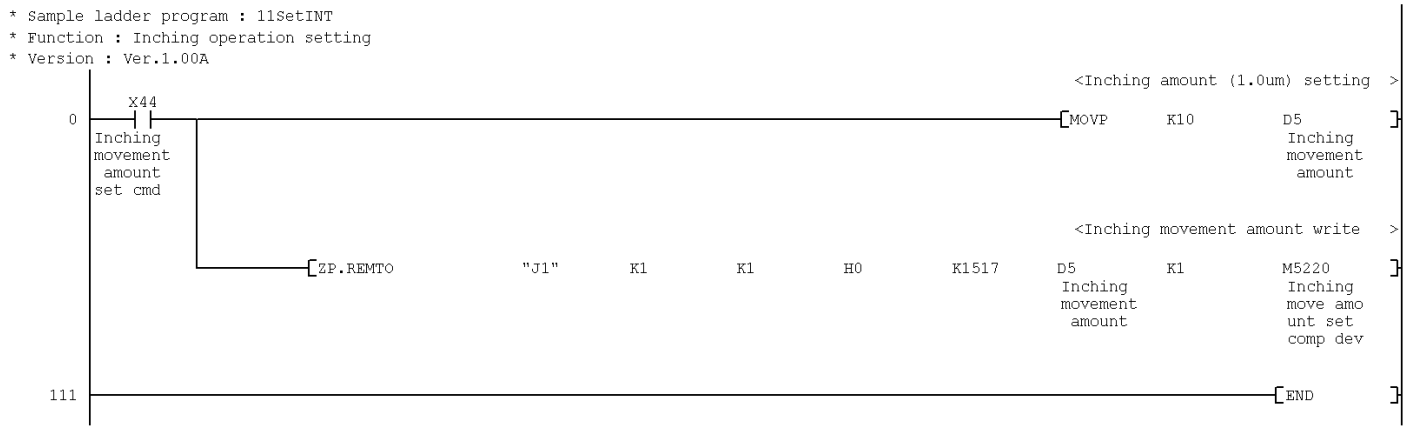
No.	Device	Data Type	Application	Remarks
1	X44	Bit	Inching movement amount setting command	-
2	M5220	Bit	Inching movement amount setting complete device	-
3	D5	Word	Inching movement amount	Sets the inching movement amount.

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program

*An interlock program is required for this program. For an interlock program, refer to "Creating Interlock Programs" of "Conditions for Using Sample Ladder Programs" in Section 3 "When Connecting the Module to the Head Module".



3.12 JOG Operation/Inching Operation Execution

Function Overview

This program performs the JOG operation/inching operation for Axis 1.

Program

This function uses the project (program name).

•LD-LD75_IEF_V100A_E(12RunJOG)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "3.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "3.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X2E	Bit	Forward run JOG/inching command	-
2	X2F	Bit	Reverse run JOG/inching command	-
3	X1000	Bit	LD75 READY signal	-
4	X100C	Bit	Axis 1 BUSY signal	-
5	Y1008	Bit	Axis 1 Forward run JOG start signal	-
6	Y1009	Bit	Axis 1 Reverse run JOG start signal	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "3.1 Parameter Setting"

Devices

This program uses the following devices.

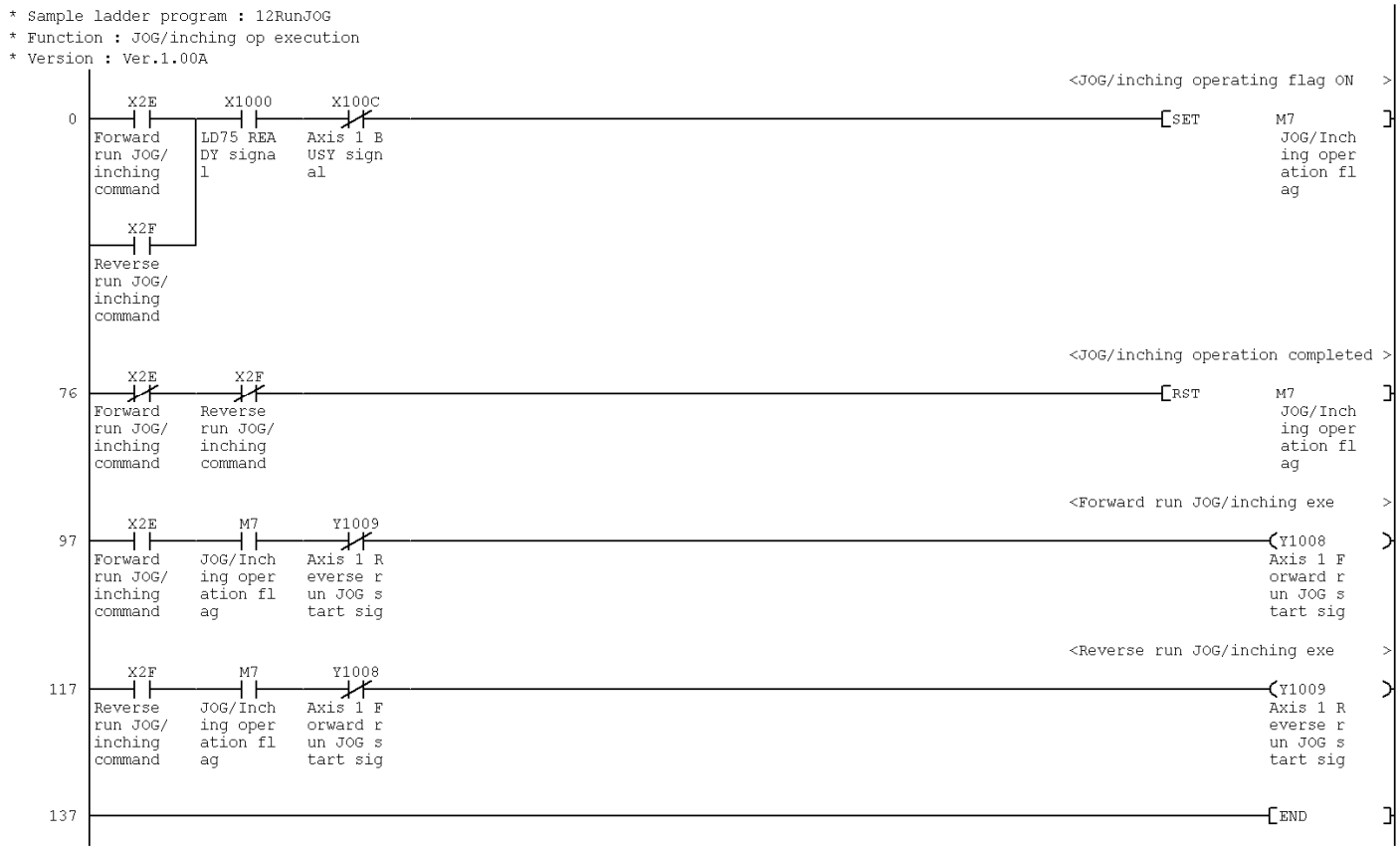
No.	Device	Data Type	Application	Remarks
1	X2E	Bit	Forward run JOG/inching command	-
2	X2F	Bit	Reverse run JOG/inching command	-
3	X1000	Bit	LD75 READY signal	-
4	X100C	Bit	Axis 1 BUSY signal	-
5	Y1008	Bit	Axis 1 Forward run JOG start signal	-
6	Y1009	Bit	Axis 1 Reverse run JOG start signal	-
7	M7	Bit	JOG/Inching operation flag	-

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program

*An interlock program is required for this program. For an interlock program, refer to "Creating Interlock Programs" of "Conditions for Using Sample Ladder Programs" in Section 3 "When Connecting the Module to the Head Module".



3.13 Manual Pulse Generator Operation

Function Overview

This program performs the manual pulse generator operation for Axis 1.

Program

This function uses the project (program name).

•LD-LD75_IEF_V100A_E(13RunMPG)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "3.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "3.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X30	Bit	Manual pulse generator operation enable command	-
2	X31	Bit	Manual pulse generator operation disable command	-
3	X1000	Bit	LD75 READY signal	-
4	X100C	Bit	Axis 1 BUSY signal	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "3.1 Parameter Setting"

Devices

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X30	Bit	Manual pulse generator operation enable command	-
2	X31	Bit	Manual pulse generator operation disable command	-
3	X1000	Bit	LD75 READY signal	-
4	X100C	Bit	Axis 1 BUSY signal	-
5	M8	Bit	Manual pulse generator operation enable command	-

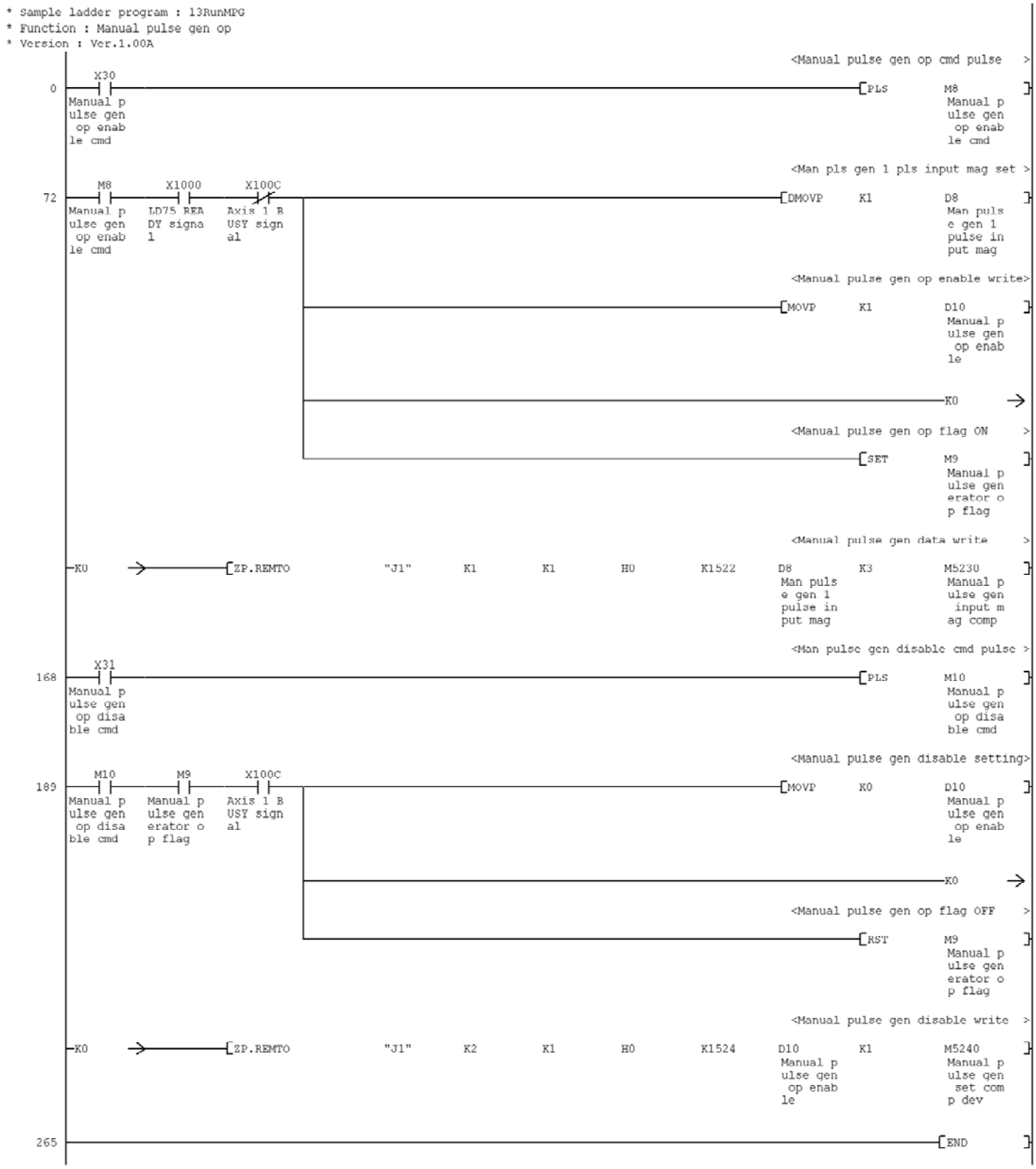
No.	Device	Data Type	Application	Remarks
6	M9	Bit	Manual pulse generator operating flag	-
7	M10	Bit	Manual pulse generator operation disable command	-
8	M5230	Bit	Manual pulse generator input magnification setting complete device	-
9	M5240	Bit	Manual pulse generator setting complete device	-
10	D8	Word	Manual pulse generator 1 pulse input magnification (low-order 16 bits)	Sets the manual pulse generator 1 pulse input magnification.
11	D9	Word	Manual pulse generator 1 pulse input magnification (high-order 16 bits)	
12	D10	Word	Manual pulse generator operation enable	Sets the manual pulse generator operation enable setting.

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program

*An interlock program is required for this program. For an interlock program, refer to "Creating Interlock Programs" of "Conditions for Using Sample Ladder Programs" in Section 3 "When Connecting the Module to the Head Module".



3.14 Speed Change

Function Overview

This program performs the speed change for Axis 1.

Program

This function uses the project (program name).

•LD-LD75_IEF_V100A_E(14ChgSpd)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "3.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "3.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X32	Bit	Speed change command	-
2	X100C	Bit	Axis 1 BUSY signal	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "3.1 Parameter Setting"

Devices

This program uses the following devices.

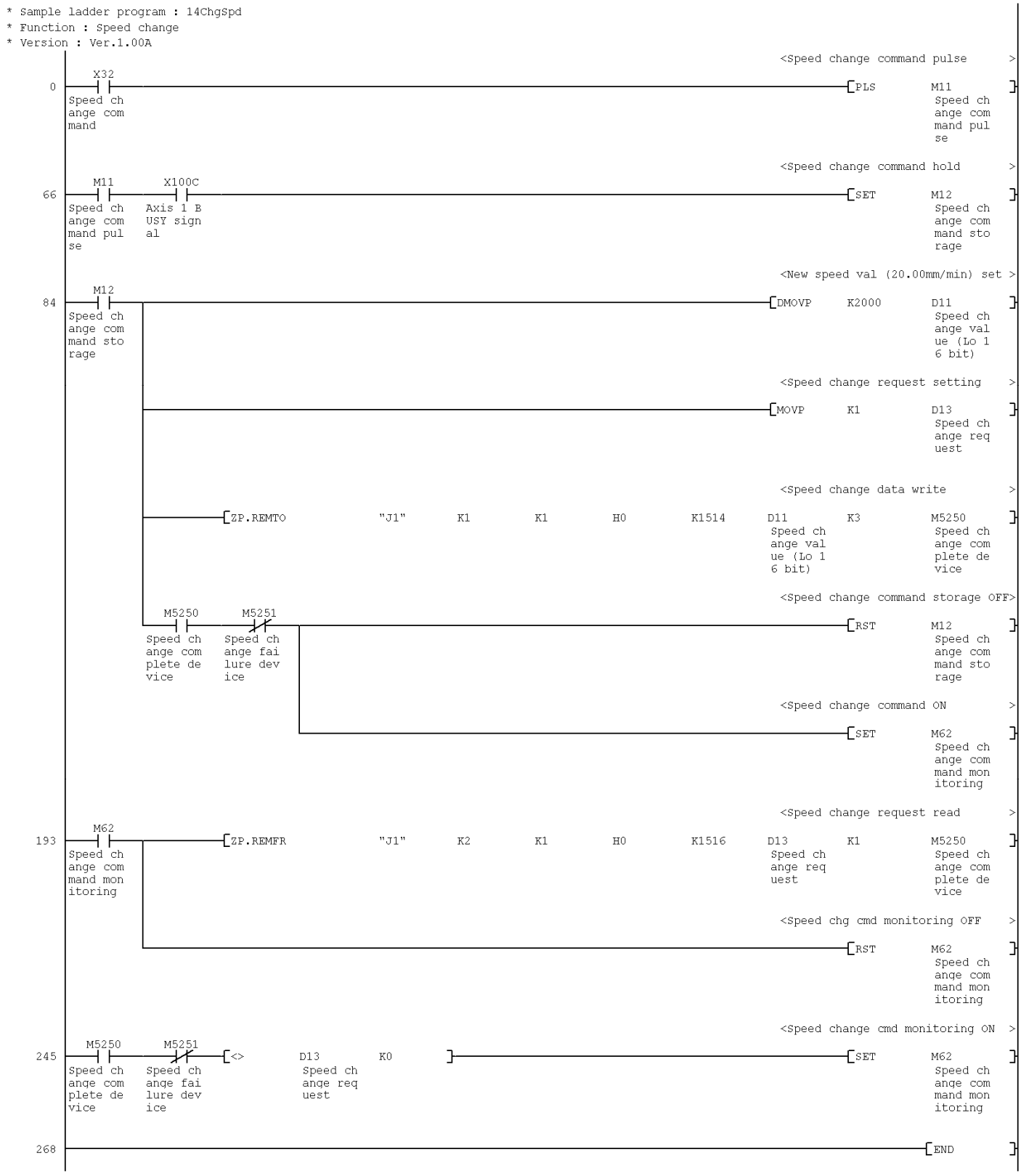
No.	Device	Data Type	Application	Remarks
1	X32	Bit	Speed change command	-
2	X100C	Bit	Axis 1 BUSY signal	-
3	M11	Bit	Speed change command pulse	-
4	M12	Bit	Speed change command storage	-
5	M62	Bit	Speed change command monitoring	-
6	M5250	Bit	Speed change complete device	-
7	M5251	Bit	Speed change failure device	-
8	D11	Word	Speed change value (low-order 16 bits)	Sets the speed change value.
9	D12	Word	Speed change value (high-order 16 bits)	
10	D13	Word	Speed change request	Sets the speed change request.

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program

*An interlock program is required for this program. For an interlock program, refer to "Creating Interlock Programs" of "Conditions for Using Sample Ladder Programs" in Section 3 "When Connecting the Module to the Head Module".



3.15 Override

Function Overview

This program sets the override value for Axis 1.

Program

This function uses the project (program name).

•LD-LD75_IEF_V100A_E(15OvrRid)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "3.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "3.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X33	Bit	Override command	-
2	X100C	Bit	Axis 1 BUSY signal	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "3.1 Parameter Setting"

Devices

This program uses the following devices.

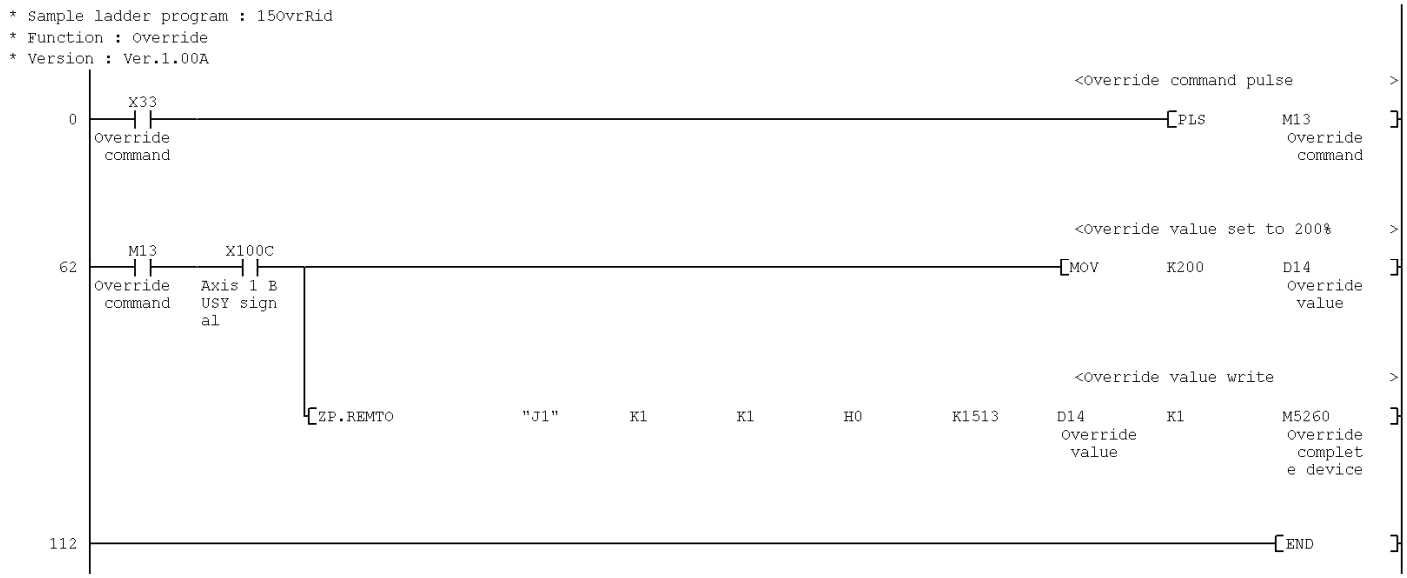
No.	Device	Data Type	Application	Remarks
1	X33	Bit	Override command	-
2	X100C	Bit	Axis 1 BUSY signal	-
3	M13	Bit	Override command	-
4	M5260	Bit	Override complete device	-
5	D14	Word	Override value	Sets the override value.

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program

*An interlock program is required for this program. For an interlock program, refer to "Creating Interlock Programs" of "Conditions for Using Sample Ladder Programs" in Section 3 "When Connecting the Module to the Head Module".



3.16 Acceleration/Deceleration Time Change

Function Overview

This program changes the acceleration/deceleration time for Axis 1.

Program

This function uses the project (program name).

•LD-LD75_IEF_V100A_E(16ChgTim)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "3.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "3.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X34	Bit	Acceleration/deceleration time change command	-
2	X35	Bit	Acceleration/deceleration time change disable command	-
3	X100C	Bit	Axis 1 BUSY signal	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "3.1 Parameter Setting"

Devices

This program uses the following devices.

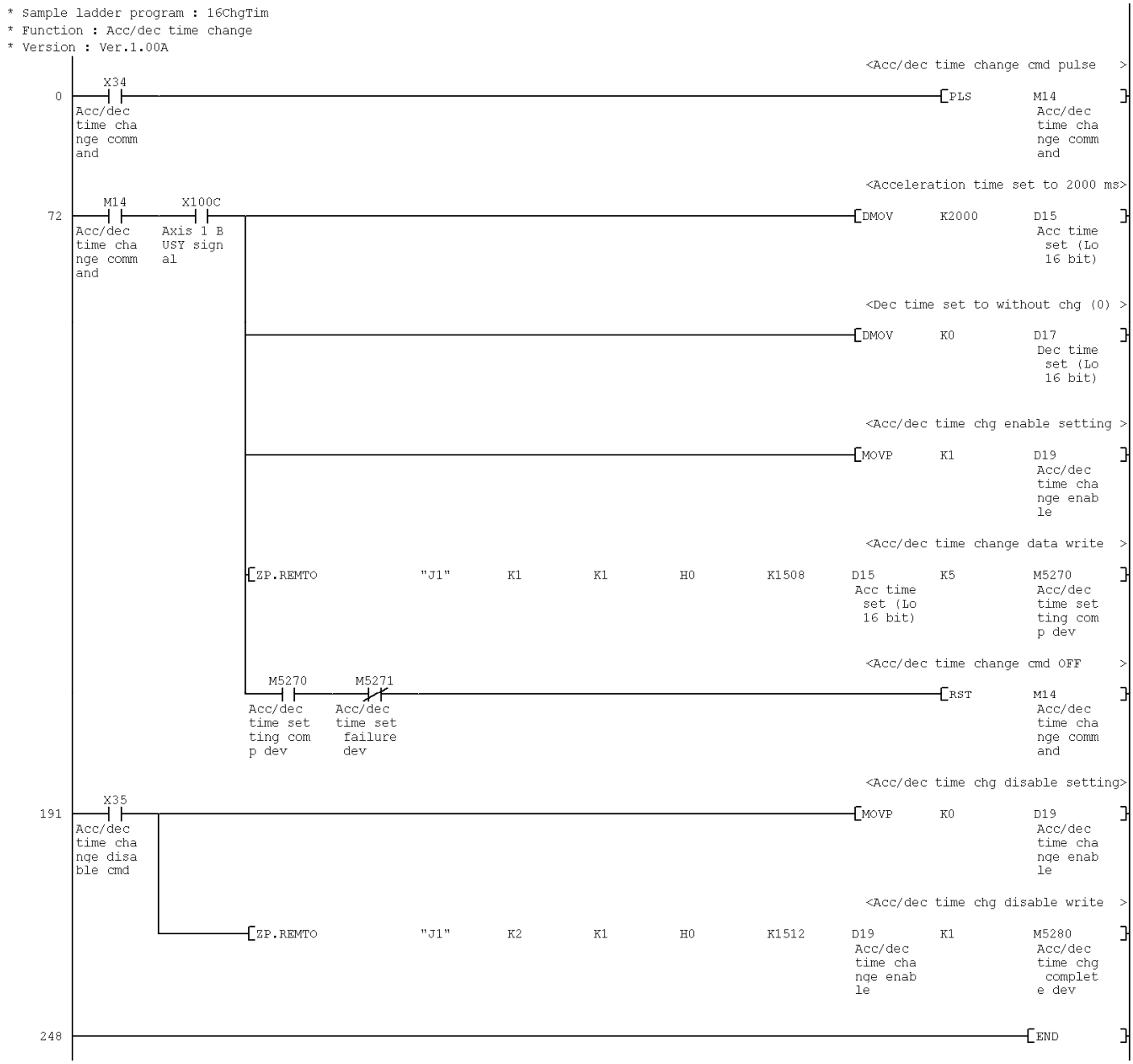
No.	Device	Data Type	Application	Remarks
1	X34	Bit	Acceleration/deceleration time change command	-
2	X35	Bit	Acceleration/deceleration time change disable command	-
3	X100C	Bit	Axis 1 BUSY signal	-
4	M14	Bit	Acceleration/deceleration time change command	-
5	M5270	Bit	Acceleration/deceleration time setting complete device	-
6	M5271	Bit	Acceleration/deceleration time setting failure device	-
7	M5280	Bit	Acceleration/deceleration time change complete device	-
8	D15	Word	Acceleration time setting (low-order 16 bits)	Sets the acceleration time setting value.
9	D16	Word	Acceleration time setting (high-order 16 bits)	
10	D17	Word	Deceleration time setting (low-order 16 bits)	Sets the deceleration time setting value.
11	D18	Word	Deceleration time setting (high-order 16 bits)	
12	D19	Word	Acceleration/deceleration time change enable	Sets the acceleration/deceleration time change enable setting.

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program

*An interlock program is required for this program. For an interlock program, refer to "Creating Interlock Programs" of "Conditions for Using Sample Ladder Programs" in Section 3 "When Connecting the Module to the Head Module".



3.17 Step Operation

Function Overview

This program performs the step operation for Axis 1.

Program

This function uses the project (program name).

•LD-LD75_IEF_V100A_E(17RunStp)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "3.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "3.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X37	Bit	Step operation command	-
2	X1010	Bit	Axis 1 Start complete signal	-
3	Y1010	Bit	Axis 1 Positioning start signal	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "3.1 Parameter Setting"

Devices

This program uses the following devices.

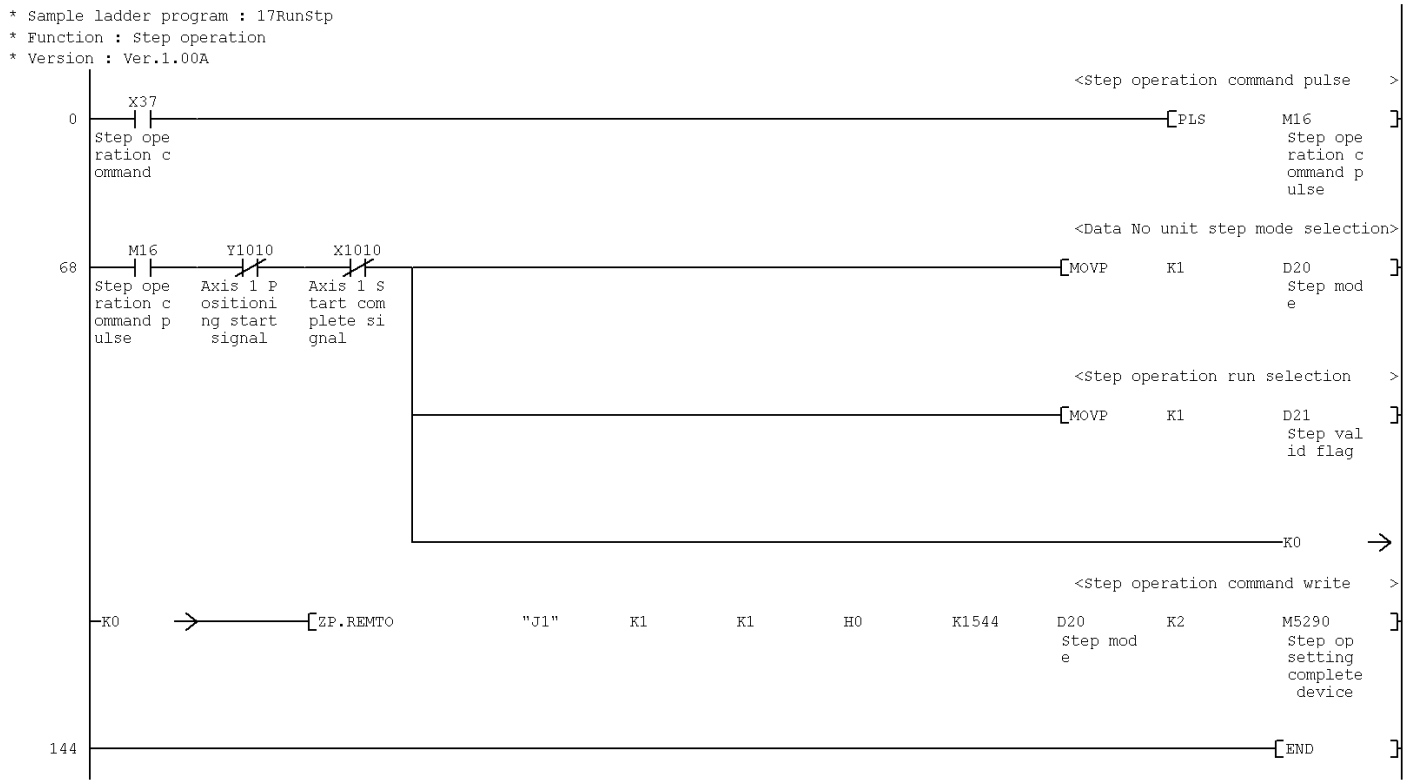
No.	Device	Data Type	Application	Remarks
1	X37	Bit	Step operation command	-
2	X1010	Bit	Axis 1 Start complete signal	-
3	Y1010	Bit	Axis 1 Positioning start signal	-
4	M16	Bit	Step operation command pulse	-
5	M5290	Bit	Step operation setting complete device	-
6	D20	Word	Step mode	Sets the step mode.
7	D21	Word	Step valid flag	Sets the step valid flag.

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program

*An interlock program is required for this program. For an interlock program, refer to "Creating Interlock Programs" of "Conditions for Using Sample Ladder Programs" in Section 3 "When Connecting the Module to the Head Module".



3.18 Skip

Function Overview

This program performs the skip operation.

Program

This function uses the project (program name).

•LD-LD75_IEF_V100A_E(18RunSkp)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "3.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "3.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X38	Bit	Skip operation command	-
2	X100C	Bit	Axis 1 BUSY signal	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "3.1 Parameter Setting"

Devices

This program uses the following devices.

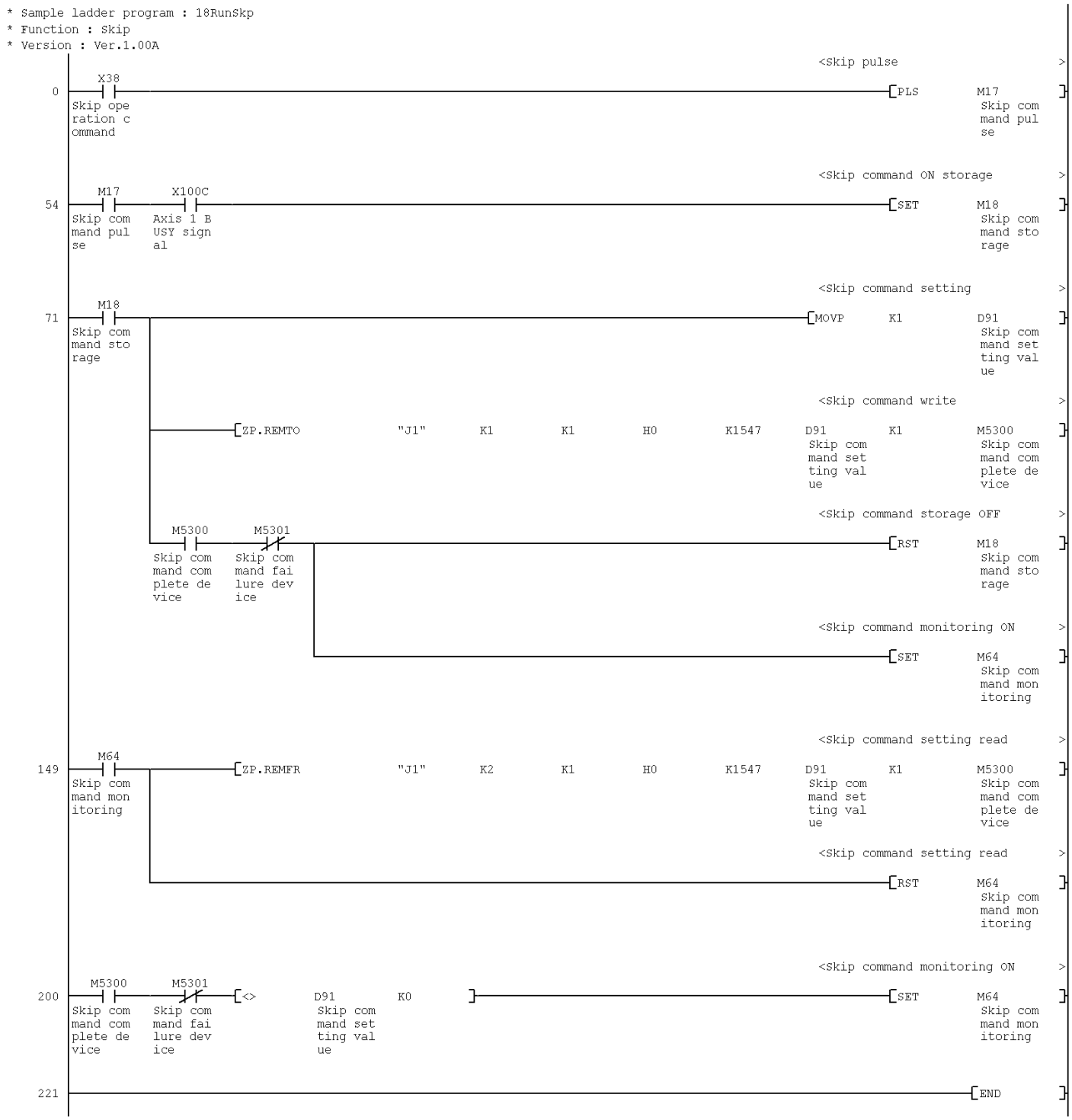
No.	Device	Data Type	Application	Remarks
1	X38	Bit	Skip operation command	-
2	X100C	Bit	Axis 1 BUSY signal	-
3	M17	Bit	Skip command pulse	-
4	M18	Bit	Skip command storage	-
5	M64	Bit	Skip command monitoring	-
6	M5300	Bit	Skip command complete device	-
7	M5301	Bit	Skip command failure device	-
8	D91	Word	Skip command setting value	Sets the skip command setting value.

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program

*An interlock program is required for this program. For an interlock program, refer to "Creating Interlock Programs" of "Conditions for Using Sample Ladder Programs" in Section 3 "When Connecting the Module to the Head Module".



3.19 Continuous Operation Interrupt

Function Overview

This program makes a request to interrupt the continuous operation for Axis 1.

Program

This function uses the project (program name).

•LD-LD75_IEF_V100A_E(19StpCon)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "3.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "3.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X3A	Bit	Continuous operation interrupt command	-
2	X100C	Bit	Axis 1 BUSY signal	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "3.1 Parameter Setting"

Devices

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X3A	Bit	Continuous operation interrupt command	-
2	X100C	Bit	Axis 1 BUSY signal	-
3	M21	Bit	Continuous operation interrupt command	-
4	M5360	Bit	Continuous operation interrupt complete device	-
5	D95	Word	Continuous operation interrupt request setting value	Sets the continuous operation interrupt request setting value.

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program

*An interlock program is required for this program. For an interlock program, refer to "Creating Interlock Programs" of "Conditions for Using Sample Ladder Programs" in Section 3 "When Connecting the Module to the Head Module".

3.20 Target Position Change

Function Overview

This program performs the target position change for Axis 1.

Program

This function uses the project (program name).

•LD-LD75_IEF_V100A_E(20ChgPOS)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "3.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "3.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X45	Bit	Target position change command	-
2	X100C	Bit	Axis 1 BUSY signal	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "3.1 Parameter Setting"

Devices

This program uses the following devices.

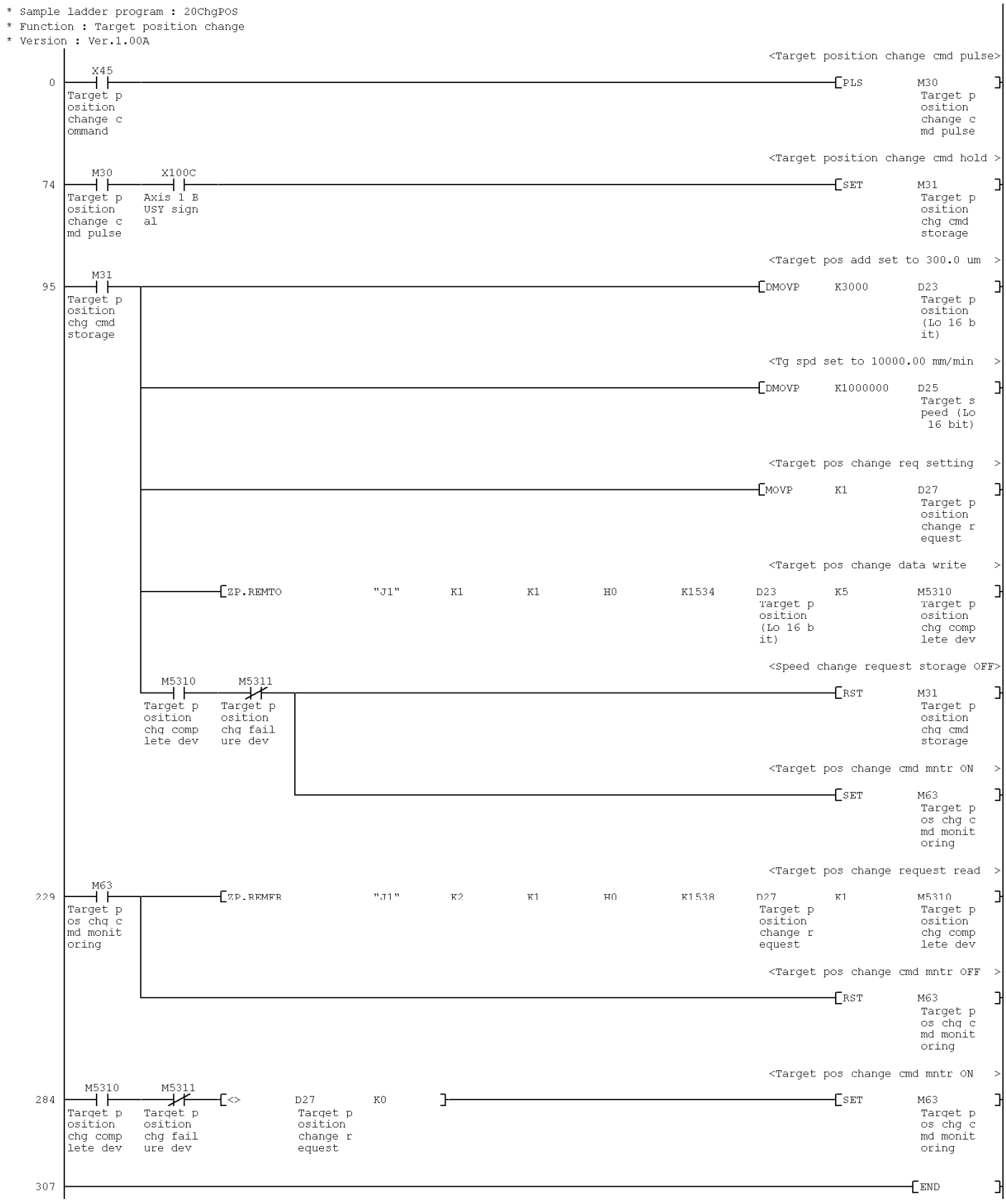
No.	Device	Data Type	Application	Remarks
1	X45	Bit	Target position change command	-
2	X100C	Bit	Axis 1 BUSY signal	-
3	M30	Bit	Target position change command pulse	-
4	M31	Bit	Target position change command storage	-
5	M63	Bit	Target position change command monitoring	-
6	M5310	Bit	Target position change complete device	-
7	M5311	Bit	Target position change failure device	-
8	D23	Word	Target position (low-order 16 bits)	Sets the target position.
9	D24	Word	Target position (high-order 16 bits)	
10	D25	Word	Target speed (low-order 16 bits)	Sets the target speed.
11	D26	Word	Target speed (high-order 16 bits)	
12	D27	Word	Target position change request	Sets the target position change request.

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program

*An interlock program is required for this program. For an interlock program, refer to "Creating Interlock Programs" of "Conditions for Using Sample Ladder Programs" in Section 3 "When Connecting the Module to the Head Module".



3.21 Restart

Function Overview

This program performs the restart operation for Axis 1.

Program

This function uses the project (program name).

•LD-LD75_IEF_V100A_E(21Restat)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "3.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "3.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X3B	Bit	Restart command	-
2	X1010	Bit	Axis 1 Start complete signal	-
3	X1014	Bit	Axis 1 Positioning complete signal	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "3.1 Parameter Setting"

Devices

This program uses the following devices.

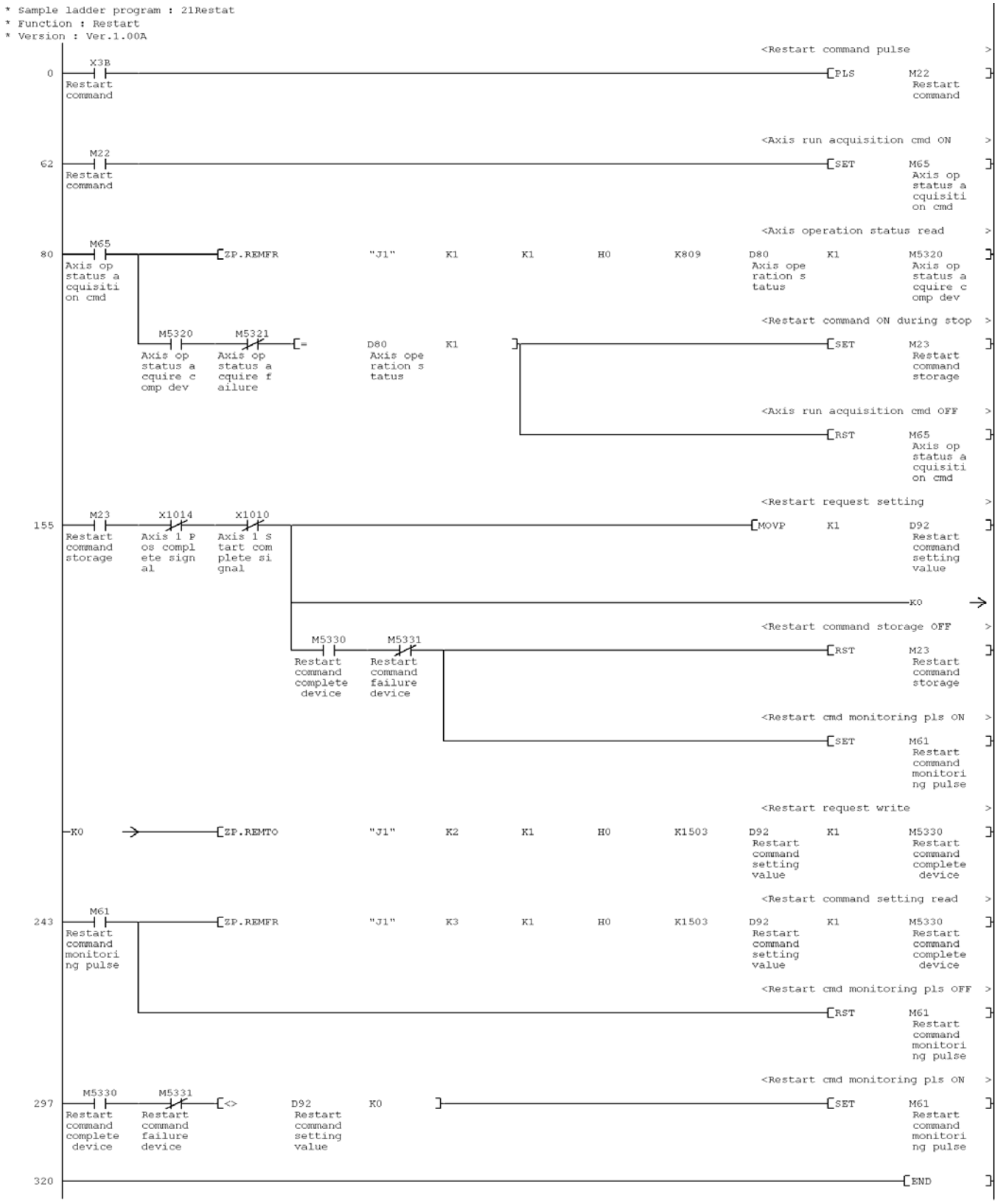
No.	Device	Data Type	Application	Remarks
1	X3B	Bit	Restart command	-
2	X1010	Bit	Axis 1 Start complete signal	-
3	X1014	Bit	Axis 1 Positioning complete signal	-
4	M22	Bit	Restart command	-
5	M23	Bit	Restart command storage	-
6	M61	Bit	Restart command monitoring pulse	-
7	M65	Bit	Axis operation status acquisition command	-
8	M5320	Bit	Axis operation status acquisition complete device	-
9	M5321	Bit	Axis operation status acquisition failure device	-
10	M5330	Bit	Restart command complete device	-
11	M5331	Bit	Restart command failure device	-
12	D80	Word	Axis operation status	Obtains the axis operation status.
13	D92	Word	Restart command setting value	Sets the restart command setting value.

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program

*An interlock program is required for this program. For an interlock program, refer to "Creating Interlock Programs" of "Conditions for Using Sample Ladder Programs" in Section 3 "When Connecting the Module to the Head Module".



3.22 Parameter Initialization

Function Overview

This program initializes the parameters.

Program

This function uses the project (program name).

•LD-LD75_IEF_V100A_E(22IniPRM)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "3.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "3.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X3C	Bit	Parameter initialization command	-
2	X100C	Bit	Axis 1 BUSY signal	-
3	X100D	Bit	Axis 2 BUSY signal	-
4	X100E	Bit	Axis 3 BUSY signal	-
5	X100F	Bit	Axis 4 BUSY signal	-
6	Y1000	Bit	PLC READY signal	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "3.1 Parameter Setting"

Devices

This program uses the following devices.

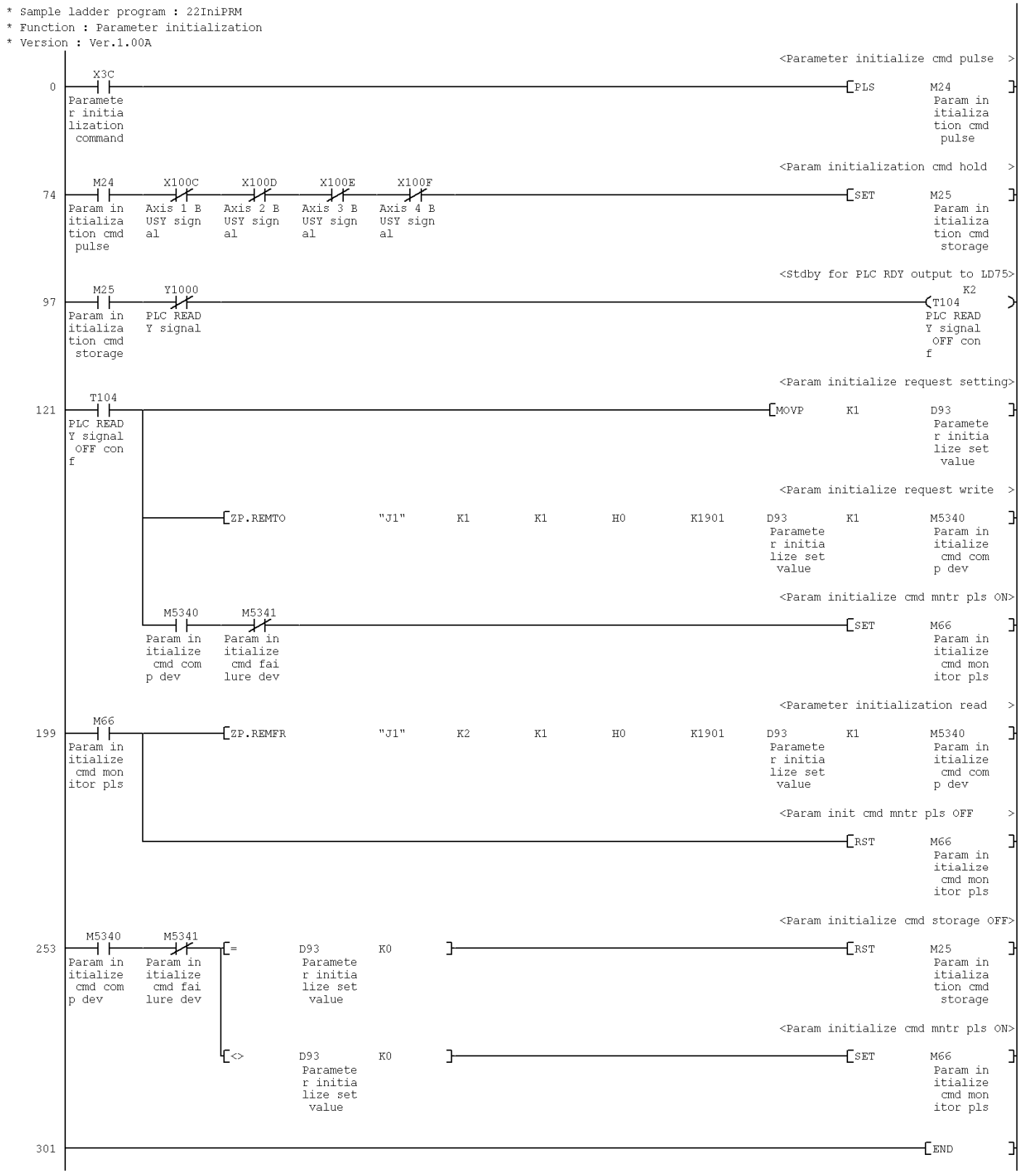
No.	Device	Data Type	Application	Remarks
1	X3C	Bit	Parameter initialization command	-
2	X100C	Bit	Axis 1 BUSY signal	-
3	X100D	Bit	Axis 2 BUSY signal	-
4	X100E	Bit	Axis 3 BUSY signal	-
5	X100F	Bit	Axis 4 BUSY signal	-
6	Y1000	Bit	PLC READY signal	-
7	M24	Bit	Parameter initialization command pulse	-
8	M25	Bit	Parameter initialization command storage	-
9	M66	Bit	Parameter initialization command monitoring pulse	-
10	M5340	Bit	Parameter initialization command complete device	-
11	M5341	Bit	Parameter initialization command failure device	-
12	D93	Word	Parameter initialization setting value	Sets the parameter initialization setting value.
13	T104	Bit	PLC READY signal OFF confirmation	-

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program

*An interlock program is required for this program. For an interlock program, refer to "Creating Interlock Programs" of "Conditions for Using Sample Ladder Programs" in Section 3 "When Connecting the Module to the Head Module".



3.23 Flash ROM Write

Function Overview

This program writes data to the flash ROM.

Program

This function uses the project (program name).

•LD-LD75_IEF_V100A_E(23WrtROM)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "3.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "3.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X3D	Bit	Flash ROM write command	-
2	X100C	Bit	Axis 1 BUSY signal	-
3	X100D	Bit	Axis 2 BUSY signal	-
4	X100E	Bit	Axis 3 BUSY signal	-
5	X100F	Bit	Axis 4 BUSY signal	-
6	Y1000	Bit	PLC READY signal	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "3.1 Parameter Setting"

Devices

This program uses the following devices.

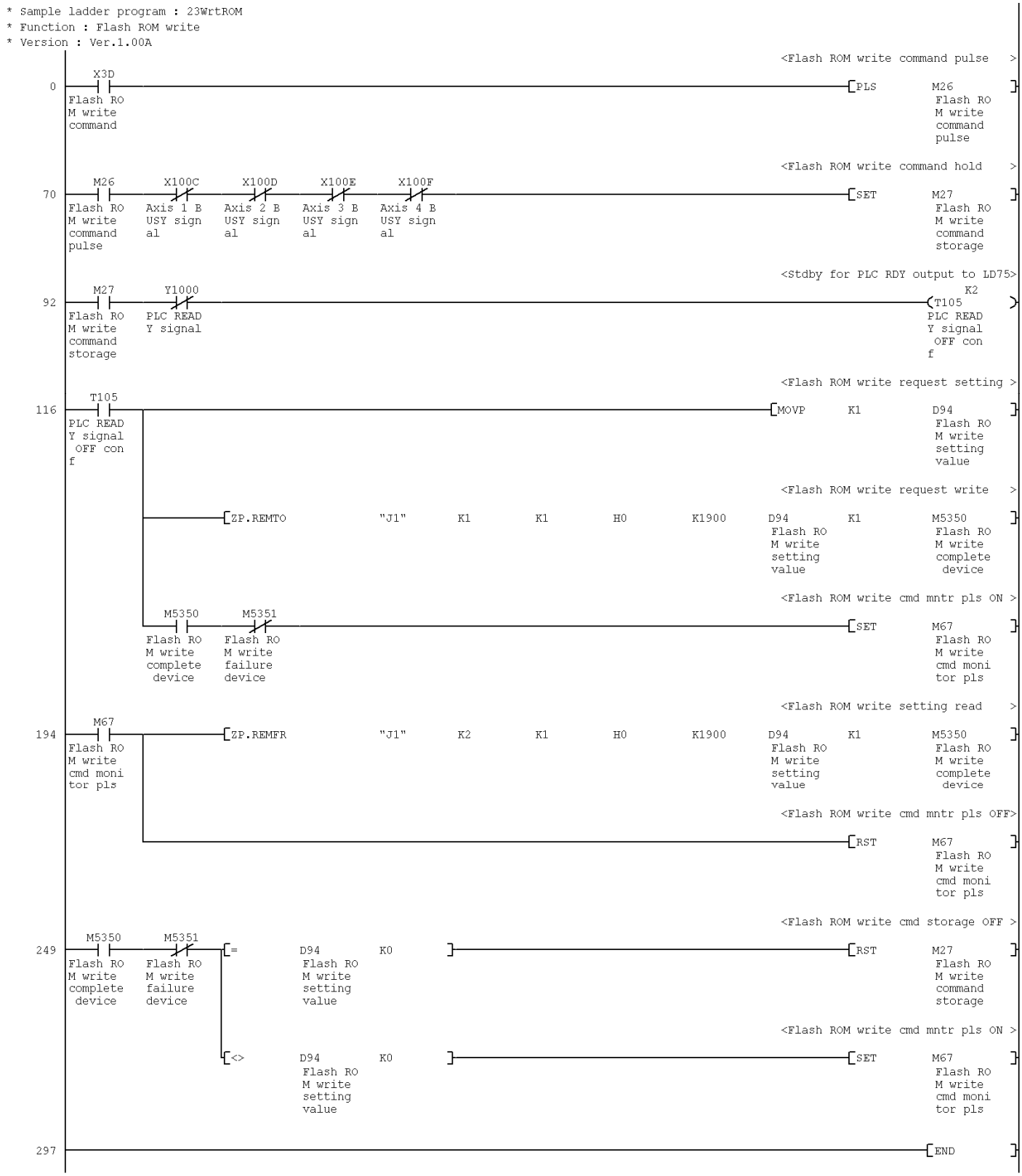
No.	Device	Data Type	Application	Remarks
1	X3D	Bit	Flash ROM write command	-
2	X100C	Bit	Axis 1 BUSY signal	-
3	X100D	Bit	Axis 2 BUSY signal	-
4	X100E	Bit	Axis 3 BUSY signal	-
5	X100F	Bit	Axis 4 BUSY signal	-
6	Y1000	Bit	PLC READY signal	-
7	M26	Bit	Flash ROM write command pulse	-
8	M27	Bit	Flash ROM write command storage	-
9	M67	Bit	Flash ROM write command monitoring pulse	-
10	M5350	Bit	Flash ROM write complete device	-
11	M5351	Bit	Flash ROM write failure device	-
12	D94	Word	Flash ROM write setting value	Sets the flash ROM write setting value.
13	T105	Bit	PLC READY signal OFF confirmation	-

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program

*An interlock program is required for this program. For an interlock program, refer to "Creating Interlock Programs" of "Conditions for Using Sample Ladder Programs" in Section 3 "When Connecting the Module to the Head Module".



3.24 Error Reset

Function Overview

This program reads error codes and resets errors for Axis 1.

Program

This function uses the project (program name).

•LD-LD75_IEF_V100A_E(24RstErr)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "3.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "3.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X3E	Bit	Error reset command	-
2	X1008	Bit	Axis 1 Error detection signal	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "3.1 Parameter Setting"

Devices

This program uses the following devices.

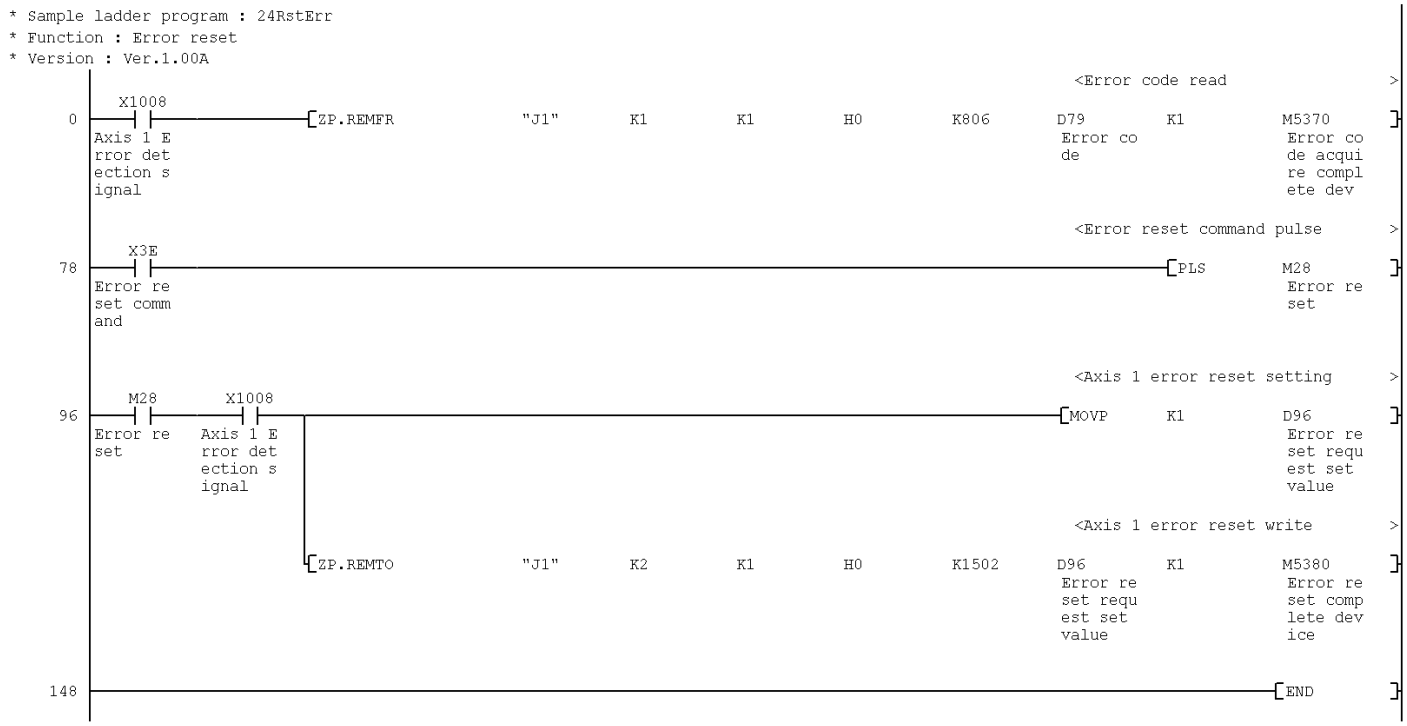
No.	Device	Data Type	Application	Remarks
1	X3E	Bit	Error reset command	-
2	X1008	Bit	Axis 1 Error detection signal	-
3	M28	Bit	Error reset	-
4	M5370	Bit	Error code acquisition complete device	-
5	M5380	Bit	Error reset complete device	-
6	D79	Word	Error code	Obtains an error code.
7	D96	Word	Error reset request setting value	Sets the error reset request setting value.

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program

*An interlock program is required for this program. For an interlock program, refer to "Creating Interlock Programs" of "Conditions for Using Sample Ladder Programs" in Section 3 "When Connecting the Module to the Head Module".



3.25 Stop

Function Overview

This program performs the axis stop for Axis 1.

Program

This function uses the project (program name).

•LD-LD75_IEF_V100A_E(25Stop)

Applicable Hardware and Software

It is the same as "Applicable Hardware and Software" of "3.1 Parameter Setting".

System Configuration

It is the same as "System Configuration" of "3.1 Parameter Setting"

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X3F	Bit	Stop command	-
2	X100C	Bit	Axis 1 BUSY signal	-
3	Y1004	Bit	Axis 1 Axis stop signal	-

Conditions for Using Sample Ladder Programs

It is the same as "Conditions for Using Sample Ladder Programs" of "3.1 Parameter Setting"

Devices

This program uses the following devices.

No.	Device	Data Type	Application	Remarks
1	X3F	Bit	Stop command	-
2	X100C	Bit	Axis 1 BUSY signal	-
3	Y1004	Bit	Axis 1 Axis stop signal	-
4	M29	Bit	Stop command pulse	-

Version Upgrade History

Version	Date	Description
1.00A	2011/09/26	First edition

Program

*An interlock program is required for this program. For an interlock program, refer to "Creating Interlock Programs" of "Conditions for Using Sample Ladder Programs" in Section 3 "When Connecting the Module to the Head Module".