

MELSEC-L CPU Module (Built-in I/O Function Positioning)

Sample Ladder Reference Manual

Applicable modules:

L02CPU,L26CPU-BT,L02CPU-P,L26CPU-PBT

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Reference Manual Revision History

Reference Manual Number	Date	Description
LDM-M003-A	2011/09/26	First edition

1. Overview

Overview of the Sample Ladder Programs

The sample ladder programs support a system that uses the built-in I/O function (positioning function) of MELSEC-L CPU module (LCPU).

Applicable Hardware and Software

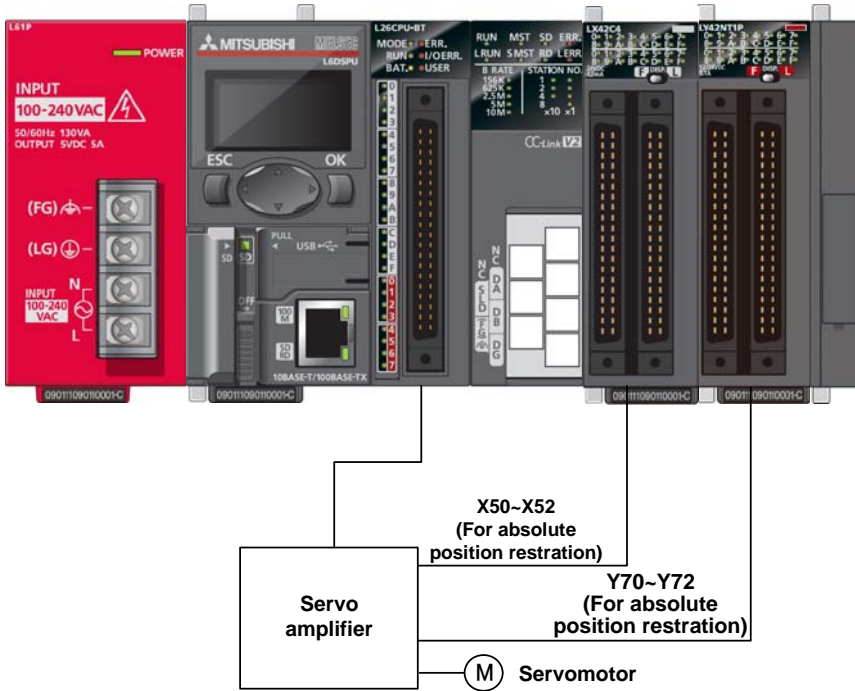
The following are the hardware and software applicable to the sample ladder programs.

Model	Description				
CPU module	<table border="1"><thead><tr><th>Series</th><th>Model</th></tr></thead><tbody><tr><td>MELSEC-L series</td><td>LCPU</td></tr></tbody></table>	Series	Model	MELSEC-L series	LCPU
	Series	Model			
MELSEC-L series	LCPU				
Input Module	MELSEC-L series input module				
Output Module	MELSEC-L series output module				
Compatible software	GX Works2, GX Developer *1 *1 For software versions applicable to the module used, refer to "Relevant manuals".				

System Configuration

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

Power supply module	CPU module	Input module	Output module
	L26CPU-BT	LX42C4	LY42NT1P
		X/Y30	X/Y70
		~	~
		X/Y6F	X/YAF



Sample Ladder Program Functions

The programs have the following functions.

No.	Project name	Program name	Item	Description	Version
1	LD-LCPU_PO S_V100A_E	01SetDat	Data setting	Sets position control parameters, speed/position switching, and current value change control data settings.	1.00A
2		02BaseOf	OPR request off	Turns OFF the OPR request for Axis 1.	1.00A
3		03SetBas	OPR data setting	Sets the OPR data setting.	1.00A
4		04RunBas	OPR start	Performs the OPR start for Axis 1.	1.00A
5		05Chg_Sp	Speed/position switching enable	Enables or disables the speed/position switching for Axis 1.	1.00A
6		06StaTbl	Table start	Performs the positioning table start for Axis 1 and multiple axes concurrent start for Axis 1 and Axis 2.	1.00A
7		07StaPos	Positioning start	Performs the positioning start for Axis 1.	1.00A
8		08RunJog	JOG operation	Performs JOG operation for Axis 1.	1.00A
9		09ChgSpd	Speed change	Performs the speed change.	1.00A
10		10ChgPos	Target position change	Performs the target position change.	1.00A
11		11Abrst	Absolute position restoration	Performs absolute position restoration.	1.00A
12		12RstErr	Error, warning reset	Resets errors and warnings for Axis 1.	1.00A
13		13Stop	Axis stop	Performs the axis stop for Axis 1.	1.00A

Conditions for Using Sample Ladder Programs

● Built-in I/O function settings

The following explains the settings of the L26CPU-BT's built-in I/O function used in this program.

1. Positioning Axis #1/#2 Detailed Setting

- a) Select "Use positioning function (Axis #1)" checkbox.
- b) Set the "Positioning Parameter", "OPR Parameter" and "Positioning Data (No.1)".
 - b-1 Set the "Positioning Parameter".
 - b-2 Set the "OPR Parameter".
 - b-3 Set No.1 of the "Positioning Data".

*Set the "Positioning Axis #2 Setting" in the same way. For Axis 2, set No.10 of the "Positioning Data".

The screenshot shows the 'L Parameter Setting' dialog box with the 'Built-in I/O Function Setting' tab selected. A red arrow points to this tab. Below it, the 'Positioning Axis #1 Detailed Setting' dialog box is open, showing the following settings:

a) Use positioning function (Axis #1)

b-1) Positioning Parameter:

Pulse Output Mode	CW/CCW Mode
Rotation Direction Setting	Current Value Increment with Forward Run Pulse Count
S/W Stroke Upper Limit (pulse)	2147483647
S/W Stroke Lower Limit (pulse)	-2147483648
Speed Limit Value (pulse/s)	10000
Bias Speed at Start (pulse/s)	0
Acceleration/Deceleration System Selection	Trapezoid Acceleration/Deceleration

b-2) OPR Parameter:

OPR Method	Near-point Dog Method
OPR Direction	Forward RUN
OP Address (pulse)	0
OPR Speed (pulse/s)	1000
Creep Speed (pulse/s)	1
OPR Acceleration/Deceleration Time (ms)	1000
OPR Deceleration Stop Time (ms)	1000
Setting of Movement Amount after Near-point Dog ON (pulse)	0
OPR Dwell Time (ms)	0

b-3) Positioning Data:

No.	Control System	Acceleration/Deceleration Time (ms)	Deceleration Stop Time (ms)	Dwell Time (ms)	Command Speed (pulse/s)	Positioning Address (pulse)
No.1	One-axis Linear Control (INC)	1000	1000	0	1000	10000
No.2						
No.3						
No.4						
No.5						
No.6						
No.7						
No.8						
No.9						
No.10						

2. Input/Output Signal Settings

a) Select the positioning functions from "Input signal function selection" and "Output signal function selection".

a-1 Set the "Input Signal".

a-2 Set the "Output Signal".

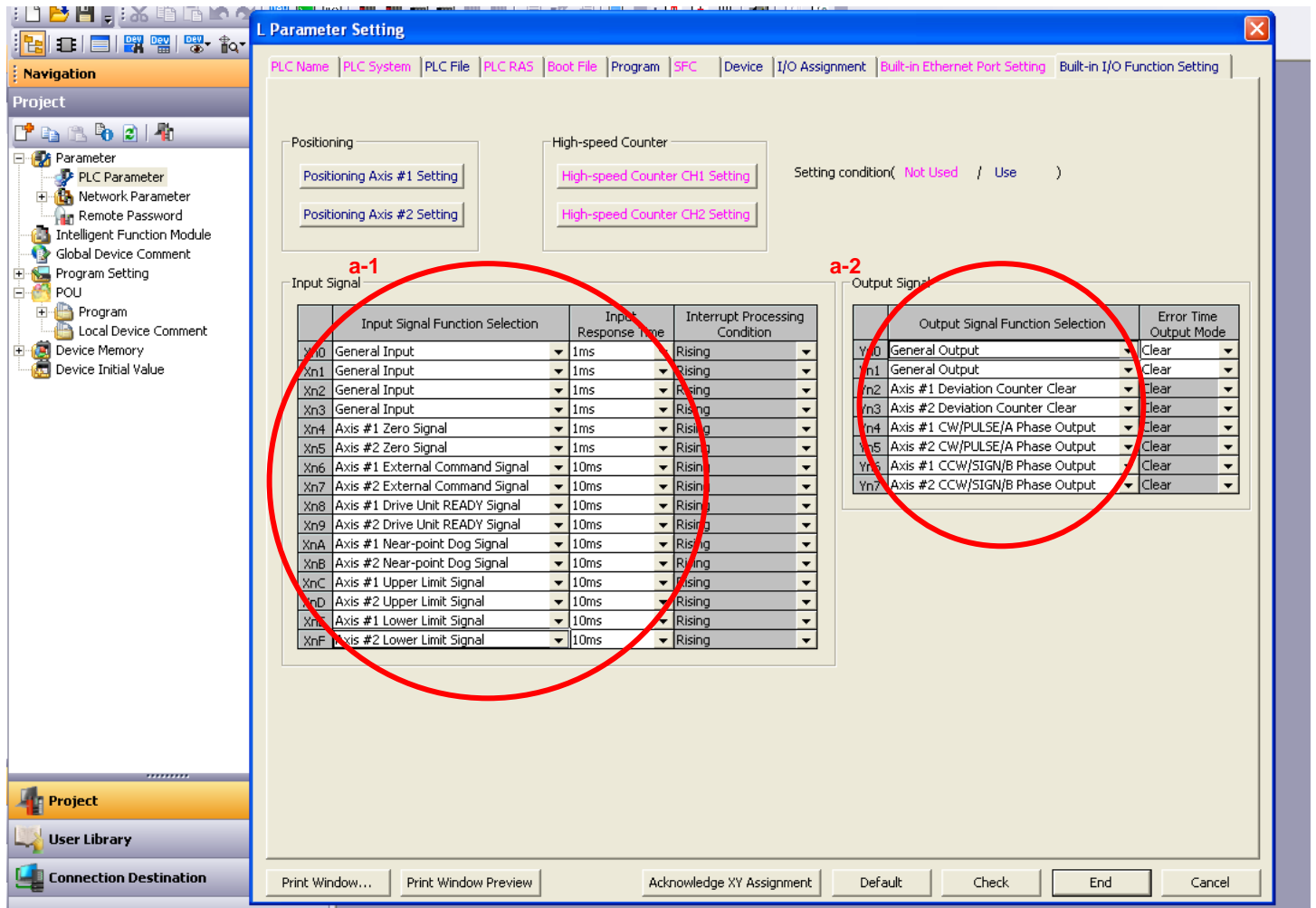


Table 1-1 I/O signal allocation for positioning function

External input signal	
X0 (High-speed)	×*2
X1 (High-speed)	×*2
X2 (High-speed)	×*2
X3 (High-speed)	×*2
X4 (High-speed)	Axis 1 Zero Signal*1
X5 (High-speed)	Axis 2 Zero Signal*1
X6 (Standard)	Axis 1 External Command Signal*1
X7 (Standard)	Axis 2 External Command Signal*1
X8 (Standard)	Axis 1 Drive Module READY Signal*1
X9 (Standard)	Axis 2 Drive Module READY Signal*1

External output signal	
Y0	×*2
Y1	×*2
Y2	Axis 1 Deviation Counter Clear*1
Y3	Axis 2 Deviation Counter Clear*1
Y4	Axis 1 CW/PULSE/A Phase Output*1
Y5	Axis 2 CW/PULSE/A Phase Output*1
Y6	Axis 1 CCW/SIGN/B Phase Output*1
Y7	Axis 2 CCW/SIGN/B Phase Output*1

*1 This signal must be used depending on parameter settings. When this signal is not used, the output signal can be used for the general-purpose output function.

External input signal	
XA (Standard)	Axis 1 Near-point Dog Signal*1
XB (Standard)	Axis 2 Near-point Dog Signal*1
XC (Standard)	Axis 1 Upper Limit Signal*1
XD (Standard)	Axis 2 Upper Limit Signal*1
XE (Standard)	Axis 1 Lower Limit Signal*1
XF (Standard)	Axis 2 Lower Limit Signal*1

*1 When this signal is not used, the input signal can be used for other functions such as the general-purpose input.

*2 When the corresponding function (the high-speed counter function or positioning function) is selected at function selection, this signal is not used for the function. The input signal can be used for other function such as the general-purpose input.

×: No combination

External output signal

*2 When the corresponding function (the high-speed counter function or positioning function) is selected at function selection, this signal is not used for the function. The output signal can be used for the general-purpose output function.

Relevant Manuals

MELSEC-L CPU Module User's Manual (Function Explanation, Program Fundamentals)

MELSEC-L CPU Module User's Manual (Built-in I/O Function)

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 CPU Module User's Manual (Built-in I/O Function). The descriptions of the sample ladder programs in this manual may be different from the ones found in the MELSEC-L CPU Module User's Manual (Built-in I/O Function) depending on the date created.

2. Data setting

Function overview

This program sets position control parameters, speed/position switching, and current value change control data settings.

Program

This function uses the project (program name).

- LD-LCPU_POS_V100A_E(01SetDat)

Devices

This program uses the following device.

No.	Device	Data Type	Application	Remarks
1	SM402	Bit	Data setting processing start trigger	Turns ON for one scan after RUN.
2	D100	Word (Binary)	Position control (ABS) start data (Control method)	Stores the position control (ABS) data (Control method).
3	D101	Word (Binary)	Position control (ABS) start data (Acceleration/deceleration time)	
4	D102	Word (Binary)	Position control (ABS) start data (Deceleration stop time)	Stores the position control (ABS) data (Deceleration stop time).
5	D103	Word (Binary)	Position control (ABS) start data (Dwell time)	
6	D104	Word (Binary)	Position control (ABS) start data (Command speed) (Lo 16 bit)	Stores the position control (ABS) data (Command speed).
7	D105	Word (Binary)	Position control (ABS) start data (Command speed) (Hi 16 bit)	
8	D106	Word (Binary)	Position control (ABS) start data (Positioning address/movement amount) (Lo 16 bit)	Stores the position control (ABS) data (Positioning address/movement amount).
9	D107	Word (Binary)	Position control (ABS) start data (Positioning address/movement amount) (Hi 16 bit)	
10	D110	Word (Binary)	Position control (INC) start data (Control method)	Stores the position control (INC) data (Control method).
11	D111	Word (Binary)	Position control (INC) start data (Acceleration/deceleration time)	Stores the position control (INC) data (Acceleration/deceleration time).
12	D112	Word (Binary)	Position control (INC) start data (Deceleration stop time)	Stores the position control (INC) data (Deceleration stop time).

No.	Device	Data Type	Application	Remarks
13	D113	Word (Binary)	Position control (INC) start data (Dwell time)	Stores the position control (INC) data (Dwell time).
14	D114	Word (Binary)	Position control (INC) start data (Command speed) (Lo 16 bit)	Stores the position control (INC) data (Command speed).
15	D115	Word (Binary)	Position control (INC) start data (Command speed) (Hi 16 bit)	
16	D116	Word (Binary)	Position control (INC) start data (Positioning address/movement amount) (Lo 16 bit)	Stores the position control (INC) data (Positioning address/movement amount)
17	D117	Word (Binary)	Position control (INC) start data (Positioning address/movement amount) (Hi 16 bit)	
18	D120	Word (Binary)	Speed/position switching control (forward) start data (Control method)	Stores the speed/position switching control (forward) data (Control method).
19	D121	Word (Binary)	Speed/position switching control (forward) start data (Acceleration/deceleration time)	Stores the speed/position switching control (forward) data (Acceleration/deceleration time)
20	D122	Word (Binary)	Speed/position switching control (forward) start data (Deceleration stop time)	Stores the speed/position switching control (forward) data (Deceleration stop time)
21	D123	Word (Binary)	Speed/position switching control (forward) start data (Dwell time)	Stores the speed/position switching control (forward) data (Dwell time)
22	D124	Word (Binary)	Speed/position switching control (forward) start data (Command speed) (Lo 16 bit)	Stores the speed/position switching control (forward) data (Command speed).
23	D125	Word (Binary)	Speed/position switching control (forward) start data (Command speed) (Hi 16 bit)	
24	D126	Word (Binary)	Speed/position switching control (forward) start data (Positioning address/movement amount) (Lo 16 bit)	Stores the speed/position switching control (forward) data (Positioning address/movement amount)
25	D127	Word (Binary)	Speed/position switching control (forward) start data (Positioning address/movement amount) (Hi 16 bit)	
26	D130	Word (Binary)	Speed/position switching control (reverse) start data (Control method)	Stores the speed/position switching control (reverse) data (Control method).

No.	Device	Data Type	Application	Remarks
27	D131	Word (Binary)	Speed/position switching control (reverse) start data (Acceleration/deceleration time)	Stores the speed/position switching control (reverse) data (Acceleration/deceleration time)
28	D132	Word (Binary)	Speed/position switching control (reverse) start data (Deceleration stop time)	Stores the speed/position switching control (reverse) data (Deceleration stop time)
29	D133	Word (Binary)	Speed/position switching control (reverse) start data (Dwell time)	Stores the speed/position switching control (reverse) data (Dwell time)
30	D134	Word (Binary)	Speed/position switching control (reverse) start data (Command speed) (Lo 16 bit)	Stores the speed/position switching control (reverse) data (Command speed)
31	D135	Word (Binary)	Speed/position switching control (reverse) start data (Command speed) (Hi 16 bit)	
32	D136	Word (Binary)	Speed/position switching control (reverse) start data (Positioning address/movement amount) (Lo 16 bit)	Stores the speed/position switching control (reverse) data (Positioning address/movement amount)
33	D137	Word (Binary)	Speed/position switching control (reverse) start data (Positioning address/movement amount) (Hi 16 bit)	
34	D140	Word (Binary)	Current value change start data (Control method)	Stores the current value change data (Control method).
35	D141	Word (Binary)	Current value change start data (Acceleration/deceleration time)	Stores the current value change data (Acceleration/deceleration time)
36	D142	Word (Binary)	Current value change start data (Deceleration stop time)	Stores the current value change data (Deceleration stop time)
37	D143	Word (Binary)	Current value change start data (Dwell time)	Stores the current value change data (Dwell time)
38	D144	Word (Binary)	Current value change start data (Command speed) (Lo 16 bit)	Stores the current value change data (Command speed)
39	D145	Word (Binary)	Current value change start data (Command speed) (Hi 16 bit)	
40	D146	Word (Binary)	Current value change start data (Positioning address/movement amount) (Lo 16 bit)	Stores the current value change data (Positioning address/movement amount)
41	D147	Word (Binary)	Current value change start data (Positioning address/movement amount) (Hi 16 bit)	

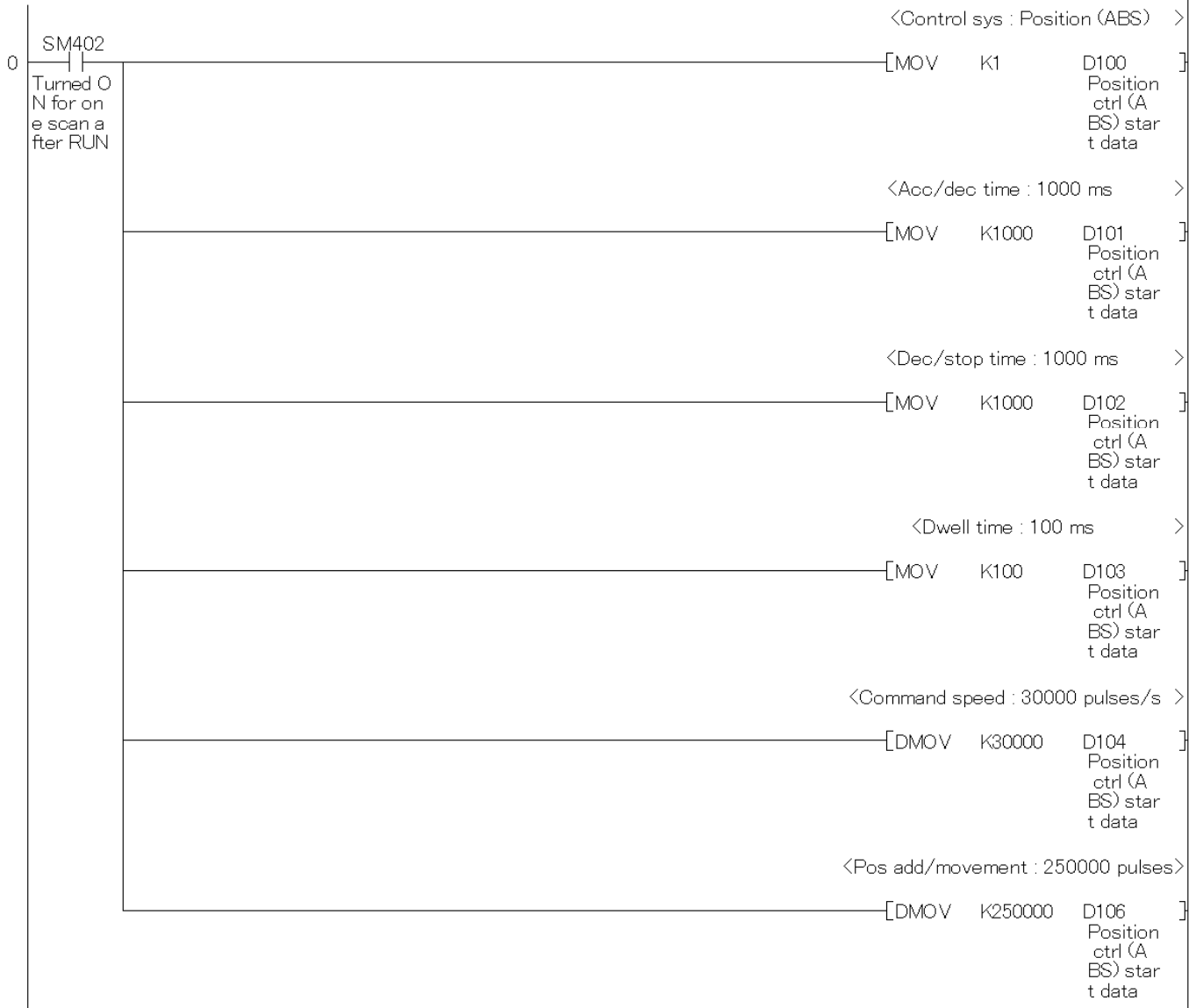
No.	Device	Data Type	Application	Remarks
42	D150	Word (Binary)	Speed control (forward run) start data (Control method)	Stores the speed control (forward run) data (Control method).
43	D151	Word (Binary)	Speed control (forward run) start data (Acceleration/deceleration time)	Stores the speed control (forward run) data (Acceleration/deceleration time).
44	D152	Word (Binary)	Speed control (forward run) start data (Deceleration stop time)	Stores the speed control (forward run) data (Deceleration stop time).
45	D153	Word (Binary)	Speed control (forward run) start data (Dwell time)	Stores the speed control (forward run) data (Dwell time).
46	D154	Word (Binary)	Speed control (forward run) start data (Command speed) (Lo 16 bit)	Stores the speed control (forward run) data (Command speed).
47	D155	Word (Binary)	Speed control (forward run) start data (Command speed) (Hi 16 bit)	
48	D156	Word (Binary)	Speed control (forward run) start data (Positioning address/movement amount) (Lo 16 bit)	Stores the speed control (forward run) data (Positioning address/movement amount).
49	D157	Word (Binary)	Speed control (forward run) start data (Positioning address/movement amount) (Hi 16 bit)	
50	D160	Word (Binary)	Speed control (reverse run) start data (Control method)	Stores the speed control (reverse run) data (Control method).
51	D161	Word (Binary)	Speed control (reverse run) start data (Acceleration/deceleration time)	Stores the speed control (reverse run) data (Acceleration/deceleration time).
52	D162	Word (Binary)	Speed control (reverse run) start data (Deceleration stop time)	Stores the speed control (reverse run) data (Deceleration stop time).
53	D163	Word (Binary)	Speed control (reverse run) start data (Dwell time)	Stores the speed control (reverse run) data (Dwell time).
54	D164	Word (Binary)	Speed control (reverse run) start data (Command speed) (Lo 16 bit)	Stores the speed control (reverse run) data (Command speed).
55	D165	Word (Binary)	Speed control (reverse run) start data (Command speed) (Hi 16 bit)	
56	D166	Word (Binary)	Speed control (reverse run) start data (Positioning address/movement amount) (Lo 16 bit)	Stores the speed control (reverse run) data (Positioning address/movement amount).
57	D167	Word (Binary)	Speed control (reverse run) start data (Positioning address/movement amount) (Hi 16 bit)	

Version Upgrade History

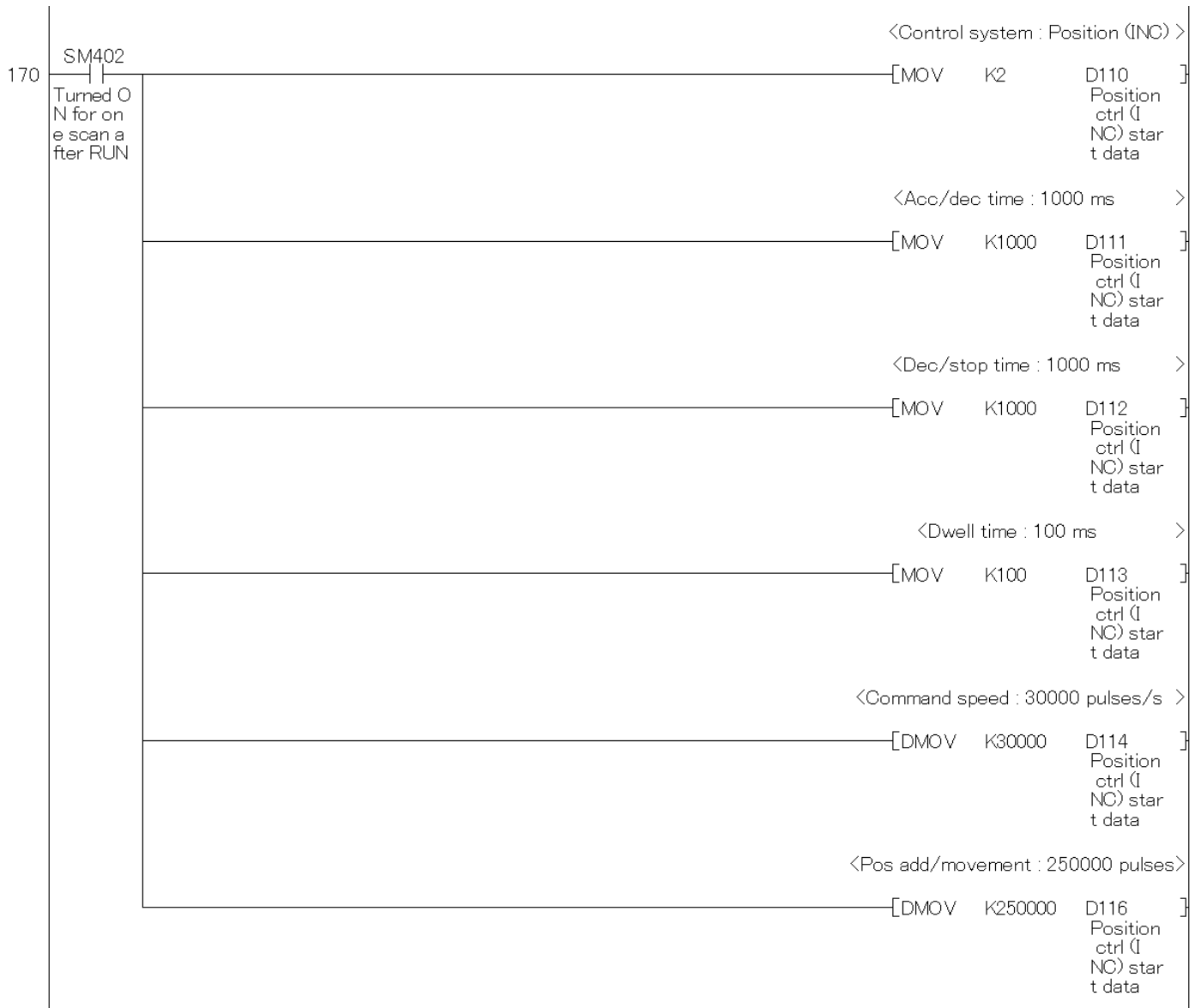
Version	Date	Description
1.00A	2011/09/26	First edition

Program

- * Sample ladder name : 01SetDat
- * Function : Data setting
- * Version : Ver.1.00A
- *
- * .Position control

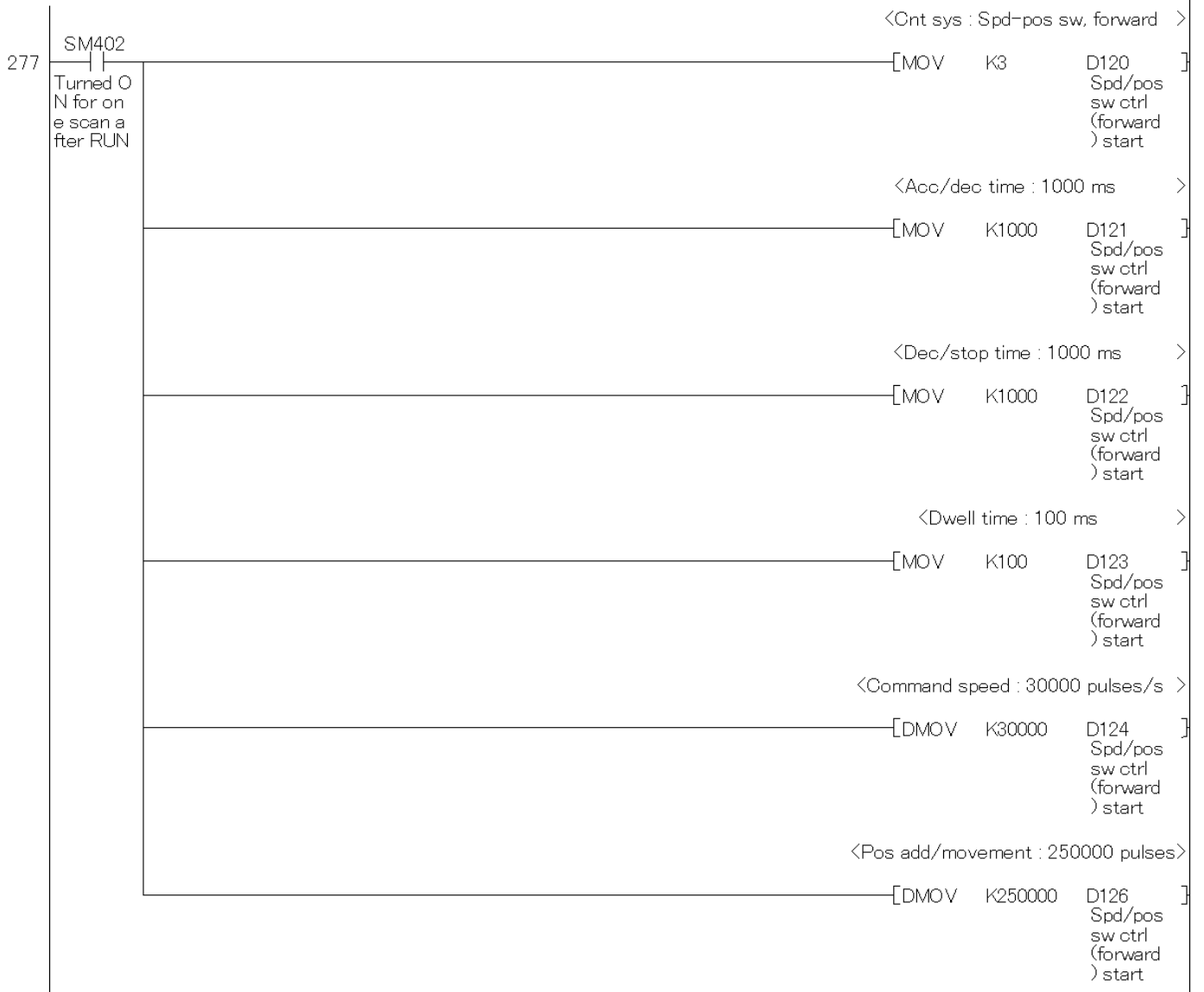


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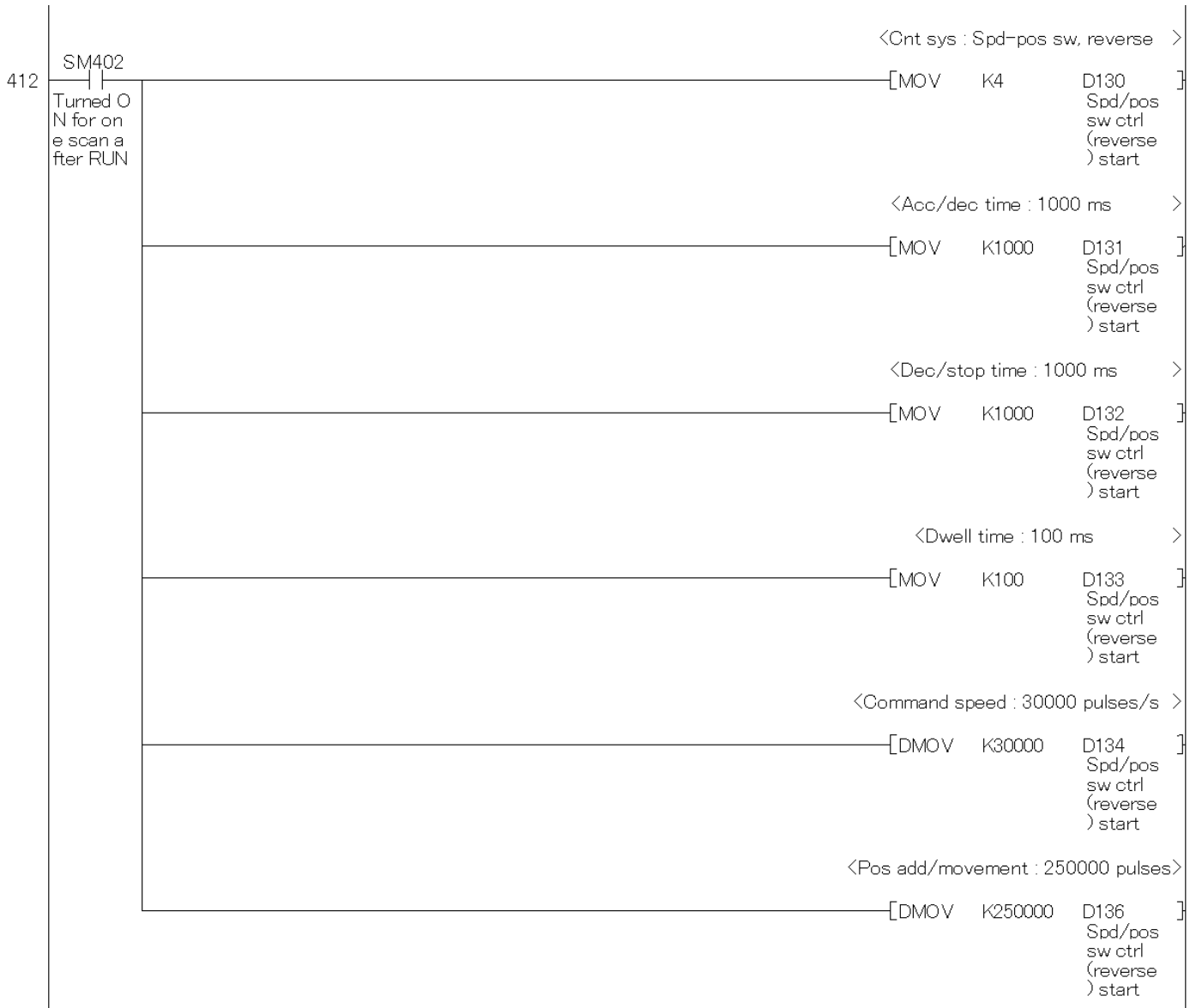


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*
 * Speed/position switching control
 *

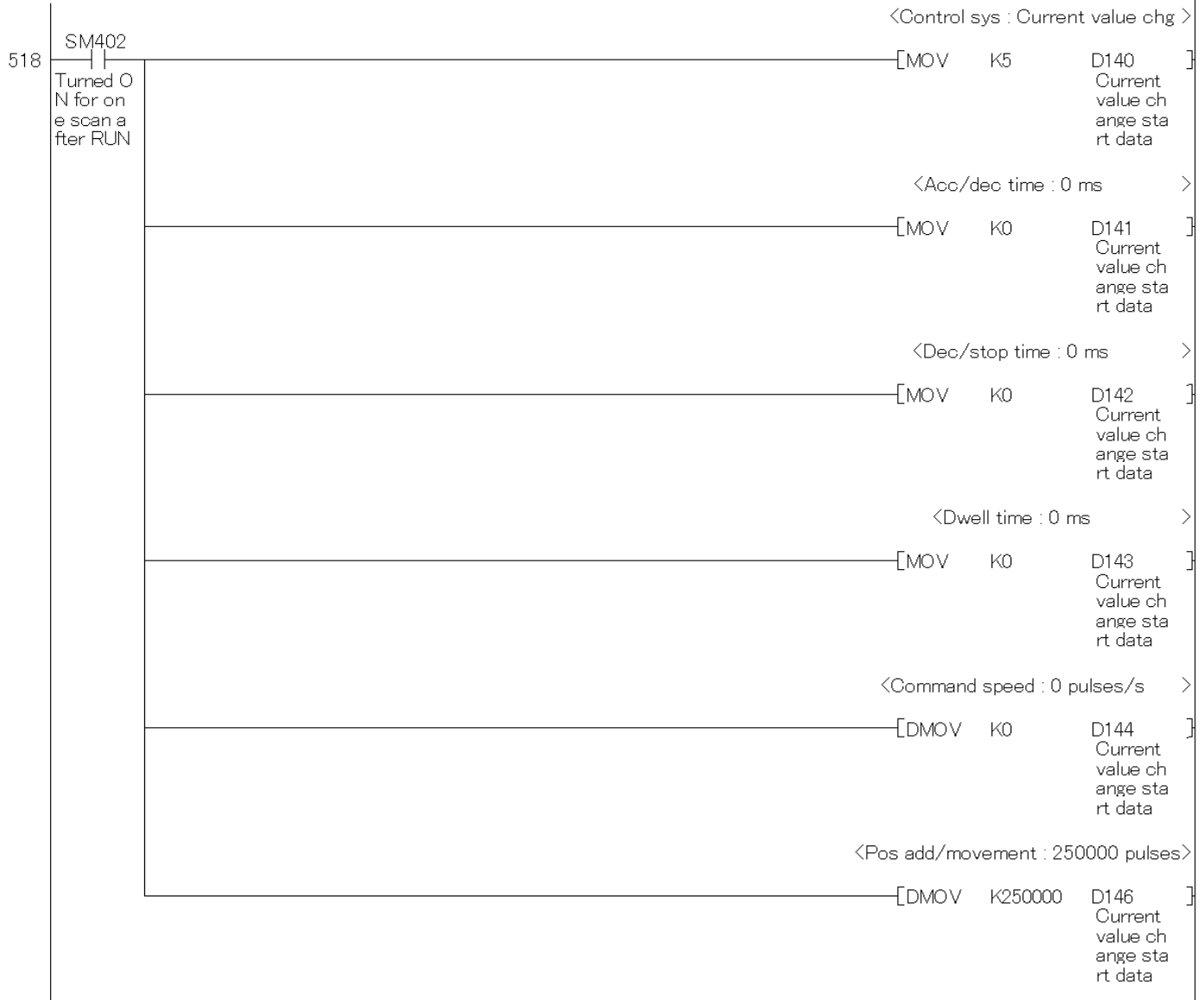


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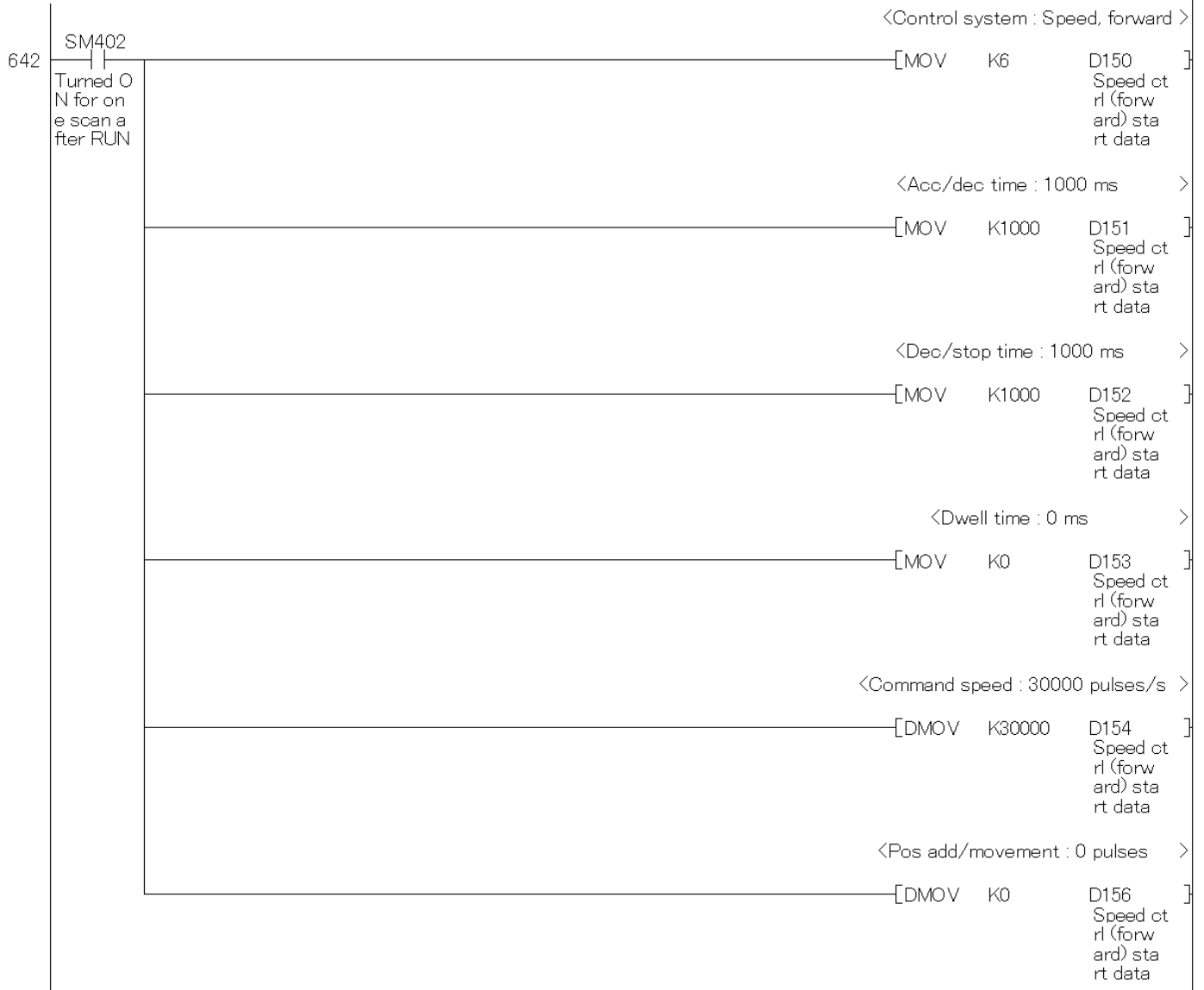
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*
 * .Current value change
 *

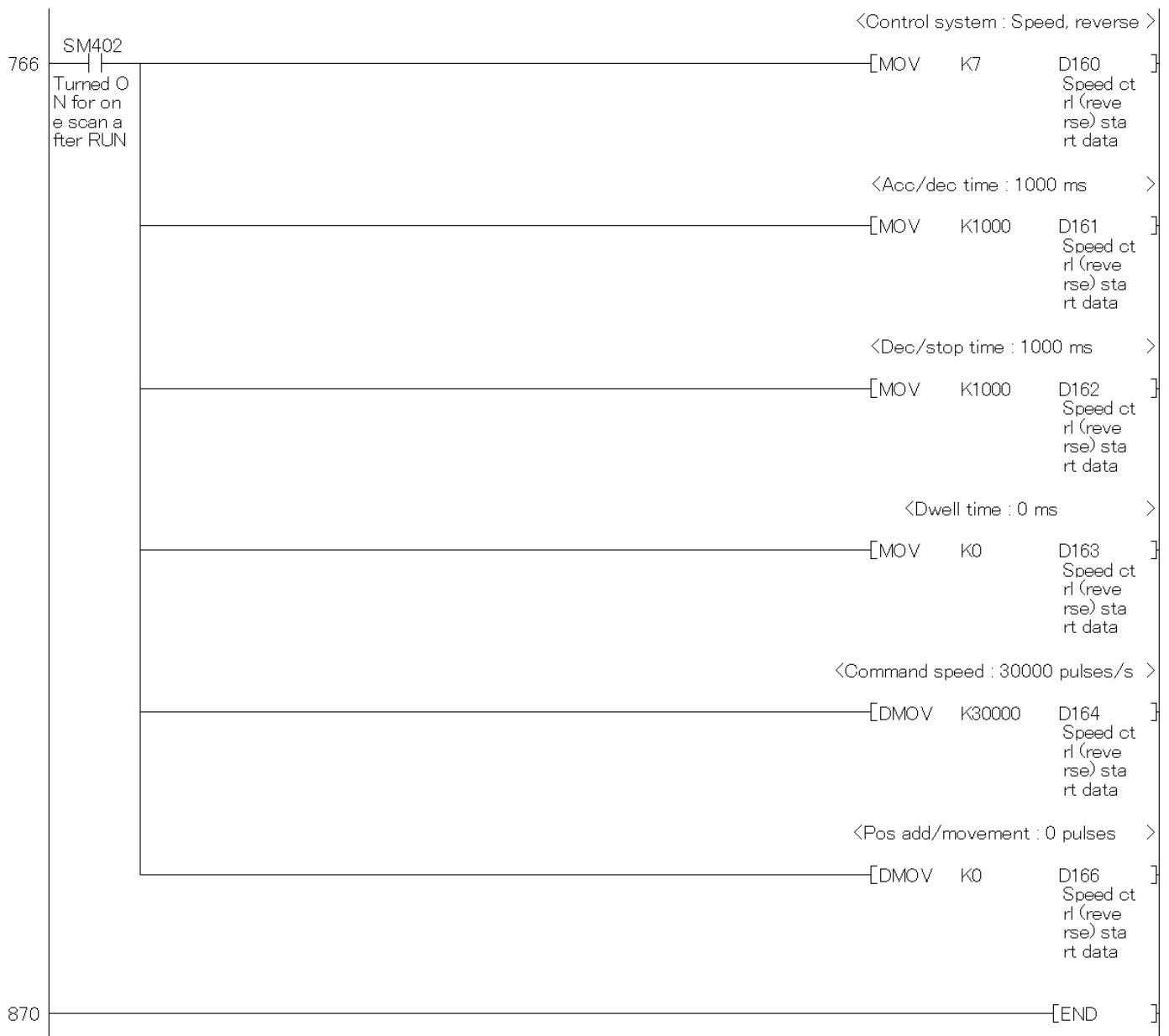


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*
* Speed control
*



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3. OPR request off

Function overview

This program turns off the OPR request for Axis 1.

Program

This function uses the project (program name).

- LD-LCPU_POS_V100A_E(02BaseOf)

Devices

This program uses the following device.

No.	Device	Data Type	Application	Remarks
1	SM1840	Bit	Axis 1 busy signal	—
2	SM1842	Bit	Axis 1 OPR request	—
3	SM1851	Bit	Axis 1 OPR request off command	—
4	X45	Bit	OPR request off command	OPR request off flag

Version Upgrade History

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

Program

* Sample ladder name : 02BaseOf
 * Function : OPR request off
 * Version : Ver.1.00A
 *



4. OPR data setting

Function overview

This program sets the OPR data setting.

Program

This function uses the project (program name).

- LD-LCPU_POS_V100A_E(03SetBas)

Devices

This program uses the following device.

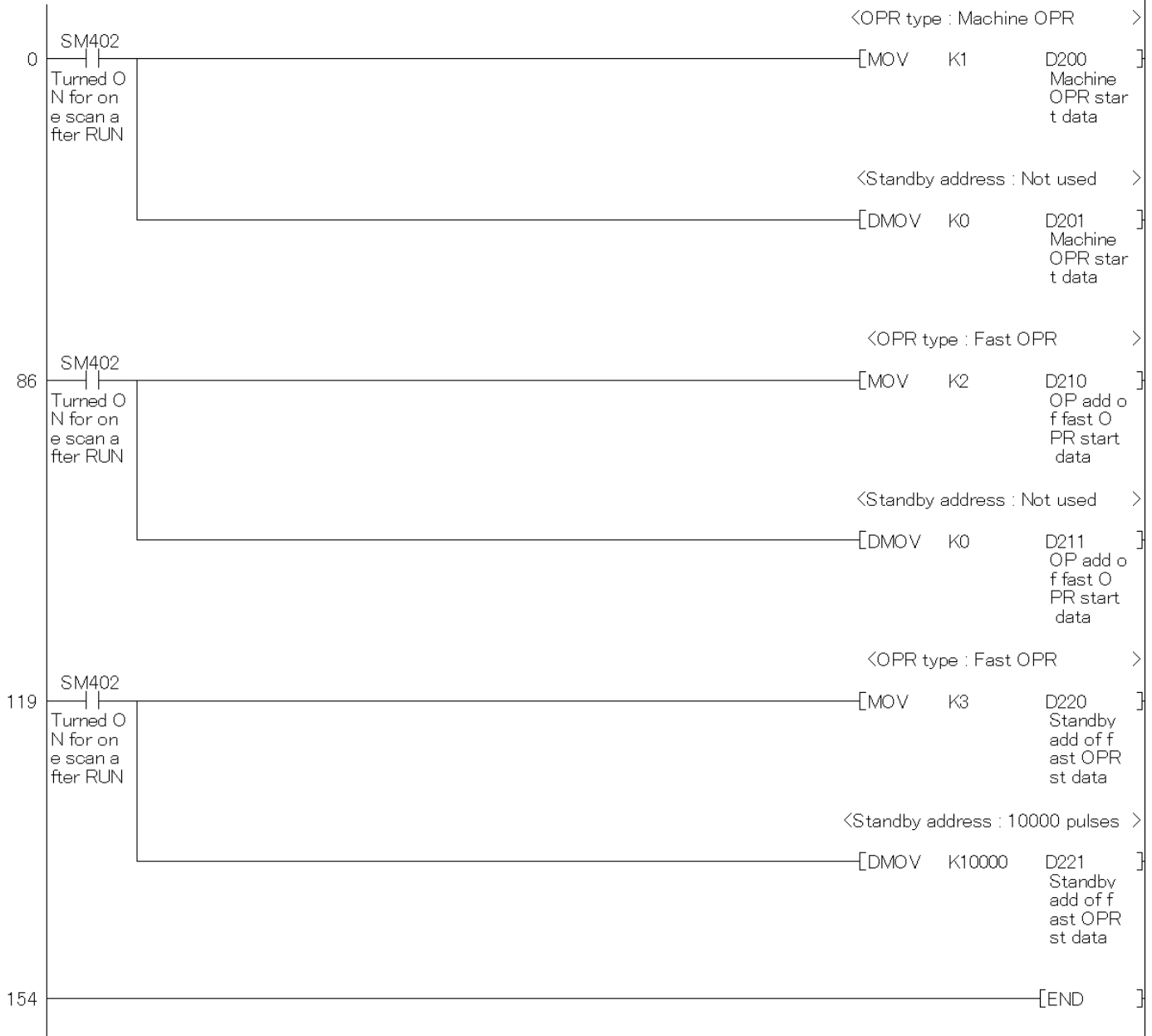
No.	Device	Data Type	Application	Remarks
1	SM402	Bit	OPR data setting start trigger	Turns ON for one scan after RUN.
2	D200	Word (Binary)	Machine OPR start data (Original position return type)	Stores the machine OPR start data (original position return type).
3	D201	Word (Binary)	Machine OPR start data (Standby address) (Lo 16 bit)	Stores the machine OPR start data (standby address). [Unused]
4	D202	Word (Binary)	Machine OPR start data (Standby address) (Hi 16 bit)	
5	D210	Word (Binary)	OP address of fast OPR start data (Original position return type)	Stores the OP address of the fast OPR start data (original position return type).
6	D211	Word (Binary)	OP address of fast OPR start data (Standby address) (Lo 16 bit)	Stores the OP address of the fast OPR start data (standby address). [Unused]
7	D212	Word (Binary)	OP address of fast OPR start data (Standby address) (Hi 16 bit)	
8	D220	Word (Binary)	Standby address of fast OPR start data (original position return type)	Stores the standby address of the fast OPR start data (original position return type).
9	D221	Word (Binary)	Standby address of fast OPR start data (Standby address) (Lo 16 bit)	Stores the standby address of the fast OPR start data (standby address).
10	D222	Word (Binary)	Standby address of fast OPR start data (Standby address) (Hi 16 bit)	

Version Upgrade History

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

Program

* Sample ladder name : 03SetBas
* Function : OPR data setting
* Version : Ver.1.00A
*



5. OPR start

Function overview

This program performs the OPR start for Axis 1.

Program

This function uses the project (program name).

- LD-LCPU_POS_V100A_E(04RunBas)

Devices

This program uses the following device.

No.	Device	Data Type	Application	Remarks
1	SM1842	Bit	Axis 1 OPR request	—
2	SM1848	Bit	Axis 1 start instruction in execution	—
3	X31	Bit	Axis 1 machine OPR start selection	Retains the machine OPR selection flag for Axis 1.
4	X32	Bit	Axis 1 fast OPR (OP address) start selection	Retains the fast OPR (OP address) start flag for Axis 1.
5	X33	Bit	Axis 1 fast OPR (Standby address) start selection	Retains the fast OPR (standby address) start flag for Axis 1.
6	X34	Bit	Axis 1 OPR start command	Retains the OPR start flag for Axis 1.
7	M10	Bit	Axis 1 OPR start permission/prohibition storage	Retains the OPR start permission/prohibition flag for Axis 1.
8	D200	Word (Binary)	Machine OPR start data (Original position return type)	Stores the machine OPR start data (original position return type).
9	D201	Word (Binary)	Machine OPR start data (Standby address) (Lo 16 bit)	Stores the machine OPR start data (standby address). [Unused]
10	D202	Word (Binary)	Machine OPR start data (Standby address) (Hi 16 bit)	

Version Upgrade History

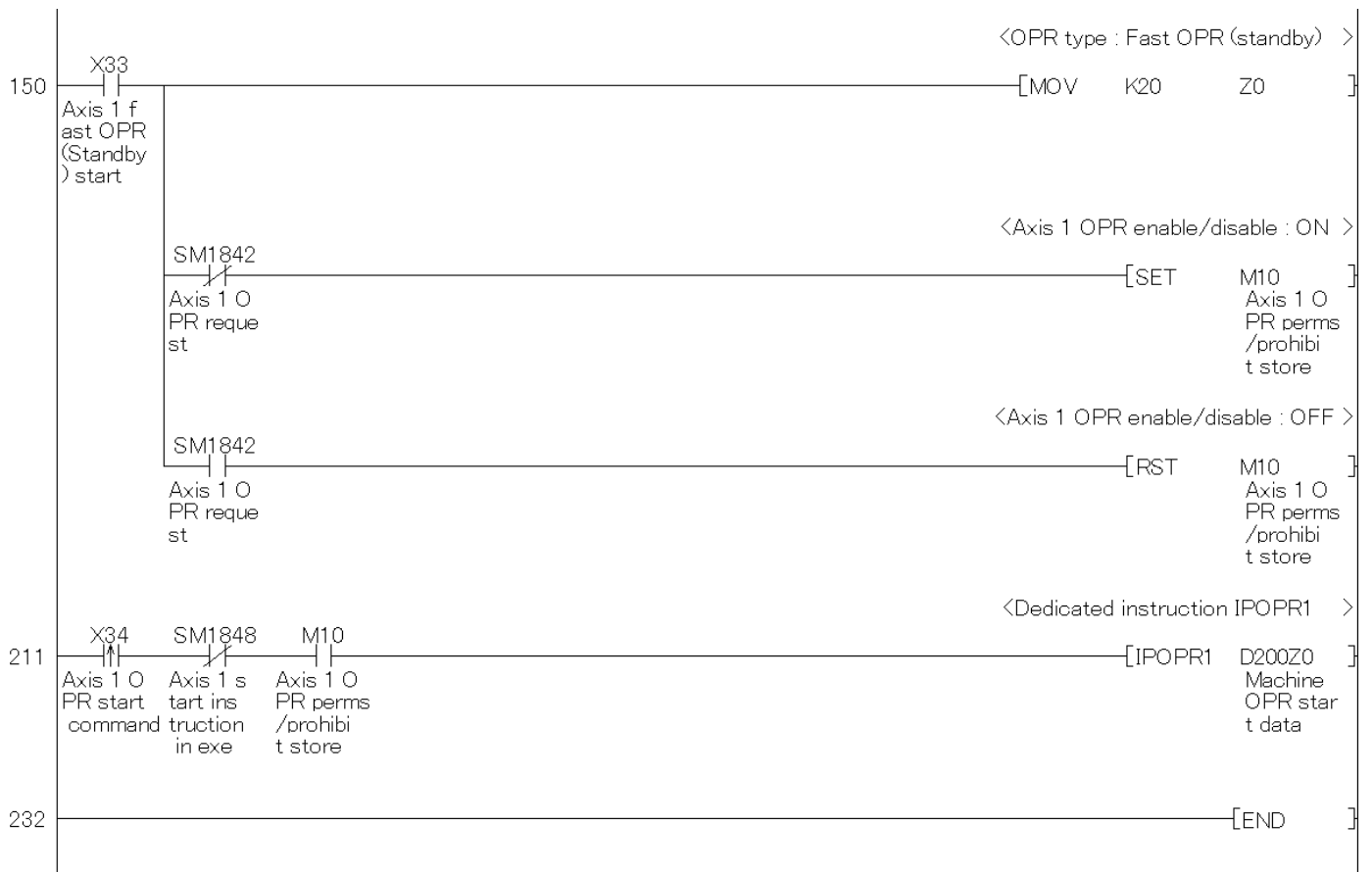
Version	Date	Description
1.00A	2011/09/26	First edition

Program

* Sample ladder name : 04RunBas
 * Function : OPR start
 * Version : Ver.1.00A
 *



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6. Speed/position switching enable

Function overview

This program enables or disables the speed/position switching for Axis 1.

Program

This function uses the project (program name).

- LD-LCPU_POS_V100A_E(05Chg_Sp)

Devices

This program uses the following device.

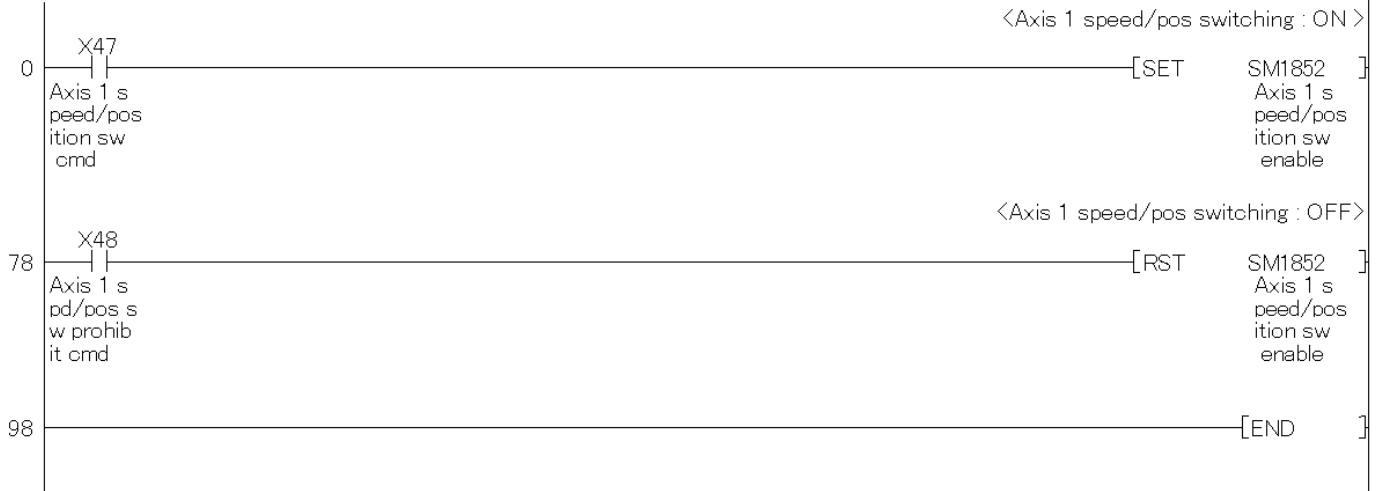
No.	Device	Data Type	Application	Remarks
1	SM1852	Bit	Axis 1 speed/position switching enable	—
2	X47	Bit	Axis 1 speed/position switching command	Retains the speed/position switching enable signal for Axis 1.
3	X48	Bit	Axis 1 speed/position switching prohibition command	Retains the speed/position switching prohibition signal for Axis 1.

Version Upgrade History

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

Program

* Sample ladder name : 05Chg_Sp
* Function : Speed/position switch enable
* Version : Ver.1.00A
*



7. Table start

Function overview

This program performs the positioning table start for Axis 1 and multiple axes concurrent start for Axis 1 and Axis 2.

Program

This function uses the project (program name).

- LD-LCPU_POS_V100A_E(06StaTbl)

Devices

This program uses the following device.

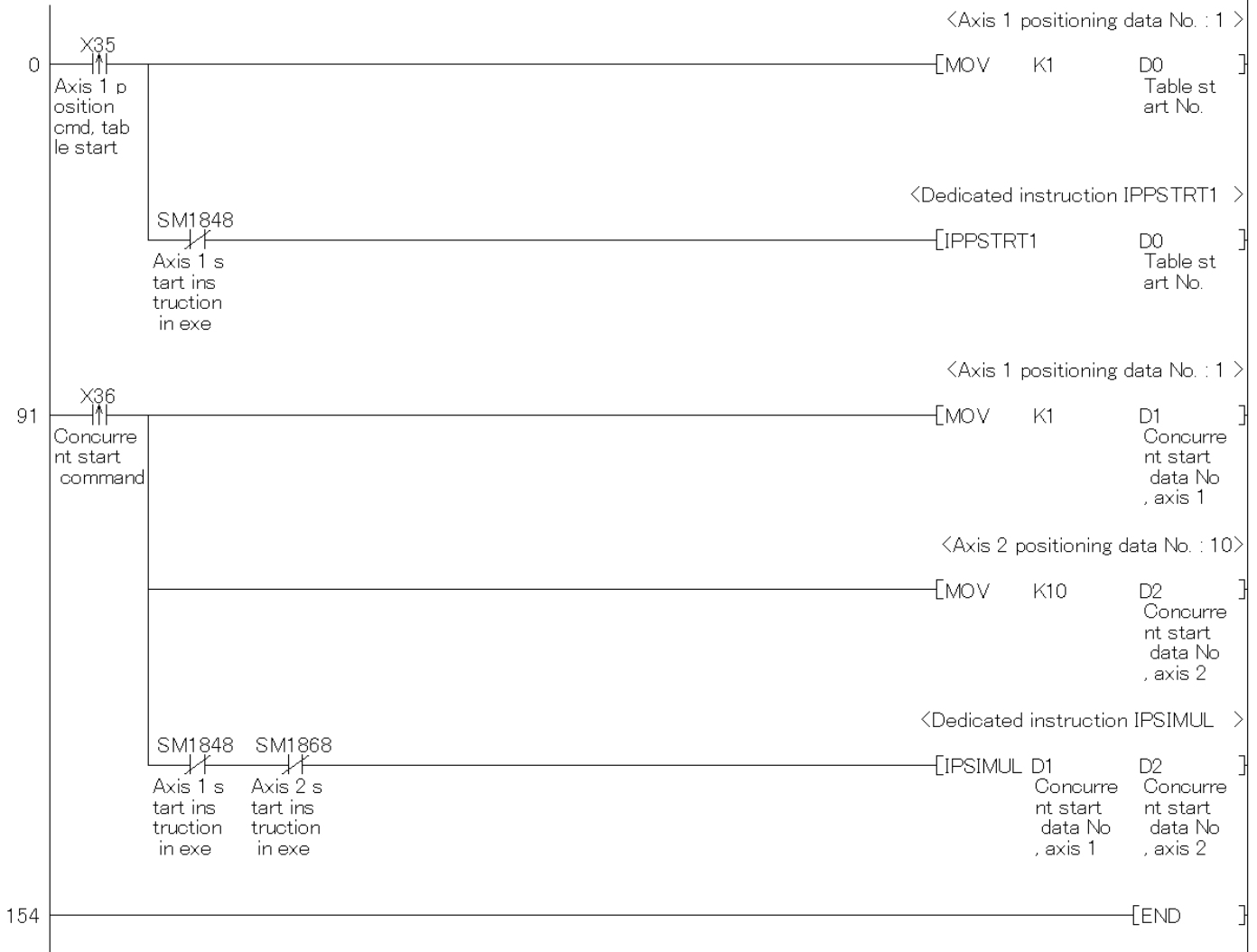
No.	Device	Data Type	Application	Remarks
1	SM1848	Bit	Axis 1 start instruction in execution	—
2	SM1868	Bit	Axis 2 start instruction in execution	—
3	X35	Bit	Axis 1 positioning start command (table start)	Retains the positioning table start command for Axis 1.
4	X36	Bit	Concurrent start command	Retains the positioning concurrent start command for multiple axes.
5	D0	Word (Binary)	Table start No.	Stores the positioning table start number.
6	D1	Word (Binary)	Concurrent start data No. (axis 1)	Stores the concurrent start data number (Axis 1).
7	D2	Word (Binary)	Concurrent start data No. (axis 2)	Stores the concurrent start data number (Axis 2).

Version Upgrade History

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

Program

* Sample ladder name : 06StaTbl
 * Function : Table start
 * Version : Ver.1.00A
 *



8. Positioning start

Function overview

This program performs the positioning start for Axis 1.

Program

This function uses the project (program name).

- LD-LCPU_POS_V100A_E(07StaPos)

Devices

This program uses the following device.

No.	Device	Data Type	Application	Remarks
1	SM1848	Bit	Axis 1 start instruction in execution	—
2	X37	Bit	Axis 1 position control (ABS) start selection	Retains the selection status of whether the position control (ABS) starts for Axis 1.
3	X38	Bit	Axis 1 position control (INC) start selection	Retains the selection status of whether the position control (INC) starts for Axis 1.
4	X39	Bit	Axis 1 speed control (forward run) start selection	Retains the selection status of whether the speed control (forward run) starts for Axis 1.
5	X3A	Bit	Axis 1 speed control (reverse run) start selection	Retains the selection status of whether the speed control (reverse run) starts for Axis 1.
6	X3B	Bit	Axis 1 speed-position switching control (forward run) start selection	Retains the selection status of whether the speed-position switching control (forward run) starts for Axis 1.
7	X3C	Bit	Axis 1 speed-position switching control (reverse run) start selection	Retains the selection status of whether the speed-position switching control (reverse run) starts for Axis 1.
8	X3D	Bit	Axis 1 current value change selection	Retains the selection status of whether the current value changes for Axis 1.
9	X3E	Bit	Axis 1 positioning start instruction	Positioning start instruction flag for Axis 1
10	D100	Word (Binary)	Position control (ABS) start data (Control method)	Stores the position control (ABS) data (Control method).

No.	Device	Data Type	Application	Remarks
11	D101	Word (Binary)	Position control (ABS) start data (Acceleration/deceleration time)	Stores the position control (ABS) data (Acceleration/deceleration time).
12	D102	Word (Binary)	Position control (ABS) start data (Deceleration stop time)	Stores the position control (ABS) data (Deceleration stop time).
13	D103	Word (Binary)	Position control (ABS) start data (Dwell time)	Stores the position control (ABS) data (Dwell time).
14	D104	Word (Binary)	Position control (ABS) start data (Command speed) (Lo 16 bit)	Stores the position control (ABS) data (Command speed).
15	D105	Word (Binary)	Position control (ABS) start data (Command speed) (Hi 16 bit)	
16	D106	Word (Binary)	Position control (ABS) start data (Positioning address/movement amount) (Lo 16 bit)	Stores the position control (ABS) data (Positioning address/movement amount).
17	D107	Word (Binary)	Position control (ABS) start data (Positioning address/movement amount) (Hi 16 bit)	

Version Upgrade History

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

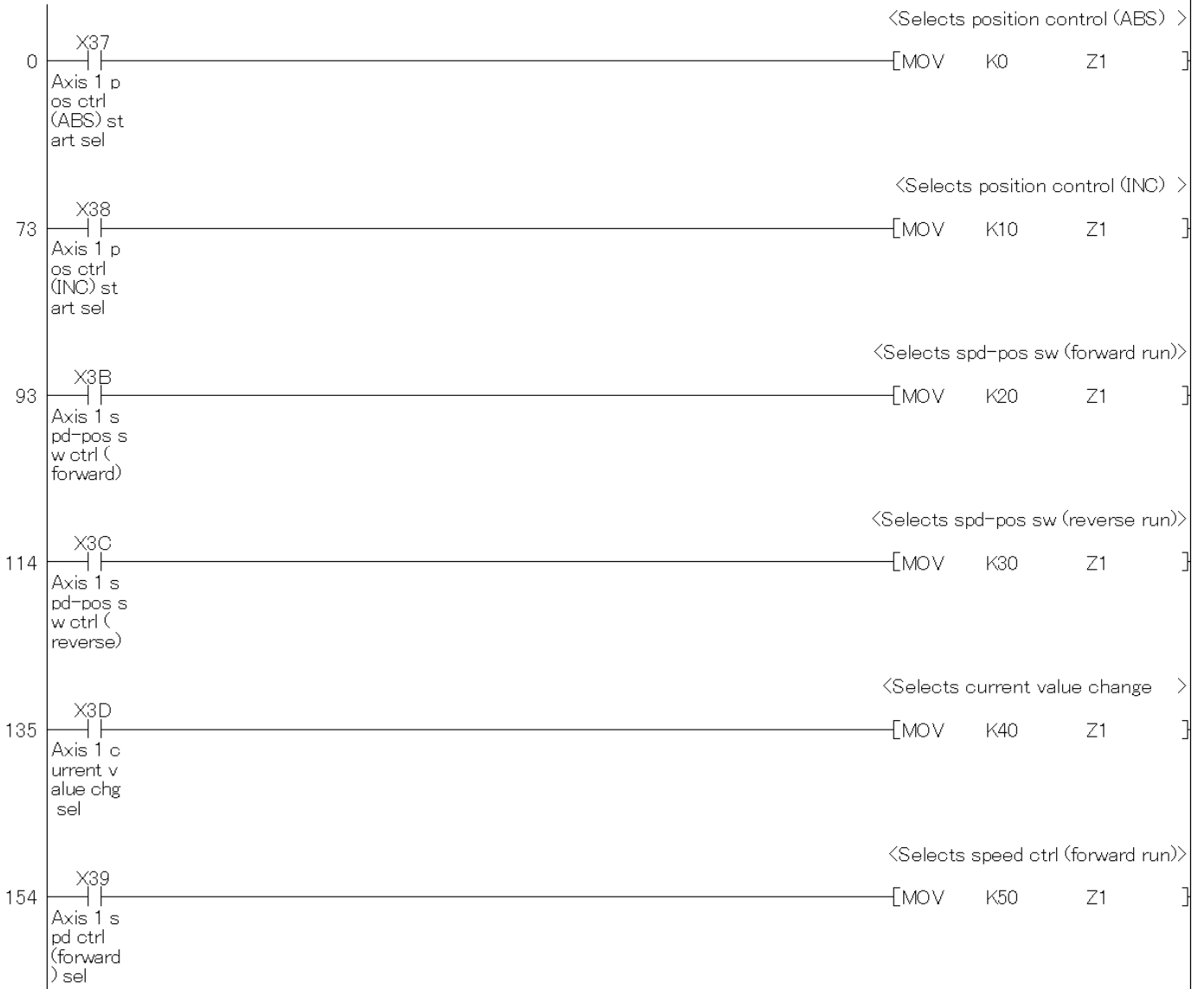
Program

* Sample ladder name : 07StaPos

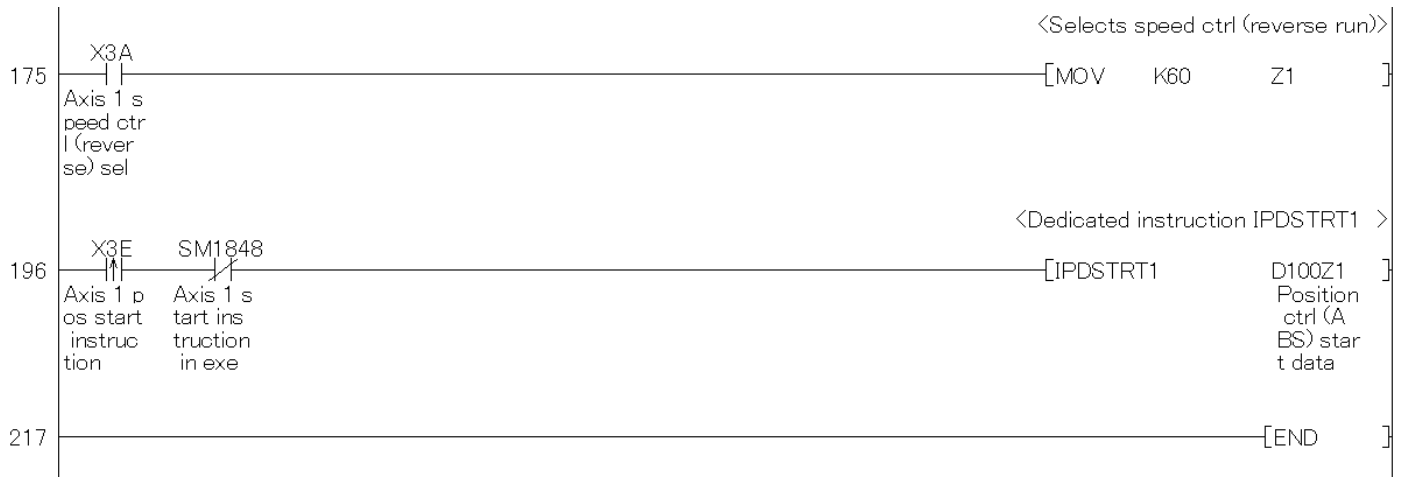
* Function : Positioning start

* Version : Ver.1.00A

*



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9. JOG operation

Function overview

This program performs JOG operation for Axis 1.

Program

This function uses the project (program name).

- LD-LCPU_POS_V100A_E(08RunJog)

Devices

This program uses the following device.

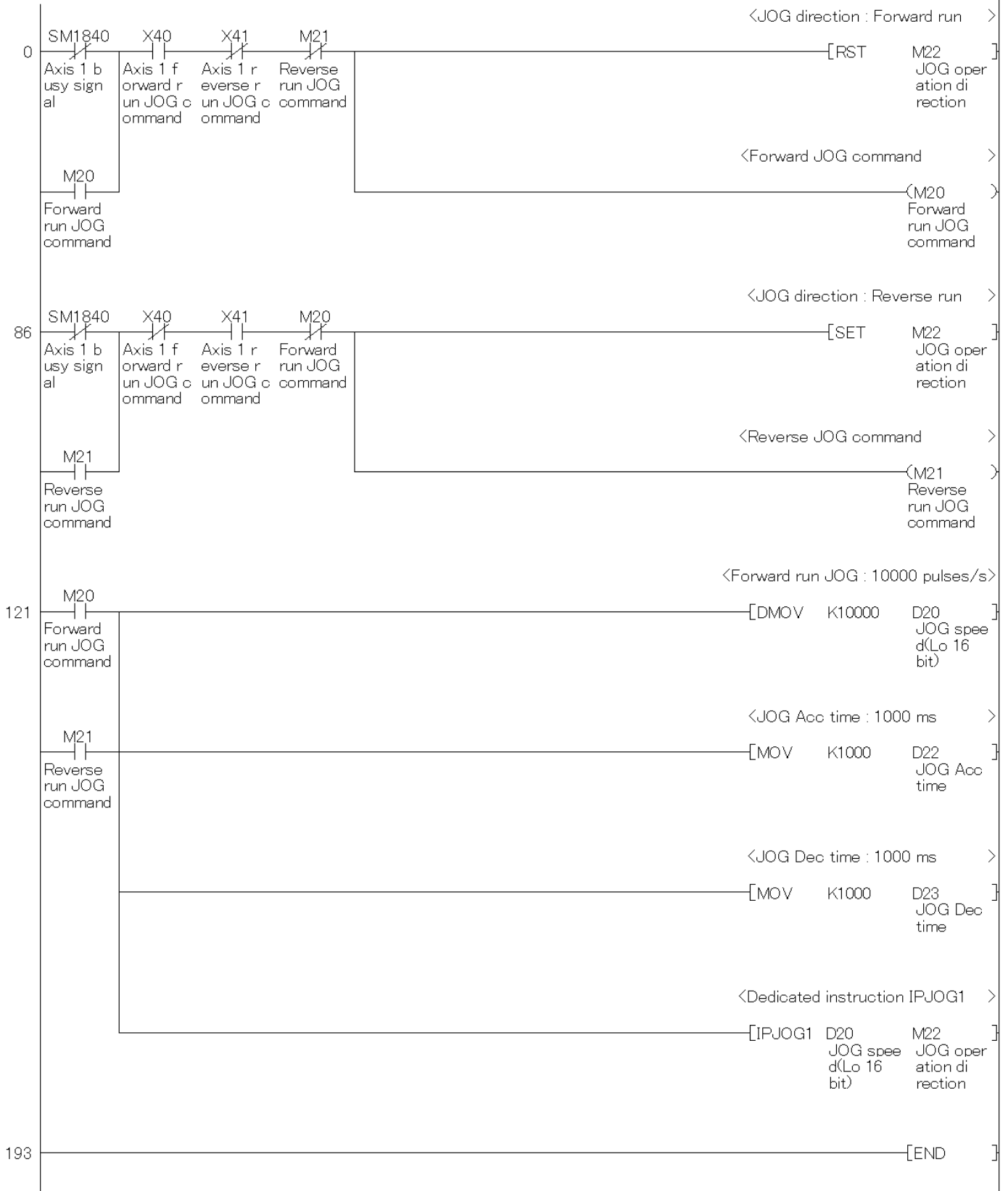
No.	Device	Data Type	Application	Remarks
1	SM1840	Bit	Axis 1 busy signal	—
2	X40	Bit	Axis 1 forward run JOG command	Retains the sending status of the forward run JOG command for Axis 1.
3	X41	Bit	Axis 1 reverse run JOG command	Retains the sending status of the reverse run JOG command for Axis 1.
4	M20	Bit	Forward run JOG command	Retains the sending status of the forward run JOG command.
5	M21	Bit	Reverse run JOG command	Retains the sending status of the reverse run JOG command.
6	M22	Bit	JOG operation direction	Stores the JOG operation direction.
7	D20	Word (Binary)	JOG speed(Lo 16 bit)	Stores the JOG speed.
8	D21	Word (Binary)	JOG speed(Hi 16 bit)	
9	D22	Word (Binary)	JOG Acc time	Stores the JOG acceleration time.
10	D23	Word (Binary)	JOG Dec time	Stores the JOG deceleration time.

Version Upgrade History

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

Program

* Sample ladder name : 08RunJog
 * Function : JOG operation
 * Version : Ver.1.00A
 *



10. Speed change

Function overview

This program performs the speed change.

Program

This function uses the project (program name).

•LD-LCPU_POS_V100A_E(09ChgSpd)

Devices

This program uses the following device.

No.	Device	Data Type	Application	Remarks
1	X42	Bit	Speed change command	Retains the speed change command.
2	D30	Word (Binary)	Acc/dec time at speed change	Stores the new speed value.
3	D31	Word (Binary)	Dec/stop time at speed change	—
4	D32	Word (Binary)	New speed value(Lo 16 bit)	—
5	D33	Word (Binary)	New speed value(Hi 16 bit)	

Version Upgrade History

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

Program

* Sample ladder name : 09ChgSpd
 * Function : Speed change
 * Version : Ver.1.00A
 *



11. Target position change

Function overview

This program performs the target position change.

Program

This function uses the project (program name).

- LD-LCPU_POS_V100A_E(10ChgPos)

Devices

This program uses the following device.

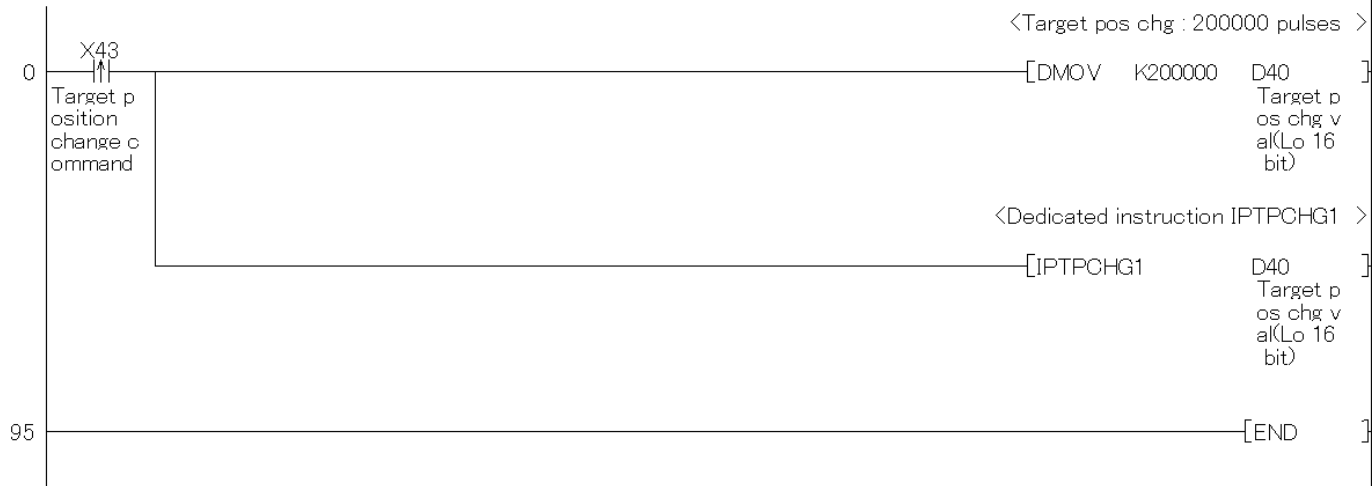
No.	Device	Data Type	Application	Remarks
1	X43	Bit	Target position change command	Retains the target position change command.
2	D40	Word (Binary)	Target position change value(Lo 16 bit)	Stores the target position change value.
3	D41	Word (Binary)	Target position change value(Hi 16 bit)	

Version Upgrade History

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

Program

* Sample ladder name : 10ChgPos
* Function : Target position change
* Version : Ver.1.00A
*



12. Absolute position restoration

Function overview

This program performs absolute position restoration.

Program

This function uses the project (program name).

- LD-LCPU_POS_V100A_E(11Abrst)

Devices

This program uses the following device.

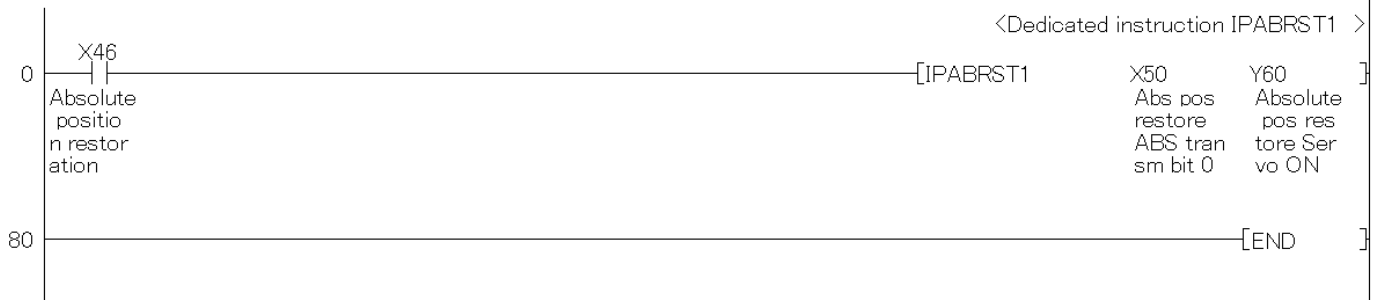
No.	Device	Data Type	Application	Remarks
1	X46	Bit	Absolute position restoration	Retains the absolute position restoration flag.
2	X50	Bit	Absolute position restoration ABS transmission data bit 0	—
3	X51	Bit	Absolute position restoration ABS transmission data bit 1	—
4	X52	Bit	Absolute position restoration transmission data ready	—
5	Y60	Bit	Absolute position restoration Servo ON	—
6	Y61	Bit	Absolute position restoration ABS transfer mode	—
7	Y62	Bit	Absolute position restoration ABS request	—

Version Upgrade History

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

Program

* Sample ladder name : 11Abrst
 * Function : Absolute position restoration
 * Version : Ver.1.00A
 *



13. Error, warning reset

Function overview

This program resets errors and warnings for Axis 1.

Program

This function uses the project (program name).

- LD-LCPU_POS_V100A_E(12RstErr)

Devices

This program uses the following device.

No.	Device	Data Type	Application	Remarks
1	SM1845	Bit	Axis 1 error	—
2	SM1846	Bit	Axis 1 warning	—
3	SM1850	Bit	Axis 1 error reset command	—
4	X44	Bit	Error reset command	Retains the error reset command.

Version Upgrade History

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

Program

* Sample ladder name : 12RstErr
 * Function : Error, warning reset
 * Version : Ver.1.00A
 *



14. Axis stop

Function overview

This program performs the axis stop for Axis 1.

Program

This function uses the project (program name).

- LD-LCPU_POS_V100A_E(13Stop)

Devices

This program uses the following device.

No.	Device	Data Type	Application	Remarks
1	SM1840	Bit	Axis 1 busy signal	—
2	X30	Bit	Stop command	Retains the axis stop command.

Version Upgrade History

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

Program

- * Sample ladder name : 13Stop
- * Function : Axis stop
- * Version : Ver.1.00A
- *

