# MELSEC-L Analog-Digital Converter Module Sample Ladder Reference Manual

| Applicable modules: |
| --- |
| L60AD4 |

**<Contents>**

Reference Manual Revision History

| Reference Manual Number | Date | Description |
|---|---|---|
| LDM-M019-A | 2011/09/26 | First edition |

# 1. Overview

## Overview of the Sample Ladder Program

The sample ladder programs support a system that uses the MELSEC-L analog-digital converter module (L60AD4).

## Sample Ladder Program Functions

The programs have the following functions.

(1) When Using the Module in Standard System Configuration (When Using Intelligent Function Module Parameters)

| No. | Project name | Program name | Item | Description | Version |
|---|---|---|---|---|---|
| 1 | LD-L60AD4_PRM_V100A_E | 01RdAD | A/D conversion value read | Reads a digital output value that was A/D converted by the analog-digital converter module using the configuration function. | 1.00A |

(2) When Using the Module in Standard System Configuration (When Not Using Intelligent Function Module Parameters)

| No. | Project name | Program name | Item | Description | Version |
|---|---|---|---|---|---|
| 1 | LD-L60AD4_NPM_V100A_E | 01RdAD | A/D conversion value read | Reads a digital output value that was A/D converted by the analog-digital converter module without using the configuration function. | 1.00A |

(3) When Connecting the Module to the Head Module

| No. | Project name | Program name | Item | Description | Version |
|---|---|---|---|---|---|
| 1 | LD-L60AD4_IEF_V100A_E | 01RdAD | A/D conversion value read | Reads a digital output value that was A/D converted by the analog-digital converter module on the intelligent device station using CC-Link IE Field Network. | 1.00A |

## Relevant Manuals

MELSEC-L Analog-Digital Converter 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 Analog-Digital Converter 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 Analog-Digital Converter Module User's Manual depending on the date created.

## 2. When Using the Module in Standard System Configuration (When Using Intelligent Function Module Parameters)

### 2.1 A/D conversion value read

**Function Overview**

This program reads a digital output value that was A/D converted by the analog-digital converter module in a standard system configuration using the intelligent module parameters.

**Program**

This function uses the project (program name).

•LD-L60AD4_PRM_V100A_E(01RdAD)

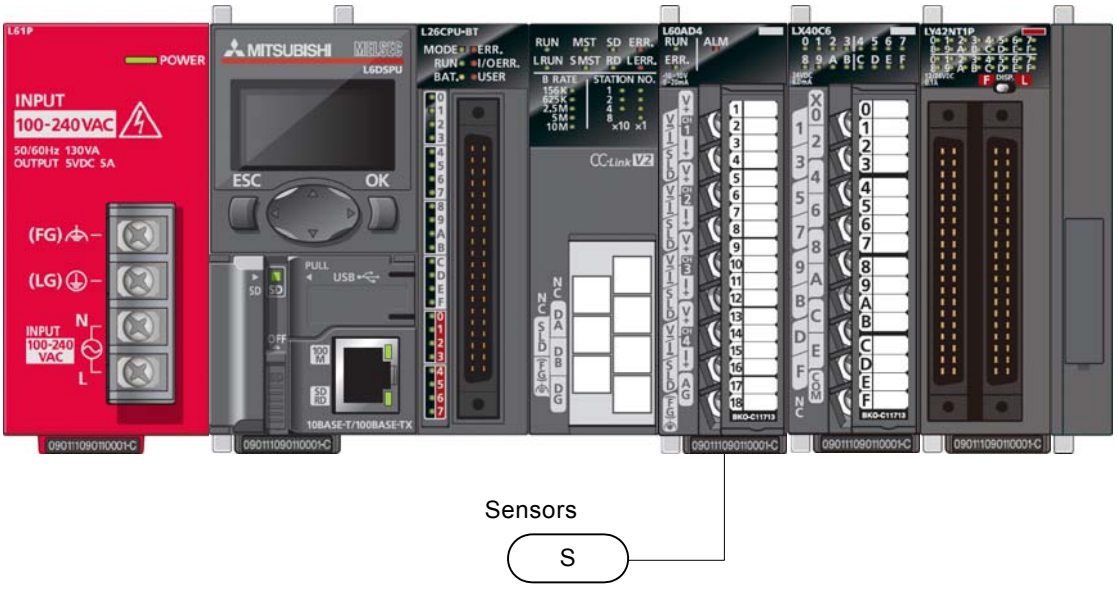
**Applicable Hardware and Software**

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

| Model | Description |
|---|---|
| Analog-digital converter module | L60AD4 |
| CPU module | <table><tr><td>Series</td><td>Model</td></tr><tr><td>MELSEC-L series</td><td>LCPU</td></tr></table> |
| Input Module | MELSEC-L series input module |
| Output Module | MELSEC-L series output module |
| Compatible software | GX Works2, GX Developer *1 *2<br>*1 For software versions applicable to the module used, refer to "Relevant manuals".<br>*2 When using GX Developer, use GX Configurator-AD to set the intelligent function module parameters. |

## 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 | X30 | Bit | Module READY | - |
| 2 | X3C | Bit | Input signal error detection signal | - |
| 3 | X3E | Bit | A/D conversion completed flag | Turns ON when the conversion of all A/D conversion-enabled channels is completed. |
| 4 | X3F | Bit | Error occurrence flag | - |
| 5 | X40 | Bit | Digital output value read command input signal | - |
| 6 | X43 | Bit | Input signal error detection reset signal | - |
| 7 | X44 | Bit | Error reset signal | - |
| 8 | Y39 | Bit | Operation condition setting request | Turns OFF→ON→OFF to enable each setting. |
| 9 | Y3F | Bit | Error clear request | Turns OFF→ON→OFF to clear Error occurrence flag, Input signal error detection flag, and Latest error code. |
| 10 | Y50 to Y5F | Bit | Error code display (BCD 4 digits) | - |

## Conditions for Using Sample Ladder Programs

●Parameter Settings for the Analog-Digital Converter Module

The following explains the settings for the L60AD4 analog-digital converter module that the programs use.

(1) Switch Setting

a) Open the switch setting screen and configure the setting as follows.

Project window→[Intelligent Function Module]→Module name→[Switch Setting]

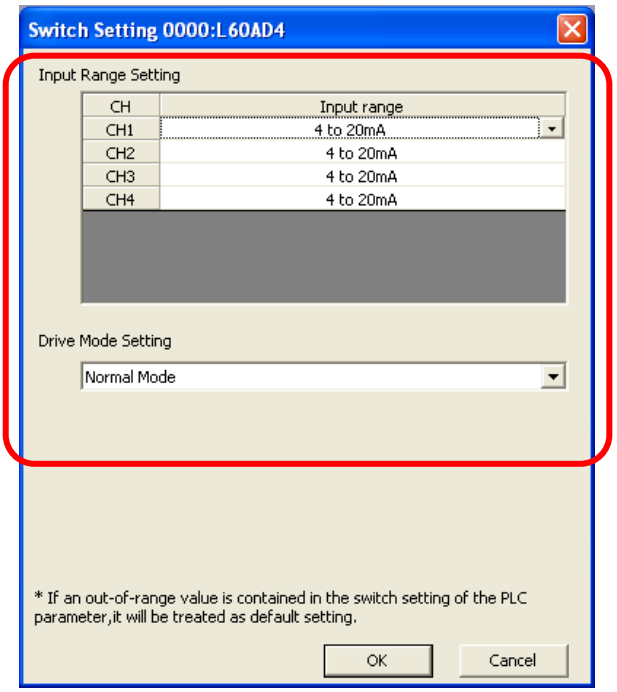



**Table 2-1 Switch setting**

| | Setting value |
|---|---|
| CH1 | 4to20mA |
| CH2 | 4to20mA |
| CH3 | 4to20mA |
| CH4 | 4to20mA |
| Drive Mode Setting | Normal Mode |

(2) Parameter Setting

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

Project window→[Intelligent Function Module]→Module name→[Parameter]

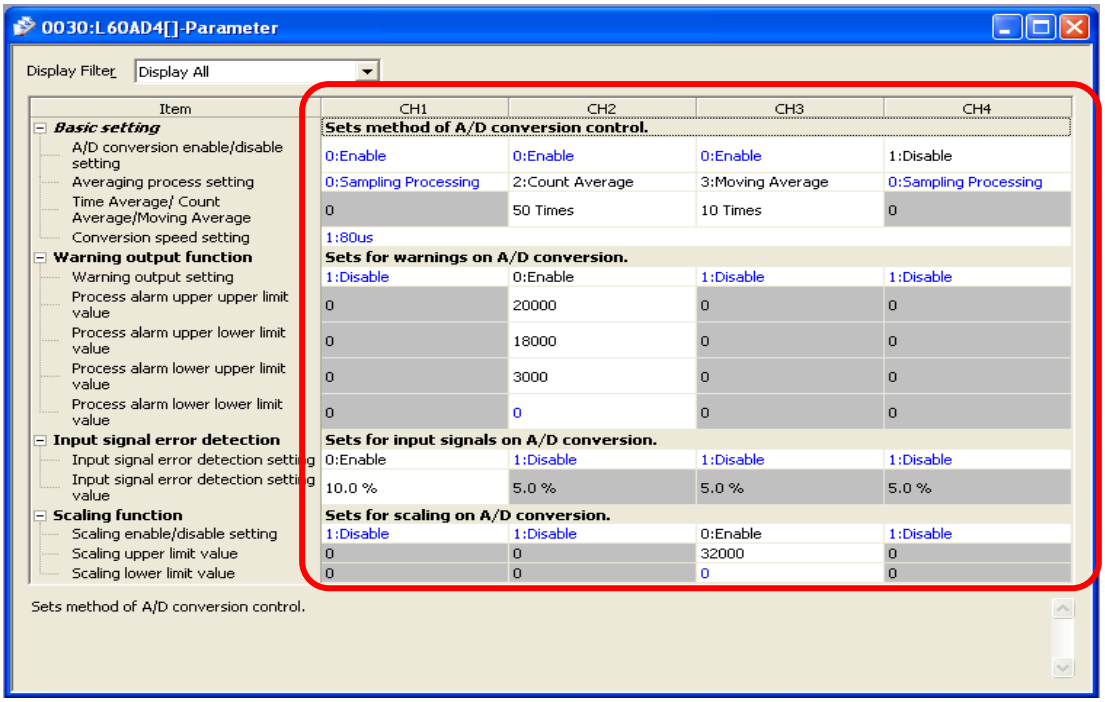



**Table 2-2 Parameter setting**

| | | CH1 | CH2 | CH3 | CH4 |
|---|---|---|---|---|---|
| Basic setting | A/D conversion enable/disable setting | 0:Enable | 0:Enable | 0:Enable | 1:Disable |
| | Averaging process specification | 0:Sampling Processing | 2:Count Average | 3:Movig Average | 0:Sampling Processing |
| | Average time/Average number of times/Move average settings | | 50 Times | 10 Times | |
| | Conversion speed setting | 0:20μs | | | |
| Warning output function | Process alarm output setting | 1:Disable | 0:Enable | 1:Disable | 1:Disable |
| | Process alarm upper upper limit value | | 20000 | | |
| | Process alarm upper lower limit value | | 18000 | | |
| | Process alarm lower upper limit value | | 3000 | | |
| | Process alarm lower lower limit value | | 0 | | |
| Input signal error detection | Input signal error detection setting | 0:Enable | 1:Disable | 1:Disable | 1:Disable |
| | Input signal error detection setting value | 10.0% | | | |
| Scaling function | Scaling enable/disable setting | 1:Disable | 1:Disable | 0:Enable | 1:Disable |
| | Scaling upper limit value | | | 32000 | |
| | Scaling lower limit value | | | 0 | |

(3) Auto Refresh Setting

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

Project window→[Intelligent Function Module]→Module name→[Auto Refresh]

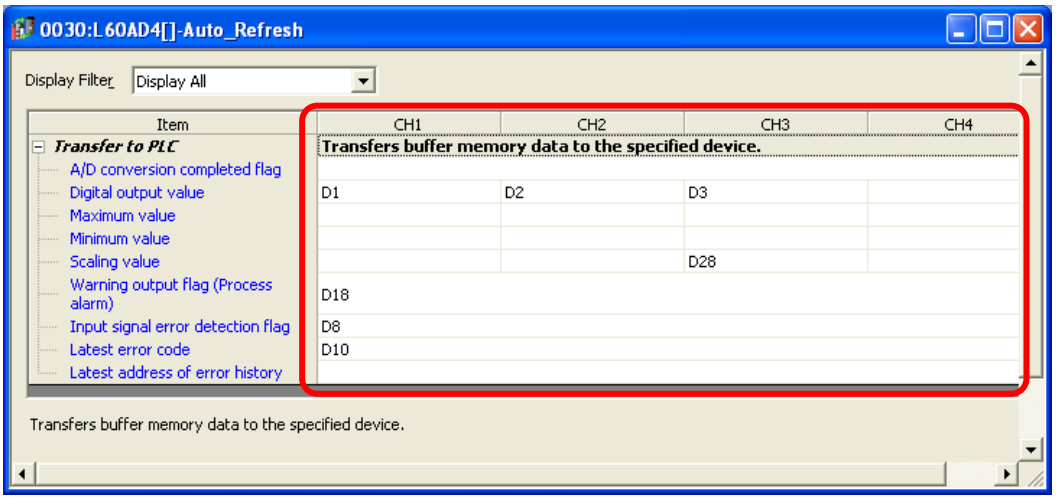



**Table 2-3 Auto refresh setting**

| | CH1 | CH2 | CH3 | CH4 |
|---|---|---|---|---|
| A/D conversion completed flag | - | | | |
| Digital output value | D1 | D2 | D3 | - |
| Maximum value | - | - | - | - |
| Minimum value | - | - | - | - |
| Scaling value | - | - | D28 | - |
| Warning output flag (Process alarm) | D18 | | | |
| Input signal error detection flag | D8 | | | |
| Latest error code | D10 | | | |
| Latest address of error history | - | | | |

## Devices

This program uses the following devices.

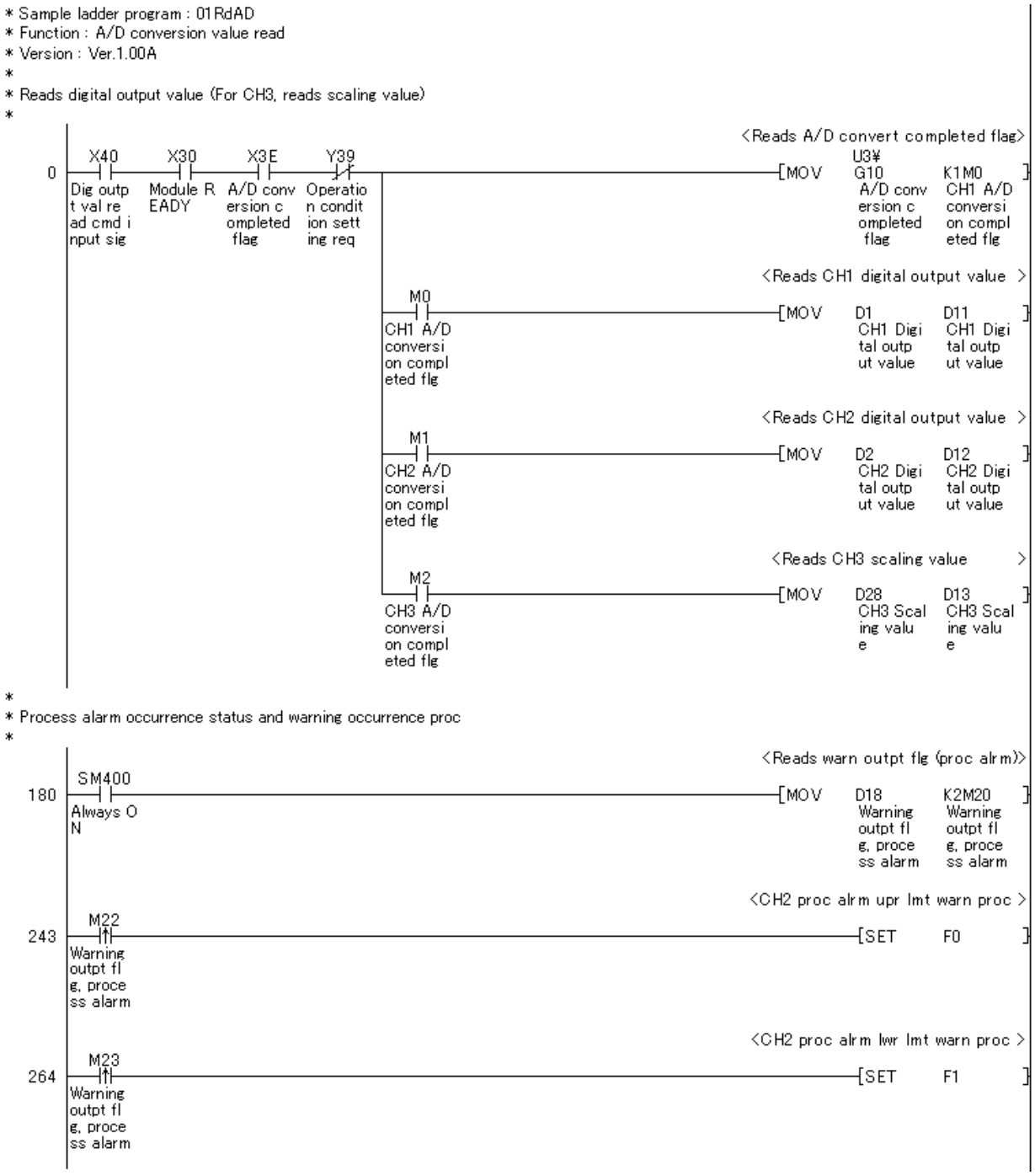
| No. | Device | Data Type | Application | Remarks |
|---|---|---|---|---|
| 1 | SM400 | Bit | Warning output flag/ Input signal error detection flag read | Always ON |
| 2 | X30 | Bit | Module READY | - |
| 3 | X3C | Bit | Input signal error detection signal | - |
| 4 | X3E | Bit | A/D conversion completed flag | Turns ON when the conversion of all A/D conversion-enabled channels is completed. |
| 5 | X3F | Bit | Error occurrence flag | - |
| 6 | X40 | Bit | Digital output value read command input signal | - |

| No. | Device | Data Type | Application | Remarks |
|---|---|---|---|---|
| 7 | X43 | Bit | Input signal error detection reset signal | - |
| 8 | X44 | Bit | Error reset signal | - |
| 9 | Y39 | Bit | Operation condition setting request | Turns OFF→ON→OFF to enable each setting. |
| 10 | Y3F | Bit | Error clear request | Turns OFF→ON→OFF to clear Error occurrence flag, Input signal error detection flag, and Latest error code. |
| 11 | Y50 to Y5F | Bit | Error code display (BCD 4 digits) | - |
| 12 | M0 | Bit | CH1 A/D conversion completed flag | Turns ON when the A/D conversion for CH1 is completed. |
| 13 | M1 | Bit | CH2 A/D conversion completed flag | Turns ON when the A/D conversion for CH2 is completed. |
| 14 | M2 | Bit | CH3 A/D conversion completed flag | Turns ON when the A/D conversion for CH3 is completed. |
| 15 | M20 to M27 | Bit | Warning output flag (process alarm) | - |
| 16 | M50 to M53 | Bit | Input signal error detection flag | - |
| 17 | D1(D11) | Word | CH1 Digital output value | Stores the CH1 digital output value. |
| 18 | D2(D12) | Word | CH2 Digital output value | Stores the CH2 digital output value. |
| 19 | D8 | Word | Input signal error detection flag | - |
| 20 | D10 | Word | Error code | Stores the error code. |
| 21 | D18 | Word | Warning output flag (process alarm) | - |
| 22 | D28(D13) | Word | CH3 Scaling value | Stores the CH3 scaling value. |

## Version Upgrade History

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

## Program

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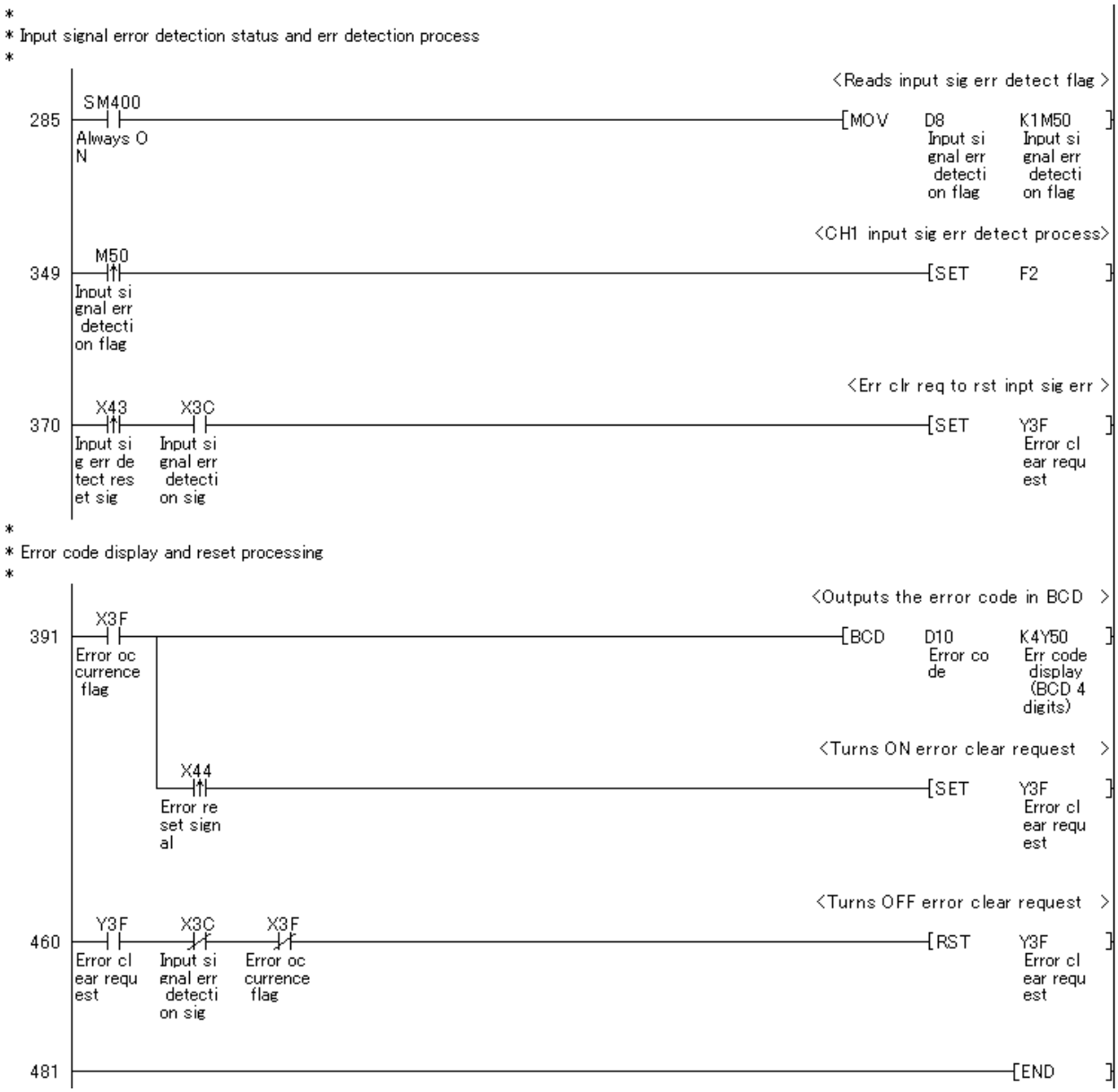

*
* Input signal error detection status and err detection process
*
<Reads input sig err detect flag >
285
SM400
Always O N
[MOV D8 Input si gnal err detecti on flag K1M50 Input si gnal err detecti on flag ]
<CH1 input sig err detect process>
349
M50
Input si gnal err detecti on flag
[SET F2 ]
<Err clr req to rst inpt sig err >
370
X43
Input si g err de tect res et sig
X3C
Input si gnal err detecti on sig
[SET Y3F Error cl ear requ est ]
*
* Error code display and reset processing
*
<Outputs the error code in BCD >
391
X3F
Error oc currence flag
[BCD D10 Error co de K4Y50 Err code display (BCD 4 digits) ]
<Turns ON error clear request >
X44
Error re set sign al
[SET Y3F Error cl ear requ est ]
<Turns OFF error clear request >
460
Y3F
Error cl ear requ est
X3C
Input si gnal err detecti on sig
X3F
Error oc currence flag
[RST Y3F Error cl ear requ est ]
481
[END ]

# 3. When Using the Module in Standard System Configuration (When Not Using Intelligent Function Module Parameters)

## 3.1 A/D conversion value read

### Function Overview

This program reads a digital output value that was A/D converted by the analog-digital converter module in a standard system configuration without using the intelligent module parameters.

### Program

This function uses the project (program name).

•LD-L60AD4_NPM_V100A_E(01RdAD)

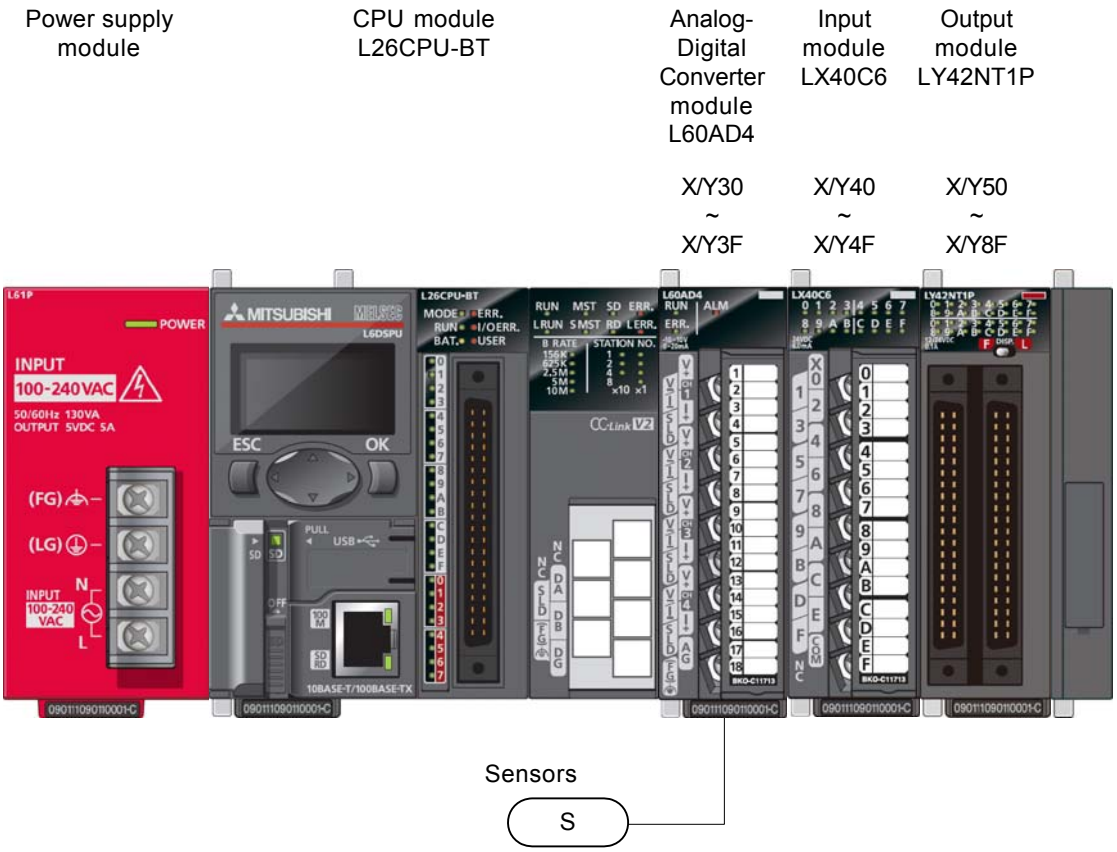
### Applicable Hardware and Software

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

<table>
<tr><th>Model</th><th>Description</th></tr>
<tr><td>Analog-digital converter module</td><td>L60AD4</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<br>*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 | X30 | Bit | Module READY | - |
| 2 | X39 | Bit | Operating condition setting completed flag | - |
| 3 | X3C | Bit | Input signal error detection signal | - |
| 4 | X3E | Bit | A/D conversion completed flag | Turns ON when the conversion of all A/D conversion-enabled channels is completed. |
| 5 | X3F | Bit | Error occurrence flag | - |
| 6 | X40 | Bit | Digital output value read command input signal | - |
| 7 | X43 | Bit | Input signal error detection reset signal | - |
| 8 | X44 | Bit | Error reset signal | - |
| 9 | Y39 | Bit | Operation condition setting request | Turns OFF→ON→OFF to enable each setting. |
| 10 | Y3F | Bit | Error clear request | Turns OFF→ON→OFF to clear Error occurrence flag, Input signal error detection flag, and Latest error code. |
| 12 | Y50 to Y5F | Bit | Error code display (BCD 4 digits) | - |

## Conditions for Using Sample Ladder Programs

●Parameter Settings for the Analog-Digital Converter Module

The following explains the settings for the L60AD4 analog-digital converter module that the programs use.

(1) Switch Setting

a) Open the switch setting screen and configure the setting as follows.

Project window→[Intelligent Function Module]→Module name→[Switch Setting]

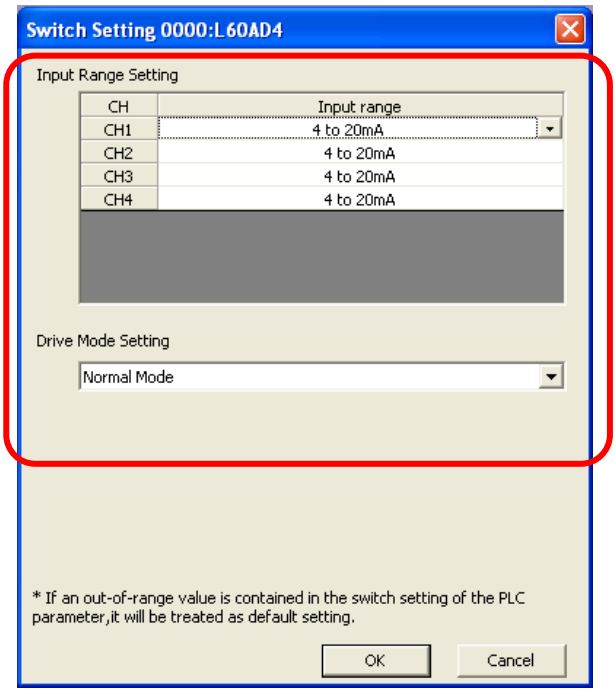



**Table 3-1 Switch setting**

| | Setting value |
|---|---|
| CH1 | 4to20mA |
| CH2 | 4to20mA |
| CH3 | 4to20mA |
| CH4 | 4to20mA |
| Drive Mode Setting | Normal Mode |

## Devices

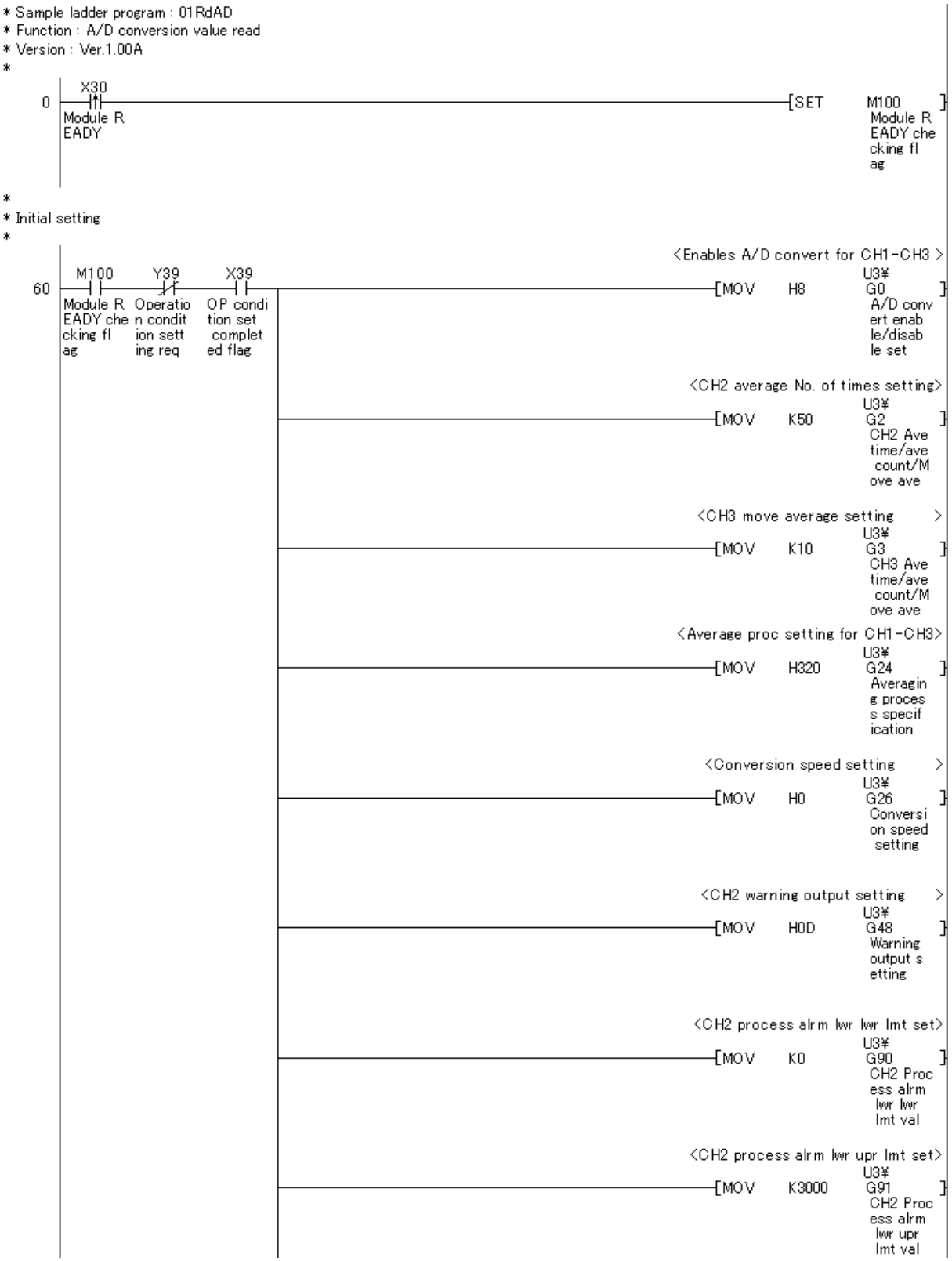
This program uses the following devices.

| No. | Device | Data Type | Application | Remarks |
|---|---|---|---|---|
| 1 | SM400 | Bit | Warning output flag/ Input signal error detection flag read | Always ON |
| 2 | X30 | Bit | Module READY | - |
| 3 | X39 | Bit | Operating condition setting completed flag | - |
| 4 | X3C | Bit | Input signal error detection signal | - |
| 5 | X3E | Bit | A/D conversion completed flag | Turns ON when the conversion of all A/D conversion-enabled channels is completed. |
| 6 | X3F | Bit | Error occurrence flag | - |
| 7 | X40 | Bit | Digital output value read command input signal | - |
| 8 | X43 | Bit | Input signal error detection reset signal | - |
| 9 | X44 | Bit | Error reset signal | - |
| 10 | Y39 | Bit | Operation condition setting request | Turns OFF→ON→OFF to enable each setting. |
| 11 | Y3F | Bit | Error clear request | Turns OFF→ON→OFF to clear Error occurrence flag, Input signal error detection flag, and Latest error code. |
| 12 | Y50 to Y5F | Bit | Error code display (BCD 4 digits) | - |
| 13 | M0 | Bit | CH1 A/D conversion completed flag | - |
| 14 | M1 | Bit | CH2 A/D conversion completed flag | - |
| 15 | M2 | Bit | CH3 A/D conversion completed flag | - |
| 16 | M20 to M27 | Bit | Warning output flag (process alarm) | - |
| 17 | M50 to M53 | Bit | Input signal error detection flag | - |
| 18 | M100 | Bit | Module READY checking flag | - |
| 19 | D11 | Word | CH1 Digital output value | Stores the CH1 digital output value. |
| 20 | D12 | Word | CH2 Digital output value | Stores the CH2 digital output value. |
| 21 | D13 | Word | CH3 Scaling value | Stores the CH3 scaling value. |

## Version Upgrade History

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

## Program

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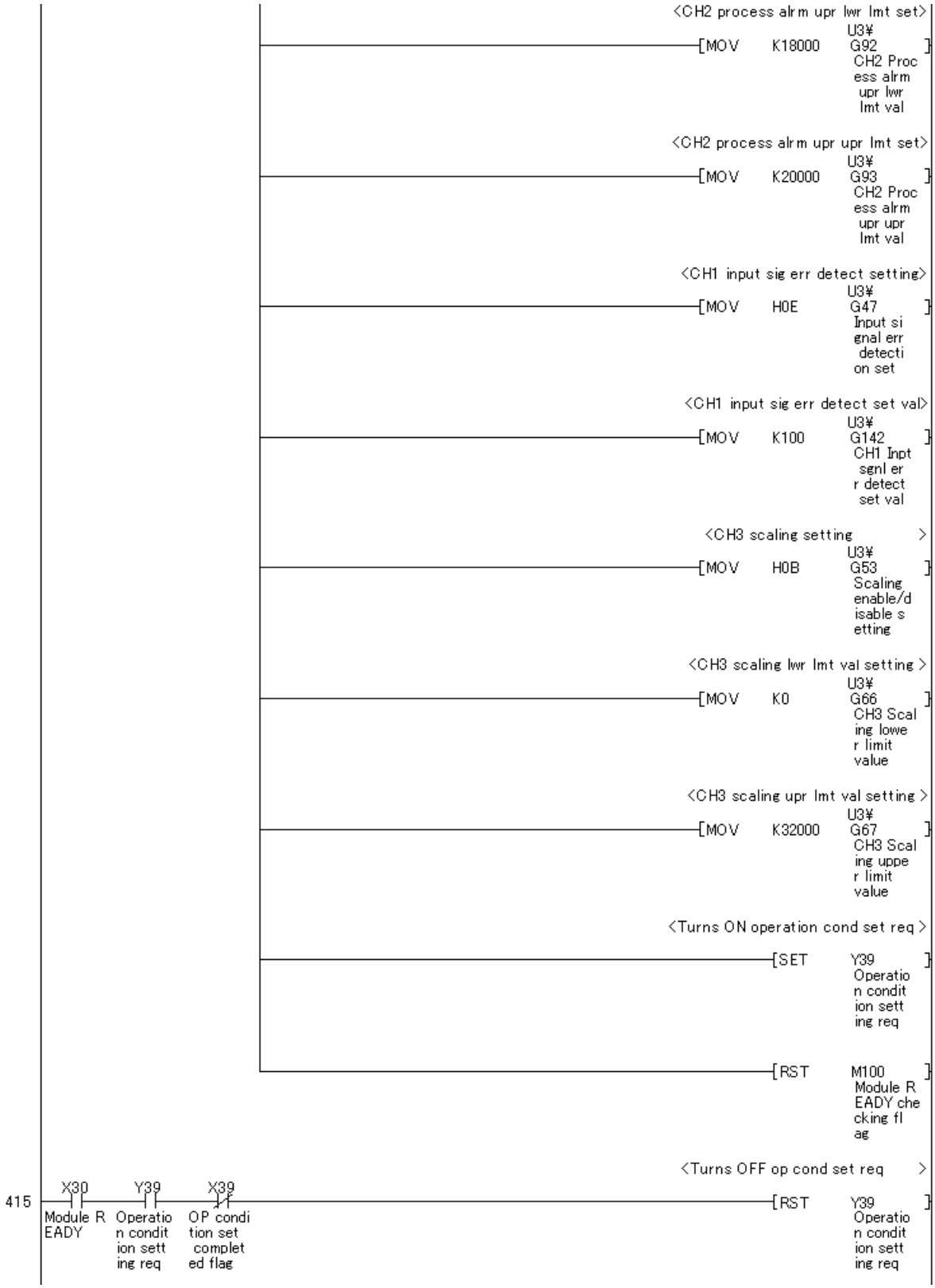


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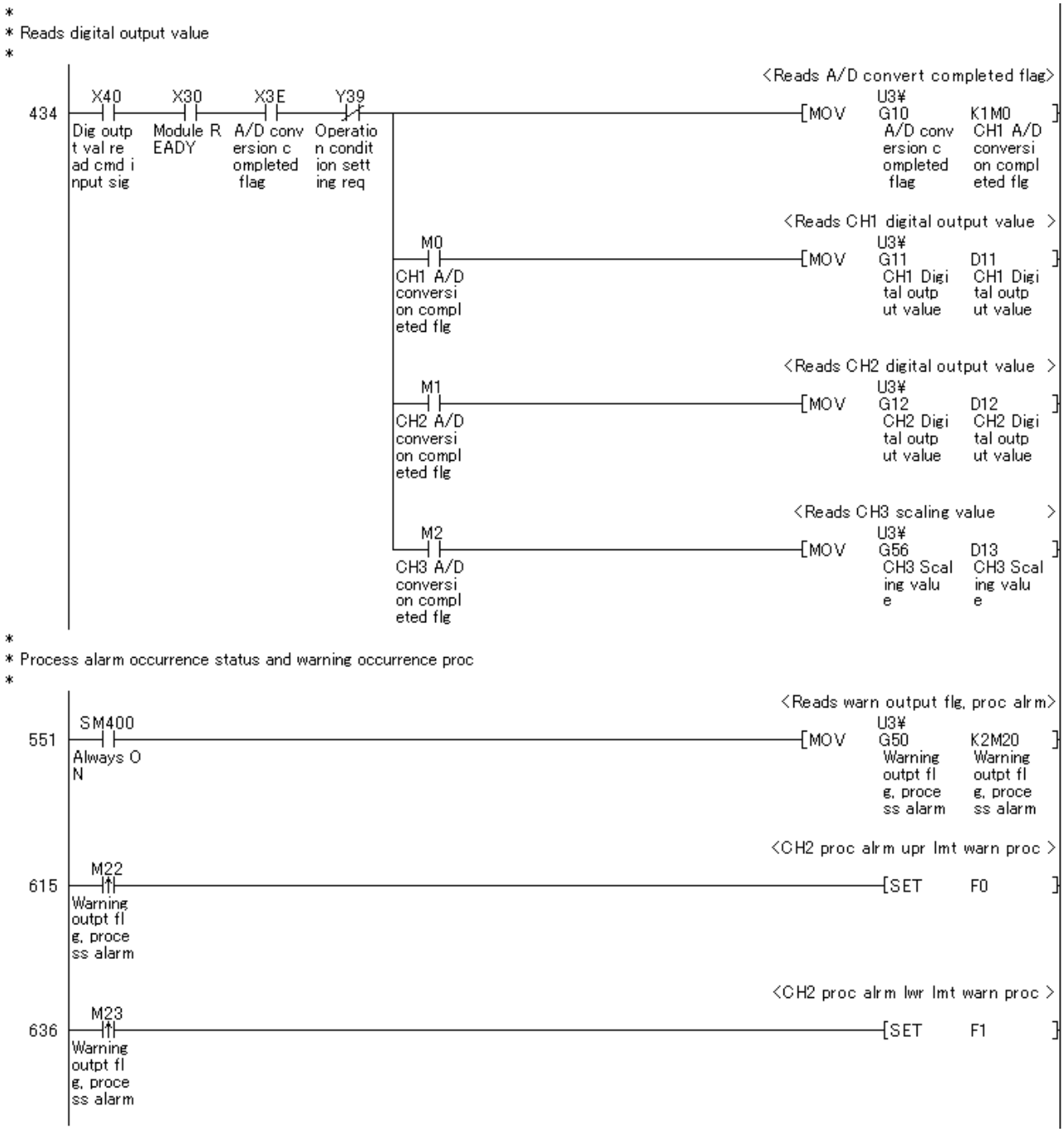


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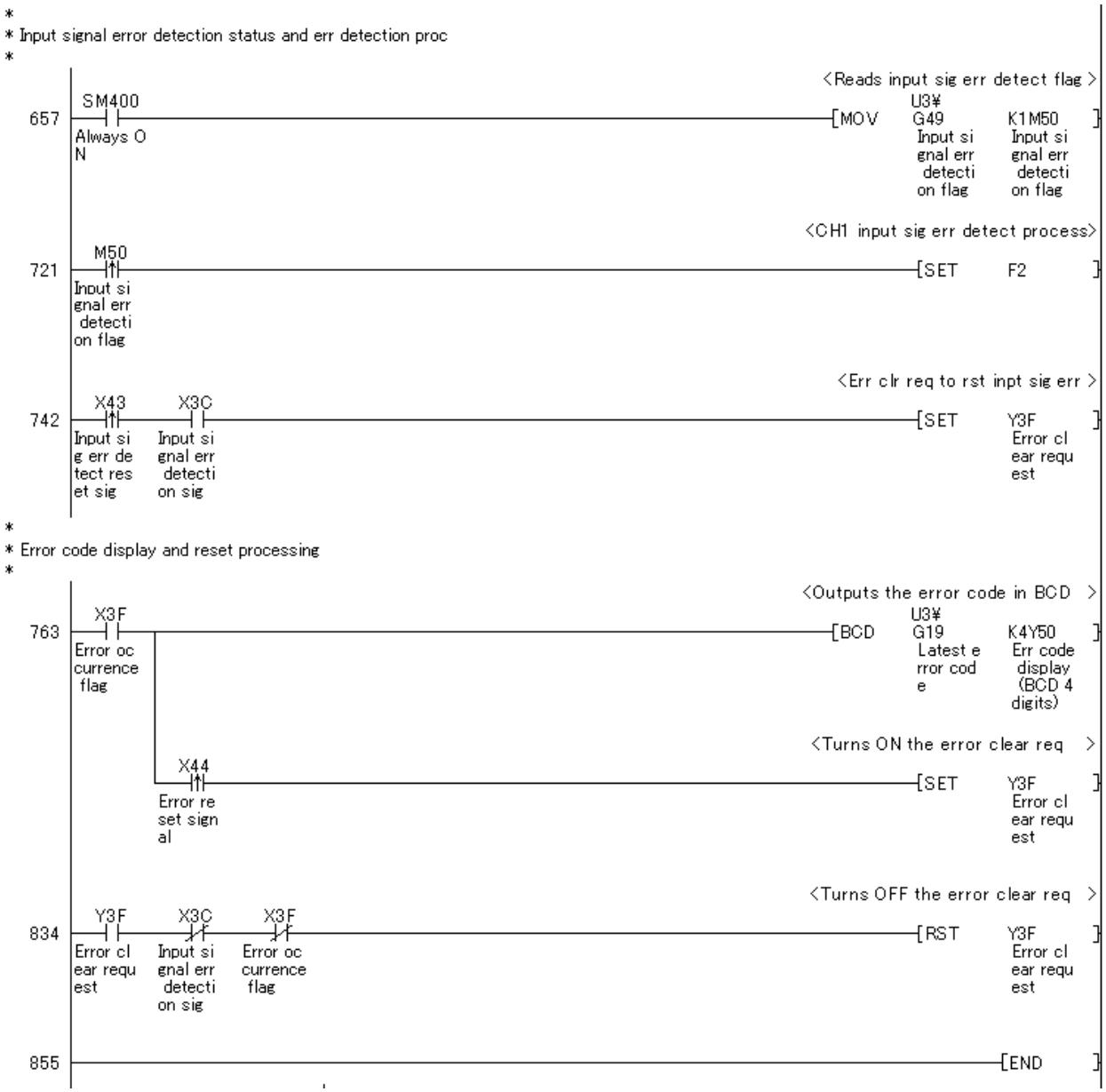

*
* Input signal error detection status and err detection proc
*
<Reads input sig err detect flag >
657
SM400
Always O N
[MOV U3¥G49 Input signal err detection flag K1M50 Input signal err detection flag ]
<CH1 input sig err detect process>
721
M50
Input signal err detection flag
[SET F2 ]
<Err clr req to rst inpt sig err >
742
X43
Input sig err detect reset sig
X3C
Input signal err detection sig
[SET Y3F Error clear request ]
*
* Error code display and reset processing
*
<Outputs the error code in BCD >
763
X3F
Error occurrence flag
[BCD U3¥G19 Latest error code K4Y50 Err code display (BCD 4 digits) ]
<Turns ON the error clear req >
X44
Error reset signal
[SET Y3F Error clear request ]
<Turns OFF the error clear req >
834
Y3F
Error clear request
X3C
Input signal err detection sig
X3F
Error occurrence flag
[RST Y3F Error clear request ]
855
[END ]

# 4. When Connecting the Module to the Head Module

## 4.1 A/D conversion value read

### Function Overview

This program reads a digital output value that was A/D converted by the analog-digital converter module on the intelligent device station in a system configuration where a head module is connected.

### Program

This function uses the project (program name).

•LD-L60AD4_IEF_V100A_E(01RdAD)

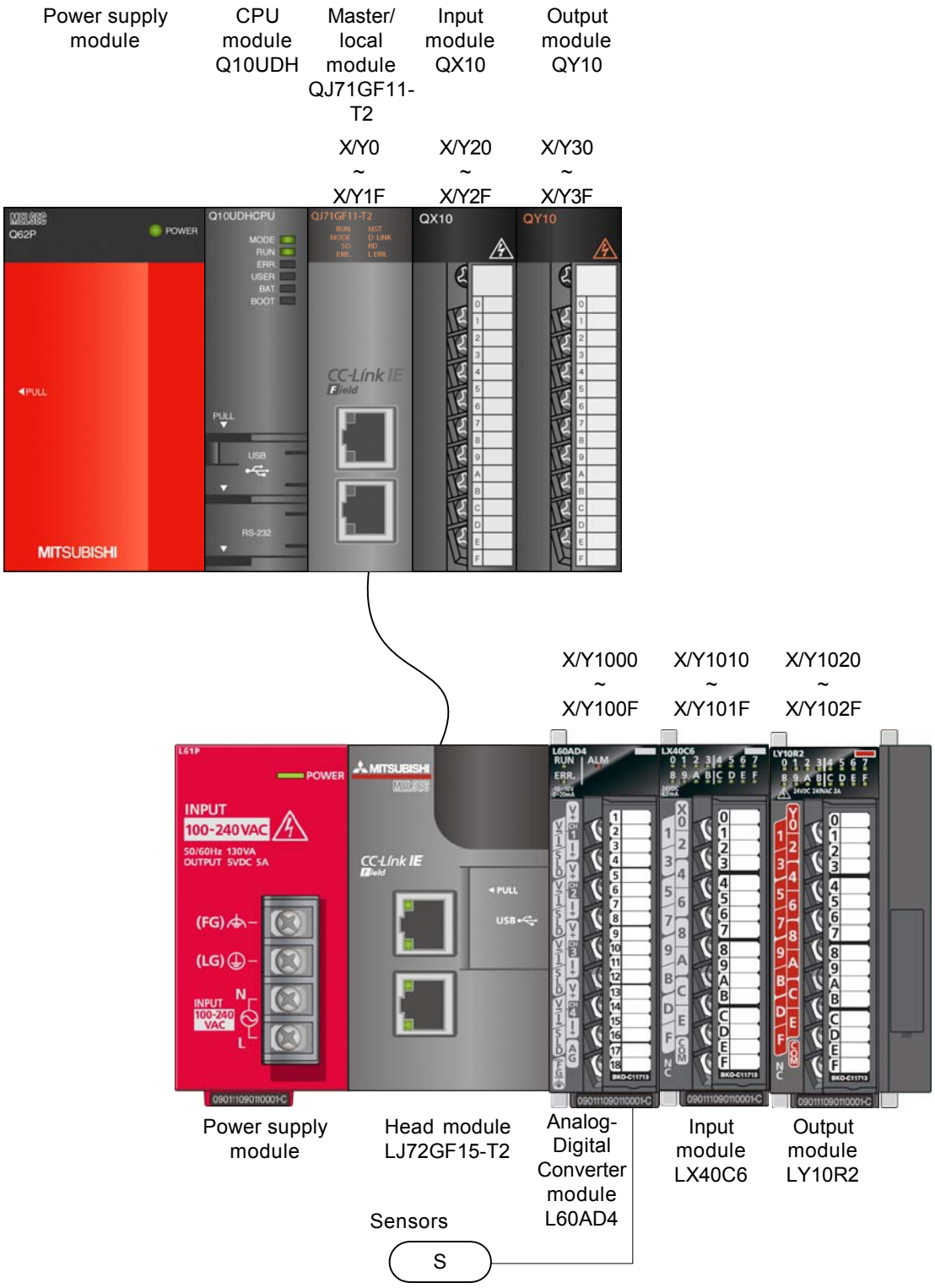
### Applicable Hardware and Software

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

<table>
<tr><th>Model</th><th>Description</th></tr>
<tr><td>Analog-digital converter module</td><td>L60AD4</td></tr>
<tr><td>CC-Link IE Field Network module</td><td>CC-Link IE Field Network master/local module<br>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.<br>*2 The first five digits of the serial number are "13012" or later.</td></tr>
<tr><td>Input Module</td><td>MELSEC-Q/L series input module</td></tr>
<tr><td>Output Module</td><td>MELSEC-Q/L series output module</td></tr>
<tr><td>Compatible software</td><td>GX Works2 *1<br>*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 | X20 | Bit | Digital output value read command input signal | - |
| 2 | X23 | Bit | Input signal error detection reset signal | - |
| 3 | X24 | Bit | Error reset signal | - |
| 4 | X1000 | Bit | Module READY | - |
| 5 | X100C | Bit | Input signal error detection signal | - |
| 6 | X100E | Bit | A/D conversion completed flag | Turns ON when the conversion of all A/D conversion-enabled channels is completed. |
| 7 | X100F | Bit | Error occurrence flag | - |
| 8 | Y30 to Y3F | Bit | Error code display (BCD 4 digits) | - |
| 9 | Y1009 | Bit | Operation condition setting request | Turns OFF→ON→OFF to enable each setting. |
| 10 | Y100F | Bit | Error clear request | - |

## Conditions for Using Sample Ladder Programs

Use GX Works2 when connecting to the head module.

●Parameter Settings for the Analog-Digital Converter Module

The following explains the settings for the L60AD4 analog-digital converter module that the programs use.

(1) Settings for the Master Station

a) Configure settings for the master station.

Project window→[Parameter] → [Network Parameter] →[Ethernet/CC IE/MELSECNET]

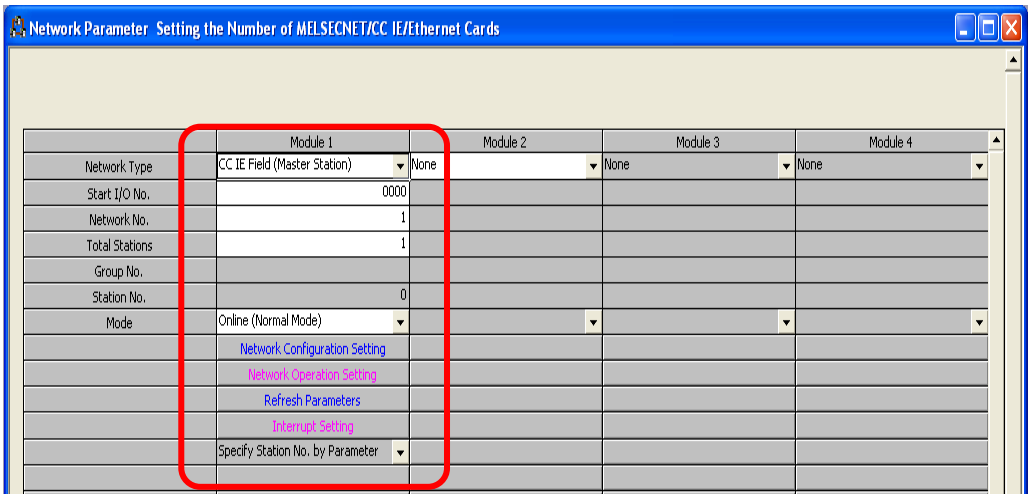



**Table 4-1 Network parameter setting**

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

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

Project window→[Parameter]→[Network Parameter]→[Ethernet/CC IE/MELSECNET]→Network Configuration Setting

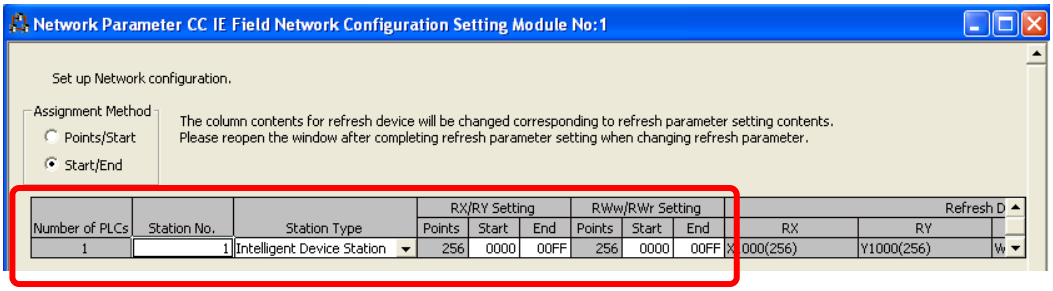



**Table 4-2 Network configuration setting**

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

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

Project window→[Parameter]→[Network Parameter]→[Ethernet/CC IE/MELSECNET]→Refresh Parameters

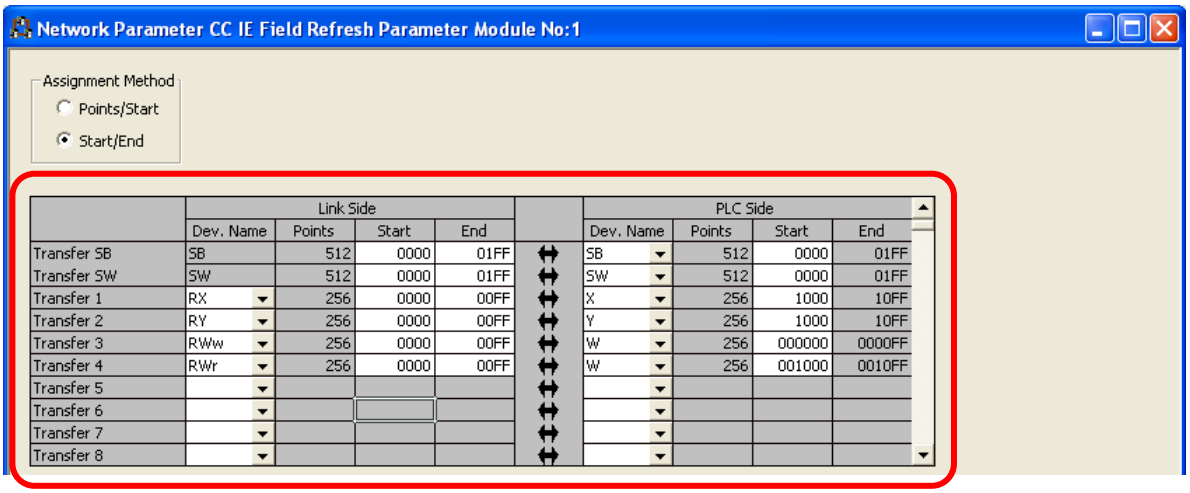


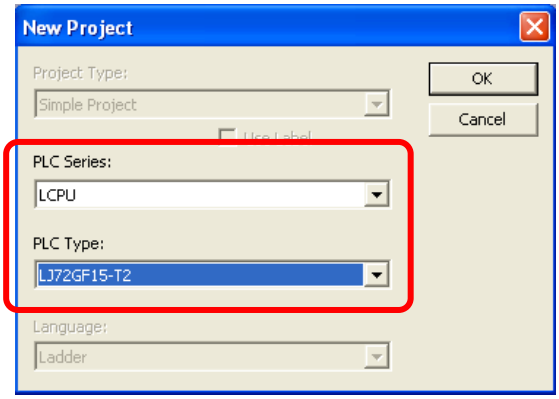

**Table 4-3 Refresh parameter setting**

| 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 | 00FF | ↔ | W | 000000 |
| RWr | 0000 | 00FF | ↔ | W | 001000 |

(2) Settings for the intelligent device station.

a) Select "LCPU" in "PLC Series" and "LJ72GF15-T2" for "PLC Type" and create a project.

[Project]→[New Project]



b) Open the PLC parameter setting screen and configure the setting as follows.

Project window→[Parameter]→[PLC Parameter]→[Communication Head Setting]

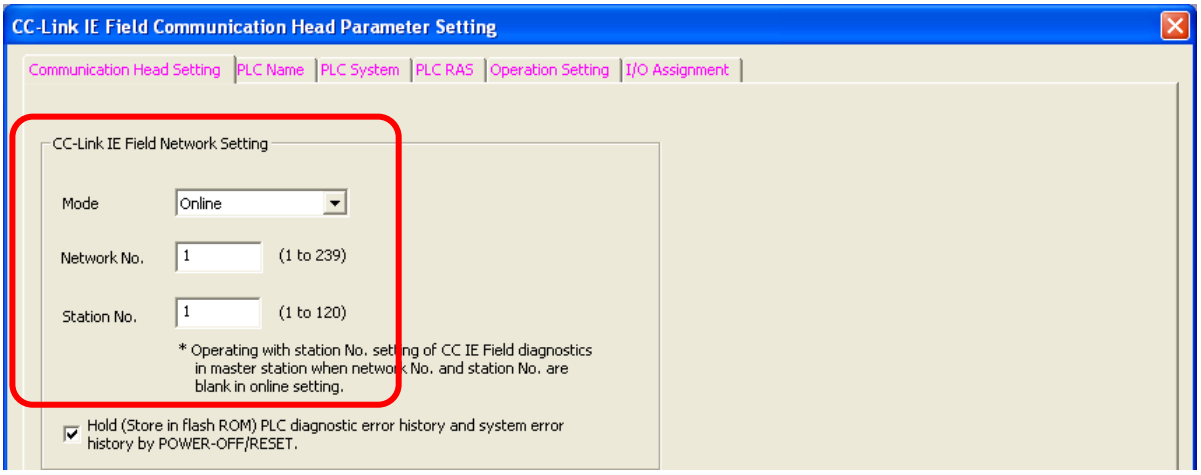
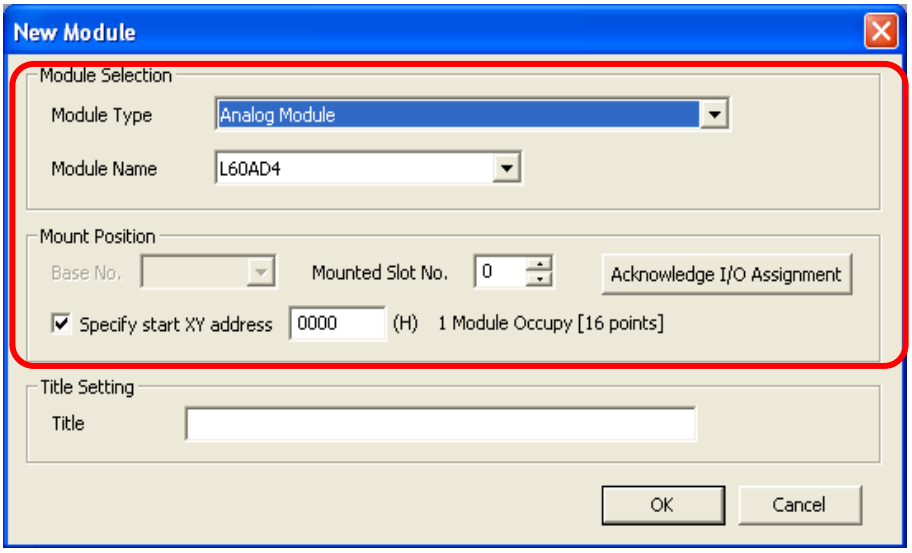



**Table 4-4 Communication head setting**

| | Setting value |
|---|---|
| Mode | Online |
| Network No. | 1 |
| Station No. | 1 |

c) Open the new module setting screen and configure the setting as follows.

Project window→[Intelligent Function Module]→right-click→[New Module]



d) Open the switch setting screen and configure the setting as follows.

Project window→[Intelligent Function Module]→Module name→[Switch Setting]

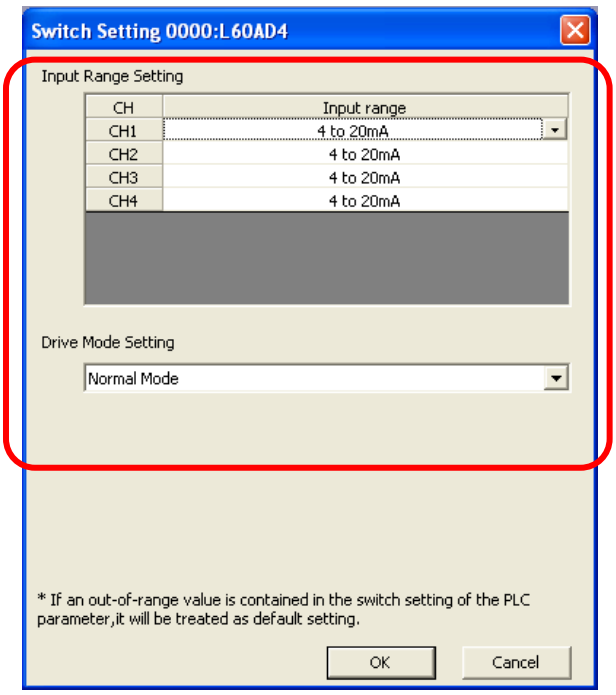



**Table 4-5 Switch setting**

| | Setting value |
|---|---|
| CH1 | 4to20mA |
| CH2 | 4to20mA |
| CH3 | 4to20mA |
| CH4 | 4to20mA |
| Drive Mode Setting | Normal Mode |

e) Open the parameter setting screen and configure the setting as follows.

Project window→[Intelligent Function Module]→Module name→[Parameter]

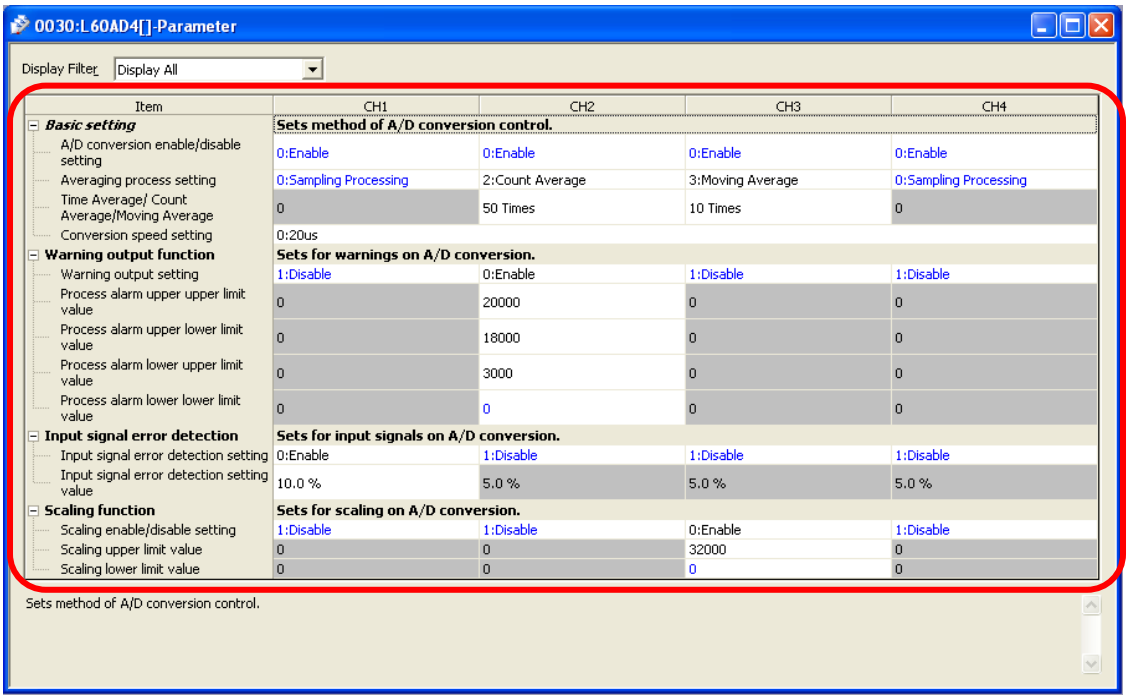



**Table 4-6 Parameter setting**

| | | CH1 | CH2 | CH3 | CH4 |
|---|---|---|---|---|---|
| Basic setting | A/D conversion enable/disable setting | 0: Enable | 0: Enable | 0: Enable | 1: Disable |
| | Averaging process specification | 0: Sampling Processing | 2: Count Average | 3: Moving Average | 0: Sampling Processing |
| | Average time/Average number of times/Move average settings | | 50 Times | 10 Times | |
| | Conversion speed setting | 0: 20μs | | | |
| Warning output function | Process alarm output setting | 1: Disable | 0: Enable | 1: Disable | 1: Disable |
| | Process alarm upper upper limit value | | 20000 | | |
| | Process alarm upper lower limit value | | 18000 | | |
| | Process alarm lower upper limit value | | 3000 | | |
| | Process alarm lower lower limit value | | 0 | | |
| Input signal error detection | Input signal error detection setting | 0:Enable | 1:Disable | 1:Disable | 1:Disable |
| | Input signal error detection setting value | 10.0% | | | |
| Scaling function | Scaling enable/disable setting | 1:Disable | 1:Disable | 0:Enable | 1:Disable |
| | Scaling upper limit value | | | 32000 | |
| | Scaling lower limit value | | | 0 | |

f) Open the auto refresh setting screen and configure the setting as follows.

Project window→[Intelligent Function Module]→Module name→[Auto Refresh]

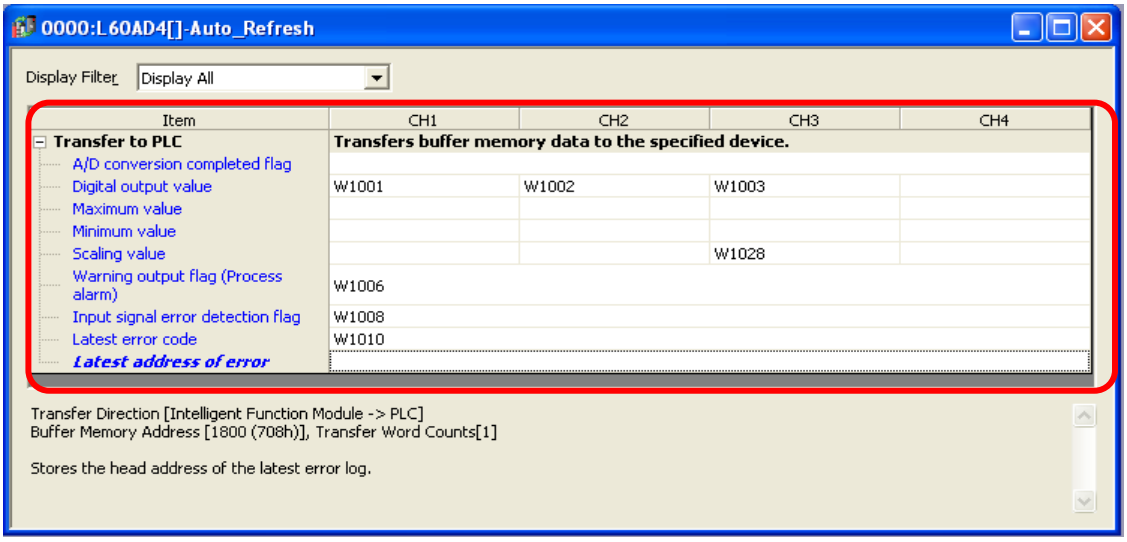



**Table 4-7 Auto refresh setting**

| | CH1 | CH2 | CH3 | CH4 |
|---|---|---|---|---|
| A/D conversion completed flag | - | | | |
| Digital output value | W1001 | W1002 | W1003 | - |
| Maximum value | - | - | - | - |
| Minimum value | - | - | - | - |
| Scaling value | - | - | W1028 | - |
| Warning output flag (Process alarm) | W1006 | | | |
| Input signal error detection flag | W1008 | | | |
| Latest error code | W1010 | | | |
| Latest address of error history | - | | | |

## Devices

This program uses the following devices.

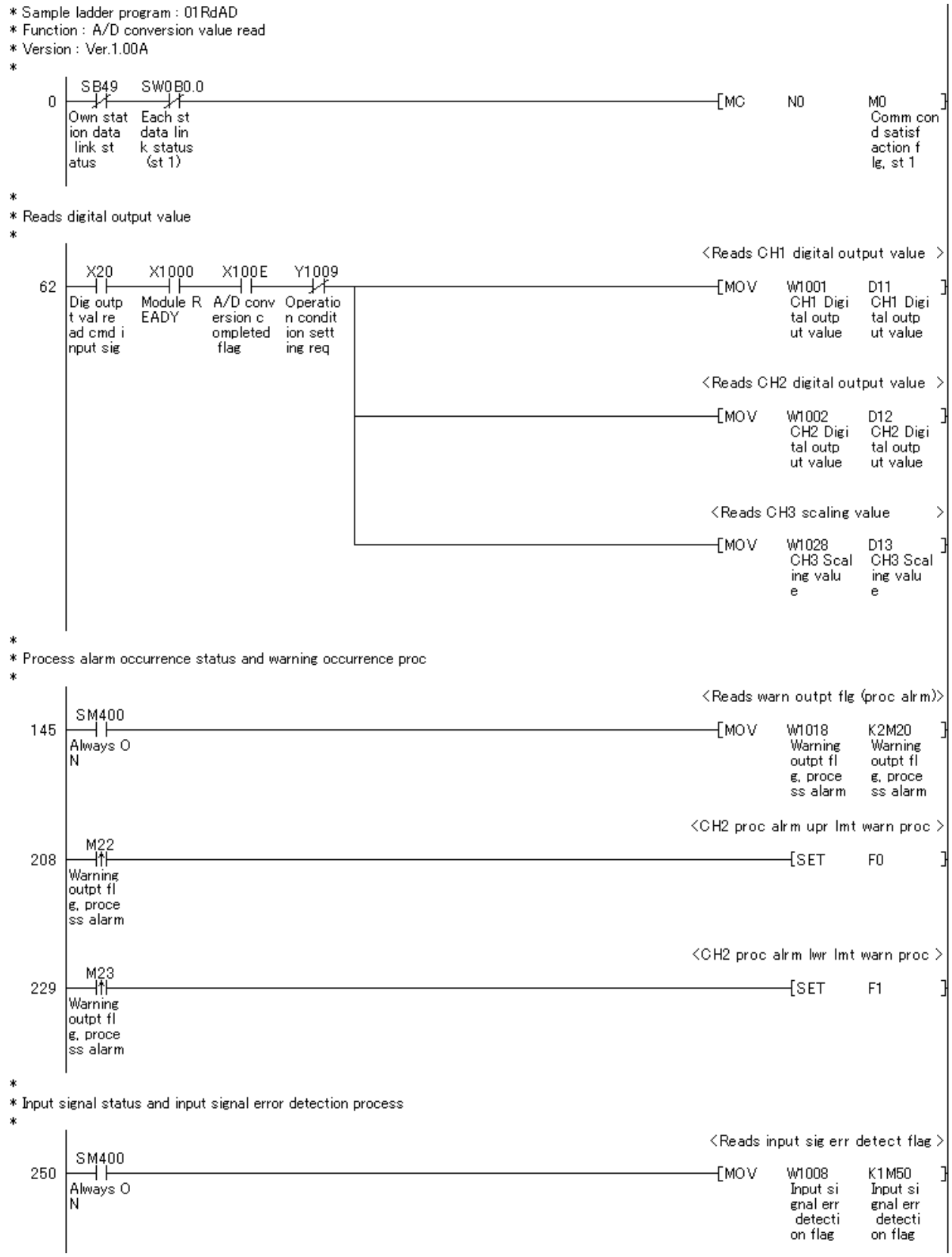
| No. | Device | Data Type | Application | Remarks |
|---|---|---|---|---|
| 1 | SM400 | Bit | Warning output flag/ Input signal error detection flag read | Always ON |
| 2 | SB49 | Bit | Data link status of the own station | - |
| 3 | SW0B0.0 | Bit | Data link status of each station (station No.1) | - |
| 4 | X20 | Bit | Digital output value read command input signal | - |
| 5 | X23 | Bit | Input signal error detection reset signal | - |
| 6 | X24 | Bit | Error reset signal | - |
| 7 | X1000 | Bit | Module READY | - |

| No. | Device | Data Type | Application | Remarks |
|---|---|---|---|---|
| 8 | X100C | Bit | Input signal error detection signal | - |
| 9 | X100E | Bit | A/D conversion completed flag | Turns ON when the conversion of all A/D conversion-enabled channels is completed. |
| 10 | X100F | Bit | Error occurrence flag | - |
| 11 | Y30 to Y3F | Bit | Error code display (BCD 4 digits) | - |
| 12 | Y1009 | Bit | Operation condition setting request | Turns OFF→ON→OFF to enable each setting. |
| 13 | Y100F | Bit | Error clear request | - |
| 14 | M0 | Bit | Communication condition satisfaction flag (station No.1) | - |
| 15 | M20 to M27 | Bit | Warning output flag (process alarm) | - |
| 16 | M50 to M53 | Bit | Input signal error detection flag | - |
| 17 | D11 | Word | CH1 Digital output value | Stores the CH1 digital output value. |
| 18 | D12 | Word | CH2 Digital output value | Stores the CH2 digital output value. |
| 19 | D13 | Word | CH3 Scaling value | Stores the CH3 scaling value. |
| 20 | W1001 | Word | CH1 Digital output value | Stores the CH1 digital output value. |
| 21 | W1002 | Word | CH2 Digital output value | Stores the CH2 digital output value. |
| 22 | W1008 | Word | Input signal error detection flag | - |
| 23 | W1010 | Word | Latest error code | Stores the latest error code. |
| 24 | W1018 | Word | Warning output flag (process alarm) | - |
| 25 | W1028 | Word | CH3 Scaling value | Stores the CH3 scaling value. |

## Version Upgrade History

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

## Program

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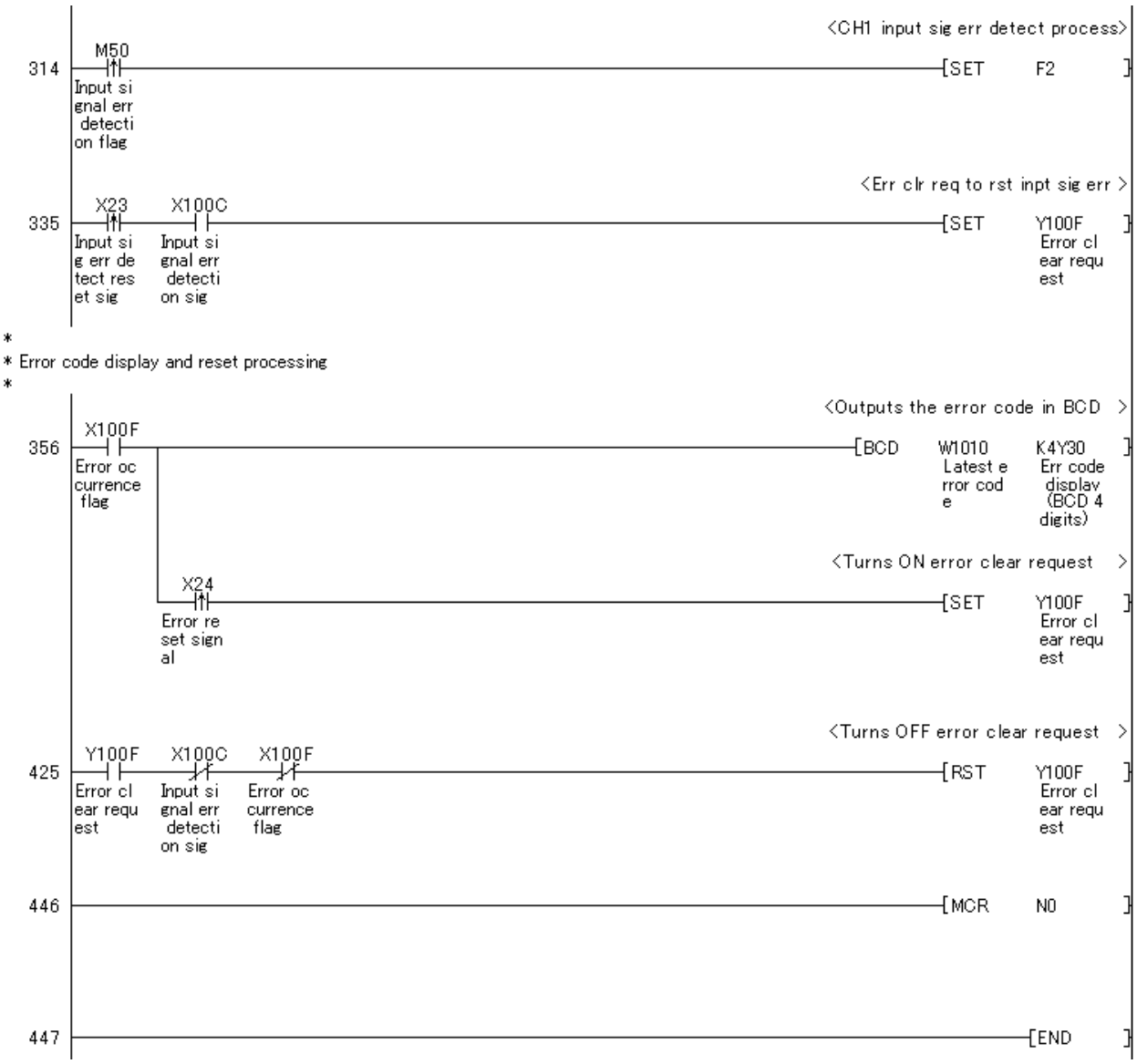
<CH1 input sig err detect process>
314
M50
Input signal err detection flag
[SET F2]
<Err clr req to rst inpt sig err >
335
X23
Input sig err detect reset sig
X100C
Input signal err detection sig
[SET Y100F Error clear request]
*
* Error code display and reset processing
*
<Outputs the error code in BCD >
356
X100F
Error occurrence flag
[BCD W1010 Latest error code K4Y30 Err code display (BCD 4 digits)]
<Turns ON error clear request >
X24
Error reset signal
[SET Y100F Error clear request]
<Turns OFF error clear request >
425
Y100F
Error clear request
X100C
Input signal err detection sig
X100F
Error occurrence flag
[RST Y100F Error clear request]
446
[MCR N0]
447
[END]