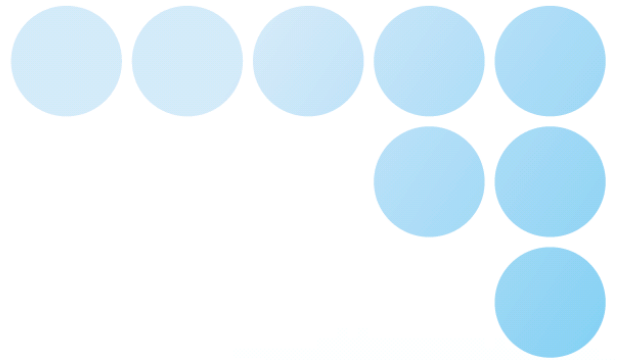




Application Library

OEN_IOLink 1.01.0

**Sysmac Function Block Library
for IOLink Sensors**

User's Manual

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Introduction

Thank you for using the Application Library: **OEN_IOLink**

Use it when programming with the automation software Sysmac Studio.

This manual contains information that is necessary to use the Library with Sysmac Studio.

Hereinafter, the function blocks are described as FB, functions as FNs.

1.1. Notice

This manual describes the necessary information to use the Application Library. Refer also to the user's manuals for Application Library, the *Sysmac Studio Version1 Operation Manual* (Cat.No. W504)

Please read and understand this manual before using the Library. Keep this manual in a safe place where it will be available for reference during operation.

1.2. Terms and Conditions Agreement

1 NO WARRANTY

- 1) The functions and function block Library is distributed as a sample in the hope that it will be useful, but without any warranty. It is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. The entire risk as to the quality and performance of the function block is with you. Should the function block prove defective, you assume the cost of all necessary servicing, repair or correction.
- 2) In no event unless required by applicable law the author will be liable to you for damages, including any general, special, incidental or consequential damages arising out of the use or inability to use the function block (including but not limited to loss of data or data being rendered inaccurate or losses sustained by you or third parties or a failure of the function block to operate with any other programs), even if the author has been advised of the possibility of such damages.

2 LIMITATION OF LIABILITY

- 1) OMRON SHALL HAVE NO LIABILITY FOR DEFECT OF THE SOFTWARE.
- 2) OMRON SHALL HAVE NO LIABILITY FOR SOFTWARE PARTS DEVELOPED BY THE USER OR ANY THIRD PARTY USING THE FUNCTION BLOCK DESCRIBED ON THIS MANUAL.

3 APPLICABLE CONDITIONS

USER SHALL NOT USE THE SOFTWARE FOR THE PURPOSE THAT IS NOT PROVIDED IN THE ATTACHED USER MANUAL.

4 CHANGE IN SPECIFICATION

The software specifications and accessories may be changed at any time based on improvements and other reasons.

5 ERRORS AND OMISSIONS

The information in this manual has been carefully checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical, or proofreading errors, or omissions.

1.3. Safety Precautions

Definition of Precautionary Information

The following notation is used in this manual to provide precautions required to ensure safe usage of OEN_IOLink Library.

The safety precautions that are provided are extremely important to safety. Always read and heed the information provided in all safety precautions.

The following notation is used.



WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury. Additionally, there may be severe property damage.



Caution

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury, or property damage.



Precautions for Safe Use

Indicates precautions on what to do and what not to do to ensure safe usage of the product.



Precautions for Correct Use

Indicates precautions on what to do and what not to do to ensure proper operation and performance.



Additional Information

Additional information to read as required.

This information is provided to increase understanding or make operation easier.



The triangle symbol indicates precautions (including warnings). The specific operation is shown in the triangle and explained in text.

This example indicates a general precaution.



The filled circle symbol indicates operations that you must do. The specific operation is shown in the circle and explained in text.

This example shows a general precaution for something that you must do.

Warning list

 WARNING	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury. Additionally, there may be severe property damage.
Emergency stop circuits, interlock circuits, hardware limit and similar safety measures must be provided in external control circuits.	
Using this FB in a device, confirm that the program and FB operate properly. Design a program so that safety measures such as fail-safe circuits are implemented outside of the FB	

Caution list

 Caution	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury, or property damage.
Confirming an operation of the control program, including this FB. Trial operation such as the concerned motor runs in low velocity is recommended.	
Performing adjustment of the device controlled by the program with this FB, secure the safety of the machine.	
Do not use this FB for the system with devices and versions not specified in this document. To use, contact your OMRON representative	
If a Task Period Exceeded Error occurred by executing this FB, the CPU Unit shifts to an error state. Make sure to set the execution task period to an appropriate value by referring to the execution time of this FB.	
Do not delete the instances from the program with online editing during an execution of this FB. Program communication will stop in error.	
Make sure to set the input parameters of this FB appropriately in accordance with the actual device. Make settings as described in this manual.	

Functions and FunctionBlocks

Applications

The **OEN_Link** is a set of functions and function blocks for use with IOLink sensors. If not notified, these function blocks are compatible with all Sysmac series PLCs.

This Library is using features from
OEN_DataTypes
OEN.BaseBlocks.Looping
You must add them to have this library working properly.

Please read Appendix about IOLink if this is your first time using IOLink.

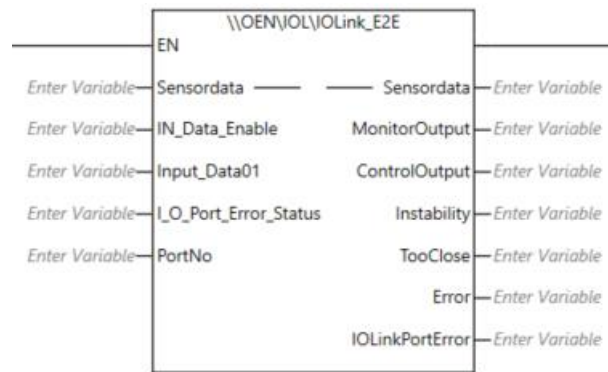
Library Change Log

See details on each Function/FunctionBlock	
1.00.4	Original version
1.01.0	Added IOLink_E3AS_SDO read/write, Modified IOLink_E3AS

1. IOLink_E2E

A function block that collects IOLink data from the E2E inductive sensor.

1.1. FN Layout



1.2. Input Variables

Name	Data type	Description
EN	BOOL	Enable function
IN_Data_Enable	BOOL	Variable from I/O Map
Input_Data01	ARRAY[0..1] OF BYTE	Variable from I/O Map
I_O_Port_Error_Status	WORD	Variable from I/O Map
PortNo	UINT[1..8]	IOLink Master Connection Port

1.3. In-Out Variables

Name	Data type	Description
Sensordata	OEN\\nIOL\\sE2E	

1.4. Output Variables

Name	Data Type	Description
Return	BOOL	
MonitorOutput	UINT	
ControlOutput	BOOL	
Instability	BOOL	
TooClose	BOOL	
Error	BOOL	
IOLinkPortError	BOOL	

1.5. Revisions

Revision	In Library	Correction
1.2.0	1.00.4	

1.6. Credits

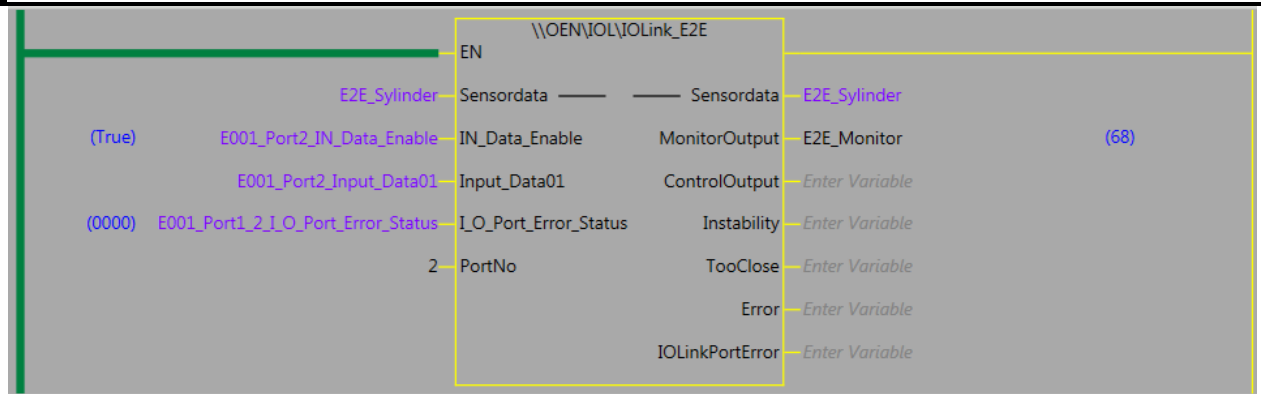
	Name
Omron - Norway	Kjell Baardsgaard

1.7. Structure

	Name	Base Type
▼	sE2E	STRUCT
	MonitorOutput	UINT
	ControlOutput	BOOL
	Instability	BOOL
	TooClose	BOOL
	Error	BOOL
	IOLPort	OEN\IOL\s\IOLinkPort
	Opt	OEN\IOL\s\ServiceData
	SDO	OEN\IOL\s\SDO

Some of these variables has to be updated using IOL_ReadObj (See Appendix)

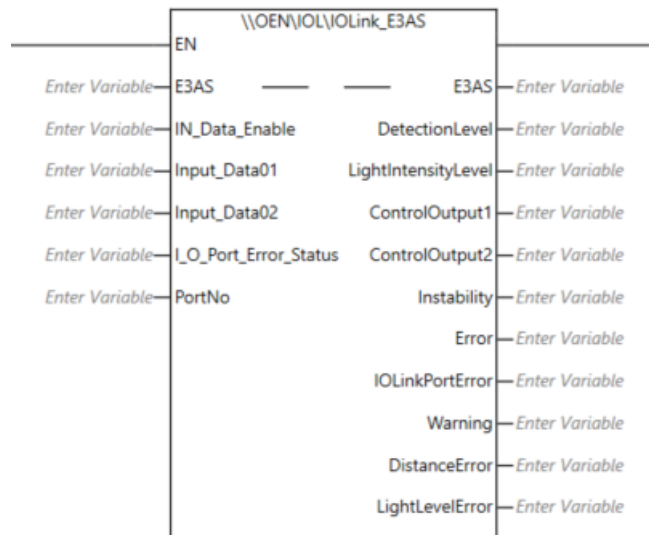
1.8. Example



2. IOLink_E3AS

A function block that collects IOLink data from the E3AS optical sensor.

2.1. FN Layout



2.2. Input Variables

Name	Data type	Description
EN	BOOL	Enable function
IN_Data_Enable	BOOL	Variable from I/O Map
Input_Data01	ARRAY[0..1] OF BYTE	Variable from I/O Map
Input_Data02	ARRAY[0..1] OF BYTE	Variable from I/O Map
I_O_Port_Error_Status	WORD	Variable from I/O Map
PortNo	UINT[1..8]	IOLink Master Connection Port

2.3. In-Out Variables

Name	Data type	Description
E3AS	OEN\\nIOL\\sE3AS	
E3AS.DeviceType	OEN\\nIOL\\eE3AS_Type	eNum# -HL, -F or -L must be set

2.4. Output Variables

Name	Data Type	Description
Return	BOOL	Reflects EN
DetectionLevel	UINT	Object detection value. Pretty close to distance in mm
LightIntensityLevel	UINT	Returned light intensity.
ControlOutput1	BOOL	Output1. Configurable
ControlOutput2	BOOL	Output2. Configurable
Instability	BOOL	Instability error
Error	BOOL	
IOLinkPortError	BOOL	
Warning	BOOL	
DistanceError	BOOL	
LightLevelError	BOOL	Light level too low

2.5. Revisions

Revision	In Library	Correction
1.1.0	1.00.4	
1.2.1	1.01.0	Changed name of InOut Variable. Added DeviceType in structure

2.6. Credits

	Name
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2.7. Structure

See structure in IOLink_E3AS_SDO

2.8. Example

```

1 E3AS.SDO.DevicePort.DeviceType:=_eDEVICE_TYPE#_DeviceNXUnit; //NX_ILM on CPU
2 //E3AS.SDO.DevicePort.DeviceType:=_eDEVICE_TYPE#_DeviceECATSlave; //IOLink on EtherCAT
3 //E3AS.SDO.DevicePort.EcatSlave.NodeAdr:=5; //IOLink on EtherCAT
4 E3AS.SDO.DevicePort.NxUnit:=N5_Node_location_information; //Variable from IOMap NX-ILM
5 E3AS.SDO.DevicePort.PortNo:=1; //Physical Port on GX/NX
6 E3AS.SDO.RetryCfg.TimeOut:=T#2.0s; //Default
7 E3AS.SDO.RetryCfg.RetryNum:=3; //Default
8
9 E3AS.DeviceType:=eE3AS_Type#E3AS_F; //Setting deviceType

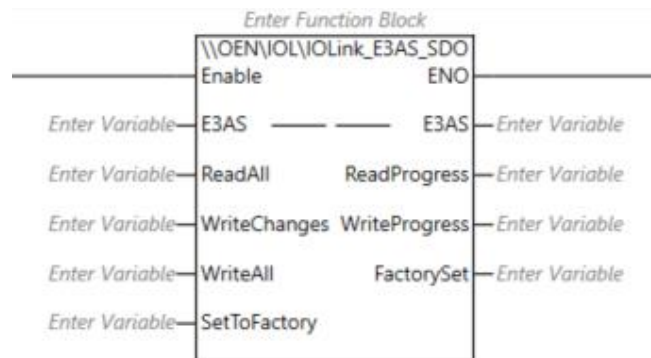
```

IOLink_E3AS			
	EN		
E3AS	E3AS	E3AS	E3AS
N5_Port1_IN_Data_Enable	IN_Data_Enable	DetectionLevel	Enter Variable
N5_Port1_Input_Data01	Input_Data01	LightIntensityLevel	Enter Variable
N5_Port1_Input_Data02	Input_Data02	ControlOutput1	Enter Variable
N5_Port1_2_I_O_Port_Error_Status	I_O_Port_Error_Status	ControlOutput2	Enter Variable
E3AS.SDO.DevicePort.PortNo	PortNo	Instability	Enter Variable
SDO Paramet...		Error	Enter Variable
		IOLinkPortError	Enter Variable
		Warning	Enter Variable
		DistanceError	Enter Variable
		LightLevelError	Enter Variable

3. *IOLink_E3AS_SDO*

Add-on FB for IOLink_E3AS. Read and write parameter data. Same E3AS variable must be used.

3.1. FB Layout



3.2. Input Variables

Name	Data type	Description
Enable	BOOL	Enable function
E3AS_Type	OEN\IOLink\E3AS_Type	Select sensor type
ReadAll	BOOL	Read All available data from Sensor
WriteChanges	BOOL	Write all changes to sensor
WriteAll	BOOL	Write all possible data to sensor
SetToFactory	BOOL	Set all parameters back to Factory Default

3.3. In-Out Variables

Name	Data type	Description
E3AS	OEN\IOLink\E3AS	Sensor Structure

3.4. Output Variables

Name	Data Type	Description
ENO	BOOL	Reflects EN
ReadProgress	UINT	Reading in progress. 0-100%
WriteProgress	UINT	Writing in progress. 0-100%
FactorySet	BOOL	All Parameters are set back to Factory Default

3.5. Revisions

Revision	In Library	Correction
1.0.0	1.01.0	

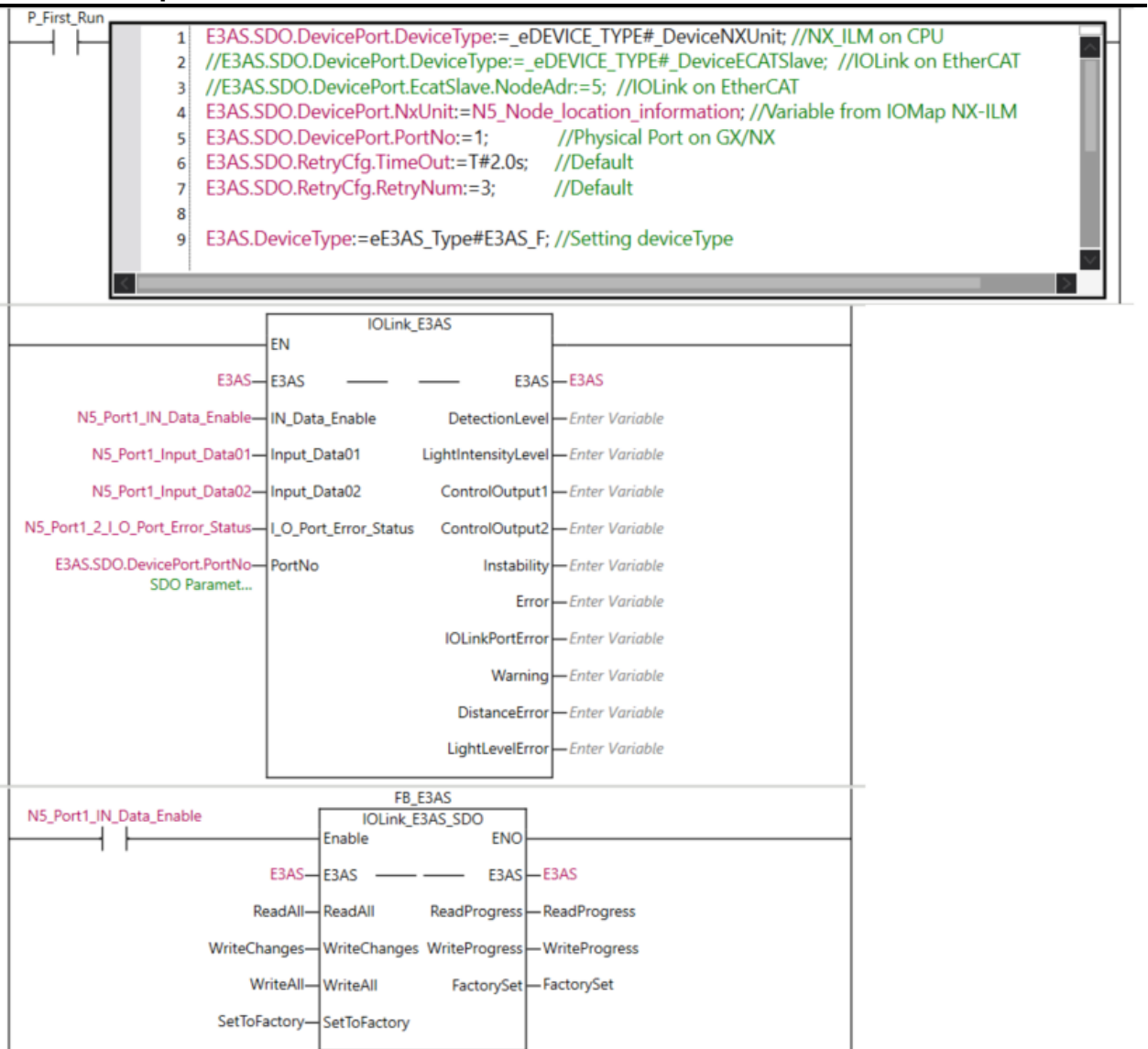
3.6. Credits

Name
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3.1. Structure

DetectionLevel	"Distance" to detected object. 32764=Insufficient light.
LightLevel	Light received from object based on emitted light
Error	Replace Sensor
Warning	
DistanceError	
InsufficientLightError	
InstabilityAlarm	
ControlOutput2	
ControlOutput1	
► IOLPort	
▼ Opt1	Service Data via SDO
VendorName	Service Data via SDO
VendorText	Service Data via SDO
ProductName	Service Data via SDO
ProductID	Service Data via SDO
ProductText	Service Data via SDO
SerialNumber	Service Data via SDO
HardwareVersion	Service Data via SDO
FirmwareVersion	Service Data via SDO
OperatingHours	h
Sensitivity	Service Data via SDO
▼ Opt2	
► DPP1[0-15]	
► DPP2[0-15]	
SystemCommand	
DeviceAccessLocks	
ApplicationSpecificTag	
DeviceStatus	
► DetailedDeviceStatus	
► ProcessDataInput[0-3]	
TeachingStatus	(-HL Type only)
Out1_SP1	mm
Out1_SP2	mm (-HL Type only)
Out1_NO_NC	
Out1_Mode	
Out1_Hysteresis	mm
Out2_SP1	mm (-HL, -F Type only)
Out2_NO_NC	(-HL, -F Type only)
Out2_Mode	(-HL, -F Type only)
Out2_Hysteresis	mm (-HL, -F Type only)
VendorCommand	
Output1_Timer_Mode	
Output1_Timer_Time	sec
Output2_Timer_Mode	(-HL, -F Type only)
Output2_Timer_Time	sec (-HL, -F Type only)
Display_Selection	(-HL Type only)
Display_Reverse	(-HL Type only)
Display_Brightness	(-HL Type only)
Advanced_Settings	(-HL Type only)
Key_Lock	
Response_Time	(-HL Type only)
Input_Function	(-HL Type only)
Zero_Reset_Memory	(-HL Type only)
Mutual_Interference_Prevention_Function	(-HL Type only)
Out2_Switchpoint_Mode	(-L Type only)
Distance_Value_Conv_Mode	(-L Type only)
Status	(-L Type only)
Keep_Function	(-HL, -F Type only)
Teaching_Select	(-HL Type only)
Previous_Teaching_Status	(-F, -L Type only)
Operating_Hours	hours
Background_Reference_Teaching_Select	(-HL Type only)
Background_Reference_Teaching_Sensitive_Threshold	% (-HL Type only)
ABT_Function	(-HL Type only)
Converted_Distance_Value	(-L Type only)
Hysteresis_Mode	(-HL Type only)
▼ SDO	
► DevicePort	Use variable from IO Map
► DeviceObj	

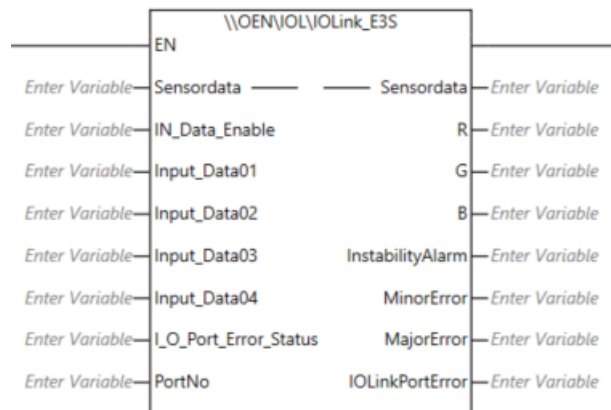
3.2. Example



4. IOLink_E3S

A function block that collects IOLink data from the E3S color sensor.

4.1. FN Layout



4.2. Input Variables

Name	Data type	Description
EN	BOOL	Enable function
IN_Data_Enable	BOOL	Variable from I/O Map
Input_Data01	ARRAY[0..1] OF BYTE	Variable from I/O Map
Input_Data02	ARRAY[0..1] OF BYTE	Variable from I/O Map
Input_Data03	ARRAY[0..1] OF BYTE	Variable from I/O Map
Input_Data04	ARRAY[0..1] OF BYTE	Variable from I/O Map
I_O_Port_Error_Status	WORD	Variable from I/O Map
PortNo	UINT[1..8]	

4.3. In-Out Variables

Name	Data type	Description
Sensordata	OEN\\nIOL\\sE3S	

4.4. Output Variables

Name	Data Type	Description
Return	BOOL	
R	UINT	
G	UINT	
B	UINT	
InstabilityAlarm	BOOL	
MinorError	BOOL	
MajorError	BOOL	
IOLinkPortError	BOOL	

4.5. Revisions

Revision	In Library	Correction
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1.4.0	1.00.4	
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4.6. Credits

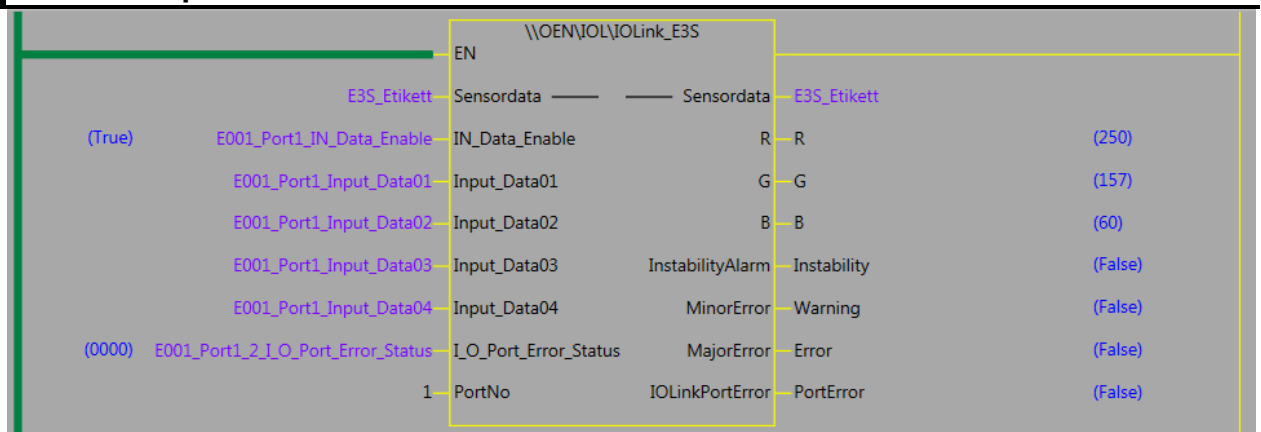
	Name
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4.1. Structure

	Name	Base Type
▼	sE3S	STRUCT
	R	UINT
	G	UINT
	B	UINT
	Enable	BOOL
	R_emission	BOOL
	G_emission	BOOL
	B_emission	BOOL
	ControlOutput1	BOOL
	ControlOutput2	BOOL
	Instability	BOOL
	Warning	BOOL
	Error	BOOL
	IOLPort	OEN\IOL\s\IOLinkPort
	Opt	OEN\IOL\s\ServiceData
	SDO	OEN\IOL\s\SDO

Some of these variables has to be updated using IOL_ReadObj (See Appendix)

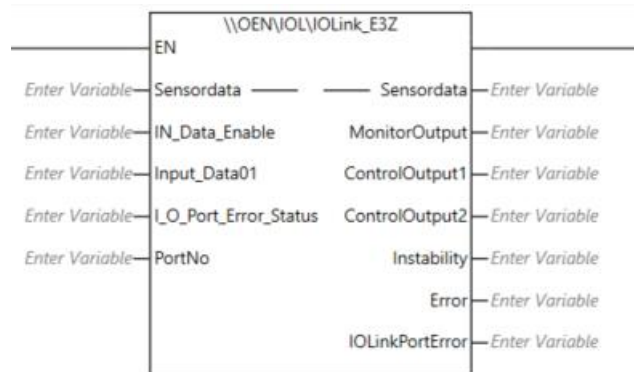
4.2. Example



5. IOLink_E3Z

A function block that collects IOLink data from the E3Z photo sensor.

5.1. FN Layout



5.2. Input Variables

Name	Data type	Description
EN	BOOL	Enable function
IN_Data_Enable	BOOL	Variable from I/O Map
Input_Data01	ARRAY[0..1] OF BYTE	Variable from I/O Map
I O Port Error Status	WORD	Variable from I/O Map
PortNo	UINT[1..8]	IOLink Master Connection Port

5.3. In-Out Variables

Name	Data type	Description
Sensordata	OEN\\nIOL\\sE3Z	

5.4. Output Variables

Name	Data Type	Description
Return	BOOL	
MonitorOutput	UINT	
ControlOutput1	BOOL	
ControlOutput2	BOOL	
Instability	BOOL	
Error	BOOL	
IOLinkPortError	BOOL	

5.5. Revisions

Revision	In Library	Correction
1.1.0	1.00.4	

5.6. Credits

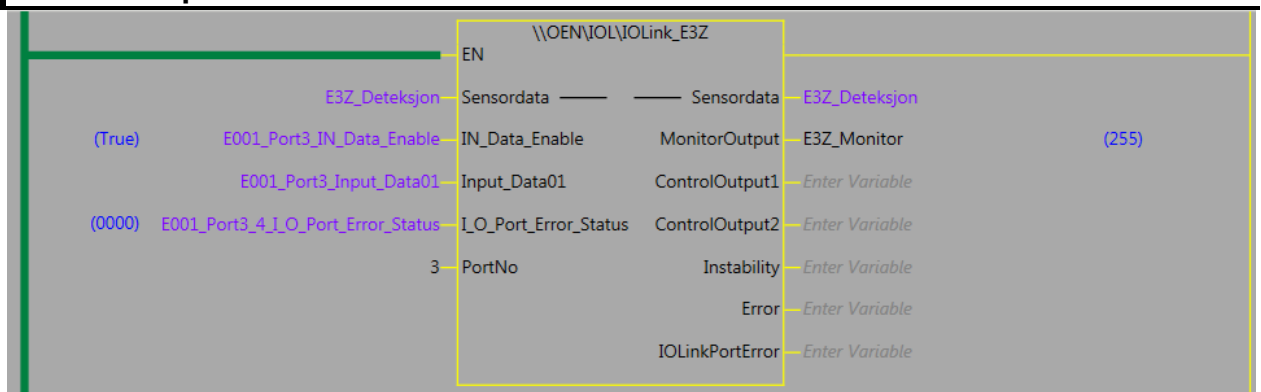
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5.7. Structure

	Name	Base Type
▼	sE3Z	STRUCT
	MonitorOutput	UINT
	ControlOutput1	BOOL
	ControlOutput2	BOOL
	InstabilityDark	BOOL
	InstabilityLight	BOOL
	Warning	BOOL
	Error	BOOL
	IOLPort	OEN\IOL\s\IOLinkPort
	Opt	OEN\IOL\s\ServiceData
	SDO	OEN\IOL\s\SSDO

Some of these variables has to be updated using IOL_ReadObj (See Appendix)

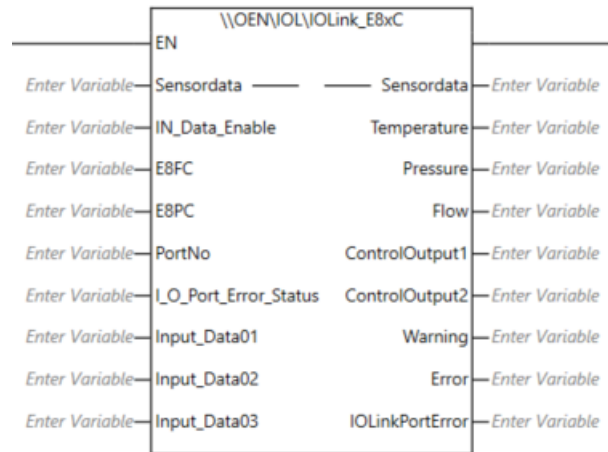
5.8. Example



6. IOLink_E8xC

text

6.1. FN Layout



6.2. Input Variables

Name	Data type	Description
EN	BOOL	Enable function
IN_Data_Enable	BOOL	Variable from I/O Map
E8FC	BOOL	
E8PC	BOOL	
PortNo	UINT[1..8]	IOLink Master Connection Port
I_O_Port_Error_Status	WORD	Variable from I/O Map
Input_Data01	ARRAY[0..1] OF BYTE	Variable from I/O Map
Input_Data02	ARRAY[0..1] OF BYTE	Variable from I/O Map
Input_Data03	ARRAY[0..1] OF BYTE	Variable from I/O Map

6.3. In-Out Variables

Name	Data type	Description
Sensordata	OEN\\nIOL\\sE8FC_E8PC	

6.4. Output Variables

Name	Data Type	Description
Return	BOOL	
Temperature	REAL	
Pressure	REAL	
Flow	REAL	
ControlOutput1	BOOL	
ControlOutput2	BOOL	
Warning	BOOL	
Error	BOOL	
IOLinkPortError	BOOL	

6.5. Revisions

Revision	In Library	Correction
1.3.0	1.00.4	

6.6. Credits

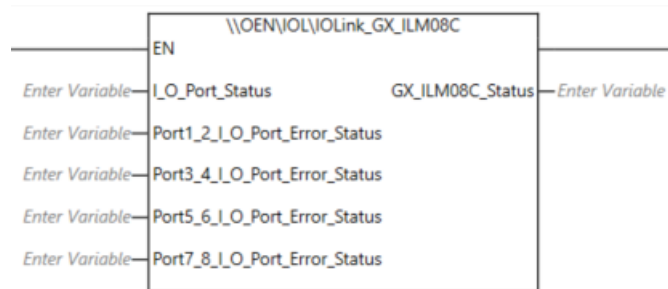
	Name
Omron - Norway	Kjell Baardsgaard

6.7. Example

7. GX_ILM08C

A function block that collects IOLink port data from GX_ILM08C EtherCAT module.

7.1. FN Layout



7.2. Input Variables

Name	Data type	Description
EN	BOOL	Enable function
I_O_Port_Status	WORD	Variable from I/O Map
Port1_2_I_O_Port_Error_Status	WORD	Variable from I/O Map
Port3_4_I_O_Port_Error_Status	WORD	Variable from I/O Map
Port5_6_I_O_Port_Error_Status	WORD	Variable from I/O Map
Port7_8_I_O_Port_Error_Status	WORD	Variable from I/O Map

7.3. Output Variables

Name	Data Type	Description
Return	BOOL	
GX_ILM08C_Status	OEN\\nIOL\\sGX_ILM08C	Structure to hold ILM08C Status

7.4. Revisions

Revision	In Library	Correction
1.3.0	1.00.4	

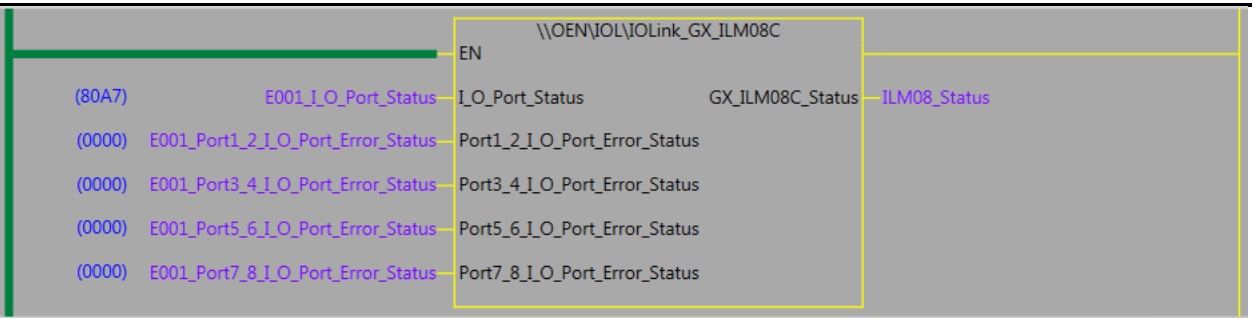
7.5. Credits

	Name
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7.6. Structure

▼	sGX_ILM08C	STRUCT	NJ
	IOLinkPortEnable	ARRAY[1..8] OF BOOL	
	IOLPort	ARRAY[1..8] OF OEN\IOL\sIOLinkPort	
	Communication_Module_Error	BOOL	
	IO_Power_On_Off_Status	BOOL	
▼	sIOLinkPort	STRUCT	NJ
	CommError	BOOL	
	ShortError	BOOL	
	CompareError	BOOL	
	IOSizeError	BOOL	
	DeviceError	BOOL	
	DeviceWarning	BOOL	
	PDOError	BOOL	
	Error	BOOL	

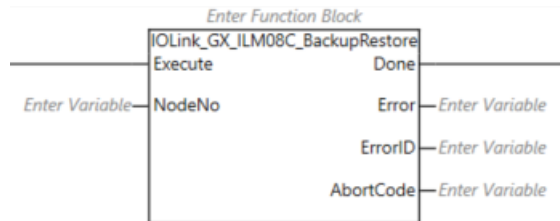
7.7. Example



8. GX_ILM08C_BackupRestore

text

8.1. FB Layout



8.2. Input Variables

Name	Data type	Description
Execute	BOOL	Enable function
NodeNo	UINT	

8.3. Output Variables

Name	Data Type	Description
Done	BOOL	
Error	BOOL	
ErrorID	WORD	
AbortCode	DWORD	

8.4. Revisions

Revision	In Library	Correction
0.0.0	1.00.4	

8.5. Credits

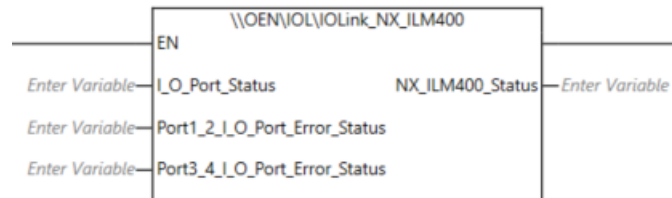
	Name
Omron - Norway	Kjell Baardsgaard

8.6. Example

9. IOLink_NX_ILM400

A function block that collects IOLink port data from NX_ILM400.

9.1. FN Layout



9.2. Input Variables

Name	Data type	Description
EN	BOOL	Enable function
I_O_Port_Status	WORD	Variable from I/O Map
Port1_2_I_O_Port_error_status	WORD	Variable from I/O Map
Port3_4_I_O_Port_error_status	WORD	Variable from I/O Map

9.3. Output Variables

Name	Data Type	Description
Return	BOOL	
NX_ILM400_Status	OEN\\nIOL\\sNX_ILM400	Structure to hold ILM400 Status

9.4. Revisions

Revision	In Library	Correction
1.2.0	1.00.4	

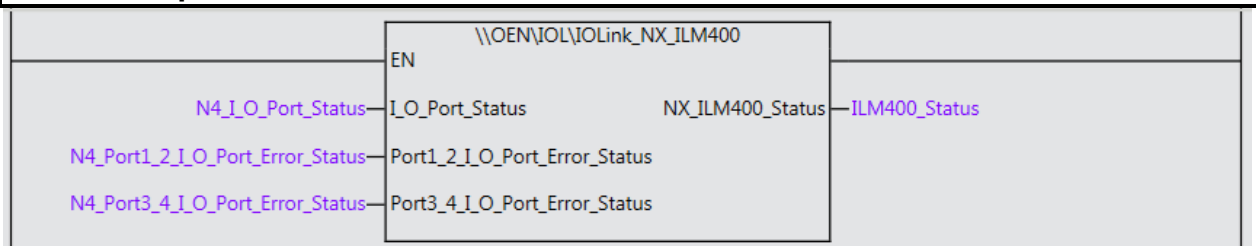
9.5. Credits

	Name
Omron - Norway	Kjell Baardsgaard

9.6. Structure

▼ ILM400_Status	
▼ IOLinkPortEnable[1-4]	
IOLinkPortEnable[1]	
IOLinkPortEnable[2]	
IOLinkPortEnable[3]	
IOLinkPortEnable[4]	
▼ IOLPort[1-4]	
▼ IOLPort[1]	
CommError	
ShortError	
CompareError	
IOSizeError	
DeviceError	
DeviceWarning	
PDOError	
Error	
▶ IOLPort[2]	
▶ IOLPort[3]	
▶ IOLPort[4]	
Communication_Module_Error	
IO_Power_On_Off_Status	

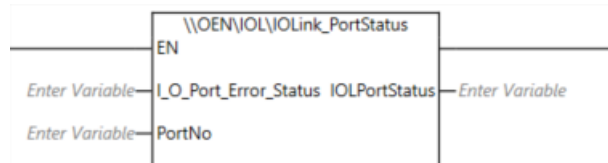
9.7. Example



10. IOLink_PortStatus

A function block that collects IOLink port data from a specific Port.

10.1. FN Layout



10.2. Input Variables

Name	Data type	Description
EN	BOOL	Enable function
IO_Port_Error_Status	WORD	Variable from I/O Map
PortNo	UINT[1..8]	IOLink Master Connection Port

10.3. Output Variables

Name	Data Type	Description
Return	BOOL	
IOLPortStatus	OEN\\nIOL\\sIOLinkPort	Structure to hold IOLink port status

10.4. Revisions

Revision	In Library	Correction
1.1.0	1.00.4	

10.5. Credits

	Name
Omron - Norway	Kjell Baardsgaard

10.6. Structure

IOLPortStatus	
CommError	
ShortError	
CompareError	
IOSizeError	
DeviceError	
DeviceWarning	
PDOError	
Error	

10.7. Example

11. *Template*

text

11.1. FN Layout

11.2. Input Variables

Name	Data type	Valid Range	Default	Description
EN	BOOL		FALSE	Enable function

11.3. In-Out Variables

Name	Data type	Description

11.4. Output Variables

Name	Data Type	Description
	BOOL	

11.5. Revisions

Revision	In Library	Correction
1.0.0	1.00.4	

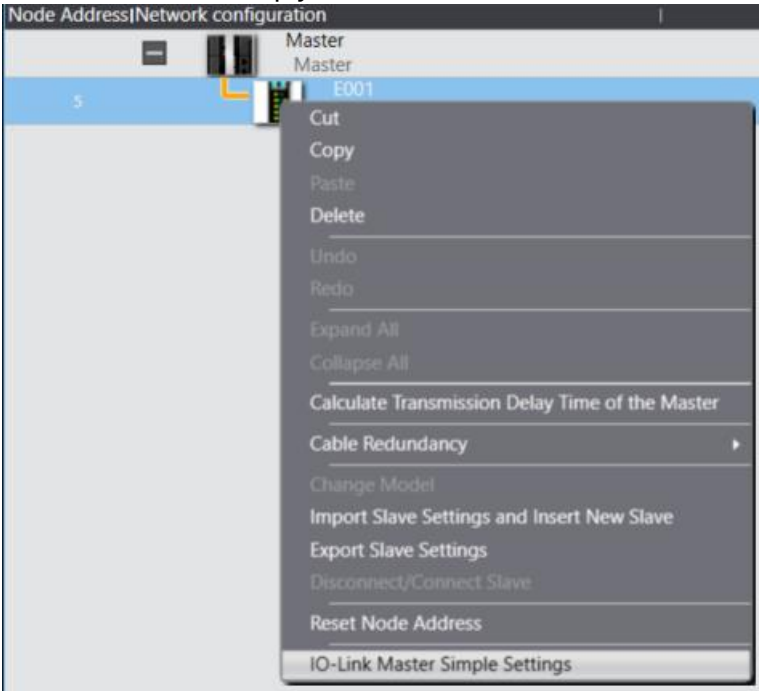
11.6. Credits

	Name
Omron - Norway	Kjell Baardsgaard

11.7. Example

Appendix – IO-Link In General

Use this Menu to setup your Sensors to the Master Ports.



Here are some more features to choose from. Read the IO-Link manual about them.

Item name	Value
IO-Link Device Name	E3S-DCP21-IL2
Vendor ID	612
Device ID	65548
IO-Link Revision	1.1(17)
Serial Number	
IO-Link Device Verification Setting	No check
Backup Setting	Disabled
Restore Setting	Disabled
Load Rejection Output Setting	Enabled
Input Filter Value Setting	1ms
Master Control	IO-Link Mode

Then check the Master allocation:

This is the default setting for IO-Link Master Ports (Parameters)

0x8030:04 Port4 IO-Link Device Configuration Data/Device ID	0
0x8030:05 Port4 IO-Link Device Configuration Data/Vendor ID	0
0x8030:20 Port4 IO-Link Device Configuration Data/IO-Link Revision	0
0x8030:24 Port4 IO-Link Device Configuration Data/Process Data In Length	2
0x8030:25 Port4 IO-Link Device Configuration Data/Process Data Out Length	2
0x8030:28 Port4 IO-Link Device Configuration Data/Master Control	3: IO-Link Mode
0x8031:00 Port4 Serial Number Configuration Data/Port4 Serial Number Configuration Data	

Note that the default setup reads and writes only 2 bytes each direction. Please change these values according to your needs.

0x8040:04 Port5 IO-Link Device Configuration Data/Device ID	65579
0x8040:05 Port5 IO-Link Device Configuration Data/Vendor ID	612
0x8040:20 Port5 IO-Link Device Configuration Data/IO-Link Revision	17
0x8040:24 Port5 IO-Link Device Configuration Data/Process Data In Length	4
0x8040:25 Port5 IO-Link Device Configuration Data/Process Data Out Length	0
0x8040:28 Port5 IO-Link Device Configuration Data/Master Control	3: IO-Link Mode
0x8041:00 Port5 Serial Number Configuration Data/Port5 Serial Number Configuration Data	

TRANSFER TO SLAVE when done.

Finally create sensor variables in I/O Map to be used on the corresponding Functions.

▶ Ports Input Data01	E3S-D112	R	ARRAY[0..1] OF BYTE	CO
▶ Port4 Input Data01	E3S-D112	R	ARRAY[0..1] OF BYTE	
▶ Port4 Input Data02	E3S-D112	R	ARRAY[0..1] OF BYTE	
▶ Port4 Input Data03	E3S-D112	R	ARRAY[0..1] OF BYTE	
▶ Port4 Input Data04	E3S-D112	R	ARRAY[0..1] OF BYTE	
▶ Port5 Input Data01	E3AS-F1000IPT			
▶ Port5 Input Data02	E3AS-F1000IPT			
▶ Port6 Input Data01	Port6 Input Data01			
▶ Port7 Input Data01	Port7 Input Data01			
▶ Port8 Input Data01	Port8 Input Data01			
New Messages Available	New Messages Available			
▶ Sysmac Error Status	Sysmac Error Status			
CPU/Expansion Racks				
▶ Built-in I/O Settings				

Appendix - IOL_ReadObj FB

A function block in the default library to read sensor data via IOLink. The clip below shows how it can be done with GX_ILM08C such as EtherCATnode #5 and E3S connected port 1 on GX.

