

# **Programmable Terminal NA Series**

# Practice Guide IAG Collection for NXR-ILM IO-Link Master Unit Monitor

NA5-15-101-

NA5-12-101-

Practices Guide



# ■ Introduction

This guide describes reference information to create and use IAG objects. It does not provide safety information for an entire system.

Be sure to obtain the manuals for NA Series Programmable Terminal, read and understand the safety points and other information required for use, and test sufficiently before actual use of the equipment.

# **Terms and Conditions Agreements**

Thank you for your usage of products of Omron Corporation ("Omron"). Without any special agreements, these terms and conditions shall apply to all transactions regardless of who sells.

### Definitions of Terms

Omron product(s): Omron's factory automation system devices, general control devices, sensing devices, and electronic/mechanical components.

- Catalogs: Any and all catalogs (including "Best Components" and other catalogs), specifications, instructions and manuals relating to Omron products, including electronically provided data.
- Conditions: Use conditions, rating, performance, operating environment, handling procedure, precautions and/or prohibited use of Omron products described in the catalogs.
- User application(s): Application of Omron products by a customer, including but not limited to embedding/using Omron products into customer's components, electronic circuit boards, devices, equipment or systems.
- Conformity: (a) conformity, (b)performance, (c) no infringement of intellectual property of third party, (d) compliance with laws and regulations, and (e) conformity to various standards of Omron products in user applications.

### Note about Descriptions

Rating and performance is tested separately. Combined conditions are not warranted.

- Reference data is intended to be used just for reference. Omron does NOT guarantee that the Omron Product can work properly in the range of reference data.
- Examples are intended for reference. Omron does not warrant the conformity in usage of the examples.
- Omron may discontinue Omron products or change specifications of them because of improvements or other reasons.

### Note about Use

Adopt and use Omron products considering the following cautions.

- Use the product in conformance to the conditions, including rating and performance.
- Check the conformity and decide whether or not Omron products are able to be adopted. Omron makes no guarantees about the conformity.
- Make sure in advance that electricity is properly supplied to Omron products and they are set up rightly in your system for intended use.
- When you use Omron products, ensure the followings: (i) allowance in aspect of rating and performance, (ii) safety design which can minimize danger of the application when the product does not work properly, (iii) systematic safety measures to notify danger to users, and (iv) periodical maintenance of Omron products and the user application.
- Omron assumes no responsibility for any direct or indirect loss, damage and expense resulting from infection of our products, installed software, any computer devices, computer programs, network, and databases with the followings: DDoS attack (distributed

DoS attack); computer virus and other technically harmful program; and unauthorized access.

Please conduct the followings by yourself: (i) antivirus software, (ii) data input/output, (iii) lost data recovery, (iv) protections against computer virus that contaminate Omron products or the installed software, and (v) measures to protect Omron products from unauthorized access.

- Omron products are designed and manufactured as commodity for general industrial products. For this reason, the usages (a) to (d) are to be unintended. Omron makes no guarantees on Omron products, if you use Omron products for those purposes. However, special applications that Omron expects or usages with especial agreement are excluded.
- (a) Applications requiring high-level safety (e.g. nuclear control facilities, combustion facilities, aerospace and aviation facilities, railroad facilities, elevating facilities, amusement facilities, medical facilities, safety devices or other applications which has possibility to influence lives or bodies)
- (b) Applications requiring high reliability (e.g. gas/water/electricity supply system, 24-hour operating system, applications handling with rights/property, such as payment system)
- (c) Applications in a harsh condition or environment (e.g. outdoor facilities, facilities with potential of chemical contamination or electromagnetic interference, facilities with vibration or impact, facilities on continual operation for a long period).
- (d) Applications under conditions or environment which are not described in the catalogs
- Omron products in the catalogs are not intended to be used in automotive applications (including two-wheel vehicles). Please DO NOT use Omron products in automotive applications. Contact our sales personnel for automotive products.

### Warranty

Warranty of Omron products is subject to followings.

- Warranty Period: One year after your purchase.
   However, except when there is a separate statement in the catalogs.
- Coverage: Omron will provide one of the services listed below, on the basis of Omron's decision.
  - (a) Free repairing of the malfunctioning Omron products (except electronic/mechanical components) at Omron maintenance service sites.
  - (b) Free replacement of the malfunctioning Omron products with the same number of substitutes.
- Exceptions: This warranty does not cover malfunctions caused by any of the followings.
  - (a) Usage in the manner other than its original purpose
  - (b) Usage out of the conditions
  - (c) Usage out of Note about Use in these conditions
  - (d) Remodeling/repairing by anyone except Omron
  - (e) Software program by anyone except Omron
  - (f) Causes which could not be foreseen by the level of science and technology at the time of shipment of the products.
  - (g) Causes outside Omron or Omron products, including force majeure such as disasters

# Limitation of Liability

The warranty described in this Terms and Conditions Agreements is a whole and sole liability for Omron products. There are no other warranties, expressed or implied. Omron and its distributors are not liable for any damages arisen from or relating to Omron products.

# Export Control

Customers of Omron products shall comply with all applicable laws and regulations of other relevant countries regarding security export control, in exporting Omron products and/or technical documents or in providing such products and/or documents to a non-resident. Omron products and/or technical documents may not be provided to customers if they violate the laws and regulations.

# **Table of Contents**

Ter	ms and Cond	litions Agreements	3
Tab	ole of Conten	ts	6
1	Related Ma	nuals	7
2	Precaution	s	8
3	Overview		10
	3-1	Overview	10
	3-2	System Configuration	11
4	Library Ver	sions	12
5	IAG Descri	ptions	13
	5-1	IOStatus_Monitor	13
	5-2	EIPStatus_Monitor	21
	5-3	DCVoltage_Monitor	28
	5-4	MultiStatication_Viewer	36
	5-5	Displaying Multiple IAG Screens and Linking Them to EIP Monitor Screen.	44
Rev	ision History	1	50

# 1 Related Manuals

No.	Model	Title
V117	NA5-15W =====	Programmable Terminal NA Series Hardware USER'S
	NA5-12W =====	MANUAL
	NA5-9W ====	
	NA5-7W =====	
V118	NA5-15W =====(-V1)	Programmable Terminal NA Series Software USER'S
	NA5-12W =====(-V1)	MANUAL
	NA5-9W ==== (-V1)	
	NA5-7Wadaa(-V1)	
V119	NA5-15W =====(-V1)	Programmable Terminal NA Series Device Connection
	NA5-12W =====(-V1)	USER'S MANUAL
	NA5-9W ==== (-V1)	
	NA5-7W ====(-V1)	
	NA-RTLD <sub>□</sub>	
V120	NA5-15W ====	Programmable Terminal NA Series STARTUP GUIDE
	NA5-12W ====	
	NA5-9W ====	
	NA5-7W =====	
V125	NA5-15□101□-V1	Programmable Terminal NA Series Hardware (-V1)
	NA5-12□101□-V1	USER'S MANUAL
	NA5-9□001□-V1	
	NA5-7□001□-V1	
W504	SYSMAC-SE2	Sysmac Studio Version 1 OPERATION MANUAL

# 2 Precautions

- (1) When building an actual system, check the specifications of the component devices of the system, use within the ratings and specified performance, and implement safety measures such as safety circuits to minimize the possibility of an accident.
- (2) For safe use of the system, obtain the manuals of the component devices of the system and check the information in each manual, including safety precautions, precautions for safe use.
- (3) It is customer's responsibility to check all laws, regulations, and standards that the system must comply with.
- (4) All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form, or by any means, mechanical, electronic, photocopying, recording, or otherwise, without the prior written permission of OMRON.
- (5) The information in this guide is current as of March 2020. It is subject to change without notice because of product's update.
- (6) This IAG library has been tested with the system configuration in 3-2 "System Configuration." However, Omron does not guarantee screen operations after embedding the IAGs.

Special information in this document is classified as follows:



# Precautions for Safe Use

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



### **Precautions for Correct Use**

Describes 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.

# Copyrights and Trademarks

- Sysmac® is the trademark or registered trademark of Omron Corporation in Japan and other countries for Omron factory automation products.
- Screenshots are used in accordance with Microsoft Corporation guidelines.
- Windows and Visual Basic are registered trademarks of Microsoft Corporation in the United States and other countries.
- EtherCAT® is a registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany.

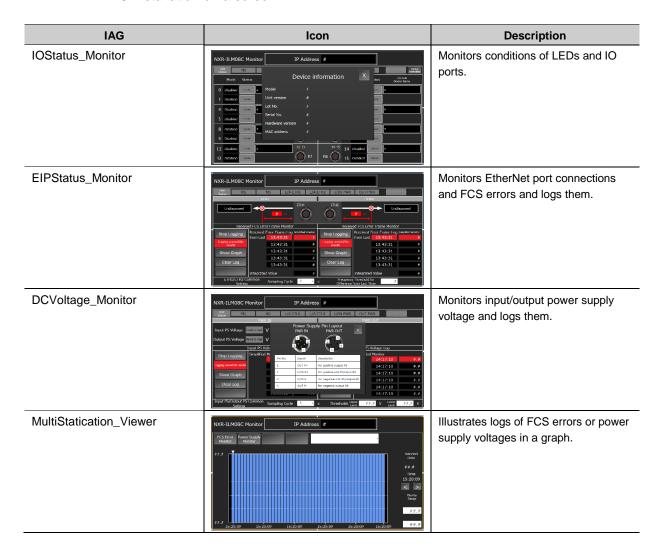
- EtherNet/IP™ and CIP Safety™ are trademarks of ODVA, Inc.
- Company names and product names in this document are the trademarks or registered trademarks of their respective companies.

# 3 Overview

# 3-1 Overview

This document describes IAG collections that directly read the information from the NXR-ILM Unit, IO-Link master unit connected with the NA Series HMI via EtherNet/IP.

- IAG external specifications
- IAG installation on a screen



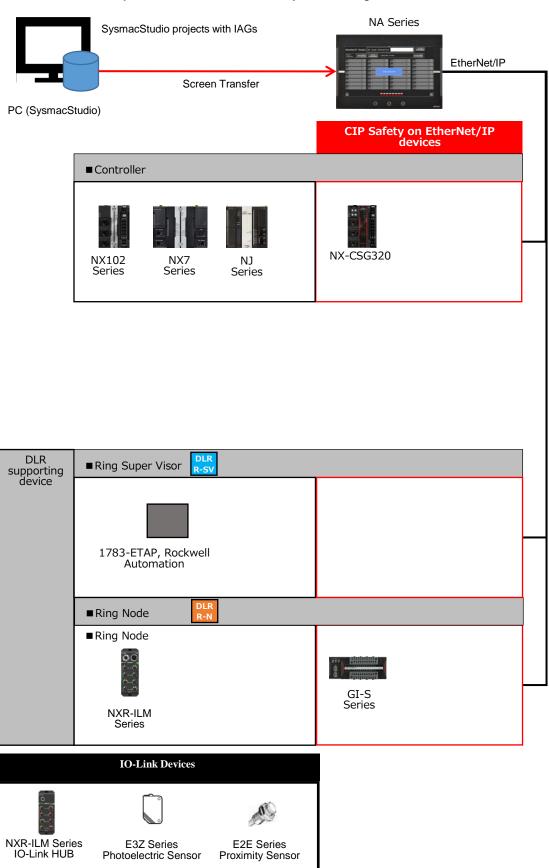
These IAGs are included in the IAG collection file below.

File name	Description	
NXR_ILM_Monitor_12inch_*.iag	For 12 and 15-inch units. "*" stands for a version.	

Ask the Omron sales representative for the file.

# 3-2 System Configuration

The IAG objects were tested with the system configuration and versions below.



# 4 Library Versions

This chapter describes the versions of the IAG library.

You must check versions of the items listed in the table below before using the library.

Item	Description	How to Check the Version
IAG Collection	The distributed IAG collection has	The version can be checked in the
	library versions. Sysmac Studio IAG Collection	
		Manager pop-up.
IAG	Version of each IAG. It manages	The version can be checked as an
	specification change, bug	IAG property in IAG Collections
	correction, and others.	Manager. Also, in Properties after
		located as an object.
NA	The version of NA with which IAG	See Minimum supported HMI
	has been created. IAG library is	version in IAG Collections
	not applicable to older versions	Manager.
	than that in this guide because	
	supported functions depend on	
	versions.	
NA OS	The version which NA runtime can	System Menu of NA. It will be
	operate. It differs according to	checked if necessary when you
	NA's Runtime version.	upgrade NA runtime version of a
		project in Sysmac Studio.

# Versions of IAG collection, NA runtime, and OS in this guide

Item	Version	Remarks
IAG Collection	Ver1.00	Filename extension is ".iag".
IAG	Noted individually	Refer to Chapter5 "Properties."
NA	Ver. 1.12 and higher	
NA OS	Ver. 7.4.0 and higher	

# EtherNet I/P devices that the IAG collection supports, and the versions

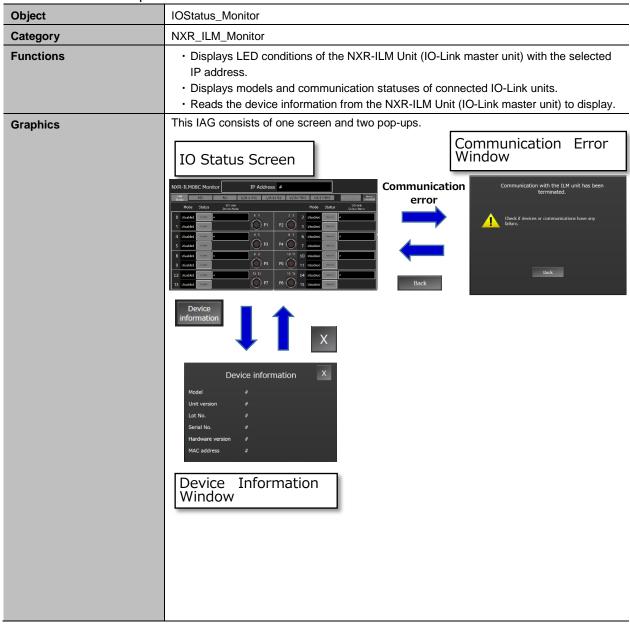
_		•	<u> </u>
Supported Device		Version	Remarks
NX102000		Ver. 1.31 and later	Operation tested with Ver. 1.31
NX102000		Ver. 1.18 and later Operation tested with Ver. 1.18	
NX70000		Ver. 1.18 and later	Operation tested with Ver. 1.18
	NXR-ILM08C	Ver. 1.0 and later	Operation tested with Ver. 1.0
	NXR-□D166C	Ver. 1.0 and later	Operation tested with Ver. 1.0

# 5 IAG Descriptions

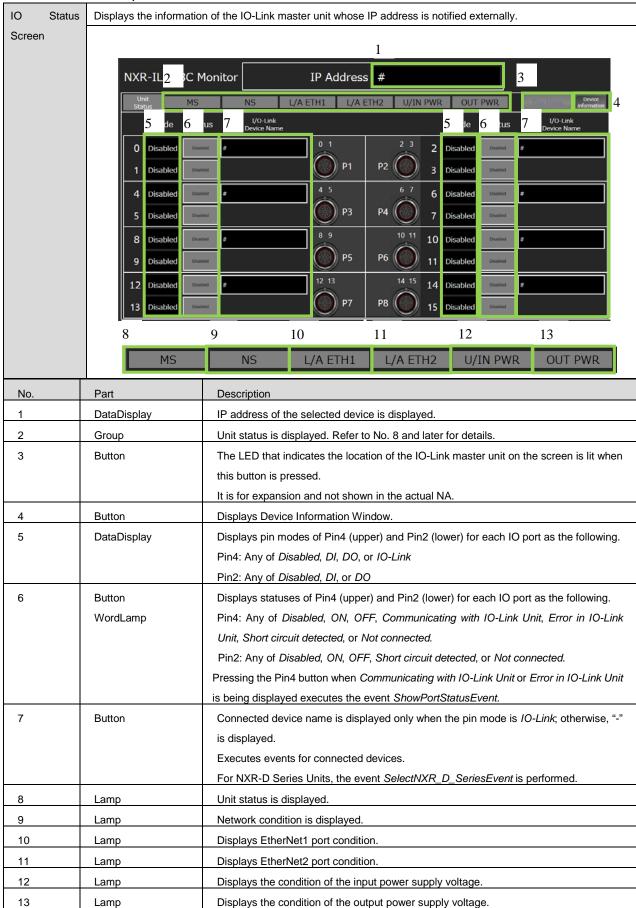
# 5-1 IOStatus\_Monitor

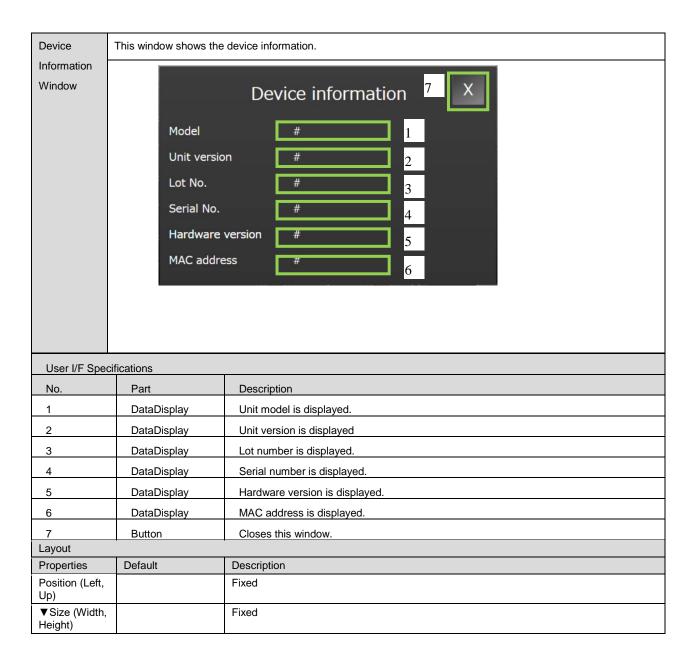
# 5-1-1 Specifications

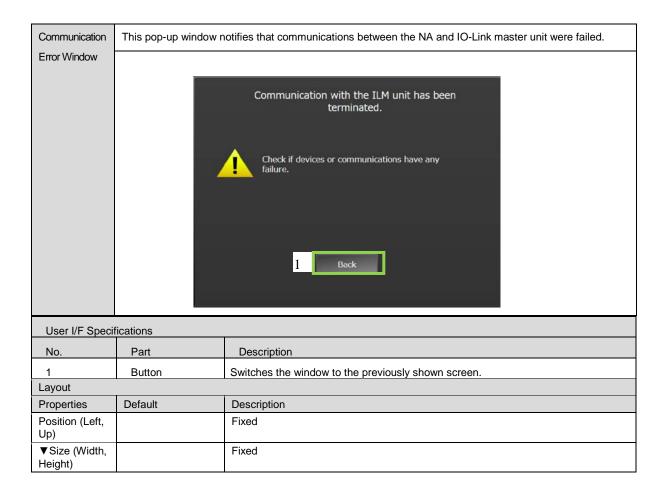
# External Specifications



# Screen Specifications



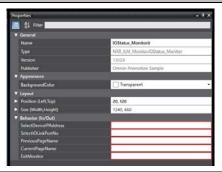




# Properties

Property	Description	Input Mode	Input Range Data Type	Default
General				
Name	Object name. Must not be overlapped in a screen.	Direct input	Character string (1 to 127)	IOStatus_Monitor0
Туре	Object type. Not changeable.	-	-	NXR_ILM_Monitor. IOStatus _Monitor
Version	IAG version	-	-	1.0.0.0
Publisher	IAG publisher	-	-	Omron Promotion Sample
Appearance		•	•	•
Background Color	Background color of a page	Item selection Direct input	Color pallet Character string	Transparent <sup>1</sup>
Layout				
▼Position (Left , Top)	Position setting of an object in a page. <sup>2</sup>	Direct input Spin button	Numeric Numeric	-
Left	Horizontal position (X-axis) of the top-left corner of an object on a page	Direct input Spin button	Numeric Numeric	-
Тор	Vertical position (Y-axis) of the to-left corner of an object on a page	Direct input Spin button	Numeric Numeric	-
▼Size (Width, Height)	Object size setting.	Direct input Spin button	Numeric Numeric	(1240,660)
Width	Width of object	Direct input Spin button	Numeric Numeric	1240
Height	Height of object	Direct input Spin button	Numeric Numeric	660
Input/Output				
SelectDeviceIPAddress	IP address of the selected device	Variable specification	String	
SelectIOLinkPortNo	Port number of the selected IO-Link unit	Variable specification	Byte	
PreviousPageName	Name of the page displayed after this page is closed	Variable specification	String	
CurrentPageName	Page name of this IAG	Variable specification	String	
ExitMonitor	Flag to close this page	Variable specification	Boolean	

### Image



- 1: Transparent
- 2: The origin of coordinates locates at the top left corner of NA screen.



# **Precautions for Correct Use**

The use case in this guide does not require settings for IO variables CurrentPageName and ExitMonitor. Leave them blank; if not, the IAG may perform an unintended operation.

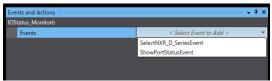
# Version History

IAG version	Description	IAG collection version
1.0.0.0	First edition	Ver1.00

# Events & Actions

# The following IAG event can be detected.

Event	Description
ShowPortStatusEvent	Detects the event that an IO-Link port status button on the screen is pressed to be selected.
SelectNXR_D_SeriesEvent	Detects the event that an NXR-D Series (IO-Link HUB) device name button on the screen is pressed to be selected.



# Animations

Basic motions can be defined.



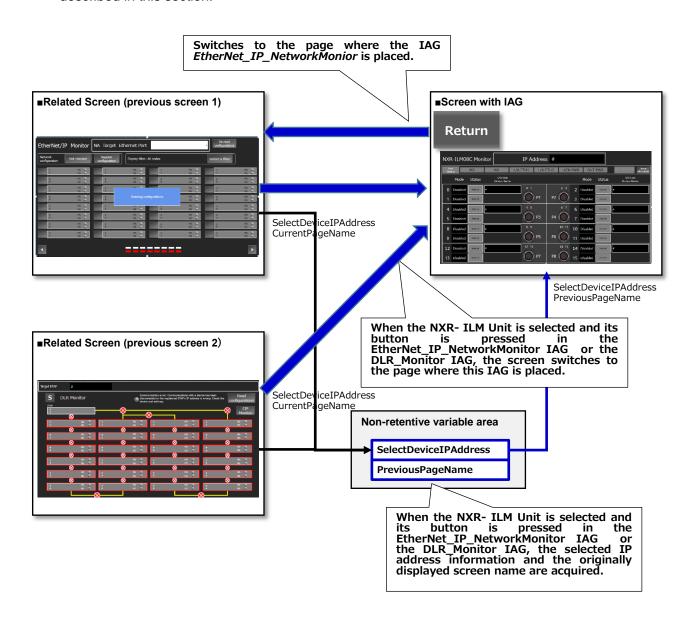
# Security

No security function available.

This IAG is intended to be used as the following:

- When the button for NXR- ILM Unit, which is displayed by the IAG EtherNet\_IP\_Network Monitor or DLR\_Monitor located on the screen, is pressed, the currently displayed screen switches to the screen with this IAG and the IAG accesses to the Unit to receive the necessary information to display.
- Pressing the Return button placed in the page containing this IAG works as the trigger to back to the originally displayed screen.

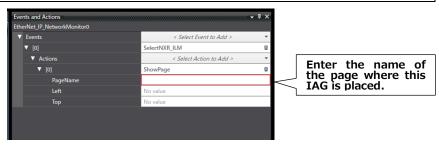
Note: The simplest screen design, a single page is linked with a single destination page, is described in this section.



For this screen design, implement the settings described below.

Events and Actions Settings for Previous Screen
 Set the action ShowPage for the event SelectILMMaster of the IAGs,
 EtherNet\_IP\_NetworkMonitor and DLR\_Monitor. Then enter the page name in which this IAG is placed.

Event	Description
SelectILMMaster	Executed when the IO-Link master unit is selected.



# IAG Property Assignment (Previous Screen)

Assign the same variable to the following properties (Input/Output) for EtherNet\_IP\_NetworkMonitor and DLR\_Monitor.

Property (Input/Output)	Description	Variable	Variable Data Type
SelectDeviceIPAddress	IP address of the device to be displayed	SelectDeviceAddress	String
CurrentPageName	Page name of this IAG	PreviousPageName	String

# Property Assignment (IAG)

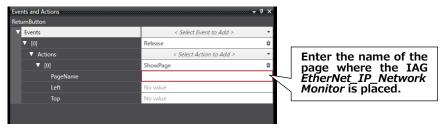
Assign the variables to the following properties.

Property (Input/Output)	Description	Variable	Variable Data Type
SelectDeviceIPAddress	IP address of the device to be displayed	SelectDeviceAddress	String
PreviousPageName	Name of the page displayed after this page is closed	PreviousPageName	String

Now the IP address information and the destination page are shared among screens.

### Screen Settings

Place the Return button on the page containing this IAG. Then set the action *ShowPage* for the button event *Release*. Next, enter the name of the previous page in which the IAG *EtherNet\_IP\_NetworkMonitor* is placed.





# Additional Information

The type of button is not specified.

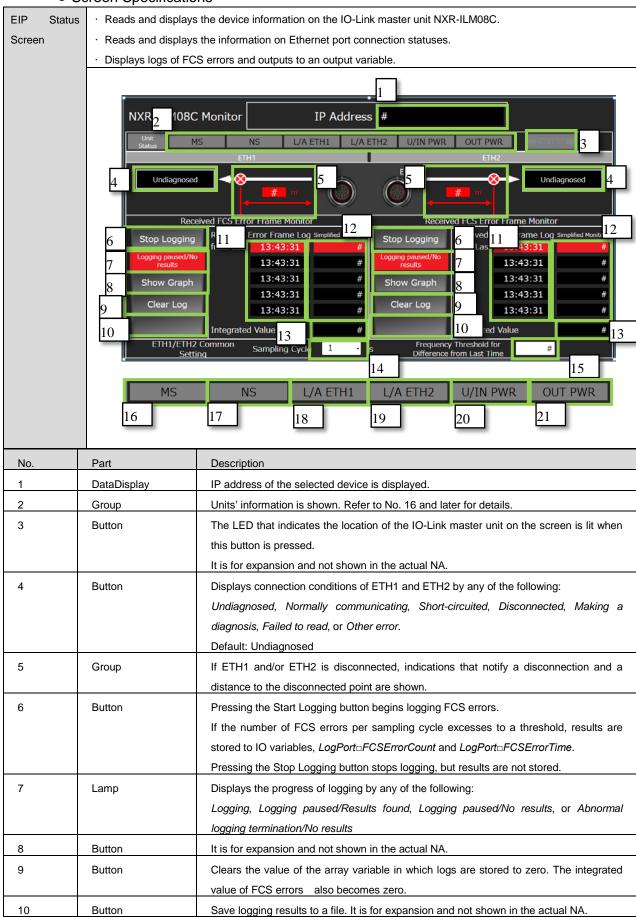
# 5-2 EIPStatus\_Monitor

# 5-2-1 Specifications

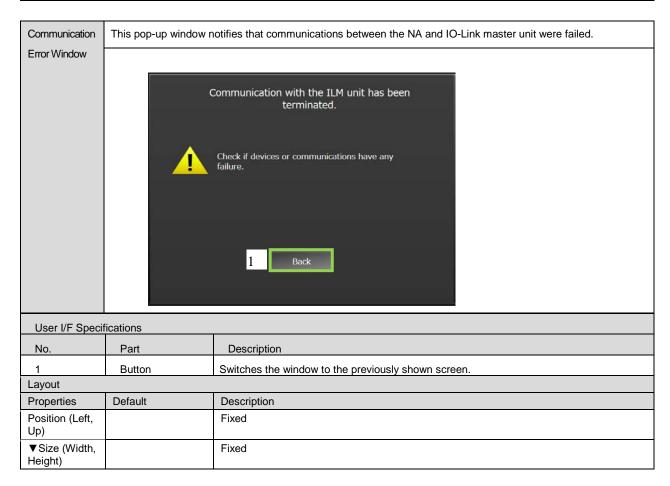
# External Specifications

Object	EIPStatus_Monitor		
Category	NXR_ILM_Monitor		
Functions	<ul> <li>Reads and displays LED conditions of the IO-Link master unit whose IP address has been notified from EtherNet/IP Monitor.</li> <li>Reads and displays the device information on the IO-Link master unit NXR-ILM08C.</li> <li>Reads and displays the information on Ethernet port connection statuses.</li> <li>Displays logs of FCS errors and outputs to an output variable.</li> </ul>		
Graphics	This IAG consists of a screen and a pop-up  EIP Status Screen		

# Screen Specifications

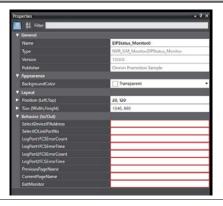


11	DateTime	Displays the logging times.
12	DataDisplay	Displays FCS error frequencies per sampling cycle.
13	DataDisplay	Displays integrated values of FCS errors.
14	DropDown	Select and display a sampling cycle for logging. Options: 1, 10, and 60 (s). Default is 1
		S.
15	DataEdit	Displays a threshold to determine abnormal FCS error frequency. Range: 1 to 500
		(frequency). Default is 10.
16	Lamp	Unit status is displayed.
17	Lamp	Network condition is displayed.
18	Lamp	Displays EtherNet1 port condition.
19	Lamp	Displays EtherNet2 port condition.
20	Lamp	Displays the condition of the input power supply voltage.
21	Lamp	Displays the condition of the output power supply voltage.



# Properties

Property	Description	Input Mode	Input Range Data Type	Default
General	·		•	
Name	Object name. Must not be overlapped in a screen.	Direct input	Character string (1 to 127)	EIPStatus_Monitor0
Туре	Object type. Not changeable.	-	-	NXR_ILM_Monitor. EIPStatus_Monitor
Version	IAG version	-	-	1.0.0.0
Publisher	IAG publisher	-	-	Omron Promotion Sample
Appearance				
Background Color	Background color of a page	Item selection Direct input	Color pallet Character string	Transparent <sup>1</sup>
Layout				
▼Position (Left , Top)	Position setting of an object in a page. <sup>2</sup>	Direct input Spin button	Numeric Numeric	-
Left	Horizontal position (X-axis) of the top-left corner of an object on a page	Direct input Spin button	Numeric Numeric	-
Тор	Vertical position (Y-axis) of the to-left corner of an object on a page	Direct input Spin button	Numeric Numeric	-
▼Size (Width, Height)	Object size setting.	Direct input Spin button	Numeric Numeric	(1240,660)
Width	Width of object	Direct input Spin button	Numeric Numeric	1240
Height	Height of object	Direct input Spin button	Numeric Numeric	660
Input/Output		•	•	•
SelectDeviceIPAddress	IP address of the device to be displayed	Variable specification	String	
SelectIOLinkPortNo	Port number of the selected IO-Link unit	Variable specification	Byte	
LogPort1FCSErrorCount	FCS error frequency log in Port1	Variable specification	UShort(49)	
LogPort1FCSErrorTime	Data on FCS error frequency logging time in Port1	Variable specification	Date(49)	
LogPort2FCSErrorCount	FCS error frequency log in Port2	Variable specification	UShort(49)	
LogPort2FCSErrorTime	Data on FCS error frequency logging time in Port2	Variable specification	Date(49)	
PreviousPageName	Name of the page displayed after this page is closed	Variable specification	String	
CurrentPageName	Page name of this IAG	Variable specification	String	
ExitMonitor	Flag to close this page	Variable specification	Boolean	



Transparent
 The origin of coordinates locates at the top left corner of NA screen.



# Precautions for Correct Use

The use case in this guide does not require settings for IO variables CurrentPageName and ExitMonitor. Leave them blank; if not, the IAG may perform an unintended operation.

# Version History

IAG version	Description	IAG collection version
1.0.0.0	First edition	Ver1.00

# Events & Actions

No event function available.

# Animations

Basic motions can be defined.



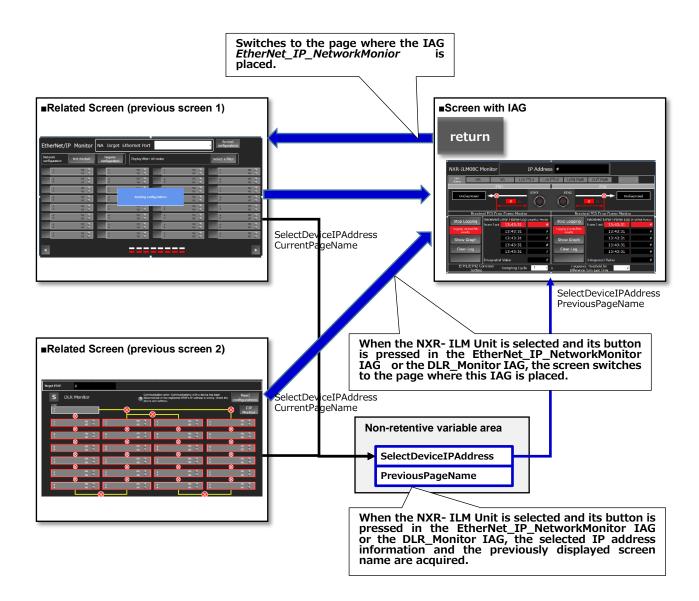
# Security

No security function available.

This IAG is intended to be used as the following:

- When the button for NXR- ILM Unit, which is displayed by the IAG EtherNet\_IP\_Network Monitor or DLR\_Monitor located on the screen, is pressed, the currently displayed screen switches to the screen with this IAG and the IAG accesses to the Unit to receive the necessary information to display.
- Pressing the **Return** button placed in the page containing this IAG works as the trigger to back to the originally displayed screen.

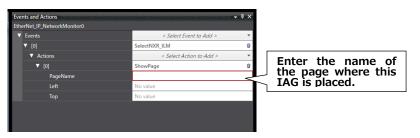
Note: The simplest screen design, a single page is linked with a single destination page, is described in this section.



For this screen design, implement the settings described below.

Events and Actions Settings for Previous Screen
 Set the action ShowPage for the event SelectILMMaster of the IAGs,
 EtherNet\_IP\_NetworkMonitor and DLR\_Monitor. Then enter the page name in which this IAG is placed.

Event	Description
SelectILMMaster	Executed when the IO-Link master unit is selected.



# IAG Property Assignment (Previous Screen)

Assign the following properties (Input/Output) for the EtherNet\_IP\_NetworkMonitor IAG to the same variable.

Property (Input/Output)	Description	Variable	Variable Data Type
SelectDeviceIPAddress	IP address of the device to be displayed	SelectDeviceAddress	String
CurrentPageName	Page name of this IAG	PreviousPageName	String

### Property Assignment

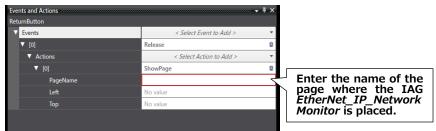
Assign the variables to the following properties.

Property (Input/Output)	Description	Variable	Variable Data Type
SelectDeviceIPAddress	IP address of the device to be displayed	SelectDeviceAddress	String
PreviousPageName	Name of the page displayed after this page is closed	PreviousPageName	String

Now the IP address information and the destination page are shared among screens.

### Screen Settings

Place the Return button on the page containing this IAG. Then set the action *ShowPage* for the button event *Release*. Next, enter the name of the previous page in which the IAG *EtherNet\_IP\_NetworkMonitor* is placed.





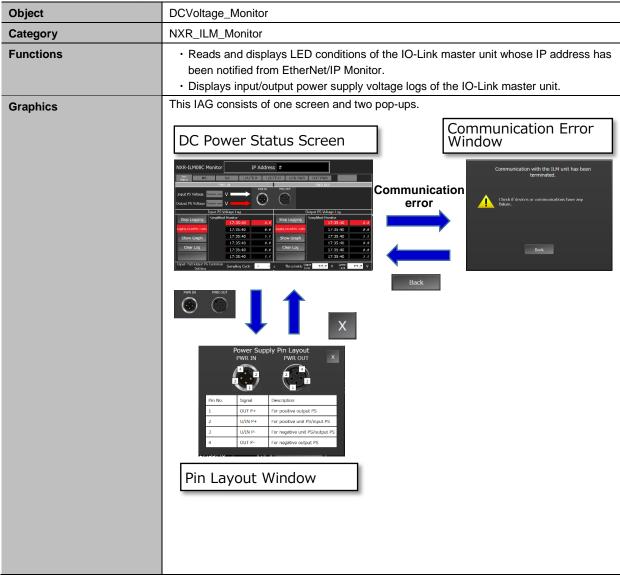
### **Additional Information**

The type of button is not specified.

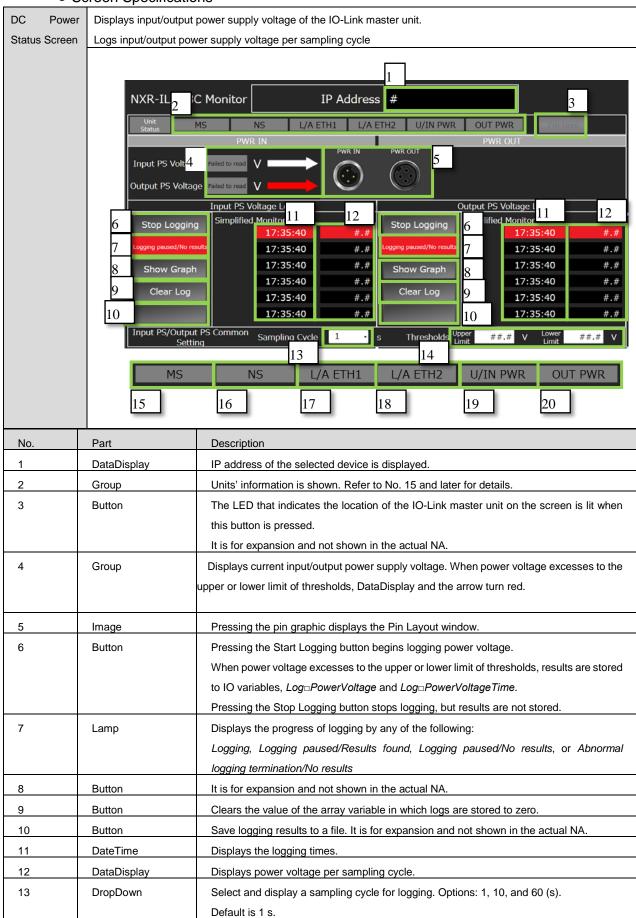
# 5-3 DCVoltage\_Monitor

# 5-3-1 Specifications

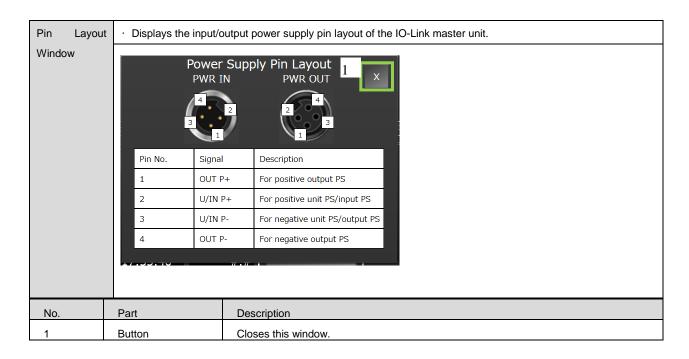
# External Specifications

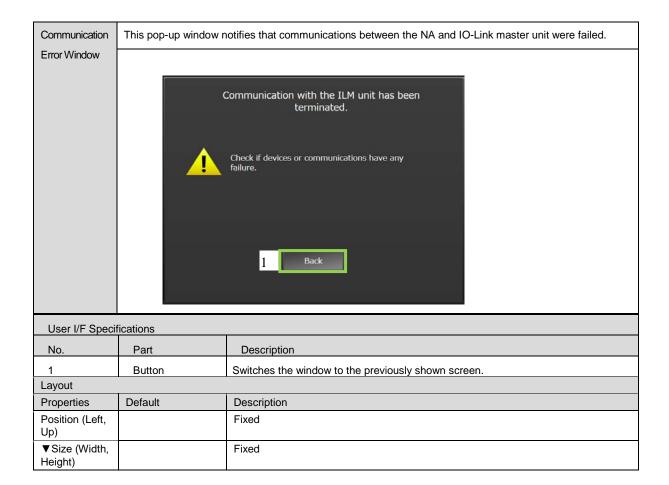


# Screen Specifications



14	DataEdit	Displays upper and lower voltage limits.  Default upper limit: 26.4 VDC, Default lower limit: 20.4 VDC (Rated voltage range)	
		Note: Upper and lower limits must be set within the rated voltages	
15	Lamp	Unit status is displayed.	
16	Lamp	Network condition is displayed.	
17	Lamp	Displays EtherNet1 port condition.	
18	Lamp	Displays EtherNet2 port condition.	
19	Lamp	Displays the condition of the input power supply voltage.	
20	Lamp	Displays the condition of the output power supply voltage.	

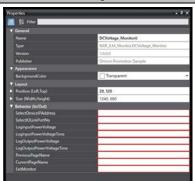




# Properties

Property	Description	Input Mode	Input Range Data Type	Default
General				
Name	Object name. Must not be overlapped in a screen.	Direct input	Character string (1 to 127)	DCVoltage_Monitor0
Туре	Object type. Not changeable.	-	-	NXR_ILM_Monitor. DCVoltage_Monitor
Version	IAG version	-	-	1.0.0.0
Publisher	IAG publisher	-	-	Omron Promotion Sample
Appearance				
Background Color	Background color of a page	Item selection Direct input	Color pallet Character string	Transparent <sup>1</sup>
Layout				
▼Position (Left , Top)	Position setting of an object in a page. <sup>2</sup>	Direct input Spin button	Numeric Numeric	-
Left	Horizontal position (X-axis) of the top-left corner of an object on a page	Direct input Spin button	Numeric Numeric	-
Тор	Vertical position (Y-axis) of the to-left corner of an object on a page	Direct input Spin button	Numeric Numeric	-
▼Size (Width, Height)	Object size setting.	Direct input Spin button	Numeric Numeric	(1240,660)
Width	Width of object	Direct input Spin button	Numeric Numeric	1240
Height	Height of object	Direct input Spin button	Numeric Numeric	660
Input/Output	•	•	•	•
SelectDeviceIPAddress	IP address of the device to be displayed	Variable specification	String	
SelectIOLinkPortNo	Port number of the selected IO-Link unit	Variable specification	Byte	
LogInputPowerVoltage	Input voltage log	Variable specification	UShort(49)	
LogInputPowerVoltageTime	Data on input voltage log Time	Variable specification	Date(49)	
LogOutputPowerVoltage	Output voltage log	Variable specification	UShort(49)	
LogOutputPowerVoltageTime	Data on output voltage log Time	Variable specification	Date(49)	
PreviousPageName	Name of the page displayed after this page is closed	Variable specification	String	
CurrentPageName	Page name of this IAG	Variable specification	String	
ExitMonitor	Flag to close this page	Variable specification	Boolean	

### Image



Transparent
 The origin of coordinates locates at the top left corner of NA screen.



# Precautions for Correct Use

The use case in this guide does not require settings for IO variables CurrentPageName and ExitMonitor. Leave them blank; if not, the IAG may perform an unintended operation.

# Version History

IAG version	Description	IAG collection version
1.0.0.0	First edition	Ver1.00

# Events & Actions

No event function available.

# Animations

Basic motions can be defined.



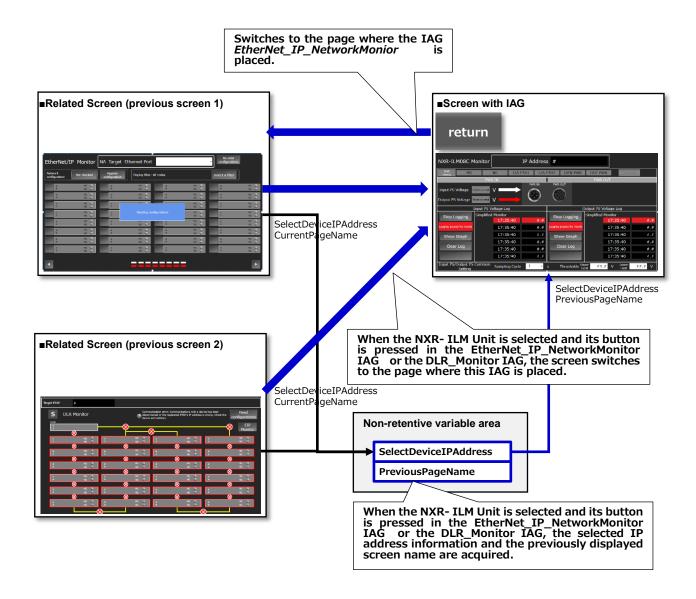
# Security

No security function available.

This IAG is intended to be used as the following:

- When the button for NXR- ILM Unit, which is displayed by the IAG EtherNet\_IP\_Network Monitor or DLR\_Monitor located on the screen, is pressed, the currently displayed screen switches to the screen with this IAG and the IAG accesses to the Unit to receive the necessary information to display.
- Pressing the **Return** button placed in the page containing this IAG works as the trigger to back to the previously displayed screen.

Note: The simplest screen design, a single page is linked with a single destination page, is described in this section.



For this screen design, implement the settings described below.

Events and Actions Settings for Previous Screen
 Set the action ShowPage for the event SelectILMMaster of the IAGs,
 EtherNet\_IP\_NetworkMonitor and DLR\_Monitor. Then enter the page name in which this IAG is placed.

Event	Description
SelectILMMaster	Executed when the IO-Link master unit is selected.



# IAG Property Assignment (Previous Screen)

Assign the same variables to the following properties (Input/Output) for the EtherNet\_IP\_NetworkMonitor IAG.

Property (Input/Output)	Description	Variable	Variable Data Type
SelectDeviceIPAddress	IP address of the device to be displayed	SelectDeviceAddress	String
CurrentPageName	Page name of this IAG	PreviousPageName	String

### Property Assignment

Assign the variables to the following properties.

Property (Input/Output)	Description	Variable	Variable Data Type
SelectDeviceIPAddress	IP address of the device to be displayed	SelectDeviceAddress	String
PreviousPageName	Name of the page displayed after this page is closed	PreviousPageName	String

Now the IP address information and the destination page are shared among screens.

### Screen Settings

Place the Return button on the page containing this IAG. Then set the action *ShowPage* for the button event *Release*. Next, enter the name of the previous page in which the IAG *EtherNet\_IP\_NetworkMonitor* is placed.





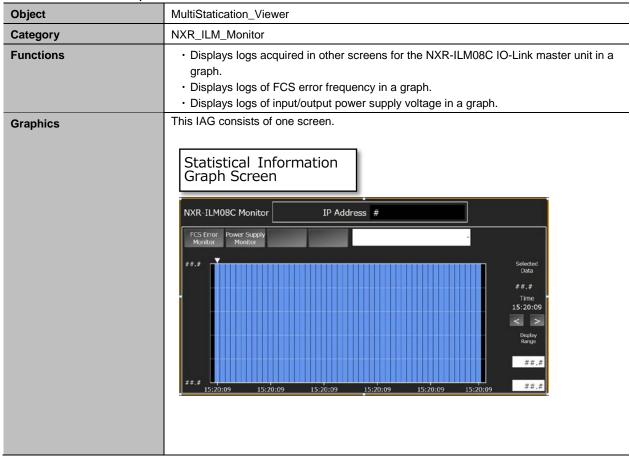
### **Additional Information**

The type of button is not specified.

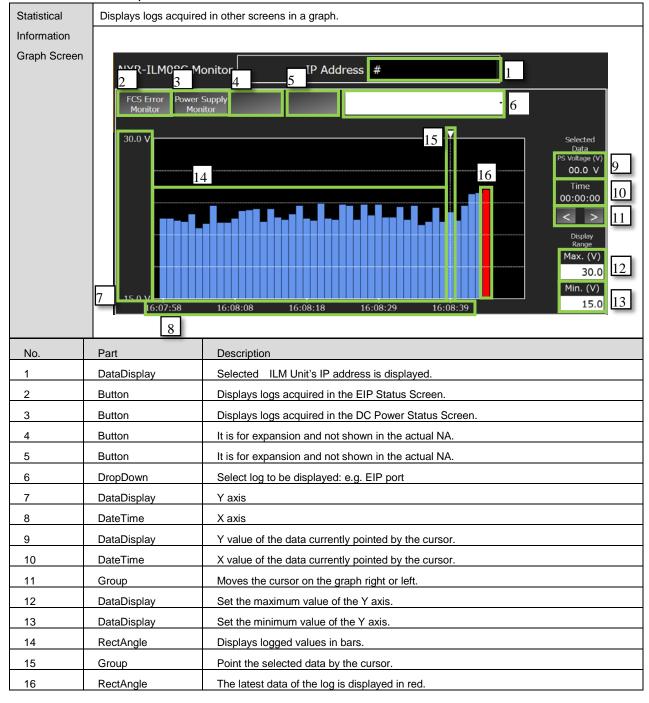
# 5-4 MultiStatication\_Viewer

# 5-4-1 Specifications

# External Specifications

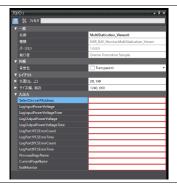


### Screen Specifications



### Properties

General         Name       Object name. Must not screen.         Type       Object type. Not change.         Version       IAG version.         Publisher       IAG publisher.         Appearance       Background color of a         Layout       Position setting of an object on of a position (X-corner of an object on object on object on object on a page.         Top       Vertical position (Y-axiof of an object on a page.)         Vidth       Width of object.         Height       Height of object.         Input/Output       SelectDevicelPAddress.         IP address of the device.		-	Character string 1 to 127)	MultiStatication_Viewer
Screen.  Type Object type. Not change  Version Publisher IAG version Publisher  Appearance Background Color Background color of a  Layout ▼Position (Left , Top) Position setting of an of an object on  Top Vertical position (Y-axi of an object on a page  ▼Size (Width, Height) Object size setting.  Width Width of object  Input/Output SelectDeviceIPAddress IP address of the device	jeable	-	_	_
Version       IAG version         Publisher       IAG publisher         Appearance       Background color of a         Layout       Position (Left , Top)       Position setting of an of an object on a page of an	-			U
Publisher  Appearance  Background Color  Layout  ▼Position (Left , Top)  Position setting of an of the corner of an object on a page  ▼Size (Width, Height)  Width  Width of object  Input/Output  SelectDeviceIPAddress  I Background color of a background color of a background color of a packground color of an object on corner of an object on a page  Width  Width of object  Input/Output  SelectDeviceIPAddress  IP address of the device				NXR_ILM_Monitor. MultiStatication_Viewer
Appearance Background Color Background color of a  Layout  ▼ Position (Left , Top) Position setting of an of the corner of an object on a page  ▼ Size (Width, Height)  Width Width of object  Height Height Height Factorial position (X-corner of an object on a page of an object on a page of an obj	-			1.0.0.0
Background Color  Layout  ▼Position (Left , Top)  Position setting of an of the corner of an object on a page  ▼Size (Width, Height)  Width  Width of object  Height  Height  Input/Output  SelectDeviceIPAddress  Background color of an object on a page of an object of an object on a page of an object on object on a page of an o		-		Omron Promotion Sample
Layout  ▼Position (Left , Top)  Position setting of an of the device of	•	·	•	
▼Position (Left , Top)       Position setting of an of the content of an object on the corner of an object on the corner of an object on a page object size setting.         ▼Size (Width, Height)       Object size setting.         Width       Width of object         Height       Height of object         Input/Output       IP address of the device			Color pallet Character string	Transparent <sup>1</sup>
Left Horizontal position (X-corner of an object on Top Vertical position (Y-axi of an object on a page ▼ Size (Width, Height) Object size setting.  Width Width of object  Height Height Object  Input/Output  SelectDeviceIPAddress IP address of the device				
corner of an object on  Top Vertical position (Y-axi of an object on a page  ▼Size (Width, Height) Object size setting.  Width Width of object  Height Height of object  Input/Output  SelectDeviceIPAddress IP address of the device			lumeric Iumeric	-
of an object on a page  ▼Size (Width, Height)  Width  Width of object  Height  Height of object  Input/Output  SelectDeviceIPAddress  IP address of the device	'		lumeric Iumeric	-
Width Width of object  Height Height of object  Input/Output  SelectDeviceIPAddress IP address of the device	′		lumeric Iumeric	-
Height Height of object  Input/Output  SelectDeviceIPAddress IP address of the device			lumeric Iumeric	(1240,660)
Input/Output SelectDeviceIPAddress IP address of the device			lumeric lumeric	1240
SelectDeviceIPAddress IP address of the device			lumeric lumeric	660
	· · · · · · · · · · · · · · · · · · ·	*		
LogPort1ECCErrorCount Variable to Is - th - ECC		riable S ecification	string	
LogPort1FCSErrorCount Variable to log the FCS		riable U ecification	IShort(49)	
LogPort1FCSErrorTime Variable to log the FCS		riable D ecification	Pate(49)	
LogPort2FCSErrorCount Variable to log the FCS		riable U ecification	IShort(49)	
LogPort2FCSErrorTime Variable to log the FCS		riable Decification	Pate(49)	
LogInputPowerVoltage Variable to log the input	· ·	riable U ecification	IShort(49)	
LogInputPowerVoltageTime Variable to log the input	•	riable D ecification	Pate(49)	
LogOutputPowerVoltage Variable to log the outp	-	riable U	IShort(49)	
LogOutputPowerVoltageTime Variable to log the output	9	riable D	Pate(49)	
PreviousPageName Page display history		riable S ecification	string	
CurrentPageName Page name of this IAG		riable S ecification	string	
ExitMonitor The flag to exit the cur monitor	rently displayed	riable B	oolean	



- 1: Transparent
- 2: The origin of coordinates locates at the top left corner of NA screen.



### Precautions for Correct Use

The use case in this guide does not require settings for IO variables *PreviousPageName*, *CurrentPageName* and *ExitMonitor*. Leave them blank; if not, the IAG may perform an unintended operation.

### Version History

IAG version	Description	IAG collection version
1.0.0.0	First edition	Ver1.00

### Events & Actions

No event function available.

### Animations

Basic motions can be defined.



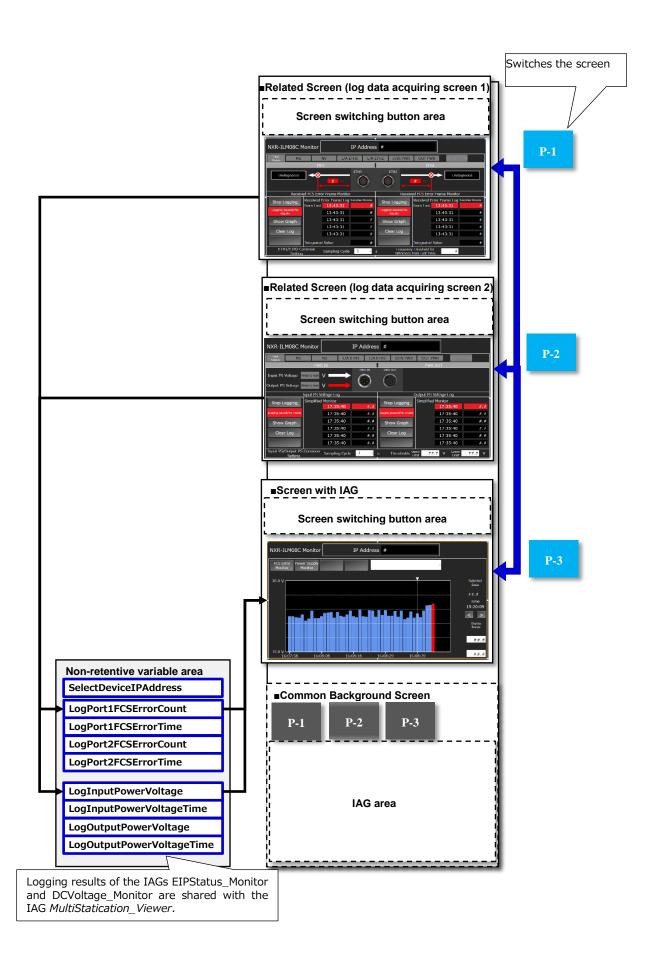
### Security

No security function available.

## 5-4-2 Installation to Screen

This IAG is intended to be used as the following:

- Loading logs acquired in other screens through variables: FCS error frequency logs of the IAG EIPStatus\_Monitor and DC voltage logs of the IAG DCVoltage\_Monitor.
- Creating a common background screen shared with the screen where log data is acquired and the screen where this IAG is placed. Placing a screen switching button.
- Displaying a screen contains this IAG with the screen switching button after logging in other screen, and selecting the log that you want to check to display the data in a graph.



To use this functionality, implement the settings described below.

### • IAG Property Assignment (Log Data Acquiring Screen)

Assign the variables to the following properties (Input/Output) for EIPStatus\_Monitor.

Property (Input/Output)	Description	Variable	Variable Data Type
SelectDeviceIPAddress	IP address of the connected unit	SelectDeviceIPAddress	String
LogPort1FCSErrorCount	Variable to log the FCS error frequency	LogPort1FCSErrorCount	UShort(49)
LogPort1FCSErrorTime	Variable to log the FCS error frequency	LogPort1FCSErrorTime	Date(49)
LogPort2FCSErrorCount	Variable to log the FCS error frequency	LogPort2FCSErrorCount	UShort(49)
LogPort2FCSErrorTime	Variable to log the FCS error frequency	LogPort2FCSErrorTime	Date(49)

### Assign the variables to the following properties (Input/Output) for DCVoltage\_Monitor.

Property (Input/Output)	Description	Variable	Variable Data Type
SelectDeviceIPAddress	IP address of the connected unit	SelectDeviceIPAddress	String
LogInputPowerVoltage	Variable to log the input voltage	LogInputPowerVoltage	UShort(49)
LogInputPowerVoltageTime	Variable to log the input voltage	LogInputPowerVoltageTime	Date(49)
LogOutputPowerVoltage	Variable to log the output voltage	LogOutputPowerVoltage	UShort(49)
LogOutputPowerVoltageTime	Variable to log the output voltage	LogOutputPowerVoltageTime	Date(49)

### Property Assignment (IAG)

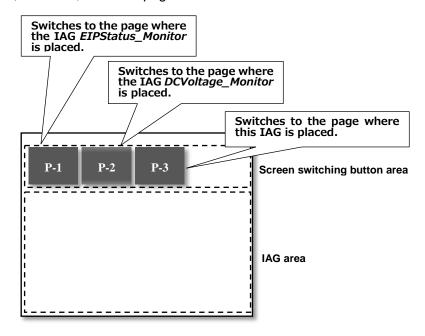
Assign the following properties to variables.

Property (Input/Output)	Description	Variable	Variable Data Type
SelectDeviceIPAddress	IP address of the connected unit	SelectDeviceIPAddress	String
LogPort1FCSErrorCount	Variable to log the FCS error frequency	LogPort1FCSErrorCount	UShort(49)
LogPort1FCSErrorTime	Variable to log the FCS error frequency	LogPort1FCSErrorTime	Date(49)
LogPort2FCSErrorCount	Variable to log the FCS error frequency	LogPort2FCSErrorCount	UShort(49)
LogPort2FCSErrorTime	Variable to log the FCS error frequency	LogPort2FCSErrorTime	Date(49)
LogInputPowerVoltage	Variable to log the input voltage	LogInputPowerVoltage	UShort(49)
LogInputPowerVoltageTime	Variable to log the input voltage	LogInputPowerVoltageTime	Date(49)
LogOutputPowerVoltage	Variable to log the output voltage	LogOutputPowerVoltage	UShort(49)
LogOutputPowerVoltageTime	Variable to log the output voltage	LogOutputPowerVoltageTime	Date(49)

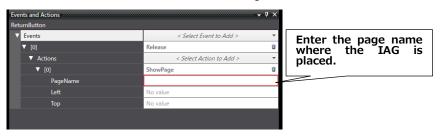
Now the data is shared with the IAGs which log the data and this IAG.

### Common Background Screen Setting

Place screen switching buttons on the Common Background Screen. Set the action *ShowPage* to the button event *Release*, and then, enter the page name.



### Events and Actions for screen switching button





### Additional Information

The type of button is not specified.

# 5-5 Displaying Multiple IAG Screens and Linking Them to EIP Monitor Screen

Combination of this IAG collection and the IAG EtherNet\_IP\_NetworkMonitor or DLR\_Monitor enables the EIP Monitor Screen in other page to display various information about the NXR-ILM Unit.

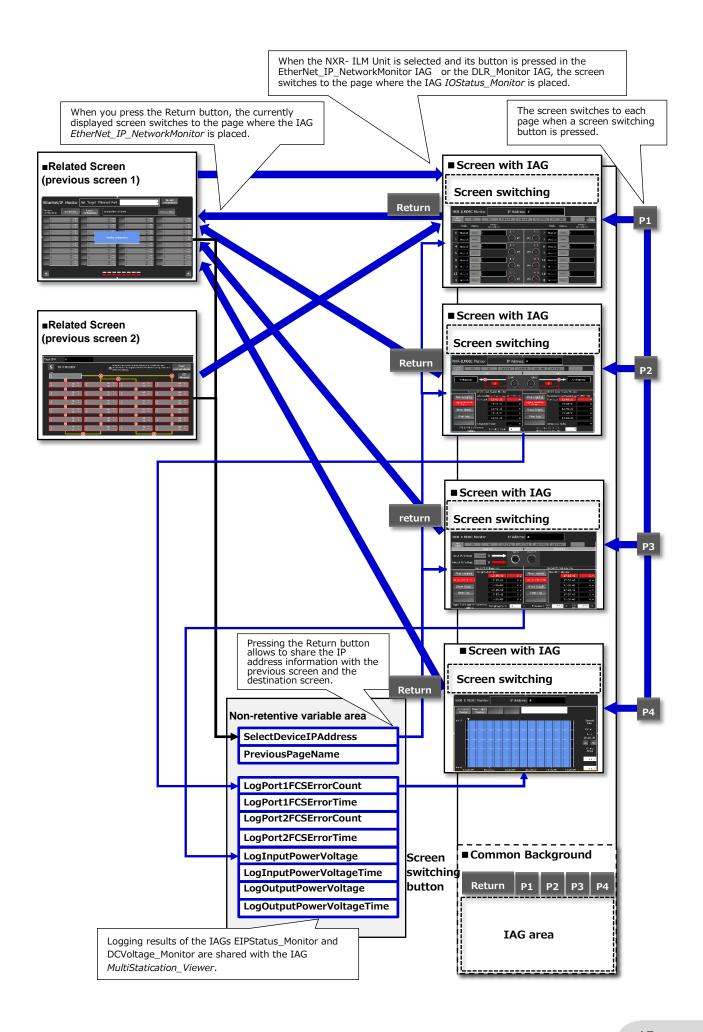
This section provides how to perform the following processing.

- When the button for NXR- ILM Unit with any node address, which is displayed by the IAG EtherNet\_IP\_Network Monitor or DLR\_Monitor located on another screen, is pressed, the currently displayed screen switches to IO Status Monitor, the initial screen of this IAG collection and accesses to the Unit to get information to display.
- Pressing either of the screen switching buttons on the EIP Status Screen or DC Power Status Screen switches the screen, and the information is acquired and displayed by accessing to the Unit.
- In the case that the EIP Status Screen or DC Power Status Screen acquires the FCS error frequency log or DC voltage log respectively, pressing the screen switching button on the Statistical Information Screen switches the currently displayed screen. Then allows the NA to access to the Unit to collect the data to display.
- When you press the Return button in this IAG, the screen switches to the previous screen where the IAG *EtherNet\_IP\_NetworkMonitor* is placed.



### Additional Information

As an example, the initial page for the IO-Link master unit is the screen with the IAG IOStatus Monitor. Any screen can be designated as the initial page.



To use these functionalities, implement the settings described below.

Events and Actions Settings for Previous Screen
 Set the action ShowPage to the events for both EtherNet\_IP\_NetworkMonitor and DLR\_Monitor. Then enter the page name in which the IAG IOStatus\_Monitor is placed.

Event	Description
SelectILMMaster	Executed when the IO-Link master unit is selected.



 IAG Property Assignment (Previous Screen)
 Assign the following variables to the properties (Input/Output) for EtherNet\_IP\_NetworkMonitor and DLR\_Monitor.

Property (Input/Output)	Description	Variable	Data Type
SelectDeviceIPAddress	IP address of the device to be displayed	SelectDeviceIPAddress	String
CurrentPageName	Page name of this IAG	PreviousPageName	String

## • IAG (IOStatus\_Monitor) Property Assignment (Destination Screen)

Assign the following variables to the properties (Input/Output).

		_ ' /	
Property (Input/Output)	Description	Variable	Data Type
SelectDeviceIPAddress	IP address of the device to be displayed	SelectDeviceIPAddress	String
PreviousPageName	Name of the page displayed after this page is closed	PreviousPageName	String

### • IAG (EIPStatus\_Monitor) Property Assignment (Destination Screen)

Assign the variables to the following properties (Input/Output).

Property (Input/Output)	Description	Variable	Data Type
SelectDeviceIPAddress	IP address of the device to be displayed	SelectDeviceIPAddress	String
PreviousPageName	Name of the page displayed after this page is closed	PreviousPageName	String
LogPort1FCSErrorCount	Variable to log the FCS error frequency	LogPort1FCSErrorCount	UShort(49)
LogPort1FCSErrorTime	Variable to log the FCS error frequency	LogPort1FCSErrorTime	Date(49)
LogPort2FCSErrorCount	Variable to log the FCS error frequency	LogPort2FCSErrorCount	UShort(49)
LogPort2FCSErrorTime	Variable to log the FCS error frequency	LogPort2FCSErrorTime	Date(49)

## • IAG (DCVoltage\_Monitor) Property Assignment (Destination Screen) Assign the variables to the following properties (Input/Output).

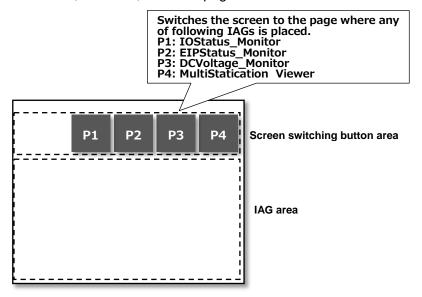
Property (Input/Output)	Description	Variable	Data Type
SelectDeviceIPAddress	IP address of the device to be displayed	SelectDeviceIPAddress	String
PreviousPageName	Name of the page displayed after this page is closed	PreviousPageName	String
LogInputPowerVoltage	Variable to log the input voltage	LogInputPowerVoltage	UShort(49)
LogInputPowerVoltageTime	Variable to log the input voltage	LogInputPowerVoltageTime	Date(49)
LogOutputPowerVoltage	Variable to log the output voltage	LogOutputPowerVoltage	UShort(49)
LogOutputPowerVoltageTime	Variable to log the output voltage	LogOutputPowerVoltageTime	Date(49)

### • IAG Property Assignment (Statistical Information Graph)

Assign the variables to the following properties (Input/Output).

Property (Input/Output)	Description	Variable	Data Type
SelectDeviceIPAddress	IP address of the device to be displayed	SelectDeviceIPAddress	String
LogPort1FCSErrorCount	Variable to log the FCS error frequency	LogPort1FCSErrorCount	UShort(49)
LogPort1FCSErrorTime	Variable to log the FCS error frequency	LogPort1FCSErrorTime	Date(49)
LogPort2FCSErrorCount	Variable to log the FCS error frequency	LogPort2FCSErrorCount	UShort(49)
LogPort2FCSErrorTime	Variable to log the FCS error frequency	LogPort2FCSErrorTime	Date(49)
LogInputPowerVoltage	Variable to log the input voltage	LogInputPowerVoltage	UShort(49)
LogInputPowerVoltageTime	Variable to log the input voltage	LogInputPowerVoltageTime	Date(49)
LogOutputPowerVoltage	Variable to log the output voltage	LogOutputPowerVoltage	UShort(49)
LogOutputPowerVoltageTime	Variable to log the output voltage	LogOutputPowerVoltageTime	Date(49)

Common Background Screen Setting 1
 Allocate the Common Background Screen to all the screen with destination IAGs. Place screen switching buttons on the Common Background Screen next. Set the action ShowPage to the button event Release, and then, enter the page name.



#### Events and Actions for screen switching button



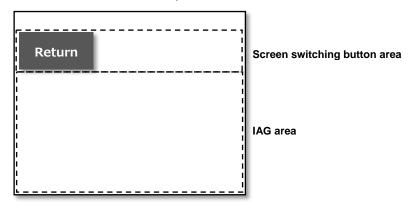


### Additional Information

The type of button is not specified.

### Common Background Screen Setting 2

In the same way, place the Return button on the Common Background Screen. Then set the action *ShowPage* to the button event *Release*. Next, enter the name of the previous page in which the IAG *EtherNet\_IP\_NetworkMonitor* is placed.



### Events and Actions for screen switching button





### Additional Information

The type of button is not specified.

# **Revision History**

Revision Code	Date	Revision Description
01	March 2020	First edition

**OMRON Corporation Industrial Automation Company** 

Kyoto, JAPAN

Contact: www.ia.omron.com

Regional Headquarters OMRON EUROPE B.V.

Wegalaan 67-69, 2132 JD Hoofddorp The Netherlands Tel: (31)2356-81-300/Fax: (31)2356-81-388

OMRON ASIA PACIFIC PTE. LTD.

No. 438A Alexandra Road # 05-05/08 (Lobby 2), Alexandra Technopark, Singapore 119967 Tel: (65) 6835-3011/Fax: (65) 6835-2711

**OMRON ELECTRONICS LLC** 

2895 Greenspoint Parkway, Suite 200 Hoffman Estates, IL 60169 U.S.A. Tel: (1) 847-843-7900/Fax: (1) 847-843-7787

OMRON (CHINA) CO., LTD. Room 2211, Bank of China Tower, 200 Yin Cheng Zhong Road, PuDong New Area, Shanghai, 200120, China Tel: (86) 21-5037-2222/Fax: (86) 21-5037-2200 **Authorized Distributor:** 

© OMRON Corporation 2020 All Rights Reserved. In the interest of product improvement, specifications are subject to change without notice.

Cat. No. V458-E1-01

0420(0420)