



Programmable Terminal NA Series

Practice Guide IAG Collection for GI-S Safety I/O Terminal Unit Monitor

NA5-15□101□
NA5-12□101□

A large rectangular box with a yellow-to-orange gradient background and a thin orange border. The text "Practices Guide" is centered within the box in a white, sans-serif font.

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.

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- 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:

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- Unauthorized access.

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- Warranty Period: One year after your purchase. However, except when there is a separate statement in the catalogues.
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 - (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

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1 Related Manuals

No.	Model	Title
V117	NA5-15W□□□□ NA5-12W□□□□ NA5-9W□□□□ NA5-7W□□□□	Programmable Terminal NA Series Hardware USER'S MANUAL
V118	NA5-15W□□□□ NA5-12W□□□□ NA5-9W□□□□ NA5-7W□□□□	Programmable Terminal NA Series Software USER'S MANUAL
V119	NA5-15W□□□□ NA5-12W□□□□ NA5-9W□□□□ NA5-7W□□□□	Programmable Terminal NA Series Device Connection USER'S MANUAL
V120	NA5-15W□□□□ NA5-12W□□□□ NA5-9W□□□□ NA5-7W□□□□	Programmable Terminal NA Series STARTUP GUIDE
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 February 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.

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3 Overview

3-1 Overview

This document describes the IAG collection that directly reads the information of GI-S Series Safety I/O Terminal Unit which connected with NA Series HMI.

- IAG external specifications
- IAG installation on a screen

IAG	Icon	Description
LEDStatus_Monitor		Monitors LED statuses.

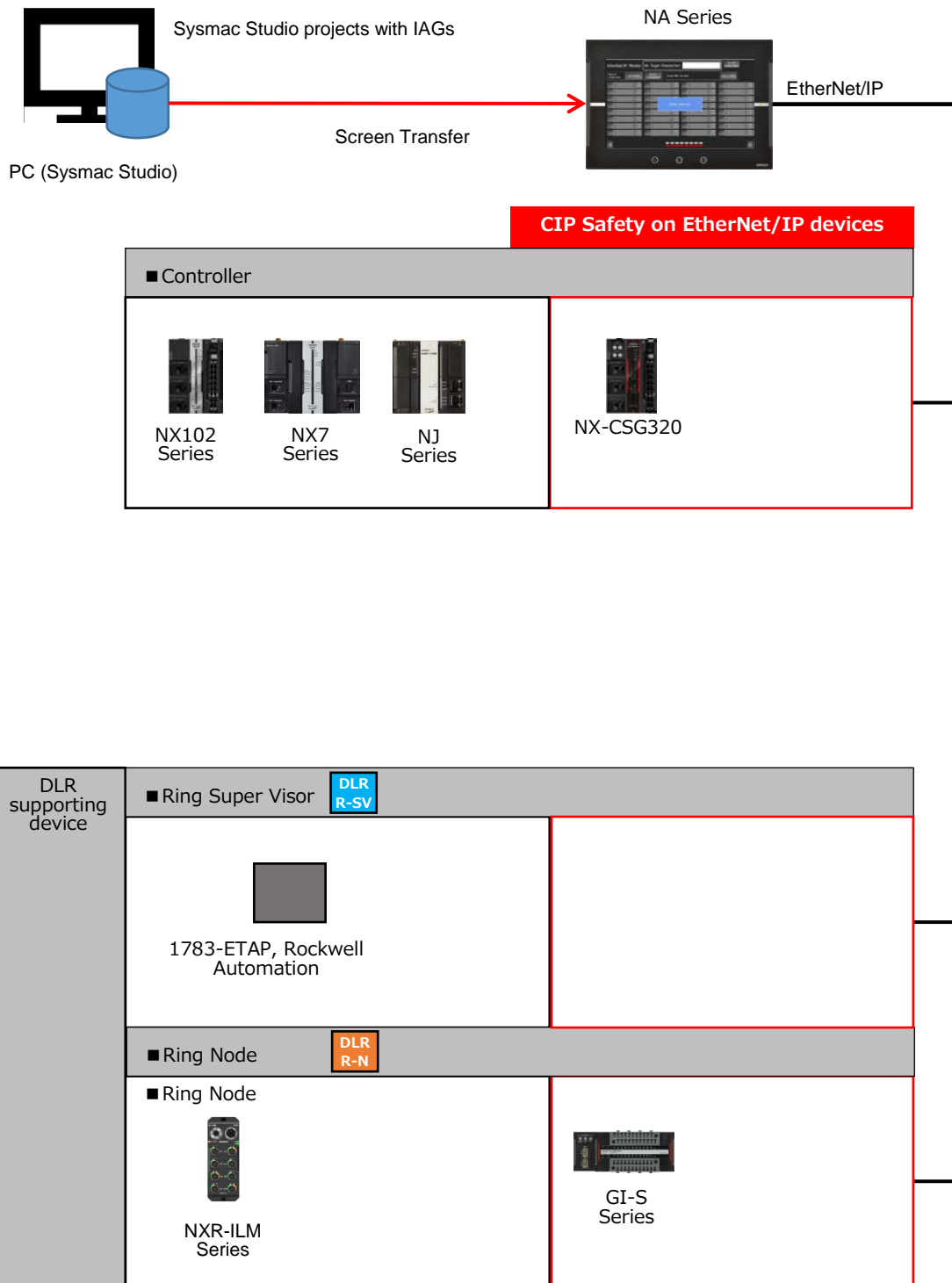
The IAG is included in the IAG collection file below.

File name	Description
GI_S_D_Monitor_IAG_12inch_RevA.iag	For "RevA", the underlined letter stands for version.

Ask an 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 library versions.	The version can be checked in the Sysmac Studio IAG Collections Manager pop-up.
IAG	Version of each IAG. It manages specification change, bug correction, and others.	The version can be checked as an IAG property in IAG Collections Manager. Also, in Properties after located as an object.
NA	The version of NA with which IAG has been created. IAG library is not applicable to older versions than that in this guide because supported functions depend on versions.	See Minimum supported HMI version in IAG Collections Manager.
NA OS	The version which NA runtime can operate. It differs according to NA's Runtime version.	System Menu of NA. It will be checked if necessary when you 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. 1.11 and later	
NA OS	Ver. 7.3.0 and later	

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

Supported Device	Version	Remarks
NX-CSG320	Ver. 1.00 and later	Operation tested with Ver. 1.00
NX102□□□□	Ver. 1.31 and later	Operation tested with Ver. 1.31
NX102□□□□	Ver. 1.18 and later	Operation tested with Ver. 1.18
NX7□□□□	Ver. 1.18 and later	Operation tested with Ver. 1.18
1783-ETAP	Ver. 2.02 and later	Operation tested with Ver. 2.02
GI-S□D□□□□	Ver. 1.2 and later	Operation tested with Ver. 1.2

5 IAG Descriptions


5-1 LEDStatus_Monitor

5-1-1 Specifications

- External Specifications

Object	LEDStatus_Monitor
Category	GI_S_D_Monitor_IAG_12inch
Functions	<ul style="list-style-type: none"> Reads and displays the LED statuses of GI-S Series Safety I/O Terminal Unit with a specified IP address. Reads and displays the device information of the GI-S Series Safety I/O Terminal Unit. Shows error details and solutions that LEDs indicate. Detects and notifies failed communications between NA and GI-S Series Safety I/O Terminal Unit.
Graphics	<p>This IAG consists of one screen and three pop-up windows.</p> <p>The diagram illustrates the graphical user interface for the LED Status Monitor. It features a central 'LED Status Screen' which displays a grid of LED indicators and status information. Three pop-up windows are shown: <ul style="list-style-type: none"> Error Details and Solutions Window: Accessed from the LED Status Screen, it provides a detailed view of error messages and offers solutions. Device Information Window: Accessed from the LED Status Screen, it displays technical details such as Model, Unit version, Lot No., Serial No., Hardware version, and MAC address. Communication Error Window: Triggered by a 'Communication error' from the LED Status Screen, it shows a warning message and a 'Back' button to return to the main screen. </p> <p>To the page with the name of the PreviousPageName</p>

● Screen Specifications

LED Status Screen	<p>On this screen, the information and LED statuses of the Safety I/O Terminal Unit are displayed.</p> 
-------------------	---

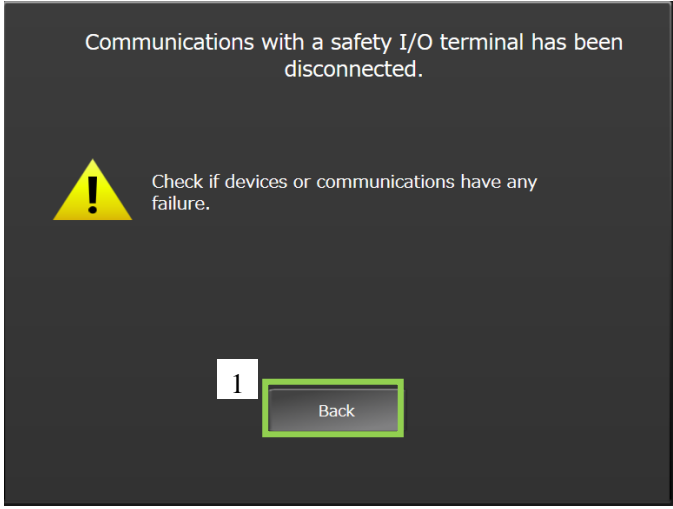
User I/F Specifications		
No	Part	Description
1	Data Display	Selected Safety I/O Terminal Unit's device name is displayed.
2	Data Display	Selected Safety I/O Terminal Unit's IP address is displayed.
3	Label	Displays LED indicator's updating status.
4	Data Lamp	Represents selected Safety I/O Terminal Unit's power LEDs and safety I/O LEDs.
5	Button	Displays Error Details Window.
6	Button	Displays Device Information Window.
7	Label	Displays Communication Error Window when a communication error occurs.
Layout		
Properties	Default	Description
Position (Left, Up)		Fixed
Size (Width, Height)		Fixed

Error Details and Solutions Window

This screen shows the errors that LEDs stand for and the solutions for them.

LED indication				Error	Operation	Value of IO Pin	Assumed cause	Correction	Recovery
IN n	IN n+1	OUT n	OUT n+1						
LED yellow	LED yellow	LED yellow	LED yellow	---	Status is normal	---	---	---	---
LED red	---	---	---	Error at Input Circuit (In single channel mode)	IO terminals enter the safe state.	Safety Input Status: FALSE	The positive power supply wire is in contact with the input signal line. Short circuit with other wiring.	Check the wiring. Replace the external device.	When safety input terminal goes inactive (OFF) and error latch time passes after cause of error is removed
LED red	Flashing red	---	---	Error at Input Circuit (With IN n LED) (In dual channel mode)		Safety Input Status: FALSE	The positive power supply wire is in contact with the input signal line. The input signal lines are shorted.	Check the wiring. Replace the external device.	
LED red	LED red	---	---	Discrepancy Error at Safety Input		Safety Input Status: FALSE	The input signal line is disconnected. The external device is faulty. The discrepancy time is invalid.	Check the wiring. Replace the external device. Re-evaluate the set time.	

User I/F Specifications		
No	Part	Description
1	Button	Displays the previous page.
2	Button	Displays the next page.
3	Button	Closes this window.
Layout		
Properties	Default	Description
Position (Left, Up)		Fixed
Size (Width, Height)		Fixed

Communication Error Window	This pop-up window notifies that communications between NA and Safety I/O Terminal Unit has been failed and quits displaying this IAG.
	

User I/F Specifications		
No	Part	Description
1	Button	Switches to the page with the name of the PreviousPageName variable.
Layout		
Properties	Default	Description
Position (Left, Up)		Fixed
Size (Width, Height)		Fixed

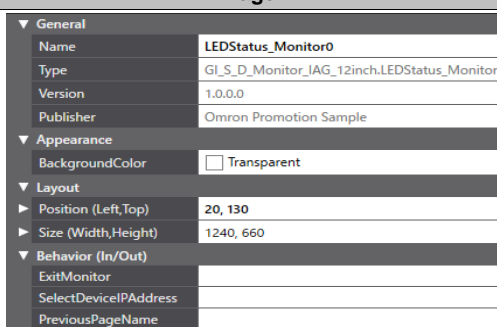
Device Information Window	This window shows the device information.

User I/F Specifications		
No	Part	Description
1	Data Display	Unit model is displayed.
2	Data Display	Unit version is displayed.
3	Data Display	Lot number is displayed.
4	Data Display	Serial number is displayed.
5	Data Display	Hardware version is displayed.
6	Data Display	MAC address is displayed.
7	Button	Closes this window.
Layout		
Properties	Default	Description
Position (Left, Up)		Fixed
Size (Width, Height)		Fixed

● 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)	LEDStatus_Monitor0
Type	Object type. Not changeable.	-	-	GI_S_D_Monitor_IA G_12inch.LEDStatus_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 ¹
Layout				
▼ Position (Left , Top)	Position setting of an object in a page. ²	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	-
Top	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 displayed unit	Variable specification	String	(Blank)
PreviousPageName	Page name that changes after the end of this page	Variable specification	String	(Blank)
ExitMonitor	The flag to exit GI-S Monitor	Variable specification	Boolean	(Blank)

Image



1: Transparent

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



Precautions for Correct Use

In the usage described in this document, do not set the In/Out variables “ExitMonitor” and leave them blank to avoid unintended behaviors.

- Version History

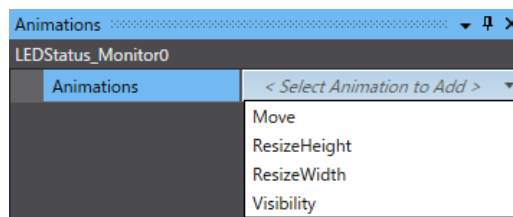
IAG version	Description	IAG collection version
1.0.0.0	First edition	Ver1.00

- Events & Actions

No events and actions

- Animations

Basic motions can be defined.



- Security

No security function available.

5-2-2 Installation to Screen

This IAG is intended to be used as the following:

- When the button for GI-S Series Unit, which is displayed by the IAG “EtherNet_IP_Network Monitor” or IAG “DLR_Monitor” located on another page, is pressed, the currently displayed page switches to the page with this IAG and the IAG accesses to the Unit to receive the necessary information to display.
- Pressing the **Back** button in a page works as the trigger to back to the previously displayed screen.

To use these functionalities, implement the settings described below.

● Events and Actions Settings for IAG on the page before transition

Set the action **ShowPage** for the event SelectGI_S in IAG “EtherNet_IP_NetworkMonitor” or IAG “DLR_Monitor” and enter the page name in which the IAG is placed.

Event	Description
SelectGI_S	Executed when a GI-Series Unit is selected.

● Property Assignment for IAG on the page before transition

Assign the following properties (Input/Output) of IAG “EtherNet_IP_NetworkMonitor” or IAG “DLR_Monitor” to the following variable.

Property (Input/Output)	Description	Variable Name	Data Type
SelectDeviceIPAddress	IP address of the displayed unit	SelectDeviceAddress	String
CurrentPageName	Page name where this IAG is located	PreviousPageName	String

● Property Assignment for IAG “DLR Monitor”

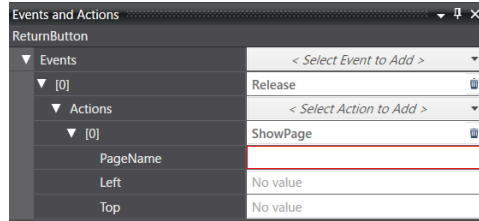
Assign the following properties (Input/Output) of this IAG to the following variable.

Property (Input/Output)	Description	Variable Name	Data Type
SelectDeviceIPAddress	IP address of the displayed unit	SelectDeviceAddress	String
PreviousPageName	Page name that changes after the end of this page	PreviousPageName	String

The IP address and the page before transition information is shared by this operation.

- Screen setting

Place a button in the page where this IAG is placed. Set the event “click” and the action “ShowPage” and enter the page name in which IAG “EtherNet/IP NetworkMonitor” is placed.

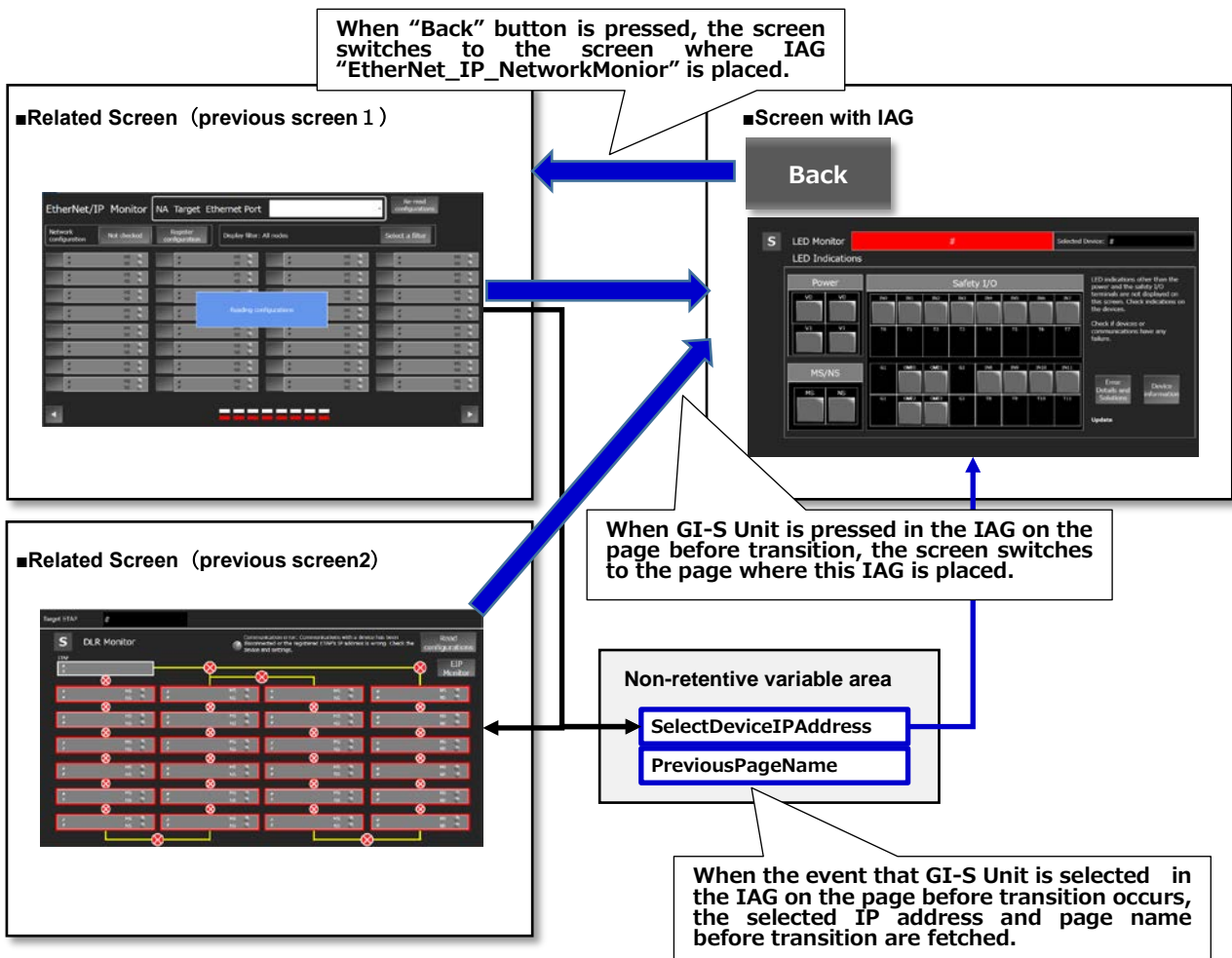


Enter the name of the page where IAG “EtherNet_IP_NetworkMonitor” is placed.



Additional Information

The button does not need to be a momentary button because its purpose is to change the page.



Revision History

Revision Code	Date	Revision Description
01	February 2020	First edition

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