



Process Expert - General Purpose Library Classic

Diagnostics Control Services Reference Manual

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As part of a group of responsible, inclusive companies, we are updating our communications that contain non-inclusive terminology. Until we complete this process, however, our content may still contain standardized industry terms that may be deemed inappropriate by our customers.

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Safety Information

Important Information

Read these instructions carefully, and look at the equipment to become familiar with the device before trying to install, operate, service, or maintain it. The following special messages may appear throughout this documentation or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.



The addition of this symbol to a "Danger" or "Warning" safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

DANGER

DANGER indicates a hazardous situation which, if not avoided, **will result in** death or serious injury.

WARNING

WARNING indicates a hazardous situation which, if not avoided, **could result in** death or serious injury.

CAUTION

CAUTION indicates a hazardous situation which, if not avoided, **could result in** minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to physical injury.

Please Note

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction and operation of electrical equipment and its installation, and has received safety training to recognize and avoid the hazards involved.

Qualification of Personnel

A qualified person is one who has the following qualifications:

- Skills and knowledge related to the construction and operation of electrical equipment and the installation.
- Knowledge and experience in industrial control programming.
- Received safety-related training to recognize and avoid the hazards involved.

The qualified person must be able to detect possible hazards that may arise from parameterization, modifying parameter values and generally from mechanical,

electrical, or electronic equipment. The qualified person must be familiar with the standards, provisions, and regulations for the prevention of industrial accidents, which they must observe when designing and implementing the system.

Proper Use

This product is a library to be used together with the automation control systems and is intended solely for the purposes described in the present documentation as applied in the industrial sector.

Always observe the applicable safety-related instructions, the specified conditions, and the technical data.

Perform a risk evaluation concerning the specific use before using the product. Take protective measures according to the result.

Since the product is used as a part of an overall system, you must ensure the safety of the personnel by means of the concept of this overall system (for example, machine concept).

Any other use is not intended and may be hazardous.

Before You Begin

Do not use this product on machinery lacking effective point-of-operation guarding. Lack of effective point-of-operation guarding on a machine can result in serious injury to the operator of that machine.

WARNING

UNGUARDED EQUIPMENT

- Do not use this software and related automation equipment on equipment which does not have point-of-operation protection.
- Do not reach into machinery during operation.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

This automation equipment and related software is used to control a variety of industrial processes. The type or model of automation equipment suitable for each application will vary depending on factors such as the control function required, degree of protection required, production methods, unusual conditions, government regulations, etc. In some applications, more than one processor may be required, as when backup redundancy is needed.

Only you, the user, machine builder or system integrator can be aware of all the conditions and factors present during setup, operation, and maintenance of the machine and, therefore, can determine the automation equipment and the related safeties and interlocks which can be properly used. When selecting automation and control equipment and related software for a particular application, you should refer to the applicable local and national standards and regulations. The National Safety Council's Accident Prevention Manual (nationally recognized in the United States of America) also provides much useful information.

In some applications, such as packaging machinery, additional operator protection such as point-of-operation guarding must be provided. This is necessary if the operator's hands and other parts of the body are free to enter the pinch points or other hazardous areas and serious injury can occur. Software products alone cannot protect an operator from injury. For this reason the software cannot be substituted for or take the place of point-of-operation protection.

Ensure that appropriate safeties and mechanical/electrical interlocks related to point-of-operation protection have been installed and are operational before

placing the equipment into service. All interlocks and safeties related to point-of-operation protection must be coordinated with the related automation equipment and software programming.

NOTE: Coordination of safeties and mechanical/electrical interlocks for point-of-operation protection is outside the scope of the Function Block Library, System User Guide, or other implementation referenced in this documentation.

Start-up and Test

Before using electrical control and automation equipment for regular operation after installation, the system should be given a start-up test by qualified personnel to verify correct operation of the equipment. It is important that arrangements for such a check are made and that enough time is allowed to perform complete and satisfactory testing.

⚠ WARNING

EQUIPMENT OPERATION HAZARD

- Verify that all installation and set up procedures have been completed.
- Before operational tests are performed, remove all blocks or other temporary holding means used for shipment from all component devices.
- Remove tools, meters, and debris from equipment.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

Follow all start-up tests recommended in the equipment documentation. Store all equipment documentation for future references.

Software testing must be done in both simulated and real environments.

Verify that the completed system is free from all short circuits and temporary grounds that are not installed according to local regulations (according to the National Electrical Code in the U.S.A, for instance). If high-potential voltage testing is necessary, follow recommendations in equipment documentation to prevent accidental equipment damage.

Before energizing equipment:

- Remove tools, meters, and debris from equipment.
- Close the equipment enclosure door.
- Remove all temporary grounds from incoming power lines.
- Perform all start-up tests recommended by the manufacturer.

Operation and Adjustments

The following precautions are from the NEMA Standards Publication ICS 7.1-1995:

(In case of divergence or contradiction between any translation and the English original, the original text in the English language will prevail.)

- Regardless of the care exercised in the design and manufacture of equipment or in the selection and ratings of components, there are hazards that can be encountered if such equipment is improperly operated.

- It is sometimes possible to misadjust the equipment and thus produce unsatisfactory or unsafe operation. Always use the manufacturer's instructions as a guide for functional adjustments. Personnel who have access to these adjustments should be familiar with the equipment manufacturer's instructions and the machinery used with the electrical equipment.
- Only those operational adjustments required by the operator should be accessible to the operator. Access to other controls should be restricted to prevent unauthorized changes in operating characteristics.

About the Book

Document Scope

This document describes the function blocks (DFBs) and variables that are the constituents of the Control facets that are referenced in the diagnostics templates of the EcoStruxure Process Expert General Purpose Library for providing the Control services.

For a list of the process control module templates and the services that they provide, refer to the user guides mentioned in this document.

This document does not cover any development procedures and internal functionality details of the EcoStruxure Process Expert software.

This document is for users with knowledge of EcoStruxure Process Expert, and of the Control Participants.

Validity Note

This document has been updated for the release of EcoStruxure™ Process Expert 2023.

Related Documents

The characteristics that are described in the present document, as well as those described in the documents included in the Related Documents section below, can be found online. To access the information online, go to the Schneider Electric home page www.se.com/ww/en/download/.

The characteristics that are described in the present document should be the same as those characteristics that appear online. In line with our policy of constant improvement, We may revise content over time to improve clarity and accuracy. If you see a difference between the document and online information, use the online information as your reference.

Title of Documentation	Reference Number
EcoStruxure™ Process Expert - General Purpose Library Classic Diagnostics Templates Reference Manual	EIO0000001526
EcoStruxure™ Process Expert - General Purpose Library Classic Diagnostics Supervision Services Reference Manual	EIO0000001528
EcoStruxure Process Expert User Guide	EIO0000001114

Technical Support

Visit <https://www.se.com/myschneider/> for support, software updates, and latest information.

Product Related Information

⚠ WARNING

LOSS OF CONTROL

- Perform a Failure Mode and Effects Analysis (FMEA), or equivalent risk analysis, of your application, and apply preventive and detective controls before implementation.
- Provide a fallback state for undesired control events or sequences.
- Provide separate or redundant control paths wherever required.
- Supply appropriate parameters, particularly for limits.
- Review the implications of transmission delays and take actions to mitigate them.
- Review the implications of communication link interruptions and take actions to mitigate them.
- Provide independent paths for control functions (for example, emergency stop, over-limit conditions, and error conditions) according to your risk assessment, and applicable codes and regulations.
- Apply local accident prevention and safety regulations and guidelines.¹
- Test each implementation of a system for proper operation before placing it into service.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

¹ For additional information, refer to NEMA ICS 1.1 (latest edition), *Safety Guidelines for the Application, Installation, and Maintenance of Solid State Control* and to NEMA ICS 7.1 (latest edition), *Safety Standards for Construction and Guide for Selection, Installation and Operation of Adjustable-Speed Drive Systems* or their equivalent governing your particular location.

Examples described in this manual are provided for this information only.

⚠ WARNING

UNINTENDED EQUIPMENT OPERATION

Adapt examples that are given in this manual to the specific functions and requirements of your industrial application before you implement them.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

Terminology Derived from Standards

The technical terms, terminology, symbols and the corresponding descriptions in this manual, or that appear in or on the products themselves, are generally derived from the terms or definitions of international standards.

In the area of functional safety systems, drives and general automation, this may include, but is not limited to, terms such as safety, safety function, safe state, fault, fault reset, malfunction, failure, error, error message, dangerous, etc.

Among others, these standards include:

Standard	Description
IEC 61131-2:2007	Programmable controllers, part 2: Equipment requirements and tests.
ISO 13849-1:2015	Safety of machinery: Safety related parts of control systems. General principles for design.
EN 61496-1:2013	Safety of machinery: Electro-sensitive protective equipment.

Standard	Description
	Part 1: General requirements and tests.
ISO 12100:2010	Safety of machinery - General principles for design - Risk assessment and risk reduction.
EN 60204-1:2006	Safety of machinery - Electrical equipment of machines - Part 1: General requirements.
ISO 14119:2013	Safety of machinery - Interlocking devices associated with guards - Principles for design and selection.
ISO 13850:2015	Safety of machinery - Emergency stop - Principles for design.
IEC 62061:2015	Safety of machinery - Functional safety of safety-related electrical, electronic, and electronic programmable control systems.
IEC 61508-1:2010	Functional safety of electrical/electronic/programmable electronic safety-related systems: General requirements.
IEC 61508-2:2010	Functional safety of electrical/electronic/programmable electronic safety-related systems: Requirements for electrical/electronic/programmable electronic safety-related systems.
IEC 61508-3:2010	Functional safety of electrical/electronic/programmable electronic safety-related systems: Software requirements.
IEC 61784-3:2016	Industrial communication networks - Profiles - Part 3: Functional safety fieldbuses - General rules and profile definitions.
2006/42/EC	Machinery Directive
2014/30/EU	Electromagnetic Compatibility Directive
2014/35/EU	Low Voltage Directive

In addition, terms used in the present document may tangentially be used as they are derived from other standards such as:

Standard	Description
IEC 60034 series	Rotating electrical machines
IEC 61800 series	Adjustable speed electrical power drive systems
IEC 61158 series	Digital data communications for measurement and control – Fieldbus for use in industrial control systems

Finally, the term zone of operation may be used in conjunction with the description of specific hazards, and is defined as it is for a hazard zone or danger zone in the Machinery Directive (2006/42/EC) and ISO 12100:2010.

NOTE: The aforementioned standards may or may not apply to the specific products cited in the present documentation. For more information concerning the individual standards applicable to the products described herein, see the characteristics tables for those product references.

Overview

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Overview

EcoStruxure Process Expert provides resources that have been pre-configured and tested by Schneider Electric and that are designed for automating a large variety of processes.

The control and monitoring resources for process control provides the most common required functions, facilitating the development of control systems by incorporating diagnostic functions.

To automate and simplify the implementation process of control systems, you can use these resources together with tools for code generation and for the synchronization of control and monitoring subsystems.

This document describes the basic concepts and details behind each one of the function blocks (DFBs) for implementing common cross-process and cross-market Control functions.

Diagnostic Control Services

What's in This Chapter

Diagnostic Control Composite and Facet Templates.....	14
List of Function Blocks	15

Overview

This chapter describes how the Control services of the Diagnostic Templates of the Global Templates library are made available to you through EcoStruxure Process Expert and the embedded Control Participant.

Diagnostic Control Composite and Facet Templates

Introduction

Within the Diagnostic control module templates (see EcoStruxure™ Process Expert, User Guide), the resources for Control are templated in Composite and Facet templates, which are referred to as references.

Control Composite References

A Control composite reference is composed of 1 or more other composite references and/or 1 or more facet references. Typically, a Control composite reference contains:

- Core Control resources that provide the core functions of the process template
- Optional Control resources. The EcoStruxure Process Expert software allows you to activate or deactivate these additional resources (see EcoStruxure™ Process Expert, User Guide).

Control Facet References

The facet references are the smallest component of a diagnostic template, Control facet references encapsulate the constituent from the participant, which is embedded in the EcoStruxure Process Expert software.

During the Generation stage (see EcoStruxure™ Process Expert, User Guide), these constituents, which are the function blocks and variables described in this document, create the logic of the Control (see EcoStruxure™ Process Expert, User Guide) project that you have defined in EcoStruxure Process Expert.

You can configure the parameters of the Control services:

- At the Control facet template level during the Instantiation stage (see EcoStruxure™ Process Expert, User Guide) using the EcoStruxure Process Expert software and/or,
- At the DFB level during the Refinement stage (see EcoStruxure™ Process Expert, User Guide) using the Control participant.

List of Function Blocks

Description

The following table lists the function blocks that are available for each family of diagnostics :

Family name	Function blocks	Description
Diagnostics function block	GENSTS, page 17	General status.
	OSINFO, page 19	Operating system information.
	MASTINFO, page 21	Mast task information.
	LASTSTOP, page 23	Last stop information.
	COMM, page 25	Communication diagnostics.
	RTC, page 27	Real time clock.
	BATT, page 29	Battery diagnostics.
	FASTINFO, page 31	FAST task diagnostics.
	AUX0INFO, page 33	AUX0 task diagnostics.
	AUX1INFO, page 35	AUX1 task diagnostics.
	AUX2INFO, page 37	AUX2 task diagnostics.
	AUX3INFO, page 39	AUX3 task diagnostics.
NOE monitoring template	HSBY_STS, page 42	Hot standby configuration and pulse.
	NOEMONITOR, page 44	NOE monitor.
	SYNTHFAULT, page 49	Diagnostic information of <i>NOEMONITOR</i> .
	SWITCHOVERMGT, page 51	Switch over management.

Diagnostics Function Block


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GENSTS - General Status	17
OSINFO - Operating System Information	19
MASTINFO - Mast Task Information.....	21
LASTSTOP - Last Stop Information	23
COMM - Communication Diagnostics	25
RTC - Real Time Clock	27
BATT - Battery Diagnostics	29
FASTINFO - FAST Task Diagnostics	31
AUX0INFO – AUX0 Task Diagnostics	33
AUX1INFO – AUX1 Task Diagnostics	35
AUX2INFO – AUX2 Task Diagnostics	37
AUX3INFO - AUX3 Task Diagnostics	39

Overview

This part provides the detailed description of the functional block for hardware diagnostics.

These function blocks do not reflect any specific installation.

 **WARNING**

LOSS OF CONTROL

- Perform a Failure Mode and Effects Analysis (FMEA), or equivalent risk analysis, of your application, and apply preventive and detective controls before implementation.
- Provide a fallback state for undesired control events or sequences.
- Provide separate or redundant control paths wherever required.
- Supply appropriate parameters, particularly for limits.
- Review the implications of transmission delays and take actions to mitigate them.
- Review the implications of communication link interruptions and take actions to mitigate them.
- Provide independent paths for control functions (for example, emergency stop, over-limit conditions, and error conditions) according to your risk assessment, and applicable codes and regulations.
- Apply local accident prevention and safety regulations and guidelines.¹
- Test each implementation of a system for proper operation before placing it into service.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

¹ For additional information, refer to NEMA ICS 1.1 (latest edition), *Safety Guidelines for the Application, Installation, and Maintenance of Solid State Control* and to NEMA ICS 7.1 (latest edition), *Safety Standards for Construction and Guide for Selection, Installation and Operation of Adjustable-Speed Drive Systems* or their equivalent governing your particular location.

GENSTS - General Status

What's in This Chapter

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DFB Representation	17
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Inputs/Outputs	17

Overview

This chapter describes the GENSTS DFB.

Description

General

This chapter describes the Control Expert components provided by the GENSTS DFB.

DFB Representation

Representation

The following figure represents GENSTS DFB:



Inputs

Input Parameter Description

Name	Data type	Description
SCANTIME	TIME	Provides the scantime required for monitoring watchdog overflow.

Inputs/Outputs

Input/Output Parameter Description

Name	Data type	Description
GENSTS_ST	GENSTS_ST_DDT	Provides the data required for monitoring.

GENSTS_ST_DDT Type

Name	Data type	Description
SYSBITW	Word	system word.
COUNTER	Int	Integer variable with a value ranging from 0...100.Used in monitoring in order to indicate that the MAST task is being executed.

SYSBITW Word

Bit	Description
0	Indicates a cold CPU boot. The Control Expert %S1 system bit is mapped directly. Has no effect on monitoring.
1	Indicates a warm CPU boot. The Control Expert %S1 system bit is mapped directly. Has no effect on monitoring.
2	<ul style="list-style-type: none"> Shows the I/O status of the controller. The equivalent of the IO LED on the physical panel of the CPU. Indicates an error detected when its value is 1. Is the NOT'd mapping for the Control Expert %S10 bit.
3	<p>Indicates watchdog overflow.</p> <p>The bit is set to 1 when the watchdog is skipped.</p> <p>The Control Expert %S1 system bit is mapped directly. Has no effect on monitoring.</p>

OSINFO - Operating System Information

What's in This Chapter

Description	19
DFB Representation	19
Inputs/Outputs	19

Overview

This chapter describes the `OSINFO` DFB.

Description

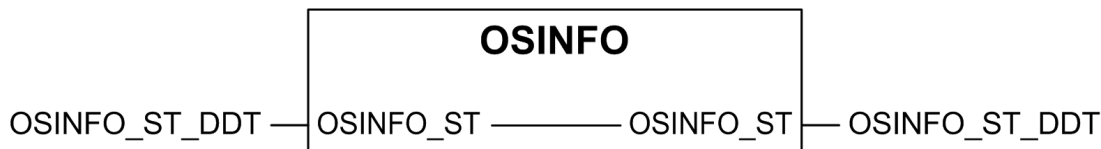
Functional Description

The *OSINFO* DFB provides the information regarding the operating system.

DFB Representation

Representation

The following figure represents `OSINFO` DFB:



Inputs/Outputs

Input/Output Parameter Description

Name	Data type	Description
<code>OSINFO_ST</code>	<code>OSINFO_ST_DDT</code>	Provides the data for monitoring.

OSINFO_ST_DDT Type

Name	Data type	Description
CPUVER	Int	Stores the version of the controller. Direct mapping of the %SW14 system word.
CPUPATCH	Int	Stores the version of the patch for the processor. Direct mapping of the %SW15 system word.
CPUFIRM	Int	Stores the firmware revision number of the CPU. Direct mapping of the %SW16 system word.

MASTINFO - Mast Task Information

What's in This Chapter

Description	21
DFB Representation	21
Inputs/Outputs	21

Overview

This chapter describes the MASTINFO DFB.

Description

Functional Description

This chapter describes the Control Expert components provided by the MASTINFO DFB.

DFB Representation

Representation

The following figure represents MASTINFO DFB:



Inputs/Outputs

Input/Output Parameter Description

Name	Data type	Description
MASTINFO_ST	MASTINFO_ST_DDT	Provides the data required for monitoring.

MASTINFO_ST_DDT Type

Name	Data type	Description
CURRTIME	Int	Provides the duration of last scan cycle of the controller. Direct mapping of the %SW30 system word.
MAXTIME	Int	Provides the duration of longest task cycle since the last cold start. Direct mapping of the %SW31 system word.

Name	Data type	Description
MINTIME	Int	Provides the duration of shortest task cycle since the last cold start. Direct mapping of the %SW32 system word.
WDGVALUE	Int	Provides the value to configure the MAST task watchdog.
NOTE: Durations are in millisecond.		

LASTSTOP - Last Stop Information

What's in This Chapter

Description	23
DFB Representation	23
Inputs/Outputs	23

Overview

This chapter describes the LASTSTOP DFB.

Description

Functional Description

The LASTSTOP DFB is included in the CPUDIAG component. This is an optional DFB and you can delete it from the generated code.

This DFB maps the time in which the last stop occurred.

DFB Representation

Representation

The following figure represents LASTSTOP DFB:



Inputs/Outputs

Input/Output Parameter Representation

Name	Data type	Description
LASTSTOP_ST	LASTSTOP_ST_DDT	Provides the data required for monitoring.

LASTSTOP_ST_DDT Type

Name	Data type	Description
STOPSEC	Int	Indicates the seconds corresponding to the time in which the last stop occurred. Represented in BCD format.
STOPHM	Int	Indicates the hour and minutes corresponding to the time of the last stop (HHMM). Represented in BCD format.

Name	Data type	Description
STOPMD	Int	Indicates the month and date of the last stop. Represented in BCD format.
STOPYEAR	Int	Indicates the year of the last stop. Represented in BCD format.
STOPDAY	Int	Indicates the day of the week (high byte) of the last stop and its causes (low byte). Represented in BCD format.
		High byte
		Meaning
		1 Monday
		2 Tuesday
		3 Wednesday
		4 Thursday
		5 Friday
		6 Saturday
		7 Sunday
		Low byte
		Meaning
		1 Indicates the transition from RUN to STOP caused by the terminal or dedicated input.
		2 Indicates stop due to program detected error (Controller or SFC task overflow).
		4 Indicates the power cutoff/outrage or memory card manipulation.
		5 Indicates the stop due to hardware detected error.
		6 Indicates the stop due to HALT command.

COMM - Communication Diagnostics

What's in This Chapter

Description	25
DFB Representation	25
Inputs/Outputs	25

Overview

This chapter describes the COMM DFB.

Description

Functional Description

The COMM DFB is included in the CPUDIAG component. This is an optional DFB and you can delete it from the generated code.

DFB Representation

Representation

The following figure represents COMM DFB:



Inputs/Outputs

Input/Output Parameter Description

Name	Data type	Description
COMM_ST	COMM_ST_DDT	Provides the data required for monitoring.

COMM_ST_DDT Type

Name	Data type	Description
CURRREQ	Int	Provides the number of requests processed per scan cycle. Direct mapping of the %SW87 system word.
MAXREQ	Int	Provides the maximum number of requests that the CPU can manage per scan cycle. Direct mapping of the %SW90 system word.
USEDCOMM	Int	Provides the percentage corresponding to the communication load on the controller that functions as a server, that is, the load on the control is due to the requests from the other devices (Controllers, and SCADAs).

RTC - Real Time Clock

What's in This Chapter

Description	27
DFB Representation	27
Inputs/Outputs	27

Overview

This chapter describes the `RTC` DFB.

Description

Functional Description

The `RTC` DFB is included in the CPUDIAG component. This is an optional DFB and you can delete it from the generated code. This DFB is used to set the real date and time in the controller.

NOTICE

ERRONEOUS DATA LOGGING

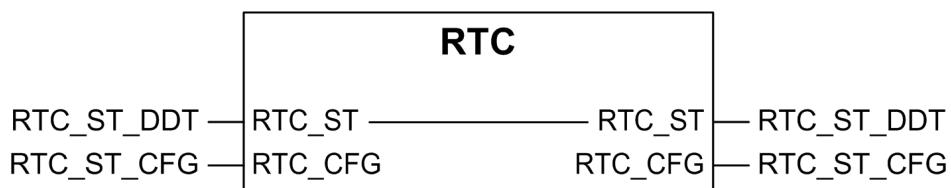
Confirm the input date and time before setting the date and time in the controller.

Failure to follow these instructions can result in data loss.

DFB Representation

Representation

The following figure represents `RTC` DFB:



Inputs/Outputs

Input/Output Parameter Description

Name	Data type	Description
<code>RTC_ST</code>	<code>RTC_ST_DDT</code>	Provides the data required for monitoring and data exchange.
<code>RTC_CFG</code>	<code>RTC_CFG_DDT</code>	Valid read-only access.

RTC_ST_DDT Type

Name	Data type	Description
ACTDATOFWEEK	Int	Provides the day of the week: 1: Monday 2: Tuesday, and so on Direct mapping of the %SW49 system word.
ACTSEC	Int	Provides the seconds corresponding to the current time. Direct mapping of the %SW50 system word.
ACTHOURMIN	Int	Provides the hours and minutes corresponding to the current time in HHMM format. Represented in BCD format. Direct mapping of the %SW51 system word.
ACTMONTHDAY	Int	Provides the current month and day in MMDD format. Represented in BCD format. Direct mapping of the %SW52 system word.
ACTYEAR	Int	Provides the current year in YYYY format. Direct mapping of the %SW53 system word. Represented in BCD format.

RTC_CFG_DDT Type

Name	Data type	Description
RTCWRITEW	Word	Word bit 0 is used to update the time of the controller. Write variable from the SCADA. Direct mapping with the %SW50 system bit.
NEWSEC	Word	Provides the seconds for the time that is adjusted from the monitoring system.
NEWMINUTE	Word	Provides the minutes for the time that is adjusted from the monitoring system.
NEWHOUR	Word	Provides the hours for the time that is adjusted from the monitoring system.
NEWDATE	Word	Provides the day of the month that is adjusted from the monitoring system.
NEWMONTH	Word	Provides the number of the month for the date that is adjusted from the monitoring system.
NEWYEAR	Word	Provides the number of the year for the date that is adjusted from the monitoring system.

BATT - Battery Diagnostics

What's in This Chapter

Description	29
DFB Representation	29
Inputs/Outputs	29

Overview

This chapter describes the `BATT` DFB.

Description

Functional Description

The `BATT` DFB is included in the CPUDIAG component. This is an optional DFB and you can delete it from the generated code.

This DFB retrieves the information of the battery status.

DFB Representation

Representation

The following figure represents `BATT` DFB:



Inputs/Outputs

Input/Output Parameter Description

Name	Data type	Description
<code>BATT_ST</code>	<code>BATT_ST_DDT</code>	Provides the data required for monitoring and data exchange. Valid read-only access.

`BATT_ST_DDT` Type

Name	Data type	Description
<code>SYSBITW</code>	Word	Indicates the system word.

SYSBITW Word

Bit	Description
0	Stores the status of the data and program storage battery: 0: Indicates that the battery is present and working correctly. 1: Indicates that the battery is absent or out of service. Mapping of the %S68 system bit.
1	Stores the status of the PCMCIA0 slot battery: 0: Indicates that the battery is working correctly. 1: Indicates that the battery is low in charge and needs to be replaced. Mapping of the %S67 system bit.
2	Stores the status of the PCMCIA1 slot battery: 0: Indicates that the battery is working correctly. 1: Indicates that the battery is low in charge and needs to be replaced. Mapping of the %S75 system bit.

NOTE: Data is available for the Quantum automation platform. The M340 platform does not use a battery, hence this data is not applicable for M340 platform.

FASTINFO - FAST Task Diagnostics

What's in This Chapter

Description	31
DFB Representation	31
Inputs/Outputs	31

Overview

This chapter describes the `FASTINFO` DFB.

Description

Functional Description

This DFB corresponds to the `FASTINFO` component. It needs to be executed in the FAST task of the controller.

DFB Representation

Representation

The following figure represents the `FASTINFO` DFB:



Inputs/Outputs

Input/Output Parameter Description

Name	Data type	Description
<code>FASTINFO_ST</code>	<code>FASTINFO_ST_DDT</code>	Provides the data required for monitoring and data exchange. Valid read-only access.

`FASTINFO_ST_DDT` Type

Name	Data type	Description
<code>CURRTIME</code>	<code>Int</code>	Provides the duration of last scan cycle of the controller. Direct mapping of the <code>%SW33</code> system word.
<code>MAXTIME</code>	<code>Int</code>	Provides the duration of longest task cycle since the last cold start.

Name	Data type	Description
		Direct mapping of the %SW34 system word.
MINTIME	Int	Provides the duration of shortest task cycle since the last cold start. Direct mapping of the %SW35 system word.
WDGVALUE	Int	Provides the value to configure the task watchdog. Direct mapping of the %SW11 system word.
NOTE: Durations are in millisecond.		

AUX0INFO – AUX0 Task Diagnostics

What's in This Chapter

Description	33
DFB Representation	33
Inputs/Outputs	33

Overview

This chapter describes the `AUX0INFO` DFB.

Description

Functional Description

The `AUX0INFO` DFB needs to be executed in the `AUX0` task of the controller.

DFB Representation

Representation

The following figure represents the `AUX0INFO` DFB:



Inputs/Outputs

Input/Output Parameter Description

Name	Data type	Description
<code>AUX0INFO_ST</code>	<code>AUX0INFO_ST_DDT</code>	Provides the data required for monitoring and data exchange. Valid read-only access.

`AUX0INFO_ST_DDT` Type

Name	Data type	Description
<code>CURRTIME</code>	<code>Int</code>	Provides the duration of last scan cycle of the controller. Direct mapping of the <code>%SW36</code> system word.
<code>MAXTIME</code>	<code>Int</code>	Provides the duration of longest task cycle since the last cold start.

Name	Data type	Description
		Direct mapping of the %SW37 system word.
MINTIME	Int	Provides the duration of shortest task cycle since the last cold start. Direct mapping of the %SW38 system word.
WDGVALUE	Int	Provides the value to configure the task watchdog. Direct mapping of the %SW11 system word.
NOTE: Durations are in milliseconds.		

AUX1INFO – AUX1 Task Diagnostics

What's in This Chapter

Description	35
DFB Representation	35
Inputs/Outputs	35

Overview

This chapter describes the `AUX1INFO` DFB.

Description

Functional Description

The `AUX1INFO` DFB needs to be executed in the AUX1 task of the controller.

DFB Representation

Representation

The following figure represents the `AUX1INFO` DFB:



Inputs/Outputs

Input/Output Parameter Description

Name	Data type	Description
<code>AUX1INFO_ST</code>	<code>AUX1INFO_ST_DDT</code>	Provides the data required for monitoring and data exchange. Valid read-only access.

`AUX1INFO_ST_DDT` Type

Name	Data type	Description
<code>CURRTIME</code>	<code>Int</code>	Provides the duration of last scan cycle of the controller. Direct mapping of the <code>%SW39</code> system word.
<code>MAXTIME</code>	<code>Int</code>	Provides the duration of longest task cycle since the last cold start.

Name	Data type	Description
		Direct mapping of the %SW40 system word.
MINTIME	Int	Provides the duration of shortest task cycle since the last cold start. Direct mapping of the %SW41 system word.
WDGVALUE	Int	Provides the value to configure the task watchdog. Direct mapping of the %SW11 system word.
NOTE: Durations are in milliseconds.		

AUX2INFO – AUX2 Task Diagnostics

What's in This Chapter

Description	37
DFB Representation	37
Inputs/Outputs	37

Overview

This chapter describes the `AUX2INFO` DFB.

Description

Functional Description

The `AUX2INFO` DFB needs to be executed in the AUX2 task of the controller.

DFB Representation

Representation

The following figure represents `AUX2INFO` DFB:



Inputs/Outputs

Input/Output Parameter Description

Name	Data type	Description
<code>AUX2INFO_ST</code>	<code>AUX2INFO_ST_DDT</code>	Provides the data required for monitoring and data exchange. Valid read-only access.

`AUX2INFO_ST_DDT` Type

Name	Data type	Description
<code>CURRTIME</code>	<code>Int</code>	Provides the duration of last scan cycle of the controller. Direct mapping of the <code>%SW42</code> system word.
<code>MAXTIME</code>	<code>Int</code>	Provides the duration of longest task cycle since the last cold start.

Name	Data type	Description
		Direct mapping of the %SW43 system word.
MINTIME	Int	Provides the duration of shortest task cycle since the last cold start. Direct mapping of the %SW44 system word.
WDGVALUE	Int	Provides the value to configure the task watchdog. Direct mapping of the %SW11 system word.
NOTE: Durations are in milliseconds.		

AUX3INFO - AUX3 Task Diagnostics

What's in This Chapter

Description	39
DFB Representation	39
Inputs/Outputs	39

Overview

This chapter describes the `AUX3INFO` DFB.

Description

Functional Description

The `AUX3INFO` DFB needs to be executed in the AUX3 task of the controller.

DFB Representation

Representation

The following figure represents `AUX3INFO` DFB:



Inputs/Outputs

Input/Output Parameter Description

Name	Data type	Description
<code>AUX3INFO_ST</code>	<code>AUX3INFO_ST_DDT</code>	Provides the data required for monitoring and data exchange. Valid read-only access.

`AUX3INFO_ST_DDT` Type

Name	Data type	Description
<code>CURRTIME</code>	<code>Int</code>	Provides the duration of last scan cycle of the controller. Direct mapping of the %SW45 system word.
<code>MAXTIME</code>	<code>Int</code>	Provides the duration of longest task cycle since the last cold start. Direct mapping of the %SW46 system word.

Name	Data type	Description
MINTIME	Int	Provides the duration of shortest task cycle since the last cold start. Direct mapping of the %SW47 system word.
WDGVALUE	Int	Provides the value to configure the task watchdog. Direct mapping of the %SW11 system word.
NOTE: Durations are in milliseconds.		

NOE Monitoring Template


What's in This Part

HSBY_STS - Hot Standby Configuration and Pulse	42
NOEMONITOR - NOE Monitoring	44
SYNTHFAULT - Diagnostic Information of NOEMONITOR	49
SWITCHOVERMGT - Switch Over Management	51

Overview

This part describes the NOE monitoring template.

These function blocks do not reflect any specific installation.

 **WARNING**

LOSS OF CONTROL

- Perform a Failure Mode and Effects Analysis (FMEA), or equivalent risk analysis, of your application, and apply preventive and detective controls before implementation.
- Provide a fallback state for undesired control events or sequences.
- Provide separate or redundant control paths wherever required.
- Supply appropriate parameters, particularly for limits.
- Review the implications of transmission delays and take actions to mitigate them.
- Review the implications of communication link interruptions and take actions to mitigate them.
- Provide independent paths for control functions (for example, emergency stop, over-limit conditions, and error conditions) according to your risk assessment, and applicable codes and regulations.
- Apply local accident prevention and safety regulations and guidelines.¹
- Test each implementation of a system for proper operation before placing it into service.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

¹ For additional information, refer to NEMA ICS 1.1 (latest edition), *Safety Guidelines for the Application, Installation, and Maintenance of Solid State Control* and to NEMA ICS 7.1 (latest edition), *Safety Standards for Construction and Guide for Selection, Installation and Operation of Adjustable-Speed Drive Systems* or their equivalent governing your particular location.

HSBY_STS - Hot Standby Configuration and Pulse

What's in This Chapter

Description	42
DFB Representation	42
Outputs	42

Overview

This chapter describes the *HSBY_STS* DFB.

Description

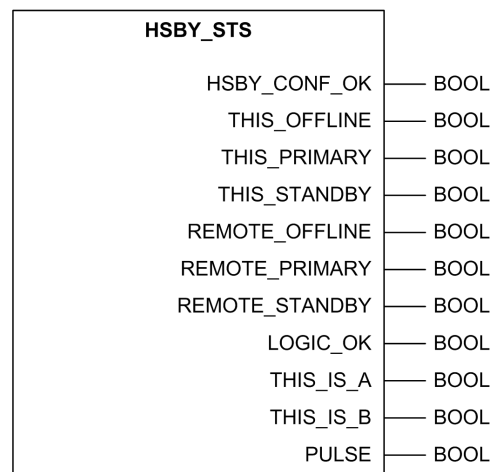
General

The *HSBY_STS* DFB generates pulse information and receives status about the Hot Standby CPU.

DFB Representation

Representation

The following figure represents the *HSBY_STS* DFB:



Outputs

Output Parameter Description

Name	Data type	Description
HSBY_CONF_OK	Bool	Refer to <i>Control Expert help</i> for <i>HSBY_ST</i> .
THIS_OFFLINE	Bool	1 = Controller is offline.
THIS_PRIMARY	Bool	1 = Controller is primary.
THIS_STANDBY	Bool	1 = Controller is standby.

Name	Data type	Description
REMOTE_OFFLINE	Bool	1 = Remote controller is offline.
REMOTE_PRIMARY	Bool	1 = Remote Controller is primary.
REMOTE_STANDBY	Bool	1 = Remote Controller is standby.
LOGIC_OK	Bool	1 = Programs for both Controllers are identical and application mismatch is active.
THIS_IS_A	Bool	This Controller selects the CPU with the lower IP address between both Hot Standby CPUs. 1 = Hot Standby CPU A.
THIS_IS_B	Bool	This Controller selects the CPU with the higher IP address between both Hot Standby CPUs. 1 = Hot Standby CPU B.
PULSE	Bool	1 = Provides a continuous pulse depending on Controller scan time.

NOEMONITOR - NOE Monitoring

What's in This Chapter

Description	44
DFB Representation	45
Inputs	45
Outputs	46
Inputs/Outputs	48

Overview

This chapter describes the *NOEMONITOR* DFB.

Description

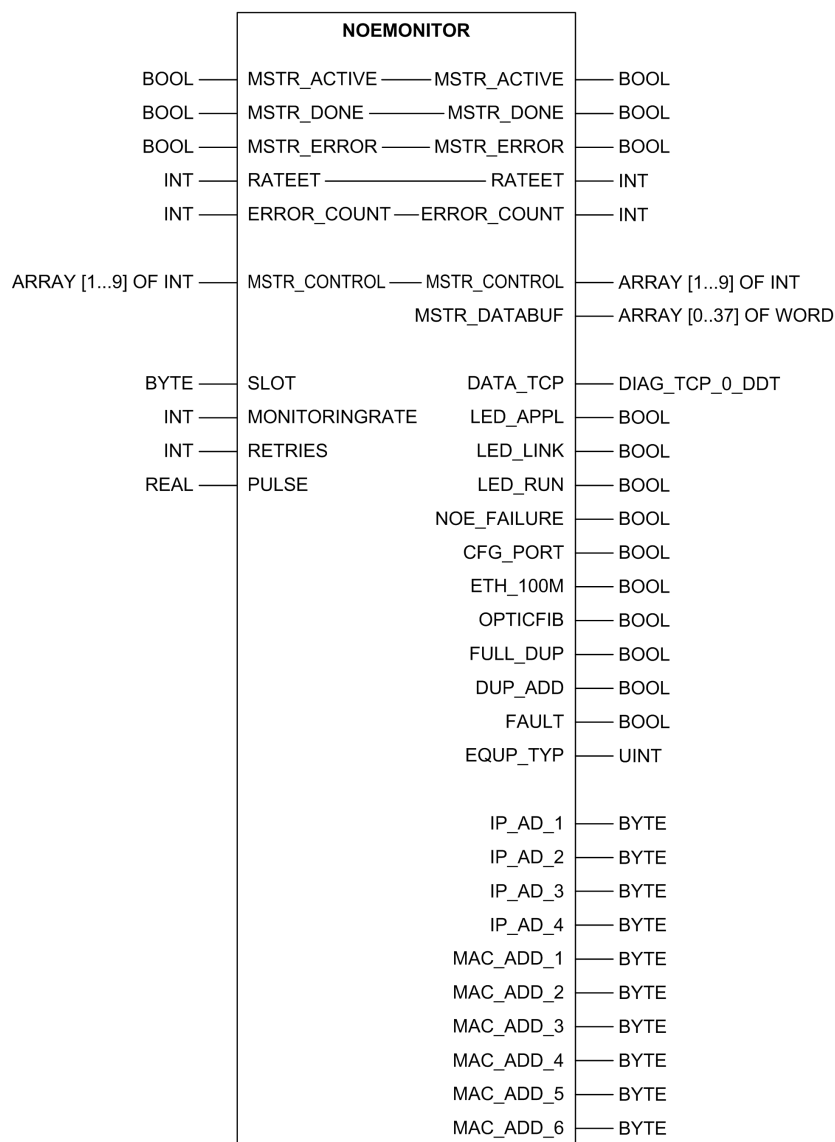
General

The *NOEMONITOR* DFB diagnoses the NOE module.

DFB Representation

Representation

The following figure represents the *NOEMONITOR* DFB:



Inputs

Input Parameter Description

Name	Data type	Description
EnableDFB	Bool	This input enables the normal execution of the control block. 1 = Enables communication with the devices for their operation.
SLOT	Bool	Enables you to enter the slot number of NOE monitor.
MONITORINGRATE	Bool	Enables you to enter the rate at which the DFB is to be monitored.

Name	Data type	Description
RETRIES	Bool	Enables you to enter the number of retries that you want with this DFB.
PULSE	Bool	Provides the continuous pulse for normal functioning of DFB.

Outputs

Output Parameter Description

Name	Data type	Description
MSTR_DATABUF	Array [0..37] of Word	The data field is the data source for operations providing data (for example, write operation). The data field is the data destination for operations receiving data (for example, read operation).
DATA_TCP	Diag_TCP_0_DDT	Refer to <i>Data_TCP_0_DDT</i>
LED_APPL	Bool	1 = Application is running.
LED_LINK	Bool	1 = Module is available for use by CPU in module.
LED_RUN	Bool	1 = Running
NOE_FAILURE	Bool	1 = Inoperable device
CFG_PORT	Bool	1 = Port configured
ETH_100M	Bool	1 = 100 Mbit/s speed 0 = 10 Mbit/s speed
OPTICFIB	Bool	1 = Optical fiber 0 = Twisted pair
FULL_DUP	Bool	1 = Full duplex 0 = Half duplex
DUP_ADD	Bool	1 = Both NOE have the same address.
FAULT	Bool	1 = Detected error in DFB.
EQUP_TYP	UInt	Equipment type of NOE Ethernet module.

MSTR_DATABUF

Type (Word)	Description								
00 to 02	MAC address For example, MAC address 00 00 54 15 DB 2E is displayed as: <table border="1"> <thead> <tr> <th>Word</th><th>Content</th></tr> </thead> <tbody> <tr> <td>00</td><td>16#0000</td></tr> <tr> <td>01</td><td>16#5415</td></tr> <tr> <td>02</td><td>16#DB2E</td></tr> </tbody> </table>	Word	Content	00	16#0000	01	16#5415	02	16#DB2E
Word	Content								
00	16#0000								
01	16#5415								
02	16#DB2E								
03	Board status This word contains the following bits:								

Type (Word)	Description																																						
	<table> <tr> <th>Bit</th><th>Description</th></tr> <tr> <td>15</td><td>0 = Link LED off; 1 = Link LED on</td></tr> <tr> <td>14</td><td>0 = Appl LED off; 1 = Appl LED on</td></tr> <tr> <td>13</td><td>0 = twisted pair; 1 = fiber</td></tr> <tr> <td>12</td><td>0 = 10 Mbit; 1 = 100 Mbit</td></tr> <tr> <td>11...8</td><td>Reserved</td></tr> <tr> <td>7...4</td><td> Module type – these bits present the following values: <table> <tr> <td>• 0 = NOE 2X1</td><td>• 8 = Reserved</td></tr> <tr> <td>• 1 = ENT</td><td>• 9 = Reserved</td></tr> <tr> <td>• 2 = M1E</td><td>• 10 = 140 NOE 771 10</td></tr> <tr> <td>• 3 = NOE 771 00</td><td>• 11 = 140 NOE 771 01</td></tr> <tr> <td>• 4 = ETY</td><td>• 12 = 140 NOE 771 11</td></tr> <tr> <td>• 5 = CIP</td><td>• 13 = Reserved</td></tr> <tr> <td>• 6 = Reserved</td><td>• 14 = Reserved</td></tr> <tr> <td>• 7 = 140 CPU 541 0X</td><td>• 15 = Reserved</td></tr> </table> </td></tr> <tr> <td>3</td><td>Reserved</td></tr> <tr> <td>2</td><td>0 = half duplex; 1 = full duplex</td></tr> <tr> <td>1</td><td>0 = not configured; 1 = configured</td></tr> <tr> <td>0</td><td>0 = PLC not running; 1 = PLC or NOE running</td></tr> </table>	Bit	Description	15	0 = Link LED off; 1 = Link LED on	14	0 = Appl LED off; 1 = Appl LED on	13	0 = twisted pair; 1 = fiber	12	0 = 10 Mbit; 1 = 100 Mbit	11...8	Reserved	7...4	Module type – these bits present the following values: <table> <tr> <td>• 0 = NOE 2X1</td><td>• 8 = Reserved</td></tr> <tr> <td>• 1 = ENT</td><td>• 9 = Reserved</td></tr> <tr> <td>• 2 = M1E</td><td>• 10 = 140 NOE 771 10</td></tr> <tr> <td>• 3 = NOE 771 00</td><td>• 11 = 140 NOE 771 01</td></tr> <tr> <td>• 4 = ETY</td><td>• 12 = 140 NOE 771 11</td></tr> <tr> <td>• 5 = CIP</td><td>• 13 = Reserved</td></tr> <tr> <td>• 6 = Reserved</td><td>• 14 = Reserved</td></tr> <tr> <td>• 7 = 140 CPU 541 0X</td><td>• 15 = Reserved</td></tr> </table>	• 0 = NOE 2X1	• 8 = Reserved	• 1 = ENT	• 9 = Reserved	• 2 = M1E	• 10 = 140 NOE 771 10	• 3 = NOE 771 00	• 11 = 140 NOE 771 01	• 4 = ETY	• 12 = 140 NOE 771 11	• 5 = CIP	• 13 = Reserved	• 6 = Reserved	• 14 = Reserved	• 7 = 140 CPU 541 0X	• 15 = Reserved	3	Reserved	2	0 = half duplex; 1 = full duplex	1	0 = not configured; 1 = configured	0	0 = PLC not running; 1 = PLC or NOE running
Bit	Description																																						
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2	0 = half duplex; 1 = full duplex																																						
1	0 = not configured; 1 = configured																																						
0	0 = PLC not running; 1 = PLC or NOE running																																						
04 and 05	Number of receiver interrupts																																						
06 and 07	Number of transmitter interrupts																																						
08 and 09	Detected error count due to transmit timeout																																						
10 and 11	Detected error count due to collision																																						
12 and 13	Missing packets																																						
14 and 15	Reserved																																						
16 and 17	Number of times that the driver has restarted																																						
18 and 19	Detected error due to receiver overflow																																						
20 and 21	Detected error due to receiver overflow																																						
22 and 23	Detected error due to receiver CRC																																						
24 and 25	Detected error due to receiver buffer																																						
26 and 27	Detected error due to transmitter buffer																																						
28 and 29	Transfer bin underflow counter																																						
30 and 31	Late collision																																						
32 and 33	Carrier is unavailable																																						
34 and 35	Number of retries																																						
36 and 37	IP address																																						

DATA_TCP_0_DDT Type

Name	Data type	Description
ADDRESS_MAC	Array [1..6] of Byte	MAC address of device
LEDs	Word	Indicates the status of tasks performed by CPU

Name	Data type	Description
Nb_Receiver_Stop	UDInt	Number of receiver interrupts
Nb_Transfer_Stop	UDInt	Number of transfer interrupts
Nb_Timeout_Transfer	UDInt	Detected error count due to transfer timeout
Nb_Collisions	UDInt	Detected error count due to collision
Nb_Omitted_Packets	UDInt	Omitted packets
Nb_Memory_Error	UDInt	Reserved
Nb_Restart_Driver	UDInt	Number of times that the driver has restarted
Nb_Err_Framing_Reciever	UDInt	Detected error count due to receiver framing
Nb_Err_Ovrflw_Reciever	UDInt	Detected error count due to receiver overflow
Nb_Err_CRC_Reciever	UDInt	Detected error count due to receiver CRC
Nb_Err_Buffer_Reciever	UDInt	Detected error count due to receiver buffer
Nb_Err_Buffer_Transfer	UDInt	Detected error count due to transfer buffer
Nb_Err_Underflw_Transfer	UDInt	Transmit bin underflow counter
Nb_Late_Collisions	UDInt	Late collision counter
Nb_Lost_carrier	UDInt	Lost carrier counter
Nb_Retries	UDInt	Number of retries
ADDRESS_IP	Array [1..4] of Byte	IP address of NOE Ethernet module

Inputs/Outputs

Input/Output Parameter Description

Name	Data type	Description
MSTR_ACTIVE	Bool	1 = The operation is active.
MSTR_DONE	Bool	1 = Completes the operation successfully.
ERROR_COUNT	Int	The number of times that the detected error has occurred.
MSTR_ERROR	Bool	1 = The operation is aborted without success.
MSTR_CONTROL	Array [1..9] of Int	This field contains the control block. <i>Refer to Control Expert help for MSTR_Control.</i>
RATEET	Int	This variable activates <i>MSTR_ACTIVE</i> .

SYNTHFAULT - Diagnostic Information of NOEMONITOR

What's in This Chapter

Description	49
DFB Representation	49
Inputs	49
Outputs	50

Overview

This chapter describes the *SYNTHFAULT* DFB.

Description

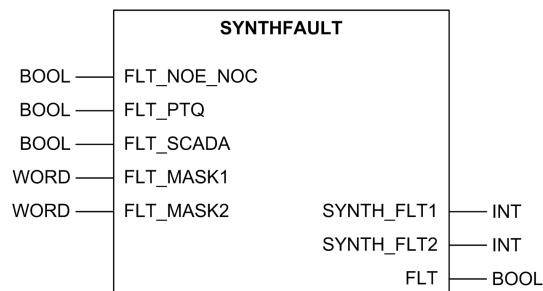
General

The *SYNTHFAULT* DFB provides the diagnostic information generated by *NOEMONITOR* DFB.

DFB Representation

Representation

The following figure represents the *SYNTHFAULT* DFB:



Inputs

Input Parameter Description

Name	Data type	Description
EnableDFB	Bool	This input enables the normal execution of the control block. 1 = Enables communication with the devices for their operation.
FLT_NOE_NOC	Bool	1 = Detected error synthesis of <i>NOE</i> and <i>NOC</i>
FLT_PTQ	Bool	1 = Detected error synthesis of <i>PTQ</i> .
FLT_SCADA	Bool	1 = Detected error synthesis of <i>SCADA</i> .

Name	Data type	Description																																																			
FLT_MASK1	Word	<p>Detected error mask 1.</p> <p>Enables you to enter the <i>FLT_MASK1</i> value using the following details:</p> <table> <tr> <th>Bit</th><th>Elements</th><th>Mask</th></tr> <tr> <td>Bit 0</td><td>Battery fault detected</td><td>1</td></tr> <tr> <td>Bit 1</td><td>CPU fault detected</td><td>1</td></tr> <tr> <td>Bit 2</td><td>General I/O rack fault detected</td><td>1</td></tr> <tr> <td>Bit 3</td><td>Fault detected on slot 3</td><td>1</td></tr> <tr> <td>Bit 4</td><td>Fault detected on slot 4</td><td>1</td></tr> <tr> <td>Bit 5</td><td>Fault detected on slot 5</td><td>1</td></tr> <tr> <td>Bit 6</td><td>Fault detected on slot 6</td><td>1</td></tr> <tr> <td>Bit 7</td><td>Fault detected on slot 7</td><td>0</td></tr> <tr> <td>Bit 8</td><td>Fault detected on slot 8</td><td>0</td></tr> <tr> <td>Bit 9</td><td>Fault detected on slot 9</td><td>0</td></tr> <tr> <td>Bit 10</td><td>Fault detected on slot 10</td><td>1</td></tr> <tr> <td>Bit 11</td><td>Fault detected on slot 11</td><td>0</td></tr> <tr> <td>Bit 12</td><td>Fault detected on slot 12</td><td>0</td></tr> <tr> <td>Bit 13</td><td>Fault detected on slot 13</td><td>0</td></tr> <tr> <td>Bit 14</td><td>Fault detected on slot 14</td><td>0</td></tr> <tr> <td>Bit 15</td><td>Fault detected on slot 15</td><td>0</td></tr> </table>	Bit	Elements	Mask	Bit 0	Battery fault detected	1	Bit 1	CPU fault detected	1	Bit 2	General I/O rack fault detected	1	Bit 3	Fault detected on slot 3	1	Bit 4	Fault detected on slot 4	1	Bit 5	Fault detected on slot 5	1	Bit 6	Fault detected on slot 6	1	Bit 7	Fault detected on slot 7	0	Bit 8	Fault detected on slot 8	0	Bit 9	Fault detected on slot 9	0	Bit 10	Fault detected on slot 10	1	Bit 11	Fault detected on slot 11	0	Bit 12	Fault detected on slot 12	0	Bit 13	Fault detected on slot 13	0	Bit 14	Fault detected on slot 14	0	Bit 15	Fault detected on slot 15	0
Bit	Elements	Mask																																																			
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Bit 1	CPU fault detected	1																																																			
Bit 2	General I/O rack fault detected	1																																																			
Bit 3	Fault detected on slot 3	1																																																			
Bit 4	Fault detected on slot 4	1																																																			
Bit 5	Fault detected on slot 5	1																																																			
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Bit 14	Fault detected on slot 14	0																																																			
Bit 15	Fault detected on slot 15	0																																																			
FLT_MASK2	Word	<p>Detected error mask 2.</p> <p>Enables you to enter the <i>FLT_MASK2</i> value using the following details:</p> <table> <tr> <th>Bit</th><th>Elements</th><th>Mask</th></tr> <tr> <td>Bit 0</td><td>Fault detected on slot 16</td><td>0</td></tr> <tr> <td>Bit 1</td><td>Ethernet Adapter(s) NOC/NOE fault detected</td><td>1</td></tr> <tr> <td>Bit 2</td><td>Profibus DP Adapter(s) fault detected</td><td>0</td></tr> <tr> <td>Bit 3</td><td>SCADA fault detected</td><td>0</td></tr> <tr> <td>Bits 4 to 16</td><td>-</td><td>0</td></tr> </table>	Bit	Elements	Mask	Bit 0	Fault detected on slot 16	0	Bit 1	Ethernet Adapter(s) NOC/NOE fault detected	1	Bit 2	Profibus DP Adapter(s) fault detected	0	Bit 3	SCADA fault detected	0	Bits 4 to 16	-	0																																	
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Outputs

Output Parameter Description

Name	Data type	Description
SYNTH_FLT1	Int	Detected error synthesis of PLC1.
SYNTH_FLT2	Int	Detected error synthesis of PLC2.
FLT	Bool	1 = Detected error.

SWITCHOVERMGT - Switch Over Management

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Overview

This chapter describes the *SWITCHOVERMGT* DFB.

Description

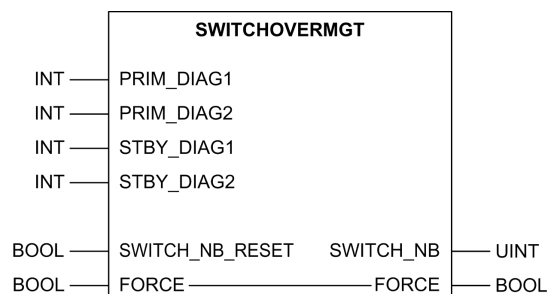
General

The *SWITCHOVERMGT* DFB executes the switchover when required.

DFB Representation

Representation

The following figure represents the *SWITCHOVERMGT* DFB:



Inputs

Input Parameter Description

Name	Data type	Description
EnableDFB	Bool	This input enables the normal execution of the control block. 1 = Enables communication with the devices for their operation.
PRIM_DIAG_1	Int	Primary diagnostic from detected error mask1.
PRIM_DIAG_2	Int	Primary diagnostic from detected error mask2.
STBY_DIAG_1	Int	Standby diagnostic from detected error mask1.

Name	Data type	Description
STBY_DIAG_2	Int	Standby diagnostic from detected error mask2.
SWITCH_NB_RESET	Bool	1 = Resets the switchover number.

Outputs

Output Parameter Description

Name	Data type	Description
SWITCH_NB	UInt	Requests for a switchover number.

Inputs/Outputs

Input/Output Parameter Description

Name	Data type	Description
FORCE	Bool	1 = Forces a switchover.

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As standards, specifications, and design change from time to time,
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