



# Process Expert - General Purpose Library Classic

## Diagnostics Templates Reference Manual

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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 diagnostics templates that are included in the General Purpose library of the EcoStruxure Process Expert software as well as the Control and Supervision services that they provide.

For a more detailed description of their associated Control and Supervision services and configuration parameters, refer to the user guides mentioned in this document.

The diagnostics templates are used to perform hardware diagnosis on the various existing Schneider Electric automation platforms.

This document does not cover any development procedures and internal functionality details.

## 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/](http://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 Control Services Reference Manual	EIO0000001527
EcoStruxure™ Process Expert - General Purpose Library Classic Diagnostics Supervision Services Reference Manual	EIO0000001528
EcoStruxure Process Expert User Guide	EIO0000001114
EcoStruxure Process Expert Runtime Navigation Services User Guide	EIO0000001574 (eng)

## 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.<sup>1</sup>
- 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.**

<sup>1</sup> 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 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.

# General Overview

## Overview

This chapter provides a general overview of the diagnostics templates that are part of the General Process Library of EcoStruxure Process Expert.

## Templates

### Description

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

Diagnostics templates model generic functionalities of process equipment but also hardwired signals from the field, and variables. They represent the application of the system.

They are used to implement the Control and Supervision services that are provided by the software Participants, streamlining the engineering of systems.

The resources providing these services are encapsulated in dedicated facet references, which are then organized in composite references.

At the highest level, the diagnostics template represents the control module.

The diagnostics templates allow you to monitor Schneider Electric controllers - M340, and Quantum. You can instantiate these templates in EcoStruxure Process Expert to create instances, which model the components of the automation system.

## Template Services

A facet template is a sub template which can consist of control, supervision, or genie components. It can be used to group properties and data that are related to the template. The facet editor allows you to view and/or edit the parameters, elements, or interfaces.

Facet templates referenced by EcoStruxure Process Expert General Purpose Library diagnostics templates provide the following services:

Control	Includes core services plus additional, optional services, which you can activate if needed. Function blocks and variables are the resources that are encapsulated in these facet templates to provide such services.
Supervision	Supervision services complement the Control services. Supervision services are optional and those corresponding to selected Control services are enabled by default. Tags, alarms, and genies are the resources that are encapsulated in these facet template to provide such services. Data is provided by the associated Control resources.

Also, for both Control and Supervision services, you can configure parameters during instantiation to meet the requirements of your application.

## List of Templates

### List of Families

You can find the templates in the Global Templates Library at the following location: *Global Templates\General Purpose Library\Diagnosis\Control Modules*

The following table lists theEcoStruxure Process ExpertGeneral Purpose Library diagnostics templates that are available for each family:

Family Name	Template Name	Description
Diagnostics templates	\$M340Diag, page 16	M340 CPU diagnostics
	\$QuantumDiag, page 17	Quantum CPU diagnostics
	\$NOEMonitoring, page 19	NOE monitoring template
	\$M580Diag, page 20	M580 CPU diagnostics

# Common Services

## Overview

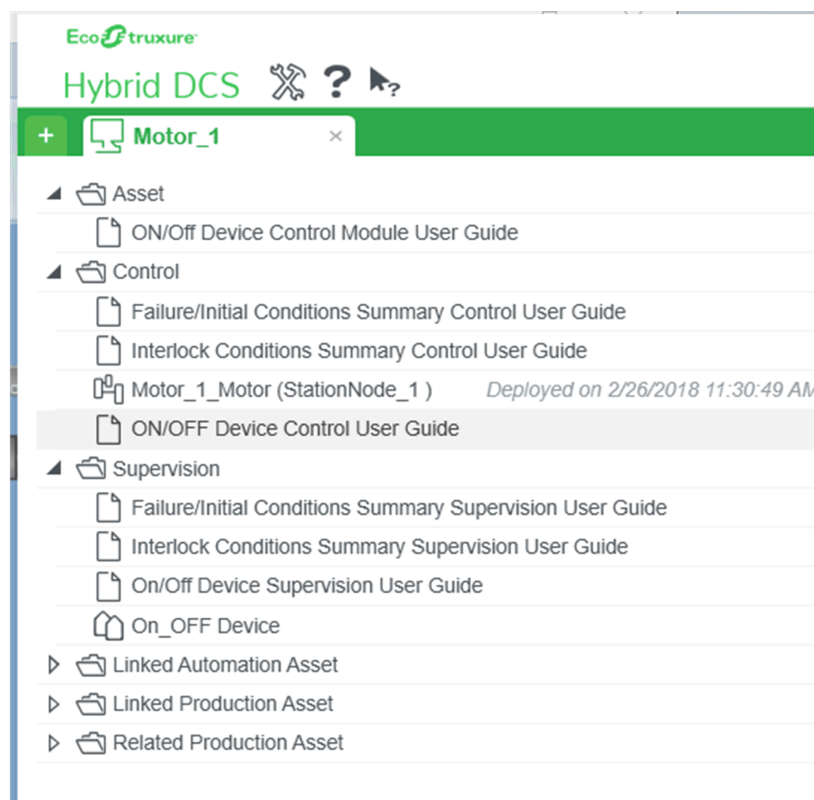
This chapter describes the different services that are common to the control modules.

## Accessing General Purpose Library User Guides and Technical Documents using RTNS Feature

### General Description

The General Purpose Library user guides and technical documents can be accessed using the Runtime Navigation Services (see EcoStruxure™ Process Expert, Runtime Navigation Services , User Guide ) provided by the EcoStruxure Process Expert.

In the Operation Client, the user guides are segregated as shown in the image below.

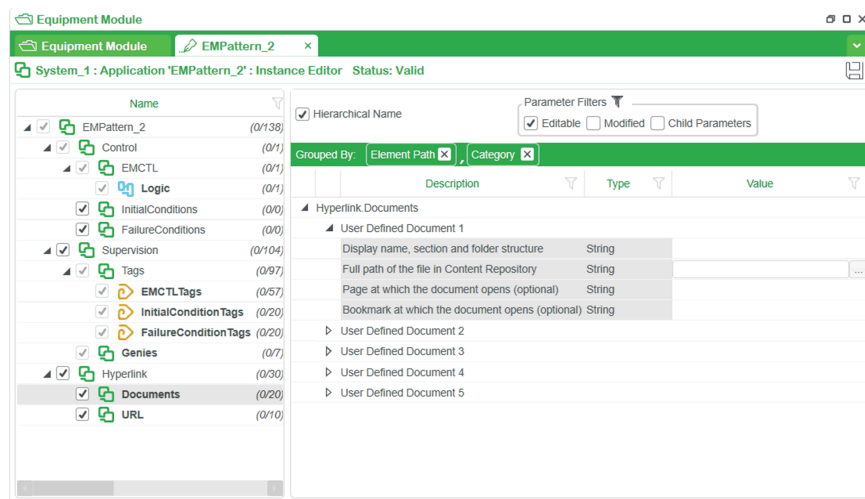


**NOTE:** The user guides of the optional Services (for example, **Failures Conditions**, **Interlock Conditions**) will be available in their respective sections (**Asset**, **Control** or **Supervision**) if you have enabled the optional services in the EcoStruxure Process Expert application.

# Hyperlink Services

## General Description

The General Purpose Library control modules allows you to link the documents and URL to its instances. The hyperlink service is disabled by default, you have to enable the hyperlink service and configure the parameters as shown in the below screen shot. For more details refer to the topic describing how to use the hyperlink service (see EcoStruxure™ Process Expert, Runtime Navigation Services , User Guide ).



**NOTE:** A maximum of five documents and five URLs can be added to each instance.

# Diagnostics Templates

## Overview

This chapter explains the basic functionality of the Diagnostics templates and their composition.

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.<sup>1</sup>
- 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.**

<sup>1</sup> 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.

## \$M340Diag - M340 CPU Diagnostics

### General Description

The \$M340Diag diagnostics template represents M340 CPU family.

The \$M340Diag template provides the CPU related information such as communications diagnostics, scan time and so on. Each of these information consists of Control service component.

M340 CPU does not support battery status and AUX status information.

**NOTE:** This template does not support OPC UA communication protocol.

### Parameters

#### **Time**

The following table describes the **Time** parameters that you can configure:



Element name	Name	Data type	Default value	Description
Logic	ScanTime	Duration	00:00:05	The scan time specified for monitoring the watchdog overflow.

## Composition

The diagnostics control module template `$M340Diag` is composed of composite and facet templates, which provide the following services:

Control	Core services.
Supervision	These services complement the Control services. Supervision services are optional.

The following table describes the services that are available from the `$M340Diag` control module and the corresponding facet, which implements the service:

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services ( <code>\$M340Diag_CS</code> ) *	Corresponding Facet Template	Supervision Service Description
<b>Core Services</b>						
Logic	<code>\$M340Diag_UC</code>	<code>\$GENSTS_UL</code>	Refer to the <code>GENSTS</code> DFB**.	<code>\$GENSTS</code> Tags	<code>\$GENSTS_CD</code>	—
<b>Optional Services</b>						
<i>COMM</i>	—	<code>\$COMM_UL</code>	Refer to the <code>COMM</code> DFB**.	<i>COMM</i> Tags	<code>\$COMM_CD</code>	—
<i>OSINFO</i>		<code>\$OSINFO_UL</code>	Refer to the <code>OSINFO</code> DFB**.	<i>OSINFO</i> Tags	<code>\$OSINFO_CD</code>	
<i>RTC</i>		<code>\$RTC_UL</code>	Refer to the <code>RTC</code> DFB**.	<i>RTC</i> Tags	<code>\$RTC_CD</code>	
<i>MASTINFO</i>		<code>\$MASTINFO_UL</code>	Refer to the <code>MASTINFO</code> DFB**.	<i>MASTINFO</i> Tags	<code>\$MASTINFO_CD</code>	
<i>FASTINFO</i>		<code>\$FASTINFO_UL</code>	Refer to the <code>FASTINFO</code> DFB**.	<i>FASTINFO</i> Tags	<code>\$FASTINFO_CD</code>	
<i>LASTSTOP</i>		<code>\$LASTSTOP_UL</code>	Refer to the <code>LASTSTOP</code> DFB**.	<i>LASTSTOP</i> Tags	<code>\$LASTSTOP_CD</code>	
—	—	—	—	Genies	<code>\$M340Diag_CG</code>	Refer to the <code>genies</code> representation of <code>M340Diag</code> DFB***.
* The service is activated by default. ** See EcoStruxure™ Process Expert - General Purpose Library Classic Diagnostics Control Services Reference Manual *** See EcoStruxure™ Process Expert - General Purpose Library Classic Diagnostics Supervision Services Reference Manual						

## \$QuantumDiag - Quantum CPU Diagnostics

### General Description

The `$QuantumDiag` diagnostics template represents Quantum CPU family.

The `$QuantumDiag` template provides information CPU-related information such as communications diagnostics, battery status, AUX status, scan time, and so on.

Each of these information consists of Control service component.

## Parameters

### Time

The following table describes the **Time** parameters that you can configure:

Element name	Name	Data type	Default value	Description
Logic	ScanTime	Duration	00:00:05	The scan time specified for monitoring the watchdog overflow.

## Composition

The diagnostics control module template `$QuantumDiag` is composed of composite and facet templates, which provide the following services:

Control	Core services.
Supervision	These services complement the Control services. Supervision services are optional.

The following table describes the services that are available from the `$QuantumDiag` control module and the corresponding facet, which implements the service:

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services  (\$QuantumDiag_CS)*	Corresponding Facet Template	Supervision Service Description
<b>Core Services</b>						
Logic	\$Quantum-Diag_UC	\$GENSTS_UL	Refer to the GENSTS DFB**.	\$GENSTS Tags	\$GENSTS_CD	—
<b>Optional Services</b>						
COMM	—	\$COMM_UL	Refer to the COMM DFB**.	COMM Tags	\$COMM_CD	—
OSINFO		\$OSINFO_UL	Refer to the OSINFO DFB**.	OSINFO Tags	\$OSINFO_CD	
RTC		\$RTC_UL	Refer to the RTC DFB**.	RTC Tags	\$RTC_CD	
MASTINFO		\$MASTINFO_UL	Refer to the MASTINFO DFB**.	MASTINFO Tags	\$MASTINFO_CD	
BATT		\$BATT_UL	Refer to the BATT DFB**.	BATT Tags	\$BATT_CD	
LASTSTOP		\$LASTSTOP_UL	Refer to the LASTSTOP DFB**.	LASTSTOP Tags	\$LASTSTOP_CD	
FASTINFO		\$FASTINFO_UL	Refer to the FASTINFO DFB**.	FASTINFO Tags	\$FASTINFO_CD	
AUX0INFO		\$AUX0INFO_UL	Refer to the AUX0INFO DFB**.	AUX0INFO Tags	\$AUX0INFO_CD	
AUX1INFO	—	\$AUX1INFO_UL	Refer to the AUX1INFO DFB**.	AUX1INFO Tags	\$AUX1INFO_CD	—

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (\$QuantumDiagCS)*	Corresponding Facet Template	Supervision Service Description
AUX2INFO		\$AUX2INFO_UL	Refer to the AUX2INFO DFB**.	AUX2INFO Tags	\$AUX2-INFO_CD	
AUX3INFO		\$AUX3INFO_UL	Refer to the AUX3INFO DFB**.	AUX3INFO Tags	\$AUX3-INFO_CD	
–	–	–	–	Genies	\$QuantumDiag_CG	Refer to the genies representation of Quantum-Diag DFB***.
<p>* The service is activated by default.</p> <p>** See EcoStruxure™ Process Expert - General Purpose Library Classic Diagnostics Control Services Reference Manual</p> <p>*** See EcoStruxure™ Process Expert - General Purpose Library Classic Diagnostics Supervision Services Reference Manual</p>						

## \$NOEMonitoring - NOE Monitoring Template

### General Description

The \$NOEMonitoring control module template allows you to manage NOE monitor on a Hot Standby system.

A Hot Standby controller system is a redundant type used when process downtime cannot be tolerated. It delivers high availability through redundancy, and always consists of two units with identical configurations. One acts as the primary CPU controller and the other acts as the standby CPU controller. One controller has to be set in the primary CPU state and the other has to be either in the standby CPU state or offline. The redundant unit takes over control when the main unit is not operational or powered down.

### Parameters

#### Configuration

The table describes the **Configuration** parameters that you can configure:

Element name	Name	Data type	Default value	Description
NOE	Monitoring Rate	Short	2	Monitoring rate in seconds.
	Retries			Number of retries.
	Primary Located Address	String	–	%MW located address for primary DDT variables.
	Standby Located Address			%MW located address for standby DDT variables.
SynthFault	FLT Mask 1	Enum	–	Detected error mask from general in-rack detected errors (3...15 slots).
	FLT Mask 2			Detected error mask from NOE DFB and NOE (16th slot).
SwitchOverMgt	Delay Time Before Switchover	Duration	00:00:00	The delay time the device takes before switchover.
	Forbidding Switchover Time			The time device takes for forbidding switchover.

## Composition

The diagnostics control module template `$NOEMonitoring` is composed of composite and facet templates, which provide the following services:

Control	Core services.
---------	----------------

The following table describes the services that are available from the `$NOEMonitoring` control module and the corresponding facet, which implements the service:

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services	Corresponding Facet Template	Supervision Service Description
Core Services						
Logic	\$NOEMonitoring	\$NOEMonitoring_UL	Refer to the NOEMONITOR DFB**.	–	–	–
		\$HSBY_Status_UL	Refer to the HSBY_STS DFB**.			
		\$SynthFault_UL	Refer to the SYNTHFAULT DFB**.			
		\$SwitchOverMgt_UL	Refer to the SWITCHOVERMGT DFB**.			
** See EcoStruxure™ Process Expert - General Purpose Library Classic Diagnostics Control Services Reference Manual						
*** See EcoStruxure™ Process Expert - General Purpose Library Classic Diagnostics Supervision Services Reference Manual						

## \$M580Diag - M580 CPU Diagnostics

### General Description

The `$M580Diag` diagnostics template represents M580 CPU family.

The `$M580Diag` template provides CPU-related information such as communications diagnostics, AUX status, scan time, and so on.

Each of these information consists of Control service component.

**NOTE:** This template does not support OPC UA communication protocol.

### Parameters

#### Time

The table describes the **Time** parameters that you can configure:

Element name	Name	Data type	Default value	Description
Logic	ScanTime	Duration	00:00:05	The scan time specified for monitoring the watchdog overflow.

## Composition

The diagnostics control module template `$M580Diag` is composed of composite and facet templates, which provide the following services:

Control	Core services.
Supervision	These services complement the Control services. Supervision services are optional.

The following table describes the services that are available from the \$M580Diag control module and the corresponding facet, which implements the service:

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (\$M580Diag_CS) *	Corresponding Facet Template	Supervision Service Description
<b>Core Services</b>						
Logic	\$M580Diag_UC	\$GENSTS_UL	Refer to the GENSTS DFB**.	\$GENSTS Tags	\$GENSTS_CD	—
<b>Optional Services</b>						
COMM	—	\$COMM_UL	Refer to the COMM DFB**.	COMM Tags	\$COMM_CD	—
OSINFO		\$OSINFO_UL	Refer to the OSINFO DFB**.	OSINFO Tags	\$OSINFO_CD	
RTC		\$RTC_UL	Refer to the RTC DFB**.	RTC Tags	\$RTC_CD	
MASTINFO		\$MASTINFO_UL	Refer to the MASTINFO DFB**.	MASTINFO Tags	\$MASTINFO_CD	
LASTSTOP		\$LASTSTOP_UL	Refer to the LASTSTOP DFB**.	LASTSTOP Tags	\$LASTSTOP_CD	
FASTINFO		\$FASTINFO_UL	Refer to the FASTINFO DFB**.	FASTINFO Tags	\$FASTINFO_CD	
AUX0INFO		\$AUX0INFO_UL	Refer to the AUX0INFO DFB**.	AUX0INFO Tags	\$AUX0INFO_CD	
AUX1INFO		\$AUX1INFO_UL	Refer to the AUX1INFO DFB**.	AUX1INFO Tags	\$AUX1INFO_CD	
—	—	—	—	Genies	\$M580Diag_CG	Refer to the genies representation of M580Diag DFB***.
<p>* The service is activated by default.</p> <p>** See EcoStruxure™ Process Expert - General Purpose Library Classic Diagnostics Control Services Reference Manual</p> <p>*** See EcoStruxure™ Process Expert - General Purpose Library Classic Diagnostics Supervision Services Reference Manual</p>						





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