



Process Expert - General Purpose Library Classic

Device Templates 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 device templates that are included in the General Purpose library of EcoStruxure Process Expert, and 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.

This document does not cover template development procedures nor internal functionality details.

To use device templates, you need to have knowledge of EcoStruxure Process Expert, its Control and Supervision Participants, and the devices that are modeled.

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 Device Control Services Reference Manual	EIO0000001309
EcoStruxure™ Process Expert - General Purpose Library Classic Device Supervision Services Reference Manual	EIO0000001310
EcoStruxure™ Process Expert - General Purpose Library Classic Communication Templates Reference Manual	EIO0000001311
EcoStruxure™ Process Expert - General Purpose Library Classic Process Templates Reference Manual	EIO0000000987
EcoStruxure Process Expert User Guide	EIO0000001114
EcoStruxure Process Expert Installation Guide	EIO0000001255
EcoStruxure Process Expert Global Templates Reference Manual	EIO0000001986 (eng)
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.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 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. 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

Device Templates

Description

The EcoStruxure Process Expert General Purpose Library provides resources:

- That have been preconfigured and tested by Schneider Electric.
- That are designed to automate a large variety of processes.

Device templates, model generic functionalities of Schneider Electric devices such as speed drives and motor starters. 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 that provide these resources are encapsulated in dedicated facet templates, which are then organized in composite templates. At the highest level, the device template represents the control module.

You can link device templates with compatible process and communication templates by using the interfaces.

Communication

Device templates are designed to use one of the following communication protocols:

- Modbus serial
- Modbus TCP Ethernet explicit messaging
- Modbus TCP Ethernet implicit messaging (I/O scanning)

When the devices use Modbus serial or explicit messaging, you can link their templates with the corresponding communication port templates of the General Purpose library.

Device Template Services

Facet templates referenced by device control module 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:** These services compliment the Control services. Supervision services are optional and those corresponding to selected Control are activated by default. Genies as well as variable, alarm, and trend tags are the resources that are encapsulated in these facet templates 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 system.

Hardware Templates

Modbus TCP devices have a corresponding hardware template with the HW suffix in their identifier. Hardware templates are used to configure Modbus TCP communication, which is explained in Managing Communication.

Hardware templates are not described in this document.

List of Device Templates

List of Families

The device templates described in this document are grouped by family.

The table lists the device templates of each family:

Family name	Template name	Description
Circuit breakers	\$CompactNSXMB, page 20	Compact NSX control on Modbus
	\$CompactNSXEM, page 22	Compact NSX with Ethernet Messaging
	\$CompactNSXMBU, page 24	Compact NSX control Modbus over ULP
	\$MasterpactMB, page 25	Masterpact without chassis control on Modbus
	\$MasterpactCMB, page 27	Masterpact chassis control on Modbus
	\$MasterpactEM, page 29	Masterpact with Ethernet Messaging
	\$MasterpactCEM, page 31	Masterpact Chassis with Ethernet Messaging
	\$MasterpactMTZMBU, page 33	Masterpact MTZ without chassis control on Modbus over ULP
	\$MasterpactMTZCMBU, page 35	Masterpact MTZ chassis control on Modbus over ULP
	\$MasterpactNXMBU, page 36	Masterpact NX circuit breaker without chassis control on Modbus over ULP
	\$MasterpactNXCMBU, page 38	Masterpact NX circuit breaker chassis control on Modbus over ULP
	\$CircuitBreakerHW, page 40	Hardwired circuit breakers
	\$CompactHW, page 41	Hardwired Compact circuit breakers
	\$MasterpactHW, page 41	Hardwired Masterpact circuit breakers
Generic devices	\$GenericDevice, page 45	Generic devices
	\$GenNOCDevice, page 46	Generic NOC device
Digital protective relays	\$SEPAM20MB, page 51	Sepam 20 control (Modbus serial)
	\$SEPAM40MB, page 54	Sepam 40 control (Modbus serial)
	\$SEPAM80MB, page 55	Sepam 80 control (Modbus serial)
	\$SEPAM80E, page 57	Sepam 80 control (Ethernet I/O scanning)
Motor controllers and starters	\$TesyTE, page 59	TeSys T motor management controller (Ethernet normal I/O scanning)
	\$TesyTEFast, page 61	TeSys T motor management controller (Ethernet fast I/O scanning)
	\$TesyTEM, page 62	TeSys T motor management controller (Ethernet messaging)
	\$TesyTAS, page 64	TeSys T motor management controller (Advantys)

Family name	Template name	Description
	\$TesysTMB, page 66	TeSys T motor management controller (Modbus serial)
	\$TesysTPB, page 67	TeSys T motor management controller on Profibus
	\$TesysUStdStAS, page 69	TeSys U standard starter (Advantys)
	\$TesysUStdStMB, page 70	TeSys U standard starter (Modbus serial)
	\$TesysUAdStAS, page 72	TeSys U advanced starter (Advantys)
	\$TesysUAdStMB, page 73	TeSys U advanced starter (Modbus serial)
	\$TesysUMfStAS, page 75	TeSys U multifunction starter on (Advantys)
	\$TesysUMfStMB, page 76	TeSys U multifunction starter (Modbus serial)
	\$TesysUAdvCtrlAS, page 78	TeSys U advanced controller on (Advantys)
	\$TesysUAdvCtlMB, page 80	TeSys U advanced controller (Modbus serial)
	\$TesysUMfCtlAS, page 81	TeSys U multifunction controller (Advantys)
	\$TesysUMfCtlMB, page 82	TeSys U multifunction controller (Modbus serial)
Power monitoring devices	\$PM710MB, page 85	Power Meter 710 (Modbus serial)
	\$PM800MB, page 87	Power Meter 800 (Modbus serial)
	\$PM1200MB, page 88	Power Meter 1200 (Modbus serial)
	\$PM9CMB, page 90	Power Meter 9C (Modbus serial)
	\$SmartUPSMB, page 91	Smart UPS (Modbus serial)
	\$AccusineE, page 93	Accusine PCS
	\$PM800E, page 94	Power meter 800 (Ethernet I/O scanning)
	\$PM800EM, page 101	Power meter 800 (Ethernet messaging)
	\$PM5350MB, page 96	Power meter 5350 (Modbus serial)
	\$PM53xxEM, page 97	Power meter 53xx (Modbus TCP/IP)
	\$PM82xxEM, page 99	Power meter 82xx (Modbus TCP/IP)
Progressive starters	\$ATS22MB, page 103	Altistart 22 progressive starter (Modbus serial)
	\$ATS48MB, page 105	Altistart 48 progressive starter (Modbus serial)
Variable speed drives	\$ATV12MB, page 107	Altivar 12 drive (Modbus serial)
	\$ATV312MB, page 109	Altivar 312 drive (Modbus serial)
	\$ATV31AS, page 111	Altivar 31 drive (Advantys)
	\$ATV31MB, page 112	Altivar 31 drive (Modbus serial)
	\$ATV61E, page 114	Altivar 61 drive (Ethernet I/O scanning)
	\$ATV61EM, page 116	Altivar 61 drive (Ethernet messaging)
	\$ATV61AS, page 118	Altivar 61 drive (Advantys)
	\$ATV61MB, page 120	Altivar 61 drive (Modbus serial)
	\$ATV71E, page 122	Altivar 71 drive (Ethernet I/O scanning)
	\$ATV71EM, page 124	Altivar 71 drive (Ethernet messaging)
	\$ATV71AS, page 126	Altivar 71 drive (Advantys)
	\$ATV71MB, page 128	Altivar 71 drive (Modbus serial)

Family name	Template name	Description
	\$ATV32E, page 129	Altivar 32 drive (Ethernet I/O scanning)
	\$ATV61PB, page 131	Altivar 61 drive (Profibus)
	\$ATV71PB, page 133	Altivar 71 drive (Profibus)
	\$ATV212MB, page 135	Altivar 212 drive (Modbus serial)
	\$ATV6xxE, page 136	Altivar 6xx drive
	\$ATV9xxE, page 138	Altivar 9xx drive
	\$ATV6xxxE, page 140	Altivar 6xxx drive
Weighing Module	\$PMESWTEIPM, page 143	Weighing module
Safety modules	\$XPSMCMB, page 146	XPSMC safety module (Modbus)

Common Services

Overview

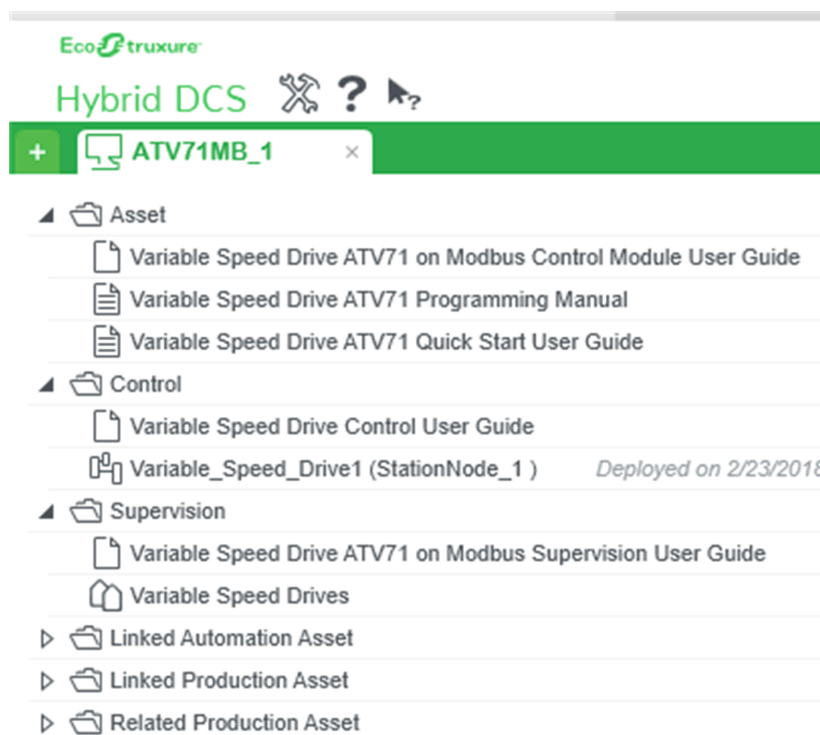
This chapter describes the different services that are common to the control modules.

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 provided by the EcoStruxure Process Expert.

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



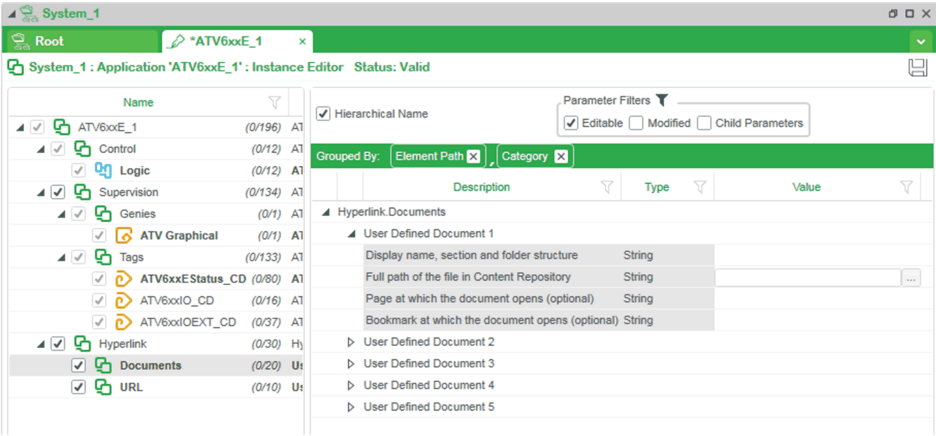
NOTE: The user guides will be available in their respective sections (**Asset**, **Control** or **Supervision**) and technical manuals will be available only in **Asset** section of the EcoStruxure Process Expert application.

Hyperlink Services

General Description

The General Purpose Library control modules allow 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

screenshot. For more details refer to the topic describing how to use the hyperlink service.



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

Circuit Breakers

Overview

This chapter explains the basic functionality of the Circuit Breakers 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.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.

\$CompactNSXMB (Deprecated) - Compact NSX Control on Modbus

General Description

The \$CompactNSXMB control module template allows you to manage CompactNSX circuit breakers on a Modbus network.

Parameters

Configuration

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

Element name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
	ModbusAddress	Short	0	Address of Modbus device
	Password	String	0000	Password required to access DFB
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.
	Refresh	Duration	00:00:00.5	Time the device takes to refresh the cyclic data.

Composition

The device control module template `$CompactNSXMB` 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 `$CompactNSXMB` control module and the corresponding facet, which implements the service:

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services (<code>\$CompactNSXMB_CS</code>)	Corresponding facet template	Supervision Service description
Core Services						
Logic	<code>\$CompactNSXMB_UC</code>	<code>\$CompactNSXMB_UL</code>	Refer to the <code>MBCOMPACTNSX DFB</code> .	Tags	<code>\$CompactNSXMB_CD</code>	Refer to <code>MBCOM-PACTNSX DFB</code> .
				CompactNSX-StatusTags	<code>\$CompactNSX-Status_CD</code>	
				Compact_MEATags	<code>\$Compact_MEA_CD</code>	
				Compact_MEAExtTags	<code>\$Compact_MEAExt_CD</code>	
				Compact_MEAExt1Tags	<code>\$Compact_MEAExt1_CD</code>	
–	–	–	–	Genies	<code>\$COMPACT_10_CG</code>	Refer to the <i>genies</i> representation of

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services (\$CompactNSXMB_CS)	Corresponding facet template	Supervision Service description
						MBCOM-PACTNSX DFB
Mapping Interface						
\$CompactMBMapping/DO						
* The service is activated by default.						

NOTE: For the \$CompactNSXMB template, you can enter a maximum of 16 characters as InstanceID.

The control module template exposes the following interfaces:

Interface identifier	Interface Model/Role identifier	Description
\$ModbusPort	\$MBWorkMemory/Client	Links to a communication object
\$DEV1S1D	\$DEV1S1D/DO	Links to a process object
\$StatisticConnector	\$StatisticConnector_Name/Def	EDT interface
For a device, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$CompactNSXEM (Deprecated) - Compact NSX with Ethernet Messaging

General Description

The \$CompactNSXEM control module template allows you to manage CompactNSX circuit breakers on an Ethernet network.

Parameters

Configuration

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

Element name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
	DeviceAddress	Short	0	Address of Ethernet device
	Password	String	0000	Password required to access DFB
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.
	Refresh	Duration	00:00:00.5	Time the device takes to refresh the cyclic data.

Composition

The device control module template `$CompactNSXEM` 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 `$CompactNSXEM` control module and the corresponding facet, which implements the service:

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services (<code>\$CompactNSXEM_CS</code>) *	Corresponding facet template	Supervision Service description
Core Services						
Logic	<code>\$CompactNSXEM_UC</code>	<code>\$CompactNSXEM_UL</code>	Refer to the <code>EMCOMPACTNSXDFB</code> .	Tags	<code>\$CompactNSXEM_CD</code>	Refer to <code>EMCOMPACTNSXDFB</code> .
				CompactNSXEMStatusTags	<code>\$CompactNSXEM-Status_CD</code>	
				CompactEM_MEATags	<code>\$CompactEM_MEA_CD</code>	
				CompactEM_MEExtTags	<code>\$CompactEM_MEExt_CD</code>	
				CompactEM_MEExt1Tags	<code>\$CompactEM_MEExt1_CD</code>	
–	–	–	–	Genies	<code>\$COMPACTEM_10_CG</code>	Refer to the <i>genies</i> representation of <code>EMCOMPACTNSXDFB</code>
Mapping Interface						
<code>\$CompactEMMapping/CO</code>						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface identifier	Interface Model/Role identifier	Description
<i>\$EthernetPort</i>	\$EMWorkMemory/Client	Links to a communication object
<i>\$DEV1S1D</i>	\$DEV1S1D/DO	Links to a process object
<i>\$StatisticConnector</i>	\$StatisticConnector_Name/Def	EDT interface
For a device, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$CompactNSXMBU - Compact NSX Control on Modbus over ULP

General Description

The `$CompactNSXMBU` control module template allows you to manage CompactNSX circuit breakers control on Modbus over Universal Logic Plug (ULP).

Parameters

Configuration

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

Element name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
	ModbusAddress	Short		IFM Modbus Address
	Password	String		Password required to access DFB
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.
	Refresh	Duration	00:00:00.5	Time the device takes to refresh the cyclic data.

Composition

The device control module template `$CompactNSXMBU` 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 \$CompactNSXMBU control module and the corresponding facet, which implements the service:

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services (\$Com-pactNSXMBU_CS)*	Corresponding facet template	Supervision Service description
Core Services						
Logic	\$Com-pactNSXMBU_UC	\$CompactNSXMBU_UL	Refer to the COMPACTNSX DFB, page 20.	Tags	\$Com-pactNSXMBU_CD	Refer to COMPACTNSX DFB, page 20.
				\$CompactNSX-Status Tags	\$Com-pactNSX-Status_CD	
				\$Compact_MEAs_CD	\$Compact-EM_MEAs_CD	
				CompactEM_MEAsExtTags	\$Compact_MEAsEXT_CD	
				CompactEM_MEAsExt1Tags	\$Compact_MEAsExt1_CD	
–	–	–	–	Genies	\$Com-pactNSX_10_CG	Refer to the genies representation of MCOM-PACTNSX DFB, page 20
Mapping Interface						
\$CompactNSXMB						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface identifier	Interface Model/Role identifier	Description
\$ModbusPort	\$MBWorkMemory/Client	Links to a communication object
\$DEV1S1D	\$DEV1S1D/DO	Links to a process object
\$StatisticConnector	\$StatisticConnector_Name/Def	EDT interface
For a device, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$MasterpactMB (Deprecated) - Masterpact without Chassis Control on Modbus

General Description

The \$MasterpactMB control module template allows you to manage Masterpact fixed circuit breakers on a Modbus network.

Parameters

Configuration

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

Element name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
	ModbusAddress	Short	0	Device modbus address
	Password	String		Password required to access DFB
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time that the device takes to execute commands.
	Refresh	Duration	00:00:00.5	Time that the device takes to refresh the cyclic data.

Composition

The device control module template `$MasterpactMB` 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 `$MasterpactMB` control module and the corresponding facet, which implements the service:

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services <code>(\$MasterpactMB_CS) *</code>	Corresponding facet template	Supervision Service description
Core Services						
Logic	<code>\$MasterpactMB_UC</code>	<code>\$MasterpactMB_UL</code>	Refer to the MBMASTERPACT DFB.	Tags	<code>\$MasterpactMB_CD</code>	Refer to MBMASTERPACT DFB.
				MasterpactStatusTags	<code>\$MasterpactStatus_CD</code>	
				Masterpact_MEATags	<code>\$Masterpact_MEACD</code>	

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services (\$MasterpactMB_CS) *	Corresponding facet template	Supervision Service description
				Masterpact_MEAEExtTags	\$Masterpact_MEAEExt_CD	
				Masterpact_MEAEExt1Tags	\$Masterpact_MEAEExt1_CD	
–	–	–	–	Genies	\$MASTER-PACTMB_10_CG	Refer to the genies representation of MBMASTER-PACT DFB.
Mapping Interface						
\$MasterpactMBMapping/DO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface identifier	Interface Model/Role identifier	Description
<i>\$ModbusPort</i>	\$MBWorkMemory/Client	Links to a communication object
<i>\$DEV1S1D</i>	\$DEV1S1D/DO	Links to a process object
<i>\$StatisticConnector</i>	\$StatisticConnector_Name/Def	EDT interface
For a DEVICE, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$MasterpactCMB (Deprecated) - Masterpact Chasis Control on Modbus

General Description

The \$MasterpactCMB control module template allows you to manage Masterpact draw-out circuit breakers on a Modbus network.

Parameters

Configuration

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

Element name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
	ModbusAddress	Short	0	Address of Modbus device
	Password	String		Password required to access DFB
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time that the device takes to execute commands.
	Refresh	Duration	00:00:00.5	Time that by the device takes to refresh the cyclic data.

Composition

The device control module template `$MasterpactCMB` 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 `$MasterpactCMB` 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
				<code>(\$MasterpactCMB_CS)*</code>		
Core Services						
Logic	<code>\$MasterpactCMB_UC</code>	<code>\$MasterpactCMB_UL</code>	Refer to the MMASTERPACTC DFB.	Tags	<code>\$MasterpactCMB_CD</code>	Refer to MMASTERPACTC DFB.
				MasterpactCStatusTags	<code>\$MasterpactCMBStatus_CD</code>	
				MasterpactCMEATags	<code>\$MasterpactCMB_MEA_CD</code>	
				MasterpactC_	<code>\$Master-</code>	

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services (\$MasterpactCMB_CS)*	Corresponding facet template	Supervision Service description
				MEExt- Tags	pactCM- B_ MEExt_ CD	
				Master- pactC_ MEExt1- Tags	\$Mas- ter- pactCM- B_ MEExt- t1_CD	
–	–	–	–	Genies	\$MAS- TER- PACT_ 10_CG	Refer to the genies representa- tion of MBMASTER- PACTC DFB.
Mapping Interface						
\$MasterpactCMBMapping/DO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface identifier	Interface Model/Role identifier	Description
<i>\$ModbusPort</i>	\$MBWorkMemory/Client	Links to a communication object
<i>\$DEV1S1D</i>	\$DEV1S1D/DO	Links to a process object
<i>\$StatisticConnector</i>	\$StatisticConnector_Name/Def	EDT interface
For a device, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$MasterpactEM (Deprecated) - Masterpact with Ethernet Messaging

General Description

The \$MasterpactEM control module template allows you to manage Masterpact fixed circuit breakers on an Ethernet network.

Parameters

Configuration

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

Element name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.

Element name	Name	Type	Default value	Description
	DeviceAddress	Short	0	Address of Ethernet device
	Password	String	0000	Password required to access DFB
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time that the device takes to execute commands.
	Refresh	Duration	00:00:00.5	Time that the device takes to refresh the cyclic data.

Composition

The device control module template `$MasterpactEM` 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 `$MasterpactEM` control module and the corresponding facet, which implements the service:

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services (<code>\$MasterpactEM_CS</code>)*	Corresponding facet template	Supervision Service description
Core Services						
Logic	<code>\$MasterpactEM_UC</code>	<code>\$MasterpactEM_UL</code>	Refer to the EMMMASTERPACT DFB.	Tags	<code>\$MasterpactEM_CD</code>	Refer to EMMMASTERPACT DFB.
				MasterpactEM-StatusTags	<code>\$MasterpactEMStatus_CD</code>	
				MasterpactEM_MEATags	<code>\$MasterpactEMMEA_CD</code>	
				MasterpactEM_MEExtTags	<code>\$MasterpactEMMEExt_CD</code>	
				MasterpactEM_MEExt1Tags	<code>\$MasterpactEMMEExt1_CD</code>	
—	—	—	—	Genies	<code>\$MASTERPACTMB_10_CG</code>	Refer to the genies representation of

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services (\$MasterpactEM_CS)*	Corresponding facet template	Supervision Service description
						EMMASTER-PACT DFB.
Mapping Interface						
\$MasterpactEMMapping/CO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface identifier	Interface Model/Role identifier	Description
<i>\$EthernetPort</i>	\$EMWorkMemory/Client	Links to a communication object
<i>\$DEV1S1D</i>	\$DEV1S1D/DO	Links to a process object
<i>\$StatisticConnector</i>	\$StatisticConnector_Name/Def	EDT interface
For a DEVICE, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$MasterpactCEM (Deprecated) - Masterpact Chassis with Ethernet Messaging

General Description

The \$MasterpactCEM control module template allows you to manage Masterpact draw-out circuit breakers on an Ethernet network.

Parameters

Configuration

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

Element name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
	DeviceAddress	Short	0	Address of Ethernet device
	Password	String	0000	Password required to access DFB
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.

Element name	Name	Type	Default value	Description
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time that the device takes to execute commands.
	Refresh	Duration	00:00:05	Time that by the device takes to refresh the cyclic data.

Composition

The device control module template `$MasterpactCEM` 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 `$MasterpactCEM` control module and the corresponding facet, which implements the service:

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services (\$MasterpactCEM_CS)*	Corresponding facet template	Supervision Service description
Core Services						
Logic	\$MasterpactCEM_UC	\$MasterpactCEM_UL	Refer to the EMMASTERPACTC DFB.	Tags	\$MasterpactCEM_CD	Refer to EMMASTERPACTC DFB.
				MasterpactCEMStatusTags	\$MasterpactCEMStatus_CD	
				MasterpactCEM_MEATags	\$MasterpactCEM_MEA_CD	
				MasterpactCEM_MEAEExtTags	\$MasterpactCEM_MEAEExt_CD	
				MasterpactCEM_MEAEExt1Tags	\$MasterpactCEM_MEAEExt1_CD	
–	–	–	–	Genies	\$MASTERPACT10_CG	Refer to the genies representation of EMMASTERPACT DFB.
Mapping Interface						
\$MasterpactCEMMapping/CO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface identifier	Interface Model/Role identifier	Description
<i>\$EthernetPort</i>	\$EMWorkMemory/Client	Links to a communication object
<i>\$DEV1S1D</i>	\$DEV1S1D/DO	Links to a process object
<i>\$StatisticConnector</i>	\$StatisticConnector_Name/Def	EDT interface
For a device, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$MasterpactMTZMBU - Masterpact MTZ without Chassis Control on Modbus over ULP

General Description

The \$MasterpactMTZMBU control module template allows you to manage Masterpact MTZ fixed circuit breakers control on Modbus over Universal Logic Plug (ULP).

Parameters

Configuration

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

Element name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
	ModbusAddress	Short	0	IFM Modbus address
	Password	String		Password for command execution
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element name	Name	Type	Default value	Description
Logic	CommandCtrlWindow	Duration	00:00:05	Time window for the device to execute orders.
	ScanTime	Duration	00:00:03	Minimum time to maintain the detected warning signals.
	MaxResetTime	Duration	00:01:00	The maximum time between two auto resets of the DFB.
	Refresh	Duration	00:00:01	Time to refresh the cyclic data.

Composition

The device control module template `$MasterpactMTZMBU` 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 `$MasterpactMTZMBU` control module and the corresponding facet, which implements the service:

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services (<code>\$MasterpactMTZMBU_CS</code>) *	Corresponding facet template	Supervision Service description
Core Services						
Logic	<code>\$MasterpactMTZMBU_UC</code>	<code>\$MasterpactMTZMBU_UL</code>	Refer to the MBUMASTERPACTMTZ DFB.	Tags	<code>\$MasterpactMTZMBU_CD</code>	Refer to MBUMASTERPACTMTZ DFB.
				MasterpactMTZ-StatusTags	<code>\$MasterpactStatus_CD</code>	
				MasterpactMTZ_MEATags	<code>\$Masterpact_MEA_CD</code>	
				MasterpactMTZ_MEAEExtTags	<code>\$Masterpact_MEAEExt_CD</code>	
				MasterpactMTZ_MEAEExt1Tags	<code>\$Masterpact_MEAEExt1_CD</code>	
–	–	–	–	Genies	<code>\$MASTERPACTMTZMBU_10_CG</code>	Refer to the genies representation of MBUMASTERPACTMTZ DFB.
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface identifier	Interface Model/Role identifier	Description
<code>\$ModbusPort</code>	<code>\$MBWorkMemory/Client</code>	Links to a communication object
<code>\$IFMModbusAddr</code>	<code>\$UInt/Def</code>	IFM Modbus address link
<code>\$DEV1S1D</code>	<code>\$DEV1S1D/DO</code>	Links to a process object
<code>\$StatisticConnector</code>	<code>\$StatisticConnector_Name/Def</code>	EDT interface
For a DEVICE, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$MasterpactMTZCMBU - Masterpact MTZ Chassis Control on Modbus over ULP

General Description

The \$MasterpactMTZCMBU control module template allows you to manage Masterpact MTZ draw-out/chassis circuit breakers control on Modbus over Universal Logic Plug (ULP).

Parameters

Configuration

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

Element name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
	ModbusAddress	Short	0	IFM Modbus address
	Password	String		Password for command execution
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element name	Name	Type	Default value	Description
Logic	CommandCtrlWindow	Duration	00:00:05	Time window for the device to execute orders.
	ScanTime	Duration	00:00:03	Minimum time to maintain the detected warning signals.
	MaxResetTime	Duration	00:01:00	The maximum time between two auto resets of the DFB.
	Refresh	Duration	00:00:01	Time to refresh the cyclic data.

Composition

The device control module template \$MasterpactMTZCMBU 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 \$MasterpactMTZCMBU control module and the corresponding facet, which implements the service:

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services (\$Master-pactMTZCMBU_CS)*	Corresponding facet template	Supervision Service description
Core Services						
Logic	\$Master-pactMTZCM-BU_UC	\$MasterpactMTZCM-BU_UL	Refer to the MBUMASTERPACTMTZC DFB.	Tags	\$Master-pactMTZCM-BU_CD	Refer to MBUMASTER-PACTMTZC DFB.
				MasterpactMTZC-StatusTags	\$Master-pactCMB-Status_CD	
				Master-pactMTZC_MEATags	\$Master-pactCMB_MEA_CD	
				Master-pactMTZC_MEAEExtTags	\$Master-pactCMB_MEAEExt_CD	
				Master-pactMTZC_MEAEExt1Tags	\$Master-pactCMB_MEAEExt1_CD	
–	–	–	–	Genies	\$MASTER-PACTMTZCM-BU_10_CG	Refer to the genies representation of MBUMASTER-PACTMTZC DFB.
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface identifier	Interface Model/Role identifier	Description
<i>\$ModbusPort</i>	\$MBWorkMemory/Client	Links to a communication object
<i>\$IFMModbusAddr</i>	\$UInt/Def	IFM Modbus address link
<i>\$DEV1S1D</i>	\$DEV1S1D/DO	Links to a process object
<i>\$StatisticConnector</i>	\$StatisticConnector_Name/Def	EDT interface
For a DEVICE, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$MasterPactNxMBU - Masterpact Nx Circuit Breaker without Chassis Control on Modbus over ULP

General Description

The \$MasterPactNxMBU control module template allows you to manage Masterpact Nx circuit breakers without Chassis control on Modbus over Universal Logic Plug (ULP).

Parameters

Configuration

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

Element name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
	ModbusAddress	Short	0	IFM Modbus address
	Password	String		Password for command execution
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element name	Name	Type	Default value	Description
Logic	CommandCtrlWindow	Duration	00:00:05	Time window for the device to execute orders.
	ScanTime	Duration	00:00:03	Minimum time to maintain the detected warning signals.
	MaxResetTime	Duration	00:01:00	The maximum time between two auto resets of the DFB.
	Refresh	Duration	00:00:01	Time to refresh the cyclic data.

Composition

The device control module template `$MasterpactNxMBU` 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 `$MasterpactNxMBU` control module and the corresponding facet, which implements the service:

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services (<code>\$MasterpactNxMBU_CS</code>) *	Corresponding facet template	Supervision Service description
Core Services						
Logic	<code>\$MasterpactNxMBU_UC</code>	<code>\$MasterpactNxMBU_UL</code>	Refer to the MBUMASTERPACTNx DFB.	Tags	<code>\$MasterpactNxMBU_CD</code>	Refer to MBUMASTERPACTNx DFB.
				MasterpactNxStatusTags	<code>\$MasterpactNxStatus_CD</code>	
				MasterpactNxMEATags	<code>\$MasterpactNxMEA_CD</code>	
				MasterpactMTZMEExtTags	<code>\$MasterpactMTZMEExt_CD</code>	
				MasterpactNxMEExt1Tags	<code>\$MasterpactNxMEExt1_CD</code>	

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services (\$MasterPactNxMBU_CS) *	Corresponding facet template	Supervision Service description
					MEAExt1_CD	
–	–	–	–	Genies	\$MasterPactNxMBU_10_CG	Refer to the genies representation of MBUMASTER-PACTNx DFB.
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface identifier	Interface Model/Role identifier	Description
\$ModbusPort	\$MBWorkMemory/Client	Links to a communication object
\$IFMModbusAddr	\$UInt/Def	IFM Modbus address link
\$DEV1S1D	\$DEV1S1D/DO	Links to a process object
\$StatisticConnector	\$StatisticConnector_Name/Def	EDT interface
For a DEVICE, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$MasterPactNxCMBU - Masterpact NxC Circuit Breaker with Chassis Control on Modbus over ULP

General Description

The \$MasterPactNxCMBU control module template allows you to manage Masterpact NxC circuit breakers with chassis on Modbus over Universal Logic Plug (ULP).

Parameters

Configuration

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

Element name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
	ModbusAddress	Short	0	IFM Modbus address
	Password	String		Password for command execution
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element name	Name	Type	Default value	Description
Logic	CommandCtrlWindow	Duration	00:00:05	Time window for the device to execute orders.
	ScanTime	Duration	00:00:03	Minimum time to maintain the detected warning signals.
	MaxResetTime	Duration	00:01:00	The maximum time between two auto resets of the DFB.
	Refresh	Duration	00:00:01	Time to refresh the cyclic data.

Composition

The device control module template `$MasterPactNxCMBU` 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 `$MasterPactNxCMBU` control module and the corresponding facet, which implements the service:

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services (<code>\$MasterpactNxCMBU_CS</code>)*	Corresponding facet template	Supervision Service description
Core Services						
Logic	<code>\$MasterpactNxCMBU_UC</code>	<code>\$MasterpactNXCMBU_UL</code>	Refer to the MBUMASTERPACTNxC DFB.	Tags	<code>\$MasterpactNxCMBU_CD</code>	Refer to MBUMASTERPACTNxC DFB.
				MasterpactNxC-StatusTags	<code>\$MasterpactCMB-Status_CD</code>	
				MasterpactNxC_MEATags	<code>\$MasterpactCMB_MEA_CD</code>	
				MasterpactNxC_MEExtTags	<code>\$MasterpactCMB_MEExt_CD</code>	
				MasterpactNxC_MEExt1Tags	<code>\$MasterpactCMB_MEExt1_CD</code>	
–	–	–	–	Genies	<code>\$MasterpactNxCMBU_10_CG</code>	Refer to the genies representation of MBUMASTERPACTNxC DFB.
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface identifier	Interface Model/Role identifier	Description
<i>\$ModbusPort</i>	\$MBWorkMemory/Client	Links to a communication object
<i>\$IFMModbusAddr</i>	\$UInt/Def	IFM Modbus address link
<i>\$DEV1S1D</i>	\$DEV1S1D/DO	Links to a process object
<i>\$StatisticConnector</i>	\$StatisticConnector_Name/Def	EDT interface
For a DEVICE, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$CircuitBreakerHW - Hardwired Circuit Breaker

General Description

The `$CircuitBreakerHW` control module template allows you to manage Hardwired Circuit Breaker.

Parameters

Configuration

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

Element name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element name	Name	Type	Default value	Description
Logic	CommandCtrlWindow	Duration	00:00:05	Time window for the device to execute orders.
	ScanTime	Duration	00:00:03	Minimum time to maintain the detected warning signals.
	MaxResetTime	Duration	00:01:00	The maximum time between two auto resets of the DFB.

Composition

The device control module template `$CircuitBreakerHW` 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 `$CircuitBreakerHW` control module and the corresponding facet, which implements the service:

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services (<code>\$CircuitBreakerHW_CS</code>)	Corresponding facet template	Supervision Service description
Core Services						
Logic	<code>\$CircuitBreakerHW_UC</code>	<code>\$CircuitBreakerHW_UL</code>	Refer to the <code>HWCIRCUITBREAKER DFB</code> .	Tags	<code>\$CircuitBreakerHW_CD</code>	Refer to <code>HWCIRCUITBREAKER</code> tags.
OFSignal	–	<code>\$DISignal_UL</code>	Refer to OFSignal pin of <code>HWCIRCUITBREAKER DFB</code> .	–	–	–
SDSignal	–	<code>\$DISignal_UL</code>	Refer to SDSignal pin of <code>HWCIRCUITBREAKER DFB</code> .	–	–	–
SDESignal	–	<code>\$DISignal_UL</code>	Refer to SDESignal pin of <code>HWCIRCUITBREAKER DFB</code> .	–	–	–
PFSignal	–	<code>\$DISignal_UL</code>	Refer to PFSignal pin of <code>HWCIRCUITBREAKER DFB</code> .	–	–	–
CHSignal	–	<code>\$DISignal_UL</code>	Refer to CHSignal pin of <code>HWCIRCUITBREAKER DFB</code> .	–	–	–
CESignal	–	<code>\$DISignal_UL</code>	Refer to CESignal pin of <code>HWCIRCUITBREAKER DFB</code> .	–	–	–
CDSignal	–	<code>\$DISignal_UL</code>	Refer to CDSignal pin of <code>HWCIRCUITBREAKER DFB</code> .	–	–	–
CTSignal	–	<code>\$DISignal_UL</code>	Refer to CTSignal pin of <code>HWCIRCUITBREAKER DFB</code> .	–	–	–
XFSignal	–	<code>\$DOSignal_UL</code>	Refer to XFSignal pin of <code>HWCIRCUITBREAKER DFB</code> .	–	–	–
MXSignal	–	<code>\$DOSignal_UL</code>	Refer to MXSignal pin of <code>HWCIRCUITBREAKER DFB</code> .	–	–	–
ResSignal	–	<code>\$DOSignal_UL</code>	Refer to ResSignal pin of <code>HWCIRCUITBREAKER DFB</code> .	–	–	–
–	–	–	–	Genies	<code>\$CircuitBreakerHW_CG</code>	Refer to <code>HWCIRCUITBREAKER</code> genie representation.
Optional Services						
Operation-Limit	–	<code>\$OperationLimit_UL</code>	Refer to OperationLimit <code>DFB</code> .	–	–	–

The control module template exposes the following interfaces:

Interface identifier	Interface Model/Role identifier	Description
<code>\$DEV1S1D</code>	<code>\$DEV1S1D/DO</code>	Links to a process object

`$CompactHW` - Hardwired Compact Circuit Breaker

General Description

The `$CompactHW` control module template allows you to manage Hardwired Compact Circuit Breaker.

Parameters

Configuration

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

Element name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element name	Name	Type	Default value	Description
Logic	CommandCtrlWindow	Duration	00:00:05	The window for the device to execute orders.
	ScanTime	Duration	00:00:03	Minimum time to maintain the detected warning signals.
	MaxResetTime	Duration	00:01:00	The maximum time between two auto resets of the DFB.

Composition

The device control module template `$CompactHW` 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 `$CompactHW` control module and the corresponding facet, which implements the service:

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services (<code>\$CompactHW_CS</code>)*	Corresponding facet template	Supervision Service description
Core Services						
Logic	<code>\$CircuitBreakerHW_UC</code>	<code>\$CircuitBreakerHW_UL</code>	Refer to the <code>HWCIRCUITBREAKER DFB</code> .	Tags	<code>\$CompactHW_CD</code>	Refer to tags of <code>HWCOMPACT</code> .
OFSignal	—	<code>\$DISignal_UL</code>	Refer to OFSignal pin of <code>HWCIRCUITBREAKER DFB</code> .	—	—	—
SDSignal	—	<code>\$DISignal_UL</code>	Refer to SDSignal pin of <code>HWCIRCUITBREAKER DFB</code> .	—	—	—
SDESignal	—	<code>\$DISignal_UL</code>	Refer to SDESignal pin of <code>HWCIRCUITBREAKER DFB</code> .	—	—	—
XFSignal	—	<code>\$DOSignal_UL</code>	Refer to XFSignal pin of <code>HWCIRCUITBREAKER DFB</code> .	—	—	—
MXSignal	—	<code>\$DOSignal_UL</code>	Refer to MXSignal pin of <code>HWCIRCUITBREAKER DFB</code> .	—	—	—
ResSignal	—	<code>\$DOSignal_UL</code>	Refer to ResSignal pin of <code>HWCIRCUITBREAKER DFB</code> .	—	—	—

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services (\$CompactHW_CS) *	Corresponding facet template	Supervision Service description
–	–	–	–	Genies	\$Com-pactHW_CG	Refer to the genie representation of .
Optional Services						
Operation-Limit	–	\$OperationLimit_UL	Refer to OperationLimit DFB.	–	–	–

The control module template exposes the following interfaces:

Interface identifier	Interface Model/Role identifier	Description
\$DEV1S1D	\$DEV1S1D/DO	Links to a process object

\$MasterpactHW - Hardwired Masterpact Circuit Breaker

General Description

The \$MasterpactHW control module template allows you to manage Hardwired Masterpact Circuit Breaker.

Parameters

Configuration

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

Element name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element name	Name	Type	Default value	Description
Logic	CommandCtrlWindow	Duration	00:00:05	Time window for the device to execute orders.
	ScanTime	Duration	00:00:03	Minimum time to maintain the detected warning signals.
	MaxResetTime	Duration	00:01:00	The maximum time between two auto resets of the DFB.

Composition

The device control module template `$MasterpactHW` 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 `$MasterpactHW` control module and the corresponding facet, which implements the service:

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services (\$MasterpactHW_CS)*	Corresponding facet template	Supervision Service description
Core Services						
Logic	<code>\$CircuitBreakerHW_UC</code>	<code>\$CircuitBreakerHW_UL</code>	Refer to the <code>HWCIRCUITBREAKER DFB</code> .	Tags	<code>\$MasterpactHW_CD</code>	Refer to tags of <code>HWMAS-TER-PACT</code> .
OFSignal	–	<code>\$DISignal_UL</code>	Refer to OFSignal pin of <code>HWCIRCUITBREAKER DFB</code> .	–	–	–
SDSignal	–	<code>\$DISignal_UL</code>	Refer to SDSignal pin of <code>HWCIRCUITBREAKER DFB</code> .	–	–	–
SDESignal	–	<code>\$DISignal_UL</code>	Refer to SDESignal pin of <code>HWCIRCUITBREAKER DFB</code> .	–	–	–
PFSignal	–	<code>\$DISignal_UL</code>	Refer to PFSignal pin of <code>HWCIRCUITBREAKER DFB</code> .	–	–	–
CHSignal	–	<code>\$DISignal_UL</code>	Refer to CHSignal pin of <code>HWCIRCUITBREAKER DFB</code> .	–	–	–
CESignal	–	<code>\$DISignal_UL</code>	Refer to CESignal pin of <code>HWCIRCUITBREAKER DFB</code> .	–	–	–
CDSignal	–	<code>\$DISignal_UL</code>	Refer to CDSignal pin of <code>HWCIRCUITBREAKER DFB</code> .	–	–	–
CTSignal	–	<code>\$DISignal_UL</code>	Refer to CTSignal pin of <code>HWCIRCUITBREAKER DFB</code> .	–	–	–
XFSignal	–	<code>\$DOSignal_UL</code>	Refer to XFSignal pin of <code>HWCIRCUITBREAKER DFB</code> .	–	–	–
MXSignal	–	<code>\$DOSignal_UL</code>	Refer to MXSignal pin of <code>HWCIRCUITBREAKER DFB</code> .	–	–	–
ResSignal	–	<code>\$DOSignal_UL</code>	Refer to ResSignal pin of <code>HWCIRCUITBREAKER DFB</code> .	–	–	–
–	–	–	–	Genies	<code>\$MasterpactHW_CG</code>	Refer to the genie representation of .
Optional Services						
Operation-Limit	–	<code>\$OperationLimit_UL</code>	Refer to OperationLimit DFB.	–	–	–

The control module template exposes the following interfaces:

Interface identifier	Interface Model/Role identifier	Description
<code>\$DEV1S1D</code>	<code>\$DEV1S1D/DO</code>	Links to a process object

Generic Devices

Overview

This chapter explains the basic functionality of the Generic Devices template and its 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.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.

\$GenericDevice

General Description

The \$GenericDevice control module template allows you to create either a variable or an array of variable of required length and a datatype which is defined at the application level. The datatypes supported are namely BOOL, BYTE, DINT, DWORD, EBOOL, INT, REAL, UDINT, UINT and WORD.

NOTE: You cannot use the \$GenericDevice template when the device communicates with the controller through a NOC communication module. To use a NOC module to communicate with a device for which no specific template exists, use the \$GenNOCDevice template, page 46.

Parameters

Configuration

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

Element name	Name	Type	Default value	Description
Logic	Input Data Length	Short	2	Length of the input data variable
	Output Data Length			Length of the output data variable
	Datatype	Enum	Byte	Data type of the element to be created

Composition

The device control module template `$GenericDevice` 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 `$GenericDevice` control module and the corresponding facet, which implements the service:

Control Services	Composite template	Control Service description	Control Service description	Associated supervision services	Corresponding facet template	Supervision service description
Core Services						
Logic	<code>\$GenericDevice_UC</code>	<code>\$GenericDevice_UL</code>	–	–	–	–

The control module template exposes the following interfaces:

Interface identifier	Interface Model/Role identifier	Description
<code>\$VarName</code>	<code>\$VarName/DO</code>	Links to a process object
For a device, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$GenNOCDevice

General Description

`$GenNOCDevice` template is a reference template and not a ready-to-use template. This template can be used to create an user defined template to support any third party device DTM behind BMENOC/BMECPU with communication capability.

This reference template is pre-configured with `Input`, `Output` and `IOScannerStatus` variables with correct addresses mapped to these variables in terms of DDDT addressing.

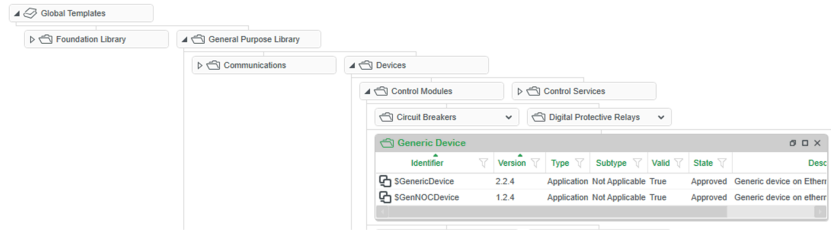
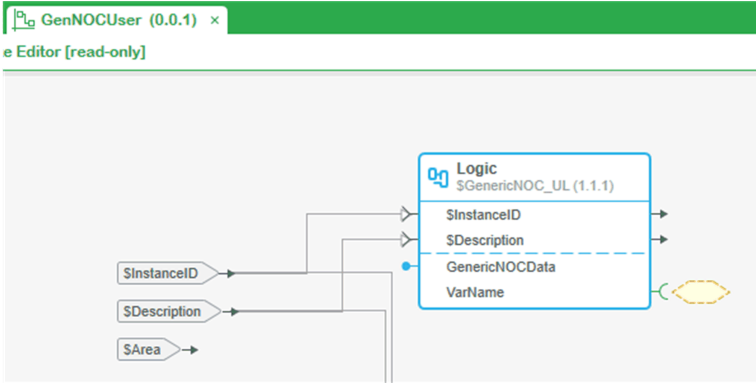
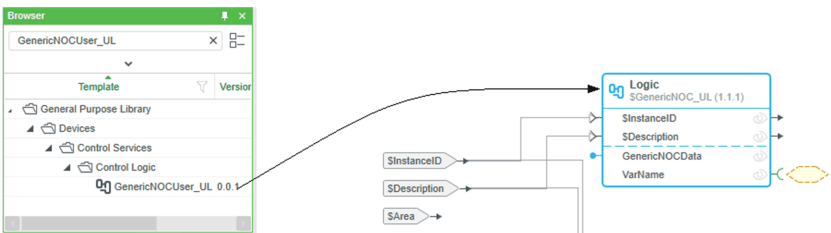
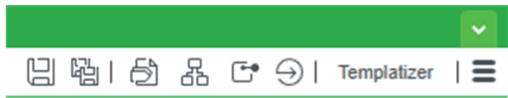
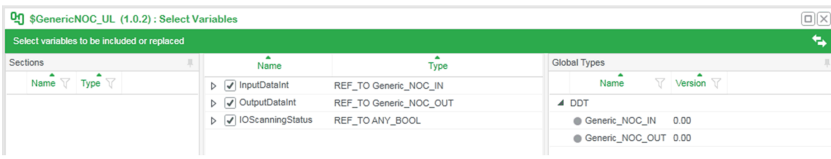
NOTE: They differ from the regular generic application template in terms of the way the addressing is handled. Here the variables are `REF_TO` a predefined array of length 2 which can be altered as needed. Another difference is that the address is passed not to the address column but to the Initial value column. These variables can get addresses of IODDT and DDDT besides the regular topological and flat addresses.

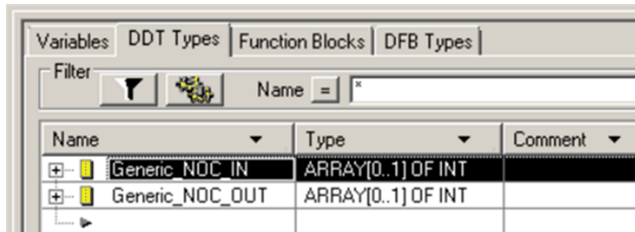
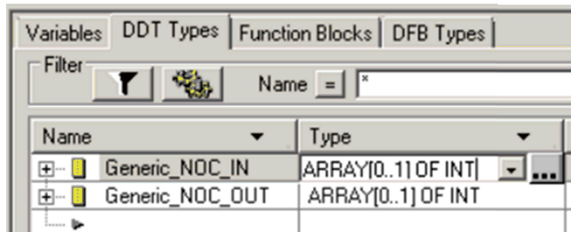
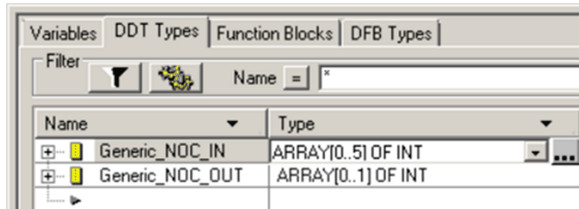
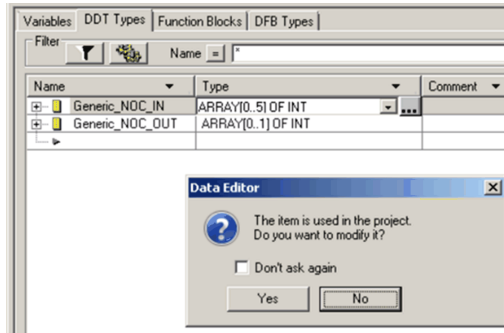
There are two methods to support any third party device DTM behind BMENOC/BMECPU.

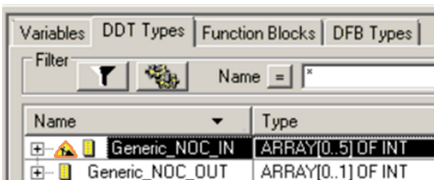
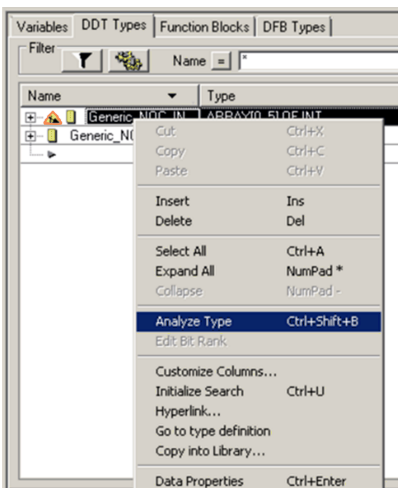
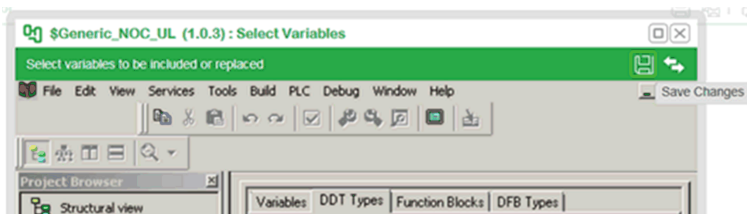
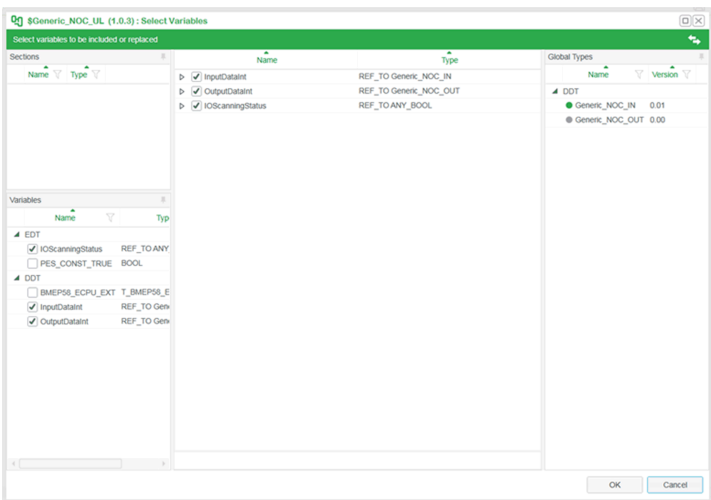
- Creating a user defined template using a reference template.
- Using reference template as it is, however modifying the array size during project refinement.

Procedure to Create User Defined Template using \$GenNOCDevice

The below table explains how to create an user defined template using \$GenNOCDevice:

Step	Action
1	<p>Navigate to the control module template \$GenNOCDevice, Edit and Save As the template (preferably with a new name as per your requirement and version) without the \$ prefix (For example, GenNOCUser).</p> 
2	<p>Navigate to the template facet \$GenericNOC_UL of the saved control module template GenNOCUser, Edit and Save As \$GenericNOC_UL without the \$ prefix (For example, GenericNOCUser_UL).</p> 
3	<p>Replace the \$GenericNOC_UL template facet in the control module template GenNOCUser with the newly saved template facet GenericNOCUser_UL.</p> 
4	<p>Edit the GenNOCUser template and click on the Templatizer icon.</p> 
5	<p>Select Show Templatizer Tool icon to get the constituent file definition.</p> 

Step	Action				
	<p>The two variables relevant to the user are:</p> <table> <tr> <td>a</td><td><i>InputDataInt</i> of type REF_TO Generic_NOC_IN</td></tr> <tr> <td>b</td><td><i>OutputDataInt</i> of type REF_TO Generic_NOC_OUT</td></tr> </table> <p>NOTE: <i>IOScanningStatus</i> of type REF_TO ANYBOOL provides IOScanning health status.</p>	a	<i>InputDataInt</i> of type REF_TO Generic_NOC_IN	b	<i>OutputDataInt</i> of type REF_TO Generic_NOC_OUT
a	<i>InputDataInt</i> of type REF_TO Generic_NOC_IN				
b	<i>OutputDataInt</i> of type REF_TO Generic_NOC_OUT				
6	<p>Select the tab DDT Types.</p>  <p>These are the DDT's that the variables mentioned above refer to for type definition. Both <i>IN</i> and <i>OUT</i> DDTs are of type ARRAY[0...1] OF INT by default. The length of the array that needs to be generated can be changed here.</p>				
7	<p>To change the length of the array.</p> <p>Double click on the DDT Types tab. Edit the array length in the Type column.</p> 				
8	<p>In the highlighted window, change the length of the array as needed by altering the last item name.</p> 				
9	<p>Press Enter.</p> <p>Result: The following message appear</p>  <p>Select Yes.</p>				
10	The DDT definition exits the analyzed state.				

Step	Action
	
11	<p>Right click on the DDT and select the Analyze Type option.</p>  <p>This can be done for both IN and OUT DDT definitions.</p> <p>NOTE: To create your own customized template, change the name of the DDT as well, so that there are no two DDT's with the same name and different definition present in a project, even if the reference and customized templates are used in the same project simultaneously. The name can be edited by following the same steps as type, by double clicking the name column. This method is useful to create custom templates for various devices (Since array length requirements may be different for each).</p>
12	<p>Once analyzed, with no detected errors present, proceed to save the project.</p> 
13	<p>Select OK.</p> 
14	<p>Save the template. The template definition contains the new sized element suited to the needs of your application.</p>

Procedure to use \$GenNOCTestTemplate without any modification

The following steps explain how to use \$GenNOCTestTemplate template without any modification, however modifying the array size during project refinement:

Step	Action
1	Instantiate the template in Application Explorer .
2	Assign to a project of your choice and generate it.
3	Right click on the project and select Refine .
4	<p>Repeat steps 6 to 11 of the previous procedure to change the array size definition, page 47.</p> <p>NOTE: This type definition is common for all the instance of variables created using this template and thus will reflect everywhere. This particular method is useful when creating multiple instance of same kind of device since the length requirements are same but instances are more than one.</p>

Digital Protection Relays

Overview

This chapter explains the basic functionality of the Digital Protection Relays 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.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.

\$SEPAM20MB - SEPAM 20 Control on Modbus

General Description

\$SEPAM20MB is classified into two variants:

- The \$SEPAM20CSTMb control module template allows you to manage the Sepam 20 digital protection devices on a Modbus network for S (Substation), T (Transformer), M (Motor) variants of the product.
- The \$SEPAM20CBMB control module template allows you to manage the Sepam 20 digital protection devices on a Modbus network for B (Busbar) variant of the product.

The SEPAM range of protection relays is designed for applications on medium-voltage public and industrial distribution networks.

Parameters

Configuration

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

Element name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
	ModbusAddress	Short	0	Address of the Modbus device
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.
	Refresh	Duration	00:00:00.5	Time the device takes to refresh the cyclic data.

Composition

The device control module template \$SEPAM20CSTMMB, \$SEPAM20CBMB 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 \$SEPAM20CSTMMB 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
				(\$SE-PAM20CSTMMB_CS)*		
Core Services						
Logic	\$SE-PAM20CSTMM-B_UC	\$SEPAM20CSTMMB_UL	Refer to the MBSEPAM20CSTM DFB.	Tags	\$SEPA-MIO20_CD	Refer to MBSE-PAM20CSTM DFB.
				SEPAM20-Tags	\$SE-PAM20-Status_CD	
				SEPA-MIO20Tags	\$SE-PAM20C-STM_AMEA_CD	
				SEPAM20A-MEATags		

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services (\$SE-PAM20CST-MMB_CS) *	Corresponding facet template	Supervision Service description
–	–	–	–	Genies	\$Sepam_CG	Refer to the genies representation of MBSE-PAM20CSTM DFB.
Mapping Interface						
\$Sepam20MBMapping/DO						
* The service is activated by default.						

The following table describes the services that are available from the \$SEPAM20CBMB control module and the corresponding facet, which implements the service:

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services (\$SE-PAM20CBM-B_CS) *	Corresponding facet template	Supervision Service description
Core Services						
Logic	\$SE-PAM20CBMB_UC	\$SEPAM20CBMB_UL	Refer to the MBSEPAM20CB DFB.	Tags	\$SEPA-MIO20_CD	Refer to MBSEPAM20CB DFB.
				SEPAM20- Tags	\$SE-PAM20- Status_CD	
				SEPA-MIO20Tags	\$SE-PAM20C-B_VMEA_CD	
				SEPAM20V-MEATags		
–	–	–	–	Genies	\$Sepam_CG	Refer to the genies representation of MBSEPAM20CB DFB.
Mapping Interface						
\$Sepam20MBMapping/DO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface identifier	Interface Model/Role identifier	Description
\$ModbusPort	\$MBWorkMemory/Client	Links to a communication object
\$DEV1S1D	\$DEV1S1D/DO	Links to a process object
\$StatisticConnector	\$StatisticConnector_Name/Def	EDT interface
For a DEVICE, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$SEPAM40MB - SEPAM 40 Control on Modbus

General Description

The \$SEPAM40MB control module template allows you to manage SEPAM 40 digital protection devices on a Modbus network.

The SEPAM range of protection relays is designed for applications on medium-voltage public and industrial distribution networks.

Parameters

Configuration

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

Element name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
	ModbusAddress	Short	0	Address of the Modbus device
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.
	Refresh	Duration	00:00:05	Time the device takes to refresh the cyclic data.

Composition

The device control module template \$SEPAM40MB 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 \$SEPAM40MB control module and the corresponding facet, which implements the service:

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services (\$SEPAM40MB_CS)*	Corresponding facet template	Supervision Service description
Core Services						
Logic	\$SEPAM40MB_UC	\$SEPAM40MB_UL	Refer to the MBSEPAM40C DFB.	Tags	\$SEPAM40MB_CD	Refer to MBSEPAM40C DFB.
				SEPAM40Tags	\$SEPAM40_CD	
				SEPAMIO40-Tags	\$SEPAMIO40_CD	
				SEPAMmMEA-Tags	\$SEPAMMEA_CD	
–	–	–	–	Genies	\$Sepam_CG	Refer to the genies representation of MBSEPAM40C DFB.
Mapping Interface						
\$Sepam40MBMapping/DO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface identifier	Interface Model/Role identifier	Description
<i>\$ModbusPort</i>	\$MBWorkMemory/Client	Links to a communication object
<i>\$DEV1S1D</i>	\$DEV1S1D/DO	Links to a process object
For a DEVICE, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$SEPAM80MB - SEPAM 80 Control on Modbus

General Description

The \$SEPAM80MB control module template allows you to manage SEPAM 80 digital protection devices on a Modbus network.

The SEPAM range of protection relays is designed for applications on medium-voltage public and industrial distribution networks.

Parameters

Configuration

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

Element name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
	ModbusAddress	Short	0	Address of the Modbus device
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.
	Refresh	Duration	00:00:00.5	Time the device takes to refresh the cyclic data.

Composition

The device control module template `$SEPAM80MB` 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 `$SEPAM80MB` control module and the corresponding facet, which implements the service:

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services (<code>\$SE-PAM80MB-CS</code>) *	Corresponding facet template	Supervision Service description
Core Services						
Logic	<code>\$SEPAM80MB_UC</code>	<code>\$SEPAM80MB_UL</code>	Refer to the MBSEPAM80C DFB.	Tags	<code>\$SEPAM80MB_CD</code>	Refer to MBSE-PAM80C DFB.
				SEPAM80-Tags	<code>\$SEPAM80_CD</code>	
				SEPA-MIO80Tags	<code>\$SEPAMIO80_CD</code>	
				SEPAM-MEATags	<code>\$SEPAM80_MEA_CD</code>	
–	–	–	–	Genies	<code>\$Sepam_CG</code>	Refer to the genies representation of MBSE-PAM80C DFB.
Mapping Interface						

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services (\$SE-PAM80MB-CS) *	Corresponding facet template	Supervision Service description
\$Sepam80MBMapping/DO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface identifier	Interface Model/Role identifier	Description
\$ModbusPort	\$MBWorkMemory/Client	Links to a communication object
\$DEV1S1D	\$DEV1S1D/DO	Links to a process object
\$StatisticConnector	\$StatisticConnector_Name/Def	EDT interface
For a device, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$SEPAM80E - SEPAM 80 with Modbus TCP Ethernet I/O Scanning

General Description

The \$SEPAM80E control module template manages the Sepam 80 digital protection devices on an Ethernet network.

The SEPAM range of protection relays is designed for applications on medium-voltage public and industrial distribution networks.

Parameters

Configuration

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

Element name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.

Element name	Name	Type	Default value	Description
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.
	Refresh	Duration	00:00:00.5	Time the device takes to refresh the cyclic data.

Composition

The device control module template `$SEPAM80E` 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 `$SEPAM80E` control module and the corresponding facet, which implements the service:

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services (<code>\$SEPAM80E_CS</code>)*	Corresponding facet template	Supervision Service description
Core Services						
Logic	<code>\$SEPAM80E_UC</code>	<code>\$SEPAM80E_UL</code>	Refer to the <code>ESEPAM80C</code> DFB.	Tags	<code>\$SEPAM80E_CD</code>	Refer to <code>ESEPAM80C</code> .
				SEPAM80-Tags	<code>\$SEPAM80-Status_CD</code>	
				SEPA-MIO80Tags	<code>\$SEPAMIO80_CD</code>	
				SEPAM-MEATags	<code>\$SEPAM80_MEA_CD</code>	
—	—	—	—	Genies	<code>\$Sepam_CG</code>	Refer to the genies representation of <code>ESEPAM80C</code> .
Mapping Interface						
<code>\$Sepam80EMapping/DO</code>						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface identifier	Interface Model/Role identifier	Description
<code>\$DEV1S1D</code>	<code>\$DEV1S1D/DO</code>	Links to a process object

Motor Controllers and Starters

Overview

This chapter explains the basic functionality of the Motor Controllers and Starters 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.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.

\$TesySTE - TeSys T Management Controller Ethernet Normal I/O Scanning

General Description

The \$TesySTE control module template allows you to manage a Tesys T motor management system on an Ethernet network using normal I/O scanning.

Parameters

Configuration

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

Element name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.

Composition

The device control module template `$TesySTE` 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 `$TesySTE` control module and the corresponding facet, which implements the service:

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services <code>\$TESYST_CS *</code>	Corresponding facet template	Supervision Service description
Core Services						
Logic	<code>\$TESYST_UC</code>	<code>\$TESYST_UL</code>	Refer to the <code>EIOTESYST</code> DFB.	Tags	<code>\$TesyST-TESTATUS_CD</code> <code>\$TesyST-MEA_CD</code> <code>\$TesyST-MEAEEXT_CD</code> <code>\$TesyST-MEAEV40_CD</code>	Refer to <code>EIOTE-SYST</code> .
–	–	–	–	Genies	<code>\$TESYST_10_CG</code> <code>\$TESYST_AMP_10_CG</code>	Refer to the <i>genies</i> representation of <code>EIOTE-SYST</code> .
Mapping Interface						
<code>\$DeviceData/DO</code>						
* The service is activated by default.						

NOTE: Device `Unit ID` for `TesysT` varies for different firmware versions. Hence default value is set to 1, as it supports most of the firmware versions. In case of unsuccessful communication, you may need to configure the correct device `Unit ID` in the parameter of the hardware template.

The control module template exposes the following interfaces:

Interface identifier	Interface Model/Role identifier	Description
<code>\$DEV1S1D</code>	<code>\$DEV1S1D/DO</code>	Links to a process object
<code>\$DEV1S2D</code>	<code>\$DEV1S2D/DO</code>	Links to a process object
<code>\$DEV2S1D</code>	<code>\$DEV2S1D/DO</code>	Links to a process object
<code>\$DEV2S2D</code>	<code>\$DEV2S2D/DO</code>	Links to a process object

\$TesysTEFast - TeSys T Management Controller Ethernet Fast I/O Scanning

General Description

The `$TesysTEFast` control module template allows you to manage a TeSys T motor management system on an Ethernet network using fast I/O scanning.

Parameters

Configuration

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

Element name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.

Composition

The device control module template `$TesysTEFast` 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 \$TesysTEFast control module and the corresponding facet, which implements the service:

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services \$TESYS- Fast_CS *	Corresponding facet template	Supervision Service description
Core Services						
Logic	\$TESYS- Fast_UC	\$TESYSFast_UL	Refer to the ETE-SYST DFB.	Tags	\$Tesys- TEstatus_ CD	Refer to ETE-SYST.
–	–	–	–	Genies	\$TESYST_ 10_CG \$TESYST_ AMP_10_CG	Refer to the genies representation of ETE-SYST.
Mapping Interface						
\$DeviceData/DO						
* The service is activated by default.						

NOTE: Device Unit ID for TesysT varies for different firmware versions. Hence default value is set to 1, as it supports most of the firmware versions. In case of unsuccessful communication, you may need to configure the correct device Unit ID in the parameter of the hardware template.

The control module template exposes the following interfaces:

Interface identifier	Interface Model/Role identifier	Description
\$DEV1S1D	\$DEV1S1D/DO	Links to a process object
\$DEV1S2D	\$DEV1S2D/DO	Links to a process object
\$DEV2S1D	\$DEV2S1D/DO	Links to a process object
\$DEV2S2D	\$DEV2S2D/DO	Links to a process object

\$TesysTEM - Tesys T Motor Management Controller Ethernet Messaging

General Description

The \$TesysTEM control module template allows you to manage a Tesys T motor management system on an Ethernet TCP/IP-based network using Modbus Explicit messaging.

Parameters

Configuration

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

Element name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.
	Refresh	Duration	00:00:00.5	Time the device takes to refresh the cyclic data.

Composition

The device control module template `$TesySTEM` 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 `$TesySTEM` 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	\$TESYSTEM_UC	\$TESYSTEM_UL	Refer to the EMESTESYST DFB.	Tags	\$TESYST-MEAEV40_CD	Refer to EMESTE-SYST DFB.
					\$TESYST-MEA_CD	
					\$TESYST-MEAEXT_CD	
					\$TESYST-TEMSTA-TUS_CD	
–	–	–	–	Genies	\$TESYST_10_CG	Refer to the

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services \$TESYS- TEM_CS*	Corresponding facet template	Supervision Service description
					\$TESYSTAMP_10_CG	genies representation of EMESTE-SYST DFB.
Mapping Interface						
\$TesySTEMMapping/DO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface identifier	Interface Model/Role identifier	Description
<i>\$EthernetPort</i>	\$EMWorkMemory/Client	Links to a communication object
<i>\$DEV1S1D</i>	\$DEV1S1D/DO	Links to a process object
<i>\$DEV1S2D</i>	\$DEV1S2D/DO	Links to a process object
<i>\$DEV2S1D</i>	\$DEV2S1D/DO	Links to a process object
<i>\$DEV2S2D</i>	\$DEV2S2D/DO	Links to a process object
<i>\$StatisticConnector</i>	\$StatisticConnector_Name/Def	EDT interface
For a DEVICE, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$TesySTAS - Tesys T Motor Management Controller on Advantys

General Description

The \$TesySTAS template is the device template to manage the Tesys T motor management system on an Advantys STB I/O island.

Parameters

Configuration

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

Element name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.

Composition

The device control module template `$TesySTAS` 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 `$TesySTAS` control module and the corresponding facet, which implements the service:

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services (<code>\$TesySTAS_CS</code>) *	Corresponding facet template	Supervision Service description
Core Services						
Logic	<code>\$TesySTAS_UC</code>	<code>\$TesySTAS_UL</code>	Refer to the <code>TESYSTCTL</code> DFB.	Tags	<code>\$TesySTAS_CD</code> <code>\$TESYSTAS-Status_CD</code>	Refer to <code>TE-SYSTCTL</code> DFB
–	–	–	–	Genies	<code>\$TESYST_10_CG</code> <code>\$TESYST_AMP_10_CG</code>	Refer to the genies representation of <code>TE-SYSTCTL</code> DFB.
Mapping Interface						
<code>\$TesySTASMapping/DO</code>						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface identifier	Interface Model/Role identifier	Description
<code>\$DEV1S1D</code>	<code>\$DEV1S1D/DO</code>	Links to a process object
<code>\$DEV1S2D</code>	<code>\$DEV1S2D/DO</code>	Links to a process object
<code>\$DEV2S1D</code>	<code>\$DEV2S1D/DO</code>	Links to a process object
<code>\$DEV2S2D</code>	<code>\$DEV2S2D/DO</code>	Links to a process object
For a device, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$TesysTMB - Tesys T Motor Management Controller on Modbus

General Description

The \$TesysTMB control module template allows you to manage the Tesys T motor management system on a Modbus network.

Parameters

Configuration

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

Element name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
	ModbusAddress	Short	0	Address of the Modbus device
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.
	Refresh	Duration	00:00:00.5	Time the device takes to refresh the cyclic data.

Composition

The device control module template \$TesysTMB 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 \$TesysTMB control module and the corresponding facet, which implements the service:

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services (\$Te-sysTMB_CS)*	Corresponding facet template	Supervision Service description
Core Services						
Logic	\$TesysTMB_UC	\$TesysTMB_UL	Refer to the MBTESYST DFB.	Tags	\$TesysTMB_CD	Refer to MBTE-SYST DFB.
					\$TESYST-MEAEV40_CD	
					\$TESYSTMEA_CD	
					\$TESYST-MEAEEXT_CD	
					\$TESYSTMB-STATUS_CD	
-	-	-	-	Genies	\$TESYST_10_CG	Refer to the genies representation of MBTE-SYST DFB.
					\$TESYST_AMP_10_CG	
Mapping Interface						
\$TesysTMBMapping/DO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface identifier	Interface Model/Role identifier	Description
<i>\$ModbusPort</i>	\$MBWorkMemory/Client	Links to a communication object
<i>\$DEV1S1D</i>	\$DEV1S1D/DO	Links to a process object
<i>\$DEV1S2D</i>	\$DEV1S2D/DO	Links to a process object
<i>\$DEV2S1D</i>	\$DEV2S1D/DO	Links to a process object
<i>\$DEV2S2D</i>	\$DEV2S2D/DO	Links to a process object
<i>\$StatisticConnector</i>	\$StatisticConnector_Name/Def	EDT interface
For a device, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$TesyTPB - TeSys T Motor Management Controller on Profibus

General Description

The \$TesyTPB control module template allows you to manage a TeSysT motor management system on a Profibus network.

Parameters

Configuration

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

Element name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.

Composition

The device control module template $\$Tesy sTPB$ 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 $\$Tesy sTPB$ 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
				$\$TE- SYSTPB_CS$ *		
Core Services						
Logic	$\$TESYSTPB_UC$	$\$TESYSTPB_UL$	Refer to the PBTESYST DFB.	Tags	$\$Te- systPB- Status_CD$	Refer to PBTE- SYST.
–	–	–	–	Genies	$\$TESYST_10_CG$ $\$TESYST_AMP_10_CG$	Refer to the genies representation of PBTE- SYST.
Mapping Interface						
$\$DeviceData/DO$						
* The service is activated by default.						

NOTE: For the `$TesySTPB` template, you can enter a maximum of 16 characters as `InstanceID`.

The control module template exposes the following interfaces:

Interface identifier	Interface Model/Role identifier	Description
<code>\$DEV1S1D</code>	<code>\$DEV1S1D/DO</code>	Links to a process object
<code>\$DEV1S2D</code>	<code>\$DEV1S2D/DO</code>	Links to a process object
<code>\$DEV2S1D</code>	<code>\$DEV2S1D/DO</code>	Links to a process object
<code>\$DEV2S2D</code>	<code>\$DEV2S2D/DO</code>	Links to a process object

\$TesySUStdStAS - Tesys U Standard Starter on Advantys

General Description

The `$TesySUStdStAS` template is the device template to manage the Tesys U starter with a standard control module on an Advantys STB I/O island.

Parameters

Configuration

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

Element name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.

Composition

The device control module template `$TesySUStdStAS` 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 \$TesysUStdStAS control module and the corresponding facet, which implements the service:

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services (\$TesysUStdStAS_CS) *	Corresponding facet template	Supervision Service description
Core Services						
Logic	\$TesysUStdStAS_UC	\$TesysUStdStAS_UL	Refer to the TESSUSCST DFB.	Tags	\$Tesy-sUS-tdStAS_CD	Refer to TESSUSCST DFB.
–	–	–	–	Genies	\$TESY-SU_CG \$TESY-SUAMP_CG	Refer to the genies representation of TESSUSCST DFB.
Mapping Interface						
\$TesysUStdStarterASMapping/DO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface identifier	Interface Model/Role identifier	Description
\$DEV1S1D	\$DEV1S1D/DO	Links to a process object
\$DEV1S2D	\$DEV1S2D/DO	Links to a process object
A DO role identifier links to a process object.		

\$TesysUStdStMB - Tesys U Standard Starter on Modbus

General Description

The \$TesysUStdStMB control module template allows you to manage the Tesys U starter with a standard control module on a Modbus network.

Parameters

Configuration

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

Element name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
	ModbusAddress	Short	0	Address of the Modbus device
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.
	Refresh	Duration	00:00:00.5	Time the device takes to refresh the cyclic data.

Composition

The device control module template `$TesySUStdStMB` 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 `$TesySUStdStMB` control module and the corresponding facet, which implements the service:

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services (\$Tesy-sUStdStMB-CS) *	Corresponding facet template	Supervision Service description
Core Services						
Logic	\$Tesy-sUStdStMB_UC	\$Tesy-sUStdStMB_UL	Refer to the MBTESYSUSCST DFB.	Tags	\$Tesy-sUStdStMB_CD	Refer to MBTESYSUSCST DFB.
—	—	—	—	Genies	\$TESY-SU_CG	Refer to the genies representation of MBTESYSUSCST DFB.
					\$TESY-SUAMP_CG	
Mapping Interface						
\$TesyUStdStarterMBMapping/DO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface identifier	Interface Model/Role identifier	Description
<i>\$ModbusPort</i>	<i>\$MBWorkMemory/Client</i>	Links to a communication object
<i>\$DEV1S1D</i>	<i>\$DEV1S1D/DO</i>	Links to a process object
<i>\$DEV1S2D</i>	<i>\$DEV1S2D/DO</i>	Links to a process object
<i>\$StatisticConnector</i>	<i>\$StatisticConnector_Name/Def</i>	EDT interface
For a device, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$TesysUAdStAS - Tesys U Advanced Starter on Advantys

General Description

The *\$TesysUAdStAS* template is the device template to manage the Tesys U starter with an advanced control module on an Advantys STB I/O island.

Parameters

Configuration

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

Element name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.

Composition

The device control module template *\$TesysUAdStAS* 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 \$TesysUAdStAS control module and the corresponding facet, which implements the service:

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services (\$TesysUAdStAS_CS) *	Corresponding facet template	Supervision Service description
Core Services						
Logic	\$TesysUAdStAS_UC	\$TesysUAdStAS_UL	Refer to the TESYSUCTL DFB.	Tags	\$TesysUAdStAS_CD	Refer to TESYSUCTL DFB.
–	–	–	–	Genies	\$TESYSU_CG \$TESY-SUAMP_CG	Refer to the genies representation of TESY-SUCTL DFB.
Mapping Interface						
\$TesysUAdvStarterASMapping/DO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface identifier	Interface Model/Role identifier	Description
\$DEV1S1D	\$DEV1S1D/DO	Links to a process object
\$DEV1S2D	\$DEV1S2D/DO	Links to a process object
A DO role identifier links to a process object.		

\$TesysUAdStMB - Tesys U Advanced Starter on Modbus

General Description

The \$TesysUAdStMB control module template allows you to manage the Tesys U starter with an advanced control module on a Modbus network.

Parameters

Configuration

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

Element name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
	ModbusAddress	Short	0	Address of the Modbus device
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.
	Refresh	Duration	00:00:00.5	Time the device takes to refresh the cyclic data.

Composition

The device control module template `$TesyUAdStMB` 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 `$TesyUAdStMB` control module and the corresponding facet, which implements the service:

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services (\$Tesy-sUAdStMB_CS) *	Corresponding facet template	Supervision Service description
Core Services						
Logic	\$Tesy-sUAdStMB_UC	\$Tesy-sUAdStMB_UL	Refer to the MBTESYSUSC DFB.	Tags	\$Tesy-sUAdStMB_CD	Refer to MBTESYSUSC DFB.
				Tesy-sUAdStTags	\$Tesy-sUAdSt_CD	
				Tesy-UMECTags	\$Tesy-sUAdSt_MECD	
-	-	-	-	Genies	\$TESYSU_CG	Refer to the genies representation of MBTESYSUSC DFB.
					\$TESYSUAMP_CG	
Mapping Interface						
\$Tesy-sUAdvStarterMBMapping/DO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface identifier	Interface Model/Role identifier	Description
<code>\$ModbusPort</code>	<code>\$MBWorkMemory/Client</code>	Links to a communication object
<code>\$DEV1S1D</code>	<code>\$DEV1S1D/DO</code>	Links to a process object
<code>\$DEV1S2D</code>	<code>\$DEV1S2D/DO</code>	Links to a process object

Interface identifier	Interface Model/Role identifier	Description
<i>\$StatisticConnector</i>	<i>\$StatisticConnector_Name/Def</i>	EDT interface
For a device, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$TesySUMfStAS - Tesys U Multifunction Starter on Advantys

General Description

The *\$TesySUMfStAS* template is the device template to manage the Tesys U starter with a multifunction control module on an Advantys STB I/O island.

Parameters

Configuration

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

Element name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.

Composition

The device control module template *\$TesySUMfStAS* 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 *\$TesySUMfStAS* control module and the corresponding facet, which implements the service:

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services (\$Tesy-sUMfStAS_CS)*	Corresponding facet template	Supervision Service description
Core Services						
Logic	\$TesyUMf-StAS_UC	\$TesyUMfStAS_UL	Refer to the TESYSUSC DFB.	Tags	\$Tesy-sUMf-StAS_CD	Refer to TESY-SUSC DFB.
				Tesy-sUMfStTags	\$Tesy-sUMfSt-StatusAS_CD	
				TesyU-MECTags	\$Tesy-sUMf-StAS_MEC_CD	
–	–	–	–	Genies	<div>\$TESY-SU_CG</div> <div>\$TESY-SUAMP_CG</div>	Refer to the genies representation of TESY-SUSC DFB.
Mapping Interface						
\$TesyUMfStarterASMapping/DO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface identifier	Interface Model/Role identifier	Description
\$DEV1S1D	\$DEV1S1D/DO	Links to a process object
\$DEV1S2D	\$DEV1S2D/DO	Links to a process object
A DO role identifier links to a process object.		

\$TesyUMfStMB - Tesys U Multifunction Starter on Modbus

General Description

The \$TesyUMfStMB control module template allows you to manage the Tesys U starter with a multifunction control module on a Modbus network.

Parameters

Configuration

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

Element name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
	ModbusAddress	Short	0	Address of the Modbus device
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.
	Refresh	Duration	00:00:00.5	Time the device takes to refresh the cyclic data.

Composition

The device control module template `$TesySUMfStMB` 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 `$TesySUMfStMB` control module and the corresponding facet, which implements the service:

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services (\$Tesy-sUMfStMB_CS)*	Corresponding facet template	Supervision Service description
Core Services						
Logic	\$Tesy-sUMfStMB_UC	\$Tesy-sUMfStMB_UL	Refer to the MBTESYSUSC DFB.	Tags	\$Tesy-sUMfSt-MB_CD	Refer to MBTESY-SUSC DFB.
				Tesy-sUMfStSta-tusTags	\$Tesy-sUMfSt-Status_CD	
				Tesy-sU-MECTags	\$Tesy-sU_MEC_CD	
-	-	-	-	Genies	\$TESY-SU_CG	Refer to the genies representation of MBTESY-SUSC DFB.
					\$TESY-SUAMP_CG	
Mapping Interface						

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services (\$Tesy-sUMfStMB_CS) *	Corresponding facet template	Supervision Service description
\$TesySUMfStarterMBMapping/DO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface Identifier	Interface Model/Role Identifier	Description
\$ModbusPort	\$MBWorkMemory/Client	Links to a communication object
\$DEV1S1D	\$DEV1S1D/DO	Links to a process object
\$DEV1S2D	\$DEV1S2D/DO	Links to a process object
\$StatisticConnector	\$StatisticConnector_Name/Def	EDT interface
For a device, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$TesySUMfCtrlAS - Tesys U Advanced Controller on Advantys

General Description

The \$TesySUMfCtrlAS template is the device template to manage the Tesys U controller with an advanced control module on an Advantys STB I/O island.

Parameters

Configuration

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

Element name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.

Element name	Name	Type	Default value	Description
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.

Composition

The device control module template `$TesySUAdvCtrlAS` 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 `$TesySUAdvCtrlAS` control module and the corresponding facet, which implements the service:

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services (\$Tesy-sUAdvCtrlAS_CS) *	Corresponding facet template	Supervision Service description
Core Services						
Logic	\$Tesy-sUAdvCtrlAS_UC	\$Tesy-sUAdvCtrlAS_UL	Refer to the TESYSUC DFB.	Tags	\$Tesy-sUAdvCtrlAS_CD	Refer to TESYSUC DFB.
				Tesy-sUAdvCtrl-StatusAS-Tags	\$Tesy-sUAdvCtrlStatusAS_CD	
				Tesy-sUAdvCtrl-IOTags	\$Tesy-sUAdvCtrl_IO_CD	
-	-	-	-	Genies	\$TESY-SU_CG	Refer to the genies representation of TESYSUC DFB.
					\$TESY-SUAMP_CG	
Mapping Interface						
\$Tesy-sUAdvCtrlASMapping/DO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface identifier	Interface Model/Role identifier	Description
<code>\$DEV1S1D</code>	<code>\$DEV1S1D/DO</code>	Links to a process object
<code>\$DEV1S2D</code>	<code>\$DEV1S2D/DO</code>	Links to a process object
A DO role identifier links to a process object.		

\$TesysUAdCtrlMB - Tesys U Advanced Controller Modbus

General Description

The \$TesysUAdCtrlMB control module template allows you to manage the Tesys U controller with an advanced control module on a Modbus network.

Composition

The device control module template \$TesysUAdCtrlMB 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 \$TesysUAdCtrlMB control module and the corresponding facet, which implements the service:

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services (\$TesysUAdCtrlMB_CS)*	Corresponding facet template	Supervision Service description
Core Services						
Logic	\$TesysUAdvCtrlMB_UC	\$TesysUAdvCtrlMB_UL	Refer to the MBTESYSUC DFB.	Tags	\$TesysUAdCtrlMB_CD	Refer to MBTESYSUC DFB.
				TesysUAdvCtrlTags	\$TesysUAdvCtrlStatus_CD	
				TesysUIOTags	\$TesysU_IO_CD	
–	–	–	–	Genies	\$TESYSU_CG	Refer to the genies representation of MBTESYSUC DFB.
					\$TESYSUAMP_CG	
Mapping Interface						
\$TesysUAdvCtrlMBMapping/DO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface identifier	Interface Model/Role identifier	Description
\$ModbusPort	\$MBWorkMemory/Client	Links to a communication object
\$DEV1S1D	\$DEV1S1D/DO	Links to a process object
\$DEV1S2D	\$DEV1S2D/DO	Links to a process object

Interface identifier	Interface Model/Role identifier	Description
<i>\$StatisticConnector</i>	<i>\$StatisticConnector_Name/Def</i>	EDT interface
For a device, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$TesysUMfCtlAS - Tesys U Multifunction Controller on Advantys

General Description

The *\$TesysUMfCtlAS* template is the device template to manage the Tesys U controller with a multifunction control module on an Advantys STB I/O island.

Parameters

Configuration

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

Element name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.

Composition

The device control module template *\$TesysUMfCtlAS* 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 *\$TesysUMfCtlAS* control module and the corresponding facet, which implements the service:

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services (\$Tesy-sUMfCtlAS_CS) *	Corre-sponding facet template	Supervi-sion Service description
Core Services						
Logic	\$Tesy-sUMfCtlAS_UC	\$Tesy-sUMfCtlAS_UL	Refer to the TESYSUC DFB.	Tags	\$Tesy-sUMfCtlAS_CD	Refer to TESYSUC DFB.
				Tesy-sUMfCtrl-StatusTags	\$Tesy-sUMfCtl-rlSta-tusAS_CD	
				TesysUIO-Tags	\$Tesy-sUMfCtlAS_IO_CD	
—	—	—	—	Genies	\$TESY-SU_CG	Refer to the genies representation of TESYSUC DFB.
					\$TESY-SUAMP_CG	
Mapping Interface						
\$Tesy-sUMfCtlASMapping/DO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface identifier	Interface Model/Role identifier	Description
\$DEV1S1D	\$DEV1S1D/DO	Links to a process object
\$DEV1S2D	\$DEV1S2D/DO	Links to a process object
For a device, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$TesysUMfCtlMB - Tesys U Multifunction Controller on Modbus

General Description

The \$TesysUMfCtlMB control module template allows you to manage the Tesys U controller with a multifunction control module on a Modbus network.

Parameters

Configuration

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

Element name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
	ModbusAddress	Short	0	Address of the Modbus device
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element Name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.
	Refresh	Duration	00:00:00.5	Time the device takes to refresh the cyclic data.

Composition

The device control module template `$TesySUMfCtlMB` 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 `$TesySUMfCtlMB` control module and the corresponding facet, which implements the service:

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services (\$Tesy-sUMfCtrlMB_CS)*	Corresponding facet template	Supervision Service description
Core Services						
Logic	\$Tesy-sUMfCtrlMB_UC	\$TesySUMfCtrlMB_UL	Refer to the MBTESYSUC DFB.	Tags	\$Tesy-sUMfCtrlMB_CD	Refer to MBTESYSUC DFB.
				Tesy-sUMfCtrl- Tags	\$Tesy-sUMfCtrl- rlStatus_CD	
				TesySUIO- Tags	\$Tesy-sU_IO_CD	
–	–	–	–	Genies	\$TESY-SU_CG	Refer to the genies representation of MBTESYSUC DFB.
					\$TESY-SUAMP_CG	
Mapping Interface						

Control Services	Composite template	Corresponding facet template	Control Service description	Associated Supervision Services (\$Tesy- sUMfCtrlM- B_CS) *	Corresponding facet template	Supervision Service description
\$TesyUMfCtrlMBMapping/DO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface Identifier	Interface Model/Role Identifier	Description
<i>\$ModbusPort</i>	\$MBWorkMemory/Client	Links to a communication object
<i>\$DEV1S1D</i>	\$DEV1S1D/DO	Links to a process object
<i>\$DEV1S2D</i>	\$DEV1S2D/DO	Links to a process object
<i>\$StatisticConnector</i>	\$StatisticConnector_Name/Def	EDT interface
For a device, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

Power Monitoring Devices

Overview

This chapter explains the basic functionality of the Power Monitoring Devices 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.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.

\$PM710MB (Deprecated) - Power Meter 710 on Modbus

General Description

The \$PM710MB control module template allows you to manage PM 700 family power meters on a Modbus network.

The power meter is a multifunction, digital instrumentation, data acquisition, and control device. It can replace a variety of meters, relays, transducers, and other components. You can install the power meter at multiple locations within a facility.

Parameters

Configuration

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

Element Name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
	ModbusAddress	Short	0	Address of the Modbus device
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element Name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.
	Refresh	Duration	00:00:00.5	Time the device takes to refresh the cyclic data.

Composition

The device control module template \$PM710MB 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 \$PM710MB control module and the corresponding facet, which implements the service:

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (\$PM710MB_CS)	Corre- sponding Facet Template	Supervision Service Description
Core Services						
Logic	\$PM710MB_UC	\$PM710MB_UL	Refer to the MBPM700 DFB.	Tags	\$PM710-MB_CD	Refer to MBPM700
				PM710MBStatusTags	\$PM710-MBSTA-TUS_CD	
				PM710MEATags	\$PM710-MEA_CD	
-	-	-	-	Genies	\$PM_10_CG	Refer to the genies representation of MBPM710 DFB.
					\$PM_POWER_10_CG	
Mapping Interface						
\$PM710MBMapping/CO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface Identifier	Interface Model/Role Identifier	Description
<i>\$ModbusPort</i>	<i>\$MBWorkMemory/Client</i>	Links to a communication object
<i>\$StatisticConnector</i>	<i>\$StatisticConnector_Name/Def</i>	EDT interface
For a device, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$PM800MB (Deprecated) - Power Meter 800 on Modbus

General Description

The *\$PM800MB* control module template allows you to manage PM 800 family power meters on a Modbus network.

The power meter is a multifunction, digital instrumentation, data acquisition, and control device. It can replace a variety of meters, relays, transducers, and other components. You can install the power meter at multiple locations within a facility.

Parameters

Configuration

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

Element Name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
	ModbusAddress	Short	0	Address of the Modbus device
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element Name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.
	Refresh	Duration	00:00:00.5	Time the device takes to refresh the cyclic data.

Composition

The device control module template *\$PM800MB* 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 \$PM800MB control module and the corresponding facet, which implements the service:

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (\$PM800MB_CS) *	Corresponding Facet Template	Supervision Service Description
Core Services						
Logic	\$PM800MB_UC	\$PM800MB_UL	Refer to the MBPM800 DFB.	Tags	\$PM800-MB_CD	Refer to MBPM800 .
				PM800MBStatus- Tags	\$PM800-MBSTA-TUS_CD	
				PM800MEATags	\$PM800-MEA_CD	
-	-	-	-	Genies	\$PM_10_CG	Refer to the genies representation of MBPM800 DFB.
					\$PM_POWER_10_CG	
Mapping Interface						
\$PM800MBMapping/CO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface Identifier	Interface Model/Role Identifier	Description
\$ModbusPort	\$MBWorkMemory/Client	Links to a communication object
\$StatisticConnector	\$StatisticConnector_Name/Def	EDT interface
For a device, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$PM1200MB - Power Meter 1200 on Modbus

General Description

The \$PM1200MB control module template allows you to manage PM 1200 family power meters on a Modbus network.

The power meter is a multifunction, digital instrumentation, data acquisition, and control device. It can replace a variety of meters, relays, transducers, and other components. You can install the power meter at multiple locations within a facility.

Parameters

Configuration

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

Element Name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
	ModbusAddress	Short	0	Address of the Modbus device
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element Name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.
	Refresh	Duration	00:00:00.5	Time the device takes to refresh the cyclic data.

Composition

The device control module template \$PM1200MB 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 \$PM1200MB control module and the corresponding facet, which implements the service:

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (\$PM1200MB_CS)	Corresponding Facet Template	Supervision Service Description
Core Services						
Logic	\$PM1200MB_UC	\$PM1200MB_UL	Refer to the MBPM1200 DFB.	Tags	\$P-M1200M-B_CD	Refer to MBPM1200 DFB.
				PM1200MBStatusTags	\$P-M1200M-BSTA-TUS_CD	
				PM1200MEATags	\$P-M1200M-EA_CD	
—	—	—	—	Genies	\$P-M1200_CG	Refer to the genies representation of MBPM1200 DFB.
					\$PM_POWER_10_CG	
Mapping Interface						
\$PM1200MBMapping/CO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface Identifier	Interface Model/Role Identifier	Description
<i>\$ModbusPort</i>	<i>\$MBWorkMemory/Client</i>	Links to a communication object
<i>\$StatisticConnector</i>	<i>\$StatisticConnector_Name/Def</i>	EDT interface
For a device, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$PM9CMB (Deprecated) - Power Meter 9C on Modbus

General Description

The *\$PM9CMB* control module template allows you to manage PM 9C family power meters on a Modbus network.

The power meter is a multifunction, digital instrumentation, data acquisition, and control device. It can replace a variety of meters, relays, transducers, and other components. You can install the power meter at multiple locations within a facility.

Parameters

Configuration

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

Element Name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
	ModbusAddress	Short	0	Address of the Modbus device
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element Name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.
	Refresh	Duration	00:00:00.5	Time the device takes to refresh the cyclic data.

Composition

The device control module template *\$PM9CMB* 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 `$PM9CMB` control module and the corresponding facet, which implements the service:

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (\$PM9CMB_CS) *	Corresponding Facet Template	Supervision Service Description
Core Services						
Logic	\$PM9CMB_UC	\$PM9CMB_UL	Refer to the MBPM9C DFB.	Tags	\$PM9CM-B_CD	Refer to MBPM9C DFB.
				PM9CMBStatus- Tags	\$PM9CM-BSTA-TUS_CD	
				PM9CMEATags	\$PM9CM-EA_CD	
-	-	-	-	Genies	\$PM9C_CG	Refer to the genies representation of MBPM9C DFB.
					\$PM_POWER_10_CG	
Mapping Interface						
\$PM9CMBMapping/CO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface Identifier	Interface Model/Role Identifier	Description
<i>\$ModbusPort</i>	<code>\$MBWorkMemory/Client</code>	Links to a communication object
<i>\$StatisticConnector</i>	<code>\$StatisticConnector_Name/Def</code>	EDT interface
For a device, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$SmartUPSMB - Smart UPS on Modbus

General Description

The `$SmartUPSMB` control module template allows you to manage SMART UPS uninterrupted power supplies based on Modbus network.

The power meter is a multifunction, digital instrumentation, data acquisition, and control device. It can replace a variety of meters, relays, transducers, and other components. You can install the power meter at multiple locations within a facility.

Parameters

Configuration

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

Element Name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
	ModbusAddress	Short	0	Address of the Modbus device
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element Name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.
	Refresh	Duration	00:00:00.5	Time the device takes to refresh the cyclic data.

Composition

The device control module template `$SmartUPSMB` 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 `$SmartUPSMB` control module and the corresponding facet, which implements the service:

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (<code>\$SmartUPSMB_CS</code>)*	Corresponding Facet Template	Supervision Service Description
Core Services						
Logic	<code>\$SmartUPSMB_UC</code>	<code>\$SmartUPSMB_UL</code>	Refer to MBSMARTUPS DFB.	Tags	<code>\$SmartUPS_CD</code>	Refer to MBSMARTUPS DFB.
				Standard Measurement Citect Tags	<code>\$SmartUPS_MEA_CD</code>	
				Modbus - Citect Data Tags	<code>\$SmartUPSMB-Status_CD</code>	
–	–	–	–	Genies	<code>\$SmartUPSMB_CG</code>	Refer to the genies representation of MBSMARTUPS DFB.
Mapping Interface						
<code>\$SmartUPSMBMapping/CO</code>						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface Identifier	Interface Model/Role Identifier	Description
<i>\$Ready</i>	\$Bool/Def	EDT interface
<i>\$Fail</i>	\$Bool/Def	EDT interface
<i>\$Warninig</i>	\$Bool/Def	EDT interface
<i>\$ExtControlled</i>	\$Bool/Def	EDT interface
<i>\$Reseting</i>	\$Bool/Def	EDT interface
<i>\$BatteryCharge</i>	\$Int/Def	EDT interface
<i>\$Load</i>	\$Int/Def	EDT interface
<i>\$RemainingTime</i>	\$Int/Def	EDT interface
<i>\$ResetFail</i>	\$Bool/Ref	EDT interface
<i>\$Modbus Port</i>	\$MBWorkMemory/Client	Links to a communication object
For a device, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$AccusineE - Accusine PCS

General Description

The \$AccusineE control module template allows you to manage ACCUSINE PCS harmonic filters based on an Ethernet network.

Parameters

Configuration

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

Element Name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element Name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.

Composition

The device control module template `$AccusineE` 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 `$AccusineE` control module and the corresponding facet, which implements the service:

Control Services	Composite Template	Corresponding Facet Template	Control Control Service Description	Associated Supervision Supervision Services (<code>\$AccusineE_CS</code>)*	Corresponding Facet Template	Supervision Service Description
Core Services						
Logic	<code>\$AccusineE_UC</code>	<code>\$AccusineE_UL</code>	Refer to the <i>AccusineE</i> DFB.	Tags	<code>\$AccusineE_CD</code>	Refer to <i>AccusineE</i> DFB.
				<code>\$EAccusineCitect</code> Tags	<code>\$AccusineES-tatus_CD</code>	
				<code>\$EAccusineMeasurement Citect</code> Tags	<code>\$AccusineE-MEAS-tatus_CD</code>	
–	–	–	–	Genies	<code>\$AccusineE_CG</code>	Refer to the <i>genies</i> representation of <i>AccusineE</i> DFB.
Mapping Interface						
<code>\$DeviceData/CO</code>						
* The service is activated by default.						

`$PM800E` (Deprecated) - Power Meter 800 with Modbus TCP Ethernet I/O Scanning

General Description

The `$PM800E` control module template allows you to manage PM 800 family power meters on an Ethernet network with I/O scanning using Modbus explicit messaging.

The power meter is a multifunction, digital instrumentation, data acquisition. It can replace a variety of meters, relays, transducers, and other components. You can install the power meter at multiple locations within a facility.

Parameters

Configuration

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

Element Name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element Name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.
	Refresh	Duration	00:00:00.5	Time the device takes to refresh the cyclic data.

Composition

The device control module template \$PM800E 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 \$PM800E control module and the corresponding facet, which implements the service:

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (\$PM800E_CS) *	Corresponding Facet Template	Supervision Service Description
Core Services						
Logic	\$PM800E_UC	\$PM800E_UL	Refer to the EPM800 DFB.	Tags	\$PM800-E_CD	Refer to EPM800.
				PM800EStatus_CD	\$PM800-ESTA-TUS_CD	
				PM800MEATags	\$PM800-MEA_CD	
—	—	—	—	Genies	\$PM_10_CG	Refer to the genies representation of EPM800.
					\$PM_POWER_10_CG	
Mapping Interface						

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (\$PM800E_CS) *	Corresponding Facet Template	Supervision Service Description
\$PM800EMapping/CO						
* The service is activated by default.						

\$PM5350MB - Power Meter 5350 on Modbus

General Description

The \$PM5350MB control module template allows you to manage PM 5350 family power meters on a Modbus network.

The power meter is a multifunction, digital instrumentation, data acquisition, and control device. It can replace a variety of meters, relays, transducers, and other components. You can install the power meter at multiple locations within a facility.

Parameters

Configuration

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

Element Name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
	ModbusAddress	Short	0	Address of the Modbus device
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element Name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.
	Refresh	Duration	00:00:00.5	Time the device takes to refresh the cyclic data.

Composition

The device control module template \$PM5350MB 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 \$PM5350MB control module and the corresponding facet, which implements the service:

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (\$PM5350MB_CS)	Corresponding Facet Template	Supervision Service Description
Core Services						
Logic	\$PM5350MB_UC	\$PM5350MB_UL	Refer to the MBPM5350 DFB.	Tags	\$P-M5350M-B_CD	Refer to MBPM5350 DFB.
				PM5350MBStatusTags	\$P-M5350M-BSTA-TUS_CD	
				PM5350MEATags	\$P-M5350M-EA_CD	
—	—	—	—	Genies	\$PM_10_CG	Refer to the genies representation of MBPM5350 DFB.
					\$PM_POWER_10_CG	
Mapping Interface						
\$PM5350MBMapping/CO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface Identifier	Interface Model/Role Identifier	Description
\$ModbusPort	\$MBWorkMemory/Client	Links to a communication object
\$StatisticConnector	\$StatisticConnector_Name/Def	EDT interface
For a device, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$PM53xxEM - Power Meter 53xx on Ethernet Messaging

General Description

The \$PM53xxEM control module template allows you to manage PM53xx family power meters on an Ethernet TCP/IP-based network using Modbus explicit messaging.

The power meter is a multifunction, digital instrumentation, data acquisition, and control device. It can replace a variety of meters, relays, transducers, and other components. You can install the power meter at multiple locations within a facility.

Parameters

Configuration

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

Element Name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
Power Meter Graphical	Failure Rearm Confirmation	Boolean	True	<ul style="list-style-type: none"> True = Reset confirmation is required for the device
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element Name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.
	Refresh	Duration	00:00:00.5	Time the device takes to refresh the cyclic data.

Composition

The device control module template \$PM53xxEM 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 \$PM53xxEM control module and the corresponding facet, which implements the service:

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (\$PM53xxEM_CS)	Corresponding Facet Template	Supervision Service Description
Core Services						
Logic	\$PM53xxEM_UC	\$PM53xxEM_UL	Refer to the EMPM53xx DFB.	Tags	\$PM53xxEM_CD	Refer to EMPM53xx DFB.
				PM53xxEMStatusTags	\$PM53xxEMSTATUS_CD	
				PM53xxEMMEA-Tags	\$PM53xxEMMEA_CD	
–	–	–	–	Genies	\$PM53xx_10_CG	Refer to the genies representation of

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (\$PM53xxEM_CS)	Corresponding Facet Template	Supervision Service Description
					\$PM53xx- x_ POWER_ 10_CG	EMPM53xx DFB.
Mapping Interface						
\$PM53xxEMMapping/CO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface Identifier	Interface Model/Role Identifier	Description
<i>\$EthernetPort</i>	\$EMWorkMemory/Client	Links to a communication object
<i>\$StatisticConnector</i>	\$StatisticConnector_Name/Def	EDT interface
For a device, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$PM82xxEM - Power Meter 82xx on Ethernet Messaging

General Description

The \$PM82xxEM control module template allows you to manage PM82xx family power meters on an Ethernet TCP/IP-based network using Modbus explicit messaging.

The power meter is a multifunction, digital instrumentation, data acquisition, and control device. It can replace a variety of meters, relays, transducers, and other components. You can install the power meter at multiple locations within a facility.

Parameters

Configuration

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

Element Name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
Power Meter Graphical	Failure Rearm Confirmation	Boolean	True	<ul style="list-style-type: none"> True = Reset confirmation is required for the device
<p>NOTE: Values of boolean parameters are set by using check boxes:</p> <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element Name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.
	Refresh	Duration	00:00:00.5	Time the device takes to refresh the cyclic data.

Composition

The device control module template $\$PM82xxEM$ 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 $\$PM82xxEM$ control module and the corresponding facet, which implements the service:

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (\$PM82xxEM_CS)	Corresponding Facet Template	Supervision Service Description
Core Services						
Logic	\$PM82xxEM_UC	\$PM82xxEM_UL	Refer to the EMPM82xx DFB.	Tags	\$PM82x-xEM_CD	Refer to EMPM82xx DFB.
				PM82xxEMStatusTags	\$PM82x-xEMSTATUS_CD	
				PM82xxEMMEA-Tags	\$PM82x-xEMMEA_CD	
-	-	-	-	Genies	\$PM82x-x_10_CG	Refer to the genies representation of EMPM82xx DFB.
					\$PM_POWER_10_CG	
Mapping Interface						
\$PM82xxEMMapping/CO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface Identifier	Interface Model/Role Identifier	Description
$\$EthernetPort$	$\$EMWorkMemory/Client$	Links to a communication object
$\$StatisticConnector$	$\$StatisticConnector_Name/Def$	EDT interface
For a device, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$PM800EM (Deprecated)- Power Meter 800 with Ethernet Messaging

General Description

The \$PM800EM control module template allows you to manage PM 800 family power meters on an Ethernet TCP/IP-based network using Modbus explicit messaging.

The power meter is a multifunction, digital instrumentation, data acquisition, and control device. It can replace a variety of meters, relays, transducers, and other components. You can install the power meter at multiple locations within a facility.

Parameters

Configuration

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

Element Name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element Name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.
	Refresh	Duration	00:00:00.5	Time the device takes to refresh the cyclic data.

Composition

The device control module template \$PM800EM 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 \$PM800EM control module and the corresponding facet, which implements the service:

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (\$PM800EM_CS) *	Corresponding Facet Template	Supervision Service Description
Core Services						
Logic	\$PM800EM_UC	\$PM800EM_UL	Refer to the EMPM800 DFB.	Tags	\$PM800-EM_CD	Refer to EMPM800 DFB.
				PM800EMStatus-Tags	\$PM800-ESTA-TUS_CD	
				PM800MEATags	\$PM800-MEA_CD	
-	-	-	-	Genies	\$PM_10_CG	Refer to the genies representation of EMPM800 DFB.
					\$PM_POWER_10_CG	
Mapping Interface						
\$PM800EMMapping/CO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface Identifier	Interface Model/Role Identifier	Description
<i>\$EthernetPort</i>	\$EMWorkMemory/Client	Links to a communication object
<i>\$StatisticConnector</i>	\$StatisticConnector_Name/Def	EDT interface
For a device, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

Progressive Starters

Overview

This chapter explains the basic functionality of the Progressive Starters 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.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.

\$ATS22MB - ATS 22 Progressive Starter Modbus

General Description

The \$ATS22MB control module template allows you to manage an ATS 22 soft starter on a Modbus network.

Parameters

Configuration

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

Element Name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> • False = Manual reset. • True = Automatic reset.

Element Name	Name	Type	Default value	Description
	ModbusAddress	Short	0	Address of the Modbus device
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element Name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.
	Refresh	Duration	00:00:00.5	Time the device takes to refresh the cyclic data.

Composition

The device control module template `$ATS22MB` 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 `$ATS22MB` control module and the corresponding facet, which implements the service:

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (<code>\$ATS22MB_CS</code>)*	Corresponding Facet Template	Supervision Service Description
Core Services						
Logic	<code>\$ATS22MB_UC</code>	<code>\$ATS22MB_UL</code>	Refer to the MBATS22 DFB.	Tags	<code>\$ATS22MB_CD</code>	Refer to MBATS22 DFB.
–	–	–	–	Genies	<code>\$ATS22_CG</code> <code>\$ATS22_AMP_CG</code>	Refer to the genies representation of MBATS22 DFB.
Mapping Interface						
<code>\$ATS22MBMapping/DO</code>						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface Identifier	Interface Model/Role Identifier	Description
<code>\$RunCommand</code>	<code>\$Bool/Ref</code>	EDT interface
<code>\$ResetFail</code>	<code>\$Bool/Ref</code>	EDT interface
<code>\$StatisticSelector</code>	<code>\$Int/Ref</code>	EDT interface

Interface Identifier	Interface Model/Role Identifier	Description
<i>\$ModbusPort</i>	<i>\$MBWorkMemory/Client</i>	Links to a communication object
<i>\$Dev1S1D</i>	<i>\$DEV1S1D/DO</i>	Links to a process object
For a device, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$ATS48MB - ATS 48 Progressive Starter Modbus

General Description

The *\$ATS48MB* control module template allows you to manage an ATS 48 soft starter on a Modbus network.

Parameters

Configuration

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

Element Name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
	ModbusAddress	Short	0	Modbus address mapping interface
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element Name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.
	Refresh	Duration	00:00:00.5	Time the device takes to refresh the cyclic data.

Composition

The device control module template *\$ATS48MB* 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 \$ATS48MB control module and the corresponding facet, which implements the service:

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (\$ATS48MB_CS) *	Corresponding Facet Template	Supervision Service Description
Core Services						
Logic	\$ATS48MB_UC	\$ATS48MB_UL	Refer to the MBATS48 DFB.	Tags	\$ATS48-MB_CD	Refer to MBATS48 DFB.
—	—	—	—	Genies	\$ATS_CG \$ATS_AMP_CG	Refer to the genies representation of MBATS48 DFB.
Mapping Interface						
\$ATS48MBMapping/DO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface Identifier	Interface Model/Role Identifier	Description
<i>\$RunCommand</i>	\$Bool/Ref	EDT interface
<i>\$ResetFail</i>	\$Bool/Ref	EDT interface
<i>\$StatisticSelector</i>	\$Int/Ref	EDT interface
<i>\$ModbusPort</i>	\$MBWorkMemory/Client	Links to a communication object
<i>\$Dev1S1D</i>	\$DEV1S1D/DO	Links to a process object
For a device, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

Variable Speed Drives

Overview

This chapter explains the basic functionality of the Variable Speed Drives 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.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.

\$ATV12MB - Altivar 12 Drive on Modbus

General Description

The \$ATV12MB control module template allows you to manage an ATV 12 variable speed drive on a Modbus network.

Parameters

Configuration

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

Element Name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> • False = Manual reset. • True = Automatic reset.

Element Name	Name	Type	Default value	Description
	ModbusAddress	Short	0	Modbus address of device
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Range

The table describes the **Range** parameters of the template that you can configure:

Element Name	Name	Type	Default value	Description
Logic	HighRangeRpm	Short	1500	The maximum speed of the inverter (rpm).
	LowRangeRpm	Short	0	The minimum speed of the inverter (rpm).
	HighRange	Float	1500.0	The maximum speed of the inverter (EU).
	LowRange	Float	0.0	The minimum speed of the inverter (EU).
	EngineeringUnit	String	rpm	Engineering units
	Format	String	###.#EU	Display format

Time

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

Element Name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.
	Refresh	Duration	00:00:00.5	Time the device takes to refresh the cyclic data.

Composition

The device control module template \$ATV12MB 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 \$ATV12MB control module and the corresponding facet, which implements the service:

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (\$ATV12MB_CS)*	Corresponding Facet Template	Supervision Service Description
Core Services						
Logic	\$ATV12MB_UC	\$ATV12MB_UL	Refer to the MBATV DFB.	Tags	\$ATV12-MBStatus_CD	Refer to MBATV DFB
—	—	—	—	Genies	\$ATV12_CG	Refer to the genies

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (\$ATV12MB_CS) *	Corresponding Facet Template	Supervision Service Description
					\$ATVPV_CG \$ATVPV-SP_CG	representation of MBATV DFB.
Mapping Interface						
\$ATV12MBMapping/CO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface Identifier	Interface Model/Role Identifier	Description
<i>\$ModbusPort</i>	<i>\$MBWorkMemory/Client</i>	Links to a process object
<i>\$DEV1S1D</i>	<i>\$DEV1S1D/DO</i>	Links to a process object
<i>\$DEV1S2D</i>	<i>\$DEV1S2D/DO</i>	Links to a process object
<i>\$DevVarSpeed</i>	<i>\$DEVVS/DO</i>	Links to a process object
For a device, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$ATV312MB - Altivar 312 Drive on Modbus

General Description

The \$ATV312MB control module template allows you to manage an ATV 312 variable speed drive on a Modbus network.

Parameters

Configuration

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

Element Name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
	ModbusAddress	Short	0	Modbus address of device
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element Name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.
	Refresh	Duration	00:00:00.5	Time the device takes to refresh the cyclic data.

Range

The table describes the **Range** parameters of the template that you can configure:

Element Name	Name	Type	Default value	Description
Logic	HighRangeRpm	Short	1500	The maximum speed of the inverter (rpm).
	LowRangeRpm	Short	0	The minimum speed of the inverter (rpm).
	HighRange	Float	1500.0	The maximum speed of the inverter (EU).
	LowRange	Float	0.0	The minimum speed of the inverter (EU).
	EngineeringUnit	String	rpm	Engineering units
	Format	String	###.#EU	Display format

Composition

The device control module template \$ATV312MB 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 \$ATV312MB control module and the corresponding facet, which implements the service:

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (\$ATV312M-B_CS) *	Corre- sponding Facet Template	Supervision Service Description
Core Services						
Logic	\$ATV312MB_UC	\$ATV312MB_UL	Refer to the MBATV DFB.	Tags	\$ATV312-MB_CD	Refer to MBATV DFB.
—	—	—	—	Genies	\$ATV312_CG	Refer to the genies representation of MBATV DFB.
					\$ATVPV_CG	
					\$ATVPVS-P_CG	
Mapping Interface						
\$ATV312MBMapping/CO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface Identifier	Interface Model/Role Identifier	Description
<i>\$ModbusPort</i>	<i>\$MBWorkMemory/Client</i>	Links to a communication object
<i>\$DEV1S1D</i>	<i>\$DEV1S1D/DO</i>	Links to a process object
<i>\$DEV1S2D</i>	<i>\$DEV1S2D/DO</i>	Links to a process object
<i>\$DevVarSpeed</i>	<i>\$DEVVS/DO</i>	Links to a process object
For a device, role identifiers other than DO, Ref & Def link to a communication object. A DO role identifier links to a process object.		

\$ATV31AS (Deprecated) - Altivar 31 Drive on Advantys

General Description

The **\$ATV31AS** template is the device template to manage the ATV 31 variable speed drive on an Advantys STB I/O island.

Parameters

Configuration

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

Element Name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element Name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.

Range

The table describes the **Range** parameters of the template that you can configure:

Element Name	Name	Type	Default value	Description
Logic	HighRangeRpm	Short	1500	The maximum speed of the inverter (rpm).
	LowRangeRpm	Short	0	The minimum speed of the inverter (rpm).
	HighRangeEU	Float	1500.0	The maximum speed of the inverter (EU).
	LowRangeEU	Float	0.0	The minimum speed of the inverter (EU).

Element Name	Name	Type	Default value	Description
	EngineeringUnit	String	rpm	Engineering units
	Format	String	###.#EU	Display format

Composition

The device control module template \$ATV31AS 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 \$ATV31AS control module and the corresponding facet, which implements the service:

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (\$ATV31AS_CS) *	Corresponding Facet Template	Supervision Service Description
Core Services						
Logic	\$ATV31AS_UC	\$ATV31AS_UL	Refer to the ASATV31 DFB.	Tags	\$AT-V31AS-Status_CD	Refer to ASATV31 DFB.
–	–	–	–	Genies	\$ATV31_CG \$ATVPV_CG \$ATVPV-SP_CG	Refer to the genies representation of ASATV31 DFB.
Mapping Interface						
\$ATV31ASMapping/CO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface Identifier	Interface Model/Role Identifier	Description
\$DEV1S1D	\$DEV1S1D/DO	Links to a process object
\$DEV1S2D	\$DEV1S2D/DO	Links to a process object
\$DevVarSpeed	\$DEVVS/DO	Links to a process object
A DO role identifier links to a process object.		

\$ATV31MB (Deprecated) - Altivar 31 Drive on Modbus

General Description

The \$ATV31MB control module template allows you to manage an ATV 31 variable speed drive on a Modbus network.

Parameters

Configuration

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

Element Name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
	ModbusAddress	Short	0	Modbus address of device
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element Name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.
	Refresh	Duration	00:00:00.5	Time the device takes to refresh the cyclic data.

Range

The table describes the **Range** parameters of the template that you can configure:

Element Name	Name	Type	Default value	Description
Logic	HighRangeRpm	Short	1500	The maximum speed of the inverter (rpm).
	LowRangeRpm	Short	0	The minimum speed of the inverter (rpm).
	HighRangeEU	Float	1500.0	The maximum speed of the inverter (EU).
	LowRangeEU	Float	0.0	The minimum speed of the inverter (EU).
	EngineeringUnit	String	rpm	Engineering units
	Format	String	###.#EU	Display format

Composition

The device control module template \$ATV31MB 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 \$ATV31MB control module and the corresponding facet, which implements the service:

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (\$ATV31MB_CS) *	Corresponding Facet Template	Supervision Service Description
Core Services						
Logic	\$ATV31MB_UC	\$ATV31MB_UL	Refer to the MBATV DFB.	Tags	\$ATV31M-BStatus_CD	Refer to MBATV DFB.
—	—	—	—	Genies	\$ATV31_CG	Refer to the genies representation of MBATV DFB.
					\$ATVPV_CG	
					\$ATVPVS-P_CG	
Mapping Interface						
\$ATV31MBMapping/CO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface Identifier	Interface Model/Role Identifier	Description
<i>\$ModbusPort</i>	<i>\$MBWorkMemory/Client</i>	Links to a communication object
<i>\$DEV1S1D</i>	<i>\$DEV1S1D/DO</i>	Links to a process object
<i>\$DEV1S2D</i>	<i>\$DEV1S2D/DO</i>	Links to a process object
<i>\$DevVarSpeed</i>	<i>\$DEVVS/DO</i>	Links to a process object
<i>\$StatisticConnector</i>	<i>\$StatisticConnector_Name/Def</i>	EDT interface
For a device, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$ATV61E - Altivar 61 Drive with Modbus TCP Ethernet I/O Scanning

General Description

The \$ATV61E control module template allows you to manage an ATV 61 variable speed drive on an Ethernet network with I/O scanning.

The ATV 61 is a variable-speed drive for synchronous and asynchronous motors.

Parameters

Configuration

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

Element Name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.

Element Name	Name	Type	Default value	Description
	EnableDev	Enum	True Value	Enables the starter based on the following selection: <ul style="list-style-type: none"> Interface Refinement True value False value
	ScalingFactorCurrent	Enum	100	Define scaling factor for current, depending on drive rate.
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element Name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.

Range

The table describes the **Range** parameters of the template that you can configure:

Element Name	Name	Type	Default value	Description
Logic	HighRangeRPM	INT	1500	Maximum inverter speed measured in rpms.
	LowRangeRPM	INT	0	Minimum inverter speed measured in rpms
	HighRangeEngUnit	Float	1500.0	Maximum inverter speed measured in user units.
	LowRangeEngUnit	Float	0.0	Minimum inverter speed measured in user units.
	EngineeringUnit	String	####.#EU	Engineering unit.
	Format	String	####.#EU	Display format.
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Composition

The device control module template \$ATV61E 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 \$ATV61E control module and the corresponding facet, which implements the service:

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (\$ATV61E_CS) *	Corresponding Facet Template	Supervision Service Description
Core Services						
Logic	\$ATV61E_UC	\$ATV61E_UL	Refer to the ATV7161 DFB.	Tags	\$ATV61EStatus_CD	Refer to ATV7161 .
					ATV61IO_CD	
					\$ATV61IOEXT_CD	
—	—	—	—	Genies	\$ATV_10_CG	Refer to the genes representation of ATV7161.
					\$ATVPV_10_CG	
					\$ATVPVSP_10_CG	
Mapping Interface						
\$DeviceData/CO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface Identifier	Interface Model/Role Identifier	Description
\$DEV1S1D	\$DEV1S1D/DO	Links to a process object
\$DEV1S2D	\$DEV1S2D/DO	Links to a process object
\$DevVarSpeed	\$DEVVS/DO	Links to a process object

\$ATV61EM - Altivar 61 Drive with Ethernet Messaging

General Description

The \$ATV61EM control module template allows you to manage an ATV 61 variable speed drive on an Ethernet TCP/IP-based network using Modbus Explicit messaging.

The ATV 61 is a variable speed drive for synchronous and asynchronous motors.

Parameters

Configuration

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

Element Name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element Name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.
	Refresh	Duration	00:00:00.5	Time the device takes to refresh the cyclic data.

Range

The table describes the **Range** parameters of the template that you can configure:

Element Name	Name	Type	Default value	Description
Logic	HighRangeRpm	Short	1500	The maximum speed of the inverter (rpm).
	LowRangeRpm	Short	0	The minimum speed of the inverter (rpm).
	HighRangeEngUnit	Float	1500.0	The maximum speed of the inverter (EU).
	LowRangeEngUnit	Float	0.0	The minimum speed of the inverter (EU).
	EngineeringUnit	String	rpm	Engineering units
	Format	String	###.#EU	Display format

Composition

The device control module template \$ATV61EM is composed of composite and facet templates, which provide the following services:

Control	Includes core services plus additional, optional services, which you can activate if needed.
Supervision	These services complement the Control services. Supervision services are optional.

The following table describes the services that are available from the \$ATV61EM control module and the corresponding facet, which implements the service:

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (\$ATV61EM_CS)*	Corre- sponding Facet Template	Supervision Service Description
Core Services						
Logic	\$ATV61EM_UC	\$ATV61EM_UL	Refer to the EMESATV7161 DFB.	Tags	\$AT-V61EM-Status_CD	Refer to EME-SATV7161 DFB.
—	—	—	—	Genies	\$ATV_10_CG	Refer to the genies representation of EMAT-V7161 DFB.
					\$ATVPV_10_CG	
					\$ATVPVS-P_10_CG	
Mapping Interface						

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (\$ATV61EM_CS) *	Corresponding Facet Template	Supervision Service Description
\$ATV61EMMapping/CO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface Identifier	Interface Model/Role Identifier	Description
<i>\$EthernetPort</i>	<i>\$EMWorkMemory/Client</i>	Links to a communication object
<i>\$DEV1S1D</i>	<i>\$DEV1S1D/DO</i>	Links to a process object
<i>\$DEV1S2D</i>	<i>\$DEV1S2D/DO</i>	Links to a process object
<i>\$DevVarSpeed</i>	<i>\$DEVVS/DO</i>	Links to a process object
<i>\$StatisticConnector</i>	<i>\$StatisticConnector_Name/Def</i>	EDT interface
For a device, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$ATV61AS - Altivar 61 Drive on Advantys

General Description

The *\$ATV61AS* template is the device template to manage the ATV 61 variable speed drive on an Advantys STB I/O island.

Parameters

Configuration

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

Element Name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
	Time			
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.
	Range			
Logic	HighRangeRpm	Short	1500	The maximum speed of the inverter (rpm).
	LowRangeRpm	Short	0	The minimum speed of the inverter (rpm).

Element Name	Name	Type	Default value	Description
	HighRangeEU	Float	1500.0	The maximum speed of the inverter (EU).
	LowRangeEU	Float	0.0	The minimum speed of the inverter (EU).
	EngineeringUnit	String	rpm	Engineering units
	Format	String	###.#EU	Display format
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element Name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.

Range

The table describes the **Range** parameters of the template that you can configure:

Element Name	Name	Type	Default value	Description
Logic	HighRangeRpm	Short	1500	The maximum speed of the inverter (rpm).
	LowRangeRpm	Short	0	The minimum speed of the inverter (rpm).
	HighRangeEU	Float	1500.0	The maximum speed of the inverter (EU).
	LowRangeEU	Float	0.0	The minimum speed of the inverter (EU).
	EngineeringUnit	String	rpm	Engineering units
	Format	String	###.#EU	Display format

Composition

The device control module template \$ATV61AS 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 \$ATV61AS control module and the corresponding facet, which implements the service:

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (\$ATV61AS_CS) *	Corresponding Facet Template	Supervision Service Description
Core Services						
Logic	\$ATV61AS_UC	\$ATV61AS_UL	Refer to the ASATV7161 DFB.	Tags	\$ATV61AS-Status_CD	Refer to ASATV7161 DFB.
—	—	—	—	Genies	\$ATV10_CG \$ATVPV_CG \$ATVPV-SP_CG	Refer to the genies representation of ASATV7161 DFB.
Mapping Interface						
\$ATV61ASMapping/CO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface Identifier	Interface Model/Role Identifier	Description
\$DEV1S1D	\$DEV1S1D/DO	Links to a process object
\$DEV1S2D	\$DEV1S2D/DO	Links to a process object
\$DevVarSpeed	\$DEVVS/DO	Links to a process object
A DO role identifier links to a process object.		

\$ATV61MB - Altivar 61 Drive on Modbus

General Description

The \$ATV61MB control module template allows you to manage an ATV 61 variable speed drive on a Modbus network.

Parameters

Configuration

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

Element Name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
	ModbusAddress	Short	0	Modbus address of device
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element Name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.
	Refresh	Duration	00:00:00.5	Time the device takes to refresh the cyclic data.

Range

The table describes the **Range** parameters of the template that you can configure:

Element Name	Name	Type	Default value	Description
Logic	HighRangeRpm	Short	1500	The maximum speed of the inverter (rpm).
	LowRangeRpm	Short	0	The minimum speed of the inverter (rpm).
	HighRangeEU	Float	1500.0	The maximum speed of the inverter (EU).
	LowRangeEU	Float	0.0	The minimum speed of the inverter (EU).
	EngineeringUnit	String	rpm	Engineering units
	Format	String	###.##EU	Display format

Composition

The device control module template \$ATV61MB 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 \$ATV61MB control module and the corresponding facet, which implements the service:

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (\$ATV61MB_CS)*	Corresponding Facet Template	Supervision Service Description
Core Services						
Logic	\$ATV61MB_UC	\$ATV61MB_UL	Refer to the MBATV7161 DFB.	Tags	\$ATV61-MBStatus_CD	Refer to MBATV7161 DFB.
–	–	–	–	Genies	\$ATV10_CG	Refer to the genies representation of MBATV7161 DFB.
					\$ATVPV_CG	
					\$ATVPV-SP_CG	
Mapping Interface						

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (\$ATV61MB_CS)*	Corresponding Facet Template	Supervision Service Description
\$ATV61MBMapping/CO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface Identifier	Interface Model/Role Identifier	Description
<i>\$ModbusPort</i>	<i>\$MBWorkMemory/Client</i>	Links to a communication object
<i>\$DEV1S1D</i>	<i>\$DEV1S1D/DO</i>	Links to a process object
<i>\$DEV1S2D</i>	<i>\$DEV1S2D/DO</i>	Links to a process object
<i>\$DevVarSpeed</i>	<i>\$DEVVS/DO</i>	Links to a process object
<i>\$StatisticConnector</i>	<i>\$StatisticConnector_Name/Def</i>	EDT interface
For a device, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$ATV71E - Altivar 71 Drive with Modbus TCP Ethernet I/O Scanning

General Description

The \$ATV71E control module template allows you to manage an ATV 71 variable speed drive on an Ethernet network with I/O scanning.

The ATV 71 is a variable-speed drive for synchronous and asynchronous motors.

Parameters

Configuration

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

Element Name	Name	Type	Default value	Description
Logic	ResetMode	BOOL	False	<ul style="list-style-type: none"> 0 = False, manual reset. Deselect the parameter to reset the mode manually. 1 = True, automatic reset. Select the parameter to reset the mode automatically.
	EnableDev	Enum	True Value	Enables the starter based on the following selection: <ul style="list-style-type: none"> Interface Refinement True value False value

Element Name	Name	Type	Default value	Description
	ScalingFactorCurrent	Enum	100	Define scaling factor for current, depending on drive rate.
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element Name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time taken by the device to execute commands.

Range

The table describes the **Range** parameters of the template that you can configure:

Element Name	Name	Type	Default value	Description
Logic	HighRangeRPM	INT	1500	Maximum inverter speed measured in rpms.
	LowRangeRPM	INT	0	Minimum inverter speed measured in rpms
	HighRangeEngUnit	Float	1500.0	Maximum inverter speed measured in user units.
	LowRangeEngUnit	Float	0.0	Minimum inverter speed measured in user units.
	EngineeringUnit	String	####.#EU	Engineering unit.
	Format	String	####.#EU	Display format.

Composition

The device control module template \$ATV71E 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 \$ATV71E control module and the corresponding facet, which implements the service:

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (\$ATV71E_CS)*	Corresponding Facet Template	Supervision Service Description
Core Services						
Logic	\$ATV71E_UC	\$ATV71E_UL	Refer to the ATV7161 DFB.	Tags	\$ATV71EStatus_CD	Refer to ATV7161.
					\$ATV71IO_CD	
					\$ATV71IOEXT_CD	

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (\$ATV71E_CS) *	Corresponding Facet Template	Supervision Service Description
—	—	—	—	Genies	\$ATV_10_CG \$ATVPV_10_CG \$ATVPVSP_10_CG	Refer to the genies representation of ATV7161.
Mapping Interface						
\$DeviceData/CO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface Identifier	Interface Model/Role Identifier	Description
\$DEV1S1D	\$DEV1S1D/DO	Links to a process object
\$DEV1S2D	\$DEV1S2D/DO	Links to a process object
\$DevVarSpeed	\$DEVVS/DO	Links to a process object

\$ATV71EM - Altivar 71 Drive with Ethernet Messaging

General Description

The \$ATV71EM control module template allows you to manage an ATV 71 variable speed drive on an Ethernet TCP/IP-based network using Modbus explicit messaging.

The ATV 71 is a variable speed drive for synchronous and asynchronous motors.

Parameters

Configuration

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

Element Name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element Name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.

Element Name	Name	Type	Default value	Description
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.
	Refresh	Duration	00:00:00.5	Time the device takes to refresh the cyclic data.

Range

The table describes the **Range** parameters of the template that you can configure:

Element Name	Name	Type	Default value	Description
Logic	HighRangeRpm	Short	1500	The maximum speed of the inverter (rpm).
	LowRangeRpm	Short	0	The minimum speed of the inverter (rpm).
	HighRangeEngUnit	Float	1500.0	The maximum speed of the inverter (EU).
	LowRangeEngUnit	Float	0.0	The minimum speed of the inverter (EU).
	EngineeringUnit	String	rpm	Engineering units
	Format	String	###.#EU	Display format

Composition

The device control module template `$ATV71EM` 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 `$ATV71EM` control module and the corresponding facet, which implements the service:

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (<code>\$ATV71EM_CS</code>)	Corresponding Facet Template	Supervision Service Description
Logic	<code>\$ATV71EM_UC</code>	<code>\$ATV71EM_UL</code>	Refer to the <code>EMESATV7161</code> DFB.	Tags	<code>\$ATV71EM_CD</code>	Refer to <code>EME-SATV7161</code> DFB.
–	–	–	–	Genies	<code>\$ATV10_CG</code> <code>\$ATVPV10_CG</code> <code>\$ATVPV-SP_10_CG</code>	Refer to the genies representation of <code>EME-SATV7161</code> DFB.
Mapping Interface						
<code>\$ATV71EMMapping/CO</code>						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface Identifier	Interface Model/Role Identifier	Description
<i>\$EthernetPort</i>	<i>\$EMWorkMemory/Client</i>	Links to a communication object
<i>\$DEV1S1D</i>	<i>\$DEV1S1D/DO</i>	Links to a process object
<i>\$DEV1S2D</i>	<i>\$DEV1S2D/DO</i>	Links to a process object
<i>\$DevVarSpeed</i>	<i>\$DEVVS/DO</i>	Links to a process object
<i>\$StatisticConnector</i>	<i>\$StatisticConnector_Name/Def</i>	EDT interface
A DO role identifier links to a process object.		

\$ATV71AS - Altivar 71 Drive on Advantys

General Description

The *\$ATV71AS* template is the device template to manage the ATV 71 variable speed drive on an Advantys STB I/O island.

Parameters

Configuration

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

Element Name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element Name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.

Range

The table describes the **Range** parameters of the template that you can configure:

Element Name	Name	Type	Default value	Description
Logic	HighRangeRpm	Short	1500	The maximum speed of the inverter (rpm).
	LowRangeRpm	Short	0	The minimum speed of the inverter (rpm).

Element Name	Name	Type	Default value	Description
	HighRangeEU	Float	1500.0	The maximum speed of the inverter (EU).
	LowRangeEU	Float	0.0	The minimum speed of the inverter (EU).
	EngineeringUnit	String	rpm	Engineering units
	Format	String	###.##EU	Display format

Composition

The device control module template \$ATV71AS 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 \$ATV71AS control module and the corresponding facet, which implements the service:

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (\$ATV71AS_CS) *	Corresponding Facet Template	Supervision Service Description
Core Services						
Logic	\$ATV71AS_UC	\$ATV71AS_UL	Refer to the ASATV7161 DFB.	Tags	\$ATV71AS-Status_CD	Refer to ASATV7161 DFB.
–	–	–	–	Genies	\$ATV10_CG \$ATVPV_CG \$ATVPV-SP_CG	Refer to the genies representation of ASATV7161 DFB.
Mapping Interface						
\$ATV71ASMapping/CO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface Identifier	Interface Model/Role Identifier	Description
\$DEV1S1D	\$DEV1S1D/DO	Links to a process object
\$DEV1S2D	\$DEV1S2D/DO	Links to a process object
\$DevVarSpeed	\$DEVVS/DO	Links to a process object
A DO role identifier links to a process object.		

\$ATV71MB - Altivar 71 Drive on Modbus

General Description

The \$ATV71MB control module template allows you to manage an ATV 71 variable speed drive on a Modbus network.

Parameters

Configuration

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

Element Name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
	ModbusAddress	Short	0	Modbus address of device
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element Name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.
	Refresh	Duration	00:00:00.5	Time the device takes to refresh the cyclic data.

Range

The table describes the **Range** parameters of the template that you can configure:

Element Name	Name	Type	Default value	Description
Logic	HighRangeRpm	Short	1500	The maximum speed of the inverter (rpm).
	LowRangeRpm	Short	0	The minimum speed of the inverter (rpm).
	HighRangeEU	Float	1500.0	The maximum speed of the inverter (EU).
	LowRangeEU	Float	0.0	The minimum speed of the inverter (EU).
	EngineeringUnit	String	rpm	Engineering units
	Format	String	###.#EU	Display format

Composition

The device control module template \$ATV71MB 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 \$ATV71MB control module and the corresponding facet, which implements the service:

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (\$ATV71MB_CS) *	Corresponding Facet Template	Supervision Service Description
Logic	\$ATV71MB_UC	\$ATV71MB_UL	Refer to the MBATV7161 DFB.	Tags	\$ATV71-MBStatus_CD	Refer to MBATV7161 DFB.
–	–	–	–	Genies	\$ATV10_CG \$ATVPV_CG \$ATVPV-SP_CG	Refer to the genies representation of MBATV7161 DFB.
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface Identifier	Interface Model/Role Identifier	Description
\$ModbusPort	\$MBWorkMemory/Client	Links to a communication object
\$DEV1S1D	\$DEV1S1D/DO	Links to a process object
\$DEV1S2D	\$DEV1S2D/DO	Links to a process object
\$DevVarSpeed	\$DEVVS/DO	Links to a process object
\$StatisticConnector	\$StatisticConnector_Name/Def	EDT interface
A DO role identifier links to a process object.		

\$ATV32E - Altivar 32 Drive with Modbus TCP Ethernet I/O Scanning

General Description

The \$ATV32E control module template allows you to manage an ATV 32 variable speed drive on an Ethernet network with I/O scanning.

The ATV 32 is a variable-speed drive for synchronous and asynchronous motors.

Parameters

Configuration

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

Element Name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
	EnableDev	Enum	True Value	Enables the starter based on the following selection: <ul style="list-style-type: none"> Interface Refinement True value False value
	ScalingFactorCurrent	Enum	100	Define scaling factor for current, depending on drive rate.
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element Name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.

Range

The table describes the **Range** parameters of the template that you can configure:

Element Name	Name	Type	Default value	Description
Logic	HighRangeRPM	INT	1500	Maximum inverter speed measured in rpms.
	LowRangeRPM	INT	0	Minimum inverter speed measured in rpms
	HighRangeEngUnit	Float	1500.0	Maximum inverter speed measured in user units.
	LowRangeEngUnit	Float	0.0	Minimum inverter speed measured in user units.
	EngineeringUnit	String	####.#EU	Engineering unit.
	Format	String	####.#EU	Display format.

Composition

The device control module template \$ATV32E 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 \$ATV32E control module and the corresponding facet, which implements the service:

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (\$ATV32E_CS)*	Corresponding Facet Template	Supervision Service Description
Core Services						
Logic	\$ATV32E_UC	\$ATV32E_UL	Refer to the EATV32 DFB.	Tags	\$ATV32Estatus_CD	Refer to EATV32.
					\$ATV32IO_CD	
					\$ATV32IOEXT_CD	
—	—	—	—	Genies	\$ATV_10_CG	Refer to the genres representation of EATV32.
					\$ATVPV_10_CG	
					\$ATVPVSP_10_CG	
Mapping Interface						
\$DeviceData/CO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface Identifier	Interface Model/Role Identifier	Description
<i>\$DEV1S1D</i>	<i>\$DEV1S1D/DO</i>	Links to a process object
<i>\$DEV1S2D</i>	<i>\$DEV1S2D/DO</i>	Links to a process object
<i>\$DevVarSpeed</i>	<i>\$DEVVS/DO</i>	Links to a process object

\$ATV61PB - Altivar 61 Drive on Profibus

General Description

The \$ATV61PB control module template allows you to manage the ATV 61 variable speed drive on a Profibus network.

Parameters

Configuration

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

Element Name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
<p>NOTE: Values of boolean parameters are set by using check boxes:</p> <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element Name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.

Range

The table describes the **Range** parameters of the template that you can configure:

Element Name	Name	Type	Default value	Description
Logic	HighRangeRpm	Short	1500	The maximum speed of the inverter (rpm).
	LowRangeRpm	Short	0	The minimum speed of the inverter (rpm).
	HighRange	Float	1500.0	The maximum speed of the inverter (EU).
	LowRange	Float	0.0	The minimum speed of the inverter (EU).
	EngineeringUnit	String	rpm	Engineering units
	Format	String	###.#EU	Display format

Composition

The device control module template \$ATV61PB 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 \$ATV61PB control module and the corresponding facet, which implements the service:

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (\$ATV61PB_CS) *	Corresponding Facet Template	Supervision Service Description
Core Services						
Logic	\$ATV61PB_UC	\$ATV61PB_UL	Refer to the PBATV7161 DFB.	Tags	\$ATV61-PB_CD	Refer to PBATV7161 DFB.
—	—	—	—	Genies	\$ATV_10_CG	Refer to the genies representation of PBATV7161 DFB.
					\$ATVPV-SP_10_CG	
					\$ATVPV_CG	
Mapping Interface						
\$ATV61PBMapping/CO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface Identifier	Interface Model/Role Identifier	Description
<i>\$DEV1S1D</i>	<i>\$DEV1S1D/DO</i>	Links to a process object
<i>\$DEV1S2D</i>	<i>\$DEV1S2D/DO</i>	Links to a process object
<i>\$DevVarSpeed</i>	<i>\$DEVVS/DO</i>	Links to a process object
For a device, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$ATV71PB - Altivar 71 Drive on Profibus

General Description

The *\$ATV71PB* control module template allows you to manage the ATV 71 variable speed drive on a Profibus network.

Parameters

Configuration

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

Element Name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element Name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.

Range

The table describes the **Range** parameters of the template that you can configure:

Element Name	Name	Type	Default value	Description
Logic	HighRangeRpm	Short	1500	The maximum speed of the inverter (rpm).
	LowRangeRpm	Short	0	The minimum speed of the inverter (rpm).
	HighRange	Float	1500.0	The maximum speed of the inverter (EU).
	LowRange	Float	0.0	The minimum speed of the inverter (EU).

Element Name	Name	Type	Default value	Description
	EngineeringUnit	String	rpm	Engineering units
	Format	String	###.#EU	Display format

Composition

The device control module template `$ATV71PB` 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 `$ATV71PB` control module and the corresponding facet, which implements the service:

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (<code>\$ATV71PB_CS</code>)*	Corresponding Facet Template	Supervision Service Description
Core Services						
Logic	<code>\$ATV71PB_UC</code>	<code>\$ATV71PB_UL</code>	Refer to the PBATV7161 DFB.	Tags	<code>\$ATV71-PB_CD</code>	Refer to PBATV7161 DFB.
–	–	–	–	Genies	<code>\$ATV10_CG</code> <code>\$ATVPV10_CG</code> <code>\$ATVPV-SP10_CG</code>	Refer to the genies representation of PBATV7161 DFB.
Mapping Interface						
<code>\$ATV71PBMapping/CO</code>						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface Identifier	Interface Model/Role Identifier	Description
<code>\$DEV1S1D</code>	<code>\$DEV1S1D/DO</code>	Links to a process object
<code>\$DEV1S2D</code>	<code>\$DEV1S2D/DO</code>	Links to a process object
<code>\$DevVarSpeed</code>	<code>\$DEVVS/DO</code>	Links to a process object
For a device, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$ATV212MB - Altivar 212 Drive on Modbus

General Description

The \$ATV212MB control module template allows you to manage an ATV 212 variable speed drive on a Modbus network.

Parameters

Configuration

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

Name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
	ModbusAddress	Short	0	Modbus address of device
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Range

The table describes the **Range** parameters of the template that you can configure:

Name	Name	Type	Default value	Description
Logic	HighRangeRpm	Short	1500	The maximum speed of the inverter (rpm).
	LowRangeRpm	Short	0	The minimum speed of the inverter (rpm).
	HighRange	Float	1500.0	The maximum speed of the inverter (EU).
	LowRange	Float	0.0	The minimum speed of the inverter (EU).
	EngineeringUnit	String	rpm	Engineering units
	Format	String	###.#EU	Display format

Time

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

Name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.
	Refresh	Duration	00:00:00.5	Time the device takes to refresh the cyclic data.

Composition

The device control module template \$ATV212MB is composed of composite and facet templates, which provide the following services:

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

The following table describes the services that are available from the \$ATV212MB control module and the corresponding facet, which implements the service:

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (\$ATV212-MB_CS) *	Corresponding Facet Template	Supervision Service Description
Core Services						
Logic	\$ATV212MB_UC	\$ATV212MB_UL	Refer to the MBATV212DFB.	Tags	\$AT-V212MB_CD	Refer to MBATV212DFB
–	–	–	–	Genies	\$AT-V212_CG \$ATVPV_CG \$ATVPV-SP_CG	Refer to the genies representation of MBATV212DFB.
Mapping Interface						
\$ATV212MBMapping/CO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface Identifier	Interface Model/Role Identifier	Description
\$ModbusPort	\$MBWorkMemory/Client	Links to a process object
\$DEV1S1D	\$DEV1S1D/DO	Links to a process object
\$DEV1S2D	\$DEV1S2D/DO	Links to a process object
\$DevVarSpeed	\$DEVVS/DO	Links to a process object
For a device, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$ATV6xxE - Altivar 6xx Drive

General Description

The \$ATV6xxE control module template allows you to manage an ATV 6xx variable speed drive.

Parameters

Configuration

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

Element Name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
	EnableDev	Enum	True Value	Enables the starter based on the following selection: <ul style="list-style-type: none"> Interface Refinement True value False value
	ScalingFactorCurrent	Enum	100	Define scaling factor for current, depending on drive rate.
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element Name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.
	Refresh	Duration	00:00:00.5	Time the device takes to refresh the cyclic data.

Range

The table describes the **Range** parameters of the template that you can configure:

Element Name	Name	Type	Default value	Description
Logic	HighRangeRpm	Short	1500	The maximum speed of the inverter (rpm).
	LowRangeRpm	Short	0	The minimum speed of the inverter (rpm).
	HighRangeEU	Float	1500.0	The maximum speed of the inverter (EU).
	LowRangeEU	Float	0.0	The minimum speed of the inverter (EU).
	EngineeringUnit	String	rpm	Engineering units
	Format	String	###.##EU	Display format

Composition

The device control module template \$ATV6xxE 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 \$ATV6xxE control module and the corresponding facet, which implements the service:

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (\$ATV6xxE_CS)*	Corresponding Facet Template	Supervision Service Description
Core Services						
Logic	\$ATV6xxE_UC	\$ATV6xx_UL	Refer to the ATV6xx DFB.	Tags	\$ATV6xx- xEstatus_CD \$ATV6xx- xIO_CD \$ATV6xx- xIOEXT_CD	Refer to ATV6xx .
–	–	–	–	Genies	\$ATV6xx- x_10_CG \$ATV6xx- xPV_CG \$ATV6xx- xPVSP_CG	Refer to the genies representation of ATV6xx DFB.
Mapping Interface						
\$ATV6xxMapping/CO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface Identifier	Interface Model/Role Identifier	Description
<i>\$ModbusPort</i>	<i>\$MBWorkMemory/Client</i>	Links to a communication object
<i>\$DEV1S1D</i>	<i>\$DEV1S1D/DO</i>	Links to a process object
<i>\$DEV1S2D</i>	<i>\$DEV1S2D/DO</i>	Links to a process object
<i>\$DevVarSpeed</i>	<i>\$DEVVS/DO</i>	Links to a process object
<i>\$StatisticConnector</i>	<i>\$StatisticConnector_Name/Def</i>	EDT interface
For a device, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$ATV9xxE - Altivar 9xx Drive

General Description

The \$ATV9xxE control module template allows you to manage an ATV 9xx variable speed drive.

Parameters

Configuration

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

Element Name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.
	EnableDev	Enum	True Value	Enables the starter based on the following selection: <ul style="list-style-type: none"> Interface Refinement True value False value
	ScalingFactorCurrent	Enum	100	Define scaling factor for current, depending on drive rate.
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element Name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.

Range

The table describes the **Range** parameters of the template that you can configure:

Element Name	Name	Type	Default value	Description
Logic	HighRangeRpm	Short	1500	The maximum speed of the inverter (rpm).
	LowRangeRpm	Short	0	The minimum speed of the inverter (rpm).
	HighRangeEU	Float	1500.0	The maximum speed of the inverter (EU).
	LowRangeEU	Float	0.0	The minimum speed of the inverter (EU).
	EngineeringUnit	String	rpm	Engineering units
	Format	String	###.##EU	Display format

Composition

The device control module template \$ATV9xxE 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 \$ATV9xxE control module and the corresponding facet, which implements the service:

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (\$ATV9xxE_CS)*	Corresponding Facet Template	Supervision Service Description
Core Services						
Logic	\$ATV9xxE_UC	\$ATV9xx_UL	Refer to the ATV9xx DFB.	Tags	\$ATV9xx- xEstatus_CD \$ATV9xx- xIO_CD \$ATV9xx- xIOEXT_CD	Refer to ATV9xx .
–	–	–	–	Genies	\$ATV9xx- x_10_CG \$ATV9xx- xPV_CG \$ATV9xx- xPVSP_CG	Refer to the genies representation of ATV9xx DFB.
Mapping Interface						
\$ATV9xxMapping/DO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface Identifier	Interface Model/Role Identifier	Description
<i>\$DEV1S1D</i>	<i>\$DEV1S1D/DO</i>	Links to a process object
<i>\$DEV1S2D</i>	<i>\$DEV1S2D/DO</i>	Links to a process object
<i>\$DevVarSpeed</i>	<i>\$DEVVS/DO</i>	Links to a process object
For a device, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

\$ATV6xxxE - Altivar 6xxx Drive

General Description

The \$ATV6xxxE control module template allows you to manage an ATV 6xxx variable speed drive.

Parameters

Configuration

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

Element Name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> False = Manual reset. True = Automatic reset.

Element Name	Name	Type	Default value	Description
	EnableDev	Enum	True Value	Enables the starter based on the following selection: <ul style="list-style-type: none"> Interface Refinement True value False value
	ScalingFactorCurrent	Enum	100	Define scaling factor for current, depending on drive rate.
<p>NOTE: Values of boolean parameters are set by using check boxes:</p> <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element Name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.

Range

The table describes the **Range** parameters of the template that you can configure:

Element Name	Name	Type	Default value	Description
Logic	HighRangeRpm	Short	1500	The maximum speed of the drive (rpm).
	LowRangeRpm	Short	0	The minimum speed of the drive (rpm).
	HighRangeEU	Float	1500.0	The maximum speed of the drive (EU).
	LowRangeEU	Float	0.0	The minimum speed of the drive (EU).
	EngineeringUnit	String	rpm	Engineering units
	Format	String	###. #EU	Display format

Composition

The device control module template \$ATV6xxxE 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 \$ATV6xxxE control module and the corresponding facet, which implements the service:

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (\$ATV6xxx-E_CS)*	Corresponding Facet Template	Supervision Service Description
Core Services						
Logic	\$ATV6xxxE_UC	\$ATV6xxx_UL	Refer to the ATV6xxx DFB.	Tags	\$ATV6xx-xEstatus_CD \$ATV6xx-xIO_CD \$ATV6xx-xIOEXT_CD	Refer to ATV6xxx .
–	–	–	–	Genies	\$ATV6xx-xx_10_CG \$ATV6xx-xxPV_CG \$ATV6xx-xxPVSP_CG	Refer to the genies representation of ATV6xxx DFB.
Mapping Interface						
\$ATV6xxxMapping/DO						
* The service is activated by default.						

The control module template exposes the following interfaces:

Interface Identifier	Interface Model/Role Identifier	Description
<i>\$DEV1S1D</i>	<i>\$DEV1S1D/DO</i>	Links to a process object
<i>\$DEV1S2D</i>	<i>\$DEV1S2D/DO</i>	Links to a process object
<i>\$DevVarSpeed</i>	<i>\$DEVVS/DO</i>	Links to a process object
ExternalError	\$BOOL/Ref	Interface for a detected process failure
C515	\$BOOL/Ref	User configurable digital input link
MVCBReadyToClose	\$BOOL/Def	Links to an object
For a device, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

Weighing Module

Overview

This chapter explains the basic functionality of the Weighing Module template and its composition.

This function block 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.

\$PMESWTEIPM - Weighing Module

General Description

The \$PMESWTEIPM control module template allows you to manage the PMESWT weighing module on Ethernet IP using Explicit unconnected messaging.

Parameters

Configuration

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

Element Name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> • False = Manual reset. • True = Auto reset.

Element Name	Name	Type	Default value	Description
	CommFailRetries	Integer	3	Number of retries in case of a communication interruption.
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Range

The table describes the **Range** parameters of the template that you can configure:

Element Name	Name	Type	Default value	Description
Logic	PVRangeHigh	Real	10000.0	High range value in Engineering units.
	PVRangeLow	Real	0.0	Low range value in Engineering units.
	PVEngineeringUnit	Enum	Kg	Engineering units Possible values are g, kg, t, oz, lb, N
	PVFormat	String	#####.#	Display format

Time

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

Element Name	Name	Type	Default value	Description
Logic	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	Refresh	Duration	00:00:00.5	Time the device takes to refresh the cyclic data.
	Timeout	Duration	00:00:05	Time for which client will wait for a response, once the request is initiated, before moving to <i>Fail</i> state.
	InactivityTime	Duration	00:00:10	The period for which the client will not initiate a request after the retries are expired.

Composition

The device control module template `$PMESWTEIPM` 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 `$PMESWTEIPM` control module and the corresponding facet, which implements the service:

Control Services	Composite Template	Corresponding Facet Template	Control Service Description	Associated Supervision Services (\$PMESWTEIPM_CS)*	Corresponding Facet Template	Supervision Service Description
Core Services						
Logic	\$PMESW-TEIPM_UC	\$PMESWTEIPM_UL	Refer to the EIPMPMESWT DFB.	Tags	\$PMESW-TEIPM-Status_CD	Refer to EIPMP-MESWT DFB.
–	–	–	–	Genies	<div>\$PMESW-T_10_CG</div> <div>\$PMESW-TNET_10_CG</div> <div>\$PMESW-TNET-GROSS_10_CG</div> <div>\$PMESW-TFULL_10_CG</div>	Refer to the genies representation of EIPMP-MESWT DFB.
Mapping Interface						
\$PMESWTEIPMMapping/CO						

The control module template exposes the following interfaces:

Interface Identifier	Interface Model/Role Identifier	Description
<i>WorkMemory</i>	<i>\$EIPMWorkMemory/Client</i>	Links to a communication object
<i>NetPVQ</i>	<i>\$PVQ/DO</i>	Links to a process object
<i>GrossPVQ</i>	<i>\$PVQ/DO</i>	Links to a process object
<i>TarePVQ</i>	<i>\$PVQ/DO</i>	Links to a process object
<p>For a device, role identifiers other than DO, Ref, and Def link to a communication object.</p> <p>A DO role identifier links to a process object.</p>		

Safety Module

Overview

This chapter explains the basic functionality of the safety module template and its 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.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.

\$XPSMCMCB - XPSMC Safety Module Modbus

General Description

The \$XPSMCMCB control module template allows you to manage an XPSMC safety module on a Modbus network.

Parameters

Configuration

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

Element name	Name	Type	Default value	Description
Logic	ResetMode	Boolean	False	<ul style="list-style-type: none"> • False = Manual reset. • True = Automatic reset.

Element name	Name	Type	Default value	Description
	ModbusAddress	Short	0	Address of the Modbus device
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Time

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

Element name	Name	Type	Default value	Description
Logic	MaxResetTime	Duration	00:01:00	The maximum time between two automatic resets of the DFB.
	ScanTime	Duration	00:00:03	The time duration for which the <i>Warning</i> pin signal remains 1.
	CommandCtrlWindow	Duration	00:00:05	Time the device takes to execute commands.
	Refresh	Duration	00:00:00.5	Time the device takes to refresh the cyclic data.

Extended Data Acquisition

The table describes the **Extended Data Acquisition** parameter of the template that you can configure:

Element name	Name	Type	Default value	Description
Logic	XPSMCMB_IO	Boolean	True	Data used on the HMI inputs and outputs.
NOTE: Values of boolean parameters are set by using check boxes: <ul style="list-style-type: none"> Selected = True Cleared = False 				

Composition

The device control module template `$XPSMCMB` 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 `$XPSMCMB` 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	<code>\$XPSMCMB_UC</code>	<code>\$XPSMCMB_UL</code>	Refer to the MBXPSMC DFB.	—	—	—
Mapping interface						
<code>\$XPSMCMBMapping/CO</code>						

The control module template exposes the following interfaces:

Interface identifier	Interface Model/Role identifier	Description
<i>\$StatisticSelector</i>	<i>\$Int/Ref</i>	EDT interface
<i>\$ModbusPort</i>	<i>\$MBWorkMemory/Client</i>	Links to a communication object
For a device, role identifiers other than DO, Ref, and Def link to a communication object. A DO role identifier links to a process object.		

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