

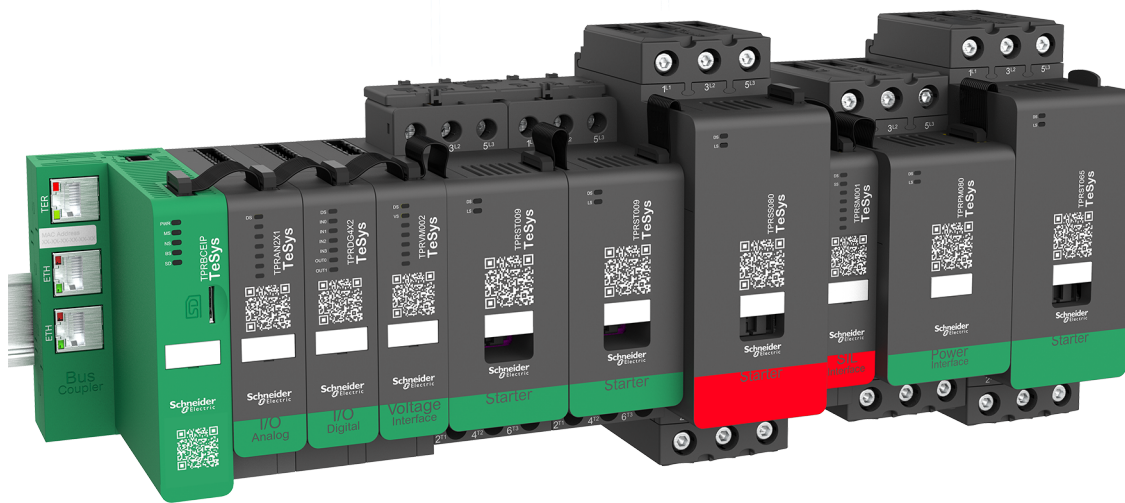
# TeSys Active

## TeSys™ island – Digital Motor Management Solution

### Firmware Release Notes

TeSys offers innovative and connected solutions for motor starters.

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# Introduction to TeSys island

## TeSys Master Range

TeSys is an innovative motor control and management solution from the global market leader. TeSys offers connected, efficient products, and solutions for switching and protection of motors and electrical loads in compliance with all major global electrical standards.

## TeSys island Overview

TeSys island delivers a connected and customized system for the direct control and management of low-voltage loads. The TeSys island optimizes availability of the physical modules with embedded pre-alarming management capabilities.

TeSys island targets performance and high performance machines with automation architectures based on high-speed networks connecting devices to a PLC. Machinery operating at high production rates must avoid unplanned production downtime, which can be extremely costly. TeSys island helps to reduce unplanned downtime with predictive maintenance so that repairs can be completed during a scheduled maintenance window.

TeSys island is fully integrated into the PLC programming environment using digital objects. TeSys island is fully integrated into the EcoStruxure portfolio that combines products and software packages into automation solutions for OEMs and machine builders. The system also supports integration into third-party PLC.

## Firmware Release History

The following table provides the summary of each TeSys island firmware package and bus coupler version:

Date	SEDP package version	Bus coupler version	Notes
June 2023	TeSys island_003.000.002.sedp	003.000.002	<b>Power Interface with IO avatar is enabled for IO Optimization.</b>
February 2023	TeSys island_003.000.001.sedp	003.000.001	Following features are updated: <ul style="list-style-type: none"> <li>• <b>IO Optimization</b></li> <li>• Local control for safe category avatars</li> <li>• Local Trip Reset for individual avatars</li> </ul>
September 2021	TeSys island_002.300.006.sedp	002.300	Release with Dahlander and few security improvements.
May 2020	TeSys island_002.200.008.sedp	02.0200	Release with extended local control modes and their integration into EcoStruxure Machine Expert software.
February 2020	TeSys island_002.100.016.sedp	02.0100	Patch of firmware version 2.1.0.13 with Achilles certification.

<b>Date</b>	<b>SEDP package version</b>	<b>Bus coupler version</b>	<b>Notes</b>
January 2020	TeSys island_002.100.013.sedp	02.0100	Release of PROFINET and PROFIBUS communication and new avatars. The firmware version is not compatible with EcoStruxure Machine Expert library.
June 2019	TeSys island_001.100.013.sedp	01.0100	Initial release

## Bus Coupler Firmware

The bus coupler firmware can be updated on the following TeSys island bus couplers:

- TPRBCEIP (Ethernet IP or Modbus TCP)
- TPRBCPFN (PROFINET)
- TPRBCPFB (PROFIBUS-DP)

## Firmware Update Policy

Firmware update is recommended to benefit from the latest features and potential bug fixes. It is recommended not to update the firmware to the latest version, if the latest features are not required for your application and no bug fixes are provided.

Use this release note to determine whether an update to the latest version of the TeSys island firmware is relevant for your application.

## Bus Coupler Firmware Update Procedure

The bus coupler firmware can be updated by using the Device Type Manager (DTM) library or micro SD card. For procedure to update the bus coupler firmware using micro SD card, refer to TeSys island – System, Installation, and Operation Guide.

Perform the below procedure to update the bus coupler firmware using DTM library:

1. Update the TeSys island DTM Library to version 2.4.1.
2. Click **Load from Device** on SoMove (FDT container) to connect the DTM library with TeSys island module.
3. Perform the firmware update through DTM library.
4. Disconnect the TeSys island module.

**NOTE:** Power cycle the bus coupler to apply the firmware update.

5. Click **Store to Device** on SoMove to connect with TeSys island module.

**Result:**

- The new DTM library version is configured to the bus coupler.
- The system is ready to operate with the latest firmware and DTM library.

# Firmware Versions

## Version 003.000.002

**NOTE:** If firmware upgrade is to be done from 001.100.013/002.100.016 to 003.000.002, then it has to be performed two times:

1. Perform an upgrade from 001.100.013/002.100.016 to 002.200.008/002.300.006.
2. Perform an upgrade from 002.200.008/002.300.006 to 003.000.002.

## New Features

- **Power Interface With IO avatar in IO Optimization**

**IO Optimization** feature allows users to share their I/O devices between different avatars and optimize them to reduce the number of I/O devices required per TeSys island.

User may also utilize **Device Optimization** feature which will permanently remove free AIOM/DIOM devices from the TeSys island configuration.

- FLA can be configured through modbus TCP registers.

**NOTE:** The default IO ports assigned for PIM with IO avatar cannot be removed or optimized.

## Bugs Fixed

When the emergency push button is pressed, all of the modules will not have power in TeSys island, .

## Known Issues

- In **IO PORT ASSIGNMENT**, if analog input type is different from analog output type and when analog input is connected to analog output, avatar device event occurs.  
**Workaround:** Use same type of analog input and analog output.
- Communication cannot be established between Ecostruxure Control Expert and TeSys island, if there are 15 or more avatars in an TeSys island configuration.
- An avatar device event is registered if more than 16 Avatars (Load or Application types only) are used in TeSys island configuration.

## Version 003.000.001

**NOTE:** If firmware upgrade is to be done from 001.100.013/002.100.016 to 003.000.001, then it has to be performed two times:

1. Perform an upgrade from 001.100.013/002.100.016 to 002.200.008/002.300.006.
2. Perform an upgrade from 002.200.008/002.300.006 to 003.000.001.

## New Features

- **IO Optimization**  
**IO Optimization** feature allows users to share their I/O devices between different avatars and optimize them to reduce the number of I/O devices required per TeSys island.  
User may also utilize **Device Optimization** feature which will permanently remove free AIOM/DIOM devices from the TeSys island configuration.
- Local Control  
Local control functionality is extended to the safe category avatars.
- Local Trip Reset  
Introduces the functionality to reset the trips locally at individual avatar level. Resetting trips at TeSys island level through remote is still available through the control panel as before.
- Firmware version  
Firmware version for the bus coupler is matched with SEDP package version.

## Bugs Fixed

- Local mode status has not worked for **Conveyor One Direction - SIL Stop, W. Cat 1/2** and **Conveyor Two Directions - SIL Stop, W. Cat 1/2**.
- **Load from Device** does not work when there are more than 16 SIL starters in the configuration.

## Known Issues

- If analog input type is different from analog output type and when analog input is connected to analog output, avatar device event happens.  
**Workaround:** Use same type of analog input and analog output.
- AIOM output value not matching with analog input value, when I/O is looped and output type is selected as (4...20) mA.  
**Workaround:** Use output type as 0...20 mA instead of 4...20 mA.
- This release is not applicable for SIL starters.

## Version 002.300.006

### New Features

- Dahlander control mode is added when **Dahlander Control Enabled** is selected as **Yes**.
- **Certificate Manager** is added to configure the security certificate to the TeSys island module.
- Cybersecurity improvements.
- When bus coupler is in fallback IP, there will be no duplicate IP address check.

### Bugs Fixed

- Transition between states did not reset avatar logic inputs.

- Dynamic Host Configuration Protocol (DHCP) caused major fault or failure in Ethernet service if routed through another TeSys island module.
- Bus coupler did not go into power failure mode when powered by 12 V signal.
- Voltage asset information from Voltage Interface Module (VIM) had incorrect scaling.
- DTM accessories were not correct for size three starters (displayed the size of 1 kits).
- Total active power and total reactive power for system avatar include avatars without Energy Monitoring Enabled.
- Detected frequency based on the A-C voltage instead of A-N voltage when configured for single-phase.

## Known Issues

- Local mode status has not worked for **Conveyor One Direction - SIL Stop, W. Cat 1/2** and **Conveyor Two Directions - SIL Stop, W. Cat 1/2**.
- **Load from Device** does not work when there are more than 16 SIL starters in the configuration.

This issue exists in all the previous TeSys island firmware packages.

**Workaround:** Save the configurations in SoMove or EcoStruxure Machine Expert software and connect to the device without using **Load from Device**.

## Version 002.200.008

### New Features

- Option **Local Control Mode** which includes Process Variable (PV) switches or inputs, Manual Mode Override, and Bypass mode is added through Digital I/O Module (DIOM) to six load avatars.
- Function block libraries are updated for the EcoStruxure™ Machine Expert software.
- Custom avatar function is added to save the configurations of customized avatar for re-use in individual DTM libraries.
- Factory Reset command is added to reset the TeSys island module in any of its operational state.
- *Dynamic Port Mapping guide* is added to ease the wiring of digital and analog I/O modules in DTM and Operation and Maintenance Tool (OMT).
- IP Allowlisting is enabled for Modbus TCP and EtherNet/IP traffic.
- Predictive Alarms (PA) are added to associate process variable with an alarm signal to send a text-based alert.
- New heartbeat 1098 register is integrated for manual Modbus TCP protocol (communication loss).

### Bugs Fixed

- PROFIBUS Node ID set in the DTM was not registered in bus coupler.
- Upstream voltage function was not calibrated by the voltage setting for the TeSys avatar in the DTM. This calibration would prevent the false positives when an upstream circuit breaker is open.
- Enhanced security features of webserver.

## Known Issues

Function	Comment or Workaround
Achilles certification is not applicable for the firmware version 002.200.008.	Previous firmware version 2.1.0.16 with Achilles certification is available. There are no substantive changes affecting the Achilles performance in the firmware version 2.2.0.8, just the certification process was not run.
Positive Temperature Coefficient (PTC) Binary as PV input	PTC Binary does not function properly when configured as the input type for a PV input.  Use only true analog signals for PV inputs and PTC Binary for Motor Overheat Protection.
Mismatch General Station Description (GSD) file	Bus coupler (TPRBCPFB) goes into non-operational state due to mismatch of GSD file versions.  Recover the bus coupler with power cycle and update the TIA portal with the latest GSD file.
MAC address	No MAC address printed on the face of bus coupler (TPRBCPFB).  MAC address can be located on sticker on the back of bus coupler or can be accessed through network discovery.
Bus coupler goes into minor event (non-operational) state if firmware download process is interrupted by communication loss with PC.	Use only SoMove software to download firmware.  If the device is unresponsive due to the communication loss during firmware update, then a power cycle will reset the bus coupler and firmware download can be attempted again.
Undercurrent alarm occurs when motor is turned off.	When motor is turned off, this results in an undercurrent alarm if the alarm is enabled. Thus the undercurrent alarm counter will be higher than expected.
Opening the OMT through Google Chrome browser on iPad device does not download the system logs.  <b>NOTE:</b> This issue is known issue for Apple iOS.	Use different platforms such as iPhone, PC, and so on to open the OMT.
If network name is changed after boot, the network name used in DPWS response is not updated until power cycle.	Power cycle will fix.  <b>NOTE:</b> The updated network name is used in all other protocols (namely DHCP) immediately. The DPWS is the only affected protocol.

# Configuration Software

The below are the compatible software and DTM library required to configure and use the TeSys island module:

- SoMove software v2.9.0 or later
- EcoStruxure Machine Expert v1.2.3 or later
- EcoStruxure Control Expert v15.0 SP1 or later

**NOTE:** TeSys island module is not configurable with EcoStruxure Control Expert version 15.2

- TeSys island DTM Library v2.4.0

# Compatibility

The following table shows the compatibility of digital tools with TeSys island module in active releases.

Configuration/Programming software		TeSys island firmware version					
		TeSys-island_001.100.001-3.sedp	TeSys-island_002.100.0-16.sedp	TeSys-island_002.200.0-08.sedp	TeSys-island_002.300.0-06.sedp	TeSys-island_003.000.0-01.sedp	TeSys-island_003.000.0-02.sedp
<b>DTM (SoMove or any FDT container)</b>	DTM v1.0.1401	✓	X	X	X	X	X
	DTM v1.1.0	✓	X	X	X	X	X
	DTM v2.1.1	✓	✓	X	X	X	X
	<b>NOTE:</b> DTM v2.1.1 is compatible when using Modbus TCP or EtherNet/IP and for previously existing device and load avatars only.						
	DTM v2.2.0 or DTM v2.2.1 (equivalent)	X	X	✓	✓	X	X
	DTM v2.3.0	X	X	X	✓	X	X
	DTM v2.4.0	X	X	X	X	✓	X
	DTM v2.4.1	X	X	X	X	X	✓
<b>EcoStruxure Machine Expert</b>	EcoStruxure Machine Expert v1.1 or v1.2 Function block library: 1.0.15.0 Device description: • Modbus TCP: 1.1.0.0 • EtherNet/IP: 1.1.0.0	✓	X	X	X	X	X
	EcoStruxure Machine Expert v1.2.3 Function block library: 2.0.2.0 Device description: • Modbus TCP: 1.1.6 • EtherNet/IP: 1.1.7	X	X	✓	✓	**✓	**✓
	<b>NOTE: **EcoStruxure Machine Expert is not compatible, if there is change in the IO PORT ASSIGNMENT.</b> <b>NOTE: **Function blocks library for PLCs with Machine Expert on Modbus TCP protocol is not compatible.</b> <b>Workaround:</b> Use the Schneider Electric Machine Expert Modbus TCP PLCs as a third party PLC.						
<b>EcoStruxure Control Expert V15.0 SP1</b>	TeSys island Library 2021 PSx DTM Library version: 3.14.54 PLC M580 - CPU firmware 3.20	X	X	✓	✓	*✓	*✓
	<b>NOTE: *EcoStruxure Control Expert is not compatible, if there is change in the IO PORT ASSIGNMENT.</b>						
<b>Studio 5000 V30 or later</b>	NA	NA	NA	NA	NA	*✓	*✓
	<b>NOTE:</b> Ensure that the export of L5X file is done with the compatible version of DTM. <b>NOTE: *Studio 5000 is not compatible, if there is change in the IO PORT ASSIGNMENT.</b>						

Configuration/Programming software		TeSys island firmware version					
		TeSys-island_001.100.001-3.sedp	TeSys-island_002.100.0-16.sedp	TeSys-island_002.200.0-08.sedp	TeSys-island_002.300.0-06.sedp	TeSys-island_003.000.0-01.sedp	TeSys-island_003.000.0-02.sedp
TIA Portal V15 or later	Library: TeSysisland_TIAV15_V2.1.1.zal15  GSD: SCHE1135.GSD (revision 1.0)  GSDML: GSDML-V2.35-SchneiderElectric-TeSysisland-20200202.xml  <b>NOTE:</b> Ensure that the export of AML file is done with the compatible version of DTM.	X	✓	X	X	X	X
	Library: TeSysisland_TIAV15_V2.2.0.zal15  GSD: SCHE1135.GSD (revision 2.0)  GSDML: GSDML-V2.35-SchneiderElectric-TeSysisland-20200404.xml  <b>NOTE:</b> Ensure that the export of AML file is done with the compatible version of DTM.	X	X	✓	✓	*✓	*✓
	<b>NOTE:</b> *TIA Portal is not compatible, if there is change in the IO PORT ASSIGNMENT.						

## Related Documents

Document title	Publication date	Document number
TeSys island – System, Installation, and Operation Guide	06/2023	<a href="#">DOCA0270EN</a>
TeSys island – Quick Start Guide for EcoStruxure Control Expert Classic	11/2021	<a href="#">DOCA0236EN</a>
TeSys island – DTM Library Read Me	11/2021	<a href="#">DOCA0238EN</a>
TeSys island – Firmware Release Notes	06/2023	<a href="#">DOCA0224EN</a>
TeSys island – Functional Safety Guide	09/2021	<a href="#">8536IB1904EN</a>
TeSys island – Third Party Function Block Guide	02/2023	<a href="#">8536IB1905EN</a>
TeSys island – EtherNet/IP™ – Quick Start and Function Block Library Guide	02/2023	<a href="#">DOCA0271EN</a>
TeSys island – DTM Online Help Guide	05/2023	<a href="#">8536IB1907</a>
TeSys island – PROFINET and PROFIBUS – Quick Start and Function Block Library Guide	02/2023	<a href="#">DOCA0272EN</a>
TeSys island – Product Environmental Profile	08/2019	<a href="#">ENVPEP1904009</a>
TeSys island – Product End of Life Instructions	08/2019	<a href="#">ENVEOLI1904009</a>
TeSys island, Bus Coupler TPRBCEIP – Instruction Sheet	09/2019	<a href="#">MFR44097</a>
TeSys island, Bus Coupler TPRBCPFN – Instruction Sheet	09/2019	<a href="#">MFR44098</a>
TeSys island, Bus Coupler TPRBCPFB – Instruction Sheet	11/2019	<a href="#">GDE55148</a>
TeSys island, Starters and Power Interface Modules, Size 1 and 2 – Instruction Sheet	03/2020	<a href="#">MFR77070</a>
TeSys island, Starters and Power Interface Modules, Size 3 – Instruction Sheet	03/2020	<a href="#">MFR77085</a>
TeSys island, Input/Output Modules – Instruction Sheet	11/2019	<a href="#">MFR44099</a>
TeSys island, SIL Interface and Voltage Interface Modules – Instruction Sheet	11/2019	<a href="#">MFR44100</a>



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