EcoStruxure Automation Device Maintenance

Altivar User Manual

06/2025

JYT50472.07

www.se.com

Legal Information

The information provided in this document contains general descriptions, technical characteristics and/or recommendations related to products/solutions.

This document is not intended as a substitute for a detailed study or operational and site-specific development or schematic plan. It is not to be used for determining suitability or reliability of the products/solutions for specific user applications. It is the duty of any such user to perform or have any professional expert of its choice (integrator, specifier or the like) perform the appropriate and comprehensive risk analysis, evaluation and testing of the products/solutions with respect to the relevant specific application or use thereof.

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Table of Contents

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

Only appropriately trained persons who are familiar with and understand the contents of this manual and all other pertinent product documentation are authorized to work on and with this product. In addition, these persons must have received safety training to recognize and avoid hazards involved. These persons must have sufficient technical training, knowledge and experience and be able to foresee and detect potential hazards that may be caused by using the product, by changing the settings and by the mechanical, electrical and electronic equipment

of the entire system in which the product is used. All persons working on and with the product must be fully familiar with all applicable standards, directives, and accident prevention regulations when performing such work.

Intended Use

This product is a drive for three-phase synchronous, asynchronous motors and intended for industrial use according to this manual.

The product may only be used in compliance with all applicable safety standard and local regulations and directives, the specified requirements and the technical data. The product must be installed outside the hazardous ATEX zone. Prior to using the product, you must perform a risk assessment in view of the planned application. Based on the results, the appropriate safety measures must be implemented. Since the product is used as a component in an entire system, you must ensure the safety of persons by means of the design of this entire system (for example, machine design). Any use other than the use explicitly permitted is prohibited and can result in hazards.

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 be made and that enough time is allowed to perform complete and satisfactory testing.

⚠WARNING

EQUIPMENT OPERATION HAZARD

- Verify that installation and set up procedures have been completed.
- Before operational tests are performed, remove all blocks or other temporary holding means used for shipment form 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 (English version prevails):

- 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 Document

Document Scope

This document provides step-by-step guidance for using EcoStruxure Automation Device Maintenance 3.4 with Altivar devices. It explains how to discover, connect, configure, and update firmware on supported devices via Ethernet or Modbus. The manual includes instructions for managing device names, IP settings, and firmware packages, as well as handling common issues like update errors or older firmware versions. It also outlines compatibility with various Altivar devices and option modules, offering clear steps for both automatic and manual device management.

Read the complete document as well as EcoStruxure Automation Device Maintenance Firmware Upgrade Tool before you use the products described in this document.

Validity Note

Original instructions and information given in this manual have been written in English (before optional translation).

The information in this user manual document is applicable only for Altivar firmware packages of products compatible with EcoStruxure Automation Device Maintenance 3.4.

The characteristics of the products described in this document are intended to match the characteristics that are available on www.se.com. As part of our corporate strategy for constant improvement, we may revise the content over time to enhance clarity and accuracy. If you see a difference between the characteristics in this document and the characteristics on www.se.com, consider www.se.com to contain the latest information.

Product Related Information

⚠WARNING

LOSS OF CONTROL

- The designer of any control scheme must consider the potential failure modes of control paths and, for critical control functions, provide a means to achieve a safe state during and after a path failure. Examples of critical control functions are emergency stop, overtravel stop, power outage and restart.
- Separate or redundant control paths must be provided for critical control functions.
- System control paths may include communication links. Consideration must be given to the implications of unanticipated transmission delays or failures of the link.
- Observe all accident prevention regulations and local safety guidelines (1).
- Each implementation of the product must be individually and thoroughly tested for proper operation before being placed into service.

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

(1) For USA: 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.

Related Documents

Use your tablet or your PC to quickly access detailed and comprehensive information on all our products on www.se.com.

The internet site provides the information you need for products and solutions:

- The Handbook for detailed characteristics and selection guides,
- The CAD files to help design your installation,
- All software and firmware to maintain your installation up to date,
- Additional documents for better understanding of drive systems and applications,
- And finally all the User Guides related to your drive, listed below:

Catalog

Title of Documentation	Catalog Number
Catalog: Altivar Machine ATV340	DIA2ED2160701EN (English), DIA2ED2160701FR (French).
Catalog: Altivar Process ATV600	DIA2ED2140502EN (English), DIA2ED2140502FR (French).
Catalog: Altivar Process ATV900	DIA2ED2150601EN (English), DIA2ED2150601FR (French).
Catalog: Altivar Soft Starter ATS430	DIA2ED2240602EN (English), DIA2ED2240602FR (French).
Catalog: Altivar Soft Starter ATS480	DIA2ED2210602EN (English), DIA2ED2210602FR (French), ECATA1172 (Chinese), DIA2ED2210602DE (German), DIA2ED2210602IT (Italian), DIA2ED2210602SP (Spanish), DIA2ED2210602PTBR (Brazilian Portuguese), DIA2ED2210602TR (Turkish).
Catalog: Altivar Soft Starter ATS490	DIA2ED2240603EN (English), DIA2ED2240603FR (French).

Documentations

Title of Documentation	Reference Number
Ecostruxure Automation Device Maintenance Altivar User Manual	JYT50472(English), JYT50474(French), JYT50482(German), JYT50476(Spanish), JYT50478 (Italian), JYT50483(Chinese), JYT50484 (Turkish), JYT50485(Portuguese).
Ecostruxure Automation Device Maintenance User Manual	EIO0000004033.
Recommended Cybersecurity Best Practices	CS-Best-Practices-2019-340 (English)
ATV340 Getting Started	NVE37643 (English), NVE37642 (French), NVE37644 (German), NVE37646 (Spanish), NVE37647 (Italian), NVE37648 (Chinese), NVE37643PT (Portuguese), NVE37643TR (Turkish)
ATV340 Getting Started Annex (SCCR)	NVE37641 (English)
ATV340 Installation Manual	NVE61069 (English), NVE61071 (French), NVE61074 (German), NVE61075 (Spanish), NVE61078 (Italian), NVE61079 (Chinese), NVE61069PT (Portuguese), NVE61069TR (Turkish)
ATV340 Programming Manual	NVE61643 (English), NVE61644 (French), NVE61645 (German), NVE61647 (Spanish), NVE61648 (Italian), NVE61649 (Chinese), NVE61643PT (Portuguese), NVE61643TR (Turkish)
ATV600 Getting Started	EAV63253 (English), EAV63254 (French), EAV63255 (German), EAV63256 (Spanish), EAV63257 (Italian), EAV64298 (Chinese), EAV63253PT (Portuguese), EAV63253TR (Turkish)
ATV600 Getting Started Annex (SCCR)	EAV64300 (English)
ATV630, ATV650 Installation Manual	EAV64301 (English), EAV64302 (French), EAV64306 (German), EAV64307 (Spanish), EAV64310 (Italian), EAV64317 (Chinese), EAV64301PT (Portuguese), EAV64301TR (Turkish)
ATV600 Programming Manual	EAV64318 (English), EAV64320 (French), EAV64321 (German), EAV64322 (Spanish), EAV64323 (Italian), EAV64324 (Chinese), EAV64318PT (Portuguese), EAV64318TR (Turkish)
Altivar Process Drive Systems Installation manual (ATV660, ATV680, ATV960, ATV980)	NHA37119 (English), NHA37121 (French), NHA37118 (German), NHA37122 (Spanish), NHA37123 (Italian), NHA37130 (Chinese), NHA37124 (Dutch), NHA37126 (Polish), NHA37127 (Portuguese), NHA37129 (Turkish)
ATV930, ATV950 Getting Started	NHA61578 (English), NHA61579 (French), NHA61580 (German), NHA61581 (Spanish), NHA61724 (Italian), NHA61582 (Chinese), NHA61578PT (Portuguese), NHA61578TR (Turkish)
ATV900 Getting Started Annex (SCCR)	NHA61583 (English)
ATV930, ATV950 Installation manual	NHA80932 (English), NHA80933 (French), NHA80934 (German), NHA80935 (Spanish), NHA80936 (Italian), NHA80937 (Chinese), NHA80932PT (Portuguese), NHA80932TR (Turkish)
ATV900 Programming manual	NHA80757 (English), NHA80758 (French), NHA80759 (German), NHA80760 (Spanish), NHA80761 (Italian), NHA80762 (Chinese), NHA80757PT (Portuguese), NHA80757TR (Turkish)
ATS430 Getting Started	PKR63383 (English), PKR63384 (French), PKR63385 (Spanish), PKR63386 (Italian), PKR63387 (German), PKR63388 (Chinese), PKR63389 (Portuguese), PKR63390 (Turkish).
ATS430 Getting Started Manual Annex for UL	PKR63391 (English)
ATS430 User Manual	PKR63392 (English), PKR63393 (French), PKR63394 (Spanish), PKR63395 (Italian), PKR63396 (German), PKR63397 (Chinese), PKR63398 (Portuguese), PKR63399 (Turkish).
ATS480 Getting Started Manual	NNZ85504 (English), NNZ85505 (French), NNZ85506 (Spanish), NNZ85507 (Italian), NNZ85508 (German), NNZ85509 (Chinese), NNZ85510 (Portuguese), NNZ85511 (Turkish).
ATS480 Getting Started Manual Annex for UL	NNZ86539 (English)
ATS480 User Manual	NNZ85515 (English), NNZ85516 (French), NNZ85517 (Spanish), NNZ85518 (Italian), NNZ85519 (German), NNZ85520 (Chinese), NNZ85521 (Portuguese), NNZ85522 (Turkish)
ATS490 Getting Started	PKR63410 (English), PKR63411 (French), PKR63412 (Spanish), PKR63413 (Italian), PKR63414 (German), PKR63415 (Chinese), PKR63416 (Portuguese), PKR63417 (Turkish).
ATS490 Getting Started Manual Annex for UL	PKR63418 (English)
ATS490 User Manual	PKR52680 (English), PKR52681 (French), PKR52682 (Spanish), PKR52683 (Italian), PKR52684 (German), PKR52685 (Chinese), PKR52686 (Portuguese), PKR52687 (Turkish).
Altivar dPAC Module VW3A3530D User Guide	NNZ13577 (English), NNZ13578 (French), NNZ13580 (Spanish), NNZ13581 (Italian), NNZ13579 (German), NNZ13582 (Chinese), NNZ13583 (Portuguese), NNZ13584 (Turkish), PKR86537 (Japanese)

Videos

Title of Documentation	Reference Number
Video: How to update the firmware on Altivar with EcoStruxure Automation Device Maintenance ?	FAQ FAQ000233943 (English).
Video: Getting Started with ATV340	FAQ FA367923 (English).
Video: Getting Started with ATV600	FAQ FA364431 (English)
Video: Getting Started with ATV930, ATV950	FAQ FAQ000240081 (English)
Video: Getting Started with ATS430	FAQ000263199 (English)
Video: Getting Started with ATS480	FAQ000233342 (English)
Video: Getting Started with ATS490	FAQ000263202 (English)

Software

Title of Documentation	Reference Number
Ecostruxure Automation Device Maintenance Altivar software	EADM
SoMove: FDT	SoMove FDT (English, French, German, Spanish, Italian, Chinese)
ATV340: DTM	ATV340_DTM_Library_EN (English), ATV340_DTM_Lang_FR (French), ATV340_DTM_Lang_DE (German), ATV340_DTM_Lang_SP (Spanish), ATV340_DTM_Lang_IT (Italian), ATV340_DTM_Lang_CN (Chinese).
ATV340: Firmware package	ATV340-Firmware.
ATV600: DTM	ATV6xx_DTM_Library_EN (English - to be installed first), ATV6xx_DTM_Lang_FR (French), ATV6xx_DTM_Lang_DE (German), ATV6xx_DTM_Lang_SP (Spanish), ATV6xx_DTM_Lang_IT (Italian), ATV6xx_DTM_Lang_CN (Chinese).
ATV600: Firmware package	ATV600-Firmware.
ATV900: DTM	(English - to be installed first), ATV9xx_DTM_Lang_FR (French), ATV9xx_DTM_Lang_DE (German), ATV9xx_DTM_Lang_SP (Spanish), ATV9xx_DTM_Lang_IT (Italian), ATV9xx_DTM_Lang_CN (Chinese).
ATV900: Firmware package	ATV900-Firmware.
ATS430: DTM	ATS430 DTM Library EN (English – to be installed first), ATS430 DTM Lang FR (French), ATS430 DTM Lang SP (Spanish), ATS430 DTM Lang IT (Italian), ATS430 DTM Lang DE (German), ATS430 DTM Lang CN (Chinese).
ATS430: Firmware package	ATS430-Firmware.
ATS480: DTM	ATS480 DTM Library EN (English – to be installed first), ATS480 DTM Lang FR (French), ATS480 DTM Lang SP (Spanish), ATS480 DTM Lang IT (Italian), ATS480 DTM Lang DE (German), ATS480 DTM Lang CN (Chinese).
ATS480: Firmware package	ATS480-Firmware.
ATS490: DTM	ATS490 DTM Library EN (English – to be installed first), ATS490 DTM Lang FR (French), ATS490 DTM Lang SP (Spanish), ATS490 DTM Lang IT (Italian), ATS490 DTM Lang DE (German), ATS490 DTM Lang CN (Chinese).
ATS490: Firmware package	ATS490-Firmware.

You can download these technical publications and other technical information from our website at www.se.com/en/download

Terminology

The technical terms, terminology, and the corresponding descriptions in this manual normally use the terms or definitions in the relevant standards.

In the area of drive systems this includes, but is not limited to, terms such as **error, error message, failure, fault, fault reset, protection, safe state, safety function, warning, warning message**, and so on.

Among others, these standards include:

- IEC 61800 series: Adjustable speed electrical power drive systems
- IEC 61508 Ed.2 series: Functional safety of electrical/electronic/programmable electronic safety-related
- EN 954-1 Safety of machinery - Safety related parts of control systems
- ISO 13849-1 & 2 Safety of machinery - Safety related parts of control systems
- IEC 61158 series: Industrial communication networks - Fieldbus specifications
- IEC 61784 series: Industrial communication networks - Profiles
- IEC 60204-1: Safety of machinery - Electrical equipment of machines – Part 1: General requirements

In addition, the term **zone of operation** is used in conjunction with the description of specific hazards, and is defined as it is for a **hazard zone** or **danger zone** in the EC Machinery Directive (2006/42/EC) and in ISO 12100-1.

Information on Non-Inclusive or Insensitive Terminology

As a responsible, inclusive company, Schneider Electric is constantly updating its communications and products that contain non-inclusive or insensitive terminology. However, despite these efforts, our content may still contain terms that are deemed inappropriate by some customers.

Contact Us

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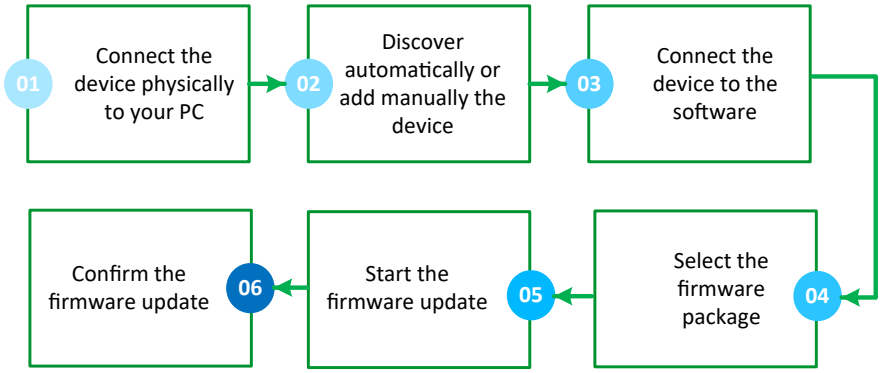
Offer Overview

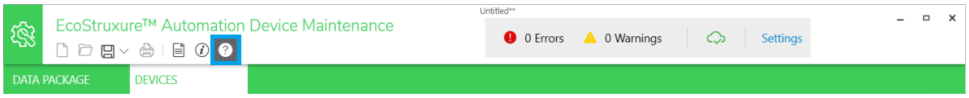
EcoStruxure Automation Device Maintenance

You can download the latest version here EcoStruxure Automation Device Maintenance

The EcoStruxure Automation Device Maintenance software allows to update the firmware on multiple Schneider Electric devices simultaneously. The diagram below shows an overview of the firmware update procedure.



For more information, refer to EcoStruxure Automation Device Maintenance online help:



Altivar in EcoStruxure Automation Device Maintenance

The software allows you to:

- Discover your Altivar devices (ATV drives and Altivar soft starters, Ethernet option modules and ATV dPAC modules).
- Physically locate them.
- Set their device names and/or IP addresses.
- Update their firmware version.

NOTE: For more information, contact your Customer Care Center on:

www.se.com/CCC

Supported Altivar devices product families

The following products are supported:

- Altivar Process ATV6•• drives
- Altivar Process ATV9•• drives (except for ATV991 and ATV992)
- Altivar Machine ATV340 drives (except for ATV340••••••S)
- Altivar Soft Starter ATS430
- Altivar Soft Starter ATS480
- Altivar Soft Starter ATS490

NOTE: To update Altivar Process Drive System (ATV•60, ATV•80, ATV6000), Altivar Process Modular (ATV•A0, ATV•B0, ATV•L0) or Floor Standing Product (ATV••••••••F), please contact your Customer Care Center on: www.se.com/CCC.

Supported Altivar Option Modules

The following option modules are supported:

- VW3A3720 EtherNet/IP and Modbus TCP dual port module.
- VW3A3721 EtherNet/IP, Modbus TCP, and MD-Link dual port module.
- VW3A3530D ATV dPAC module. Refer to Altivar dPAC Module VW3A3530D User Guide for more details about its firmware update.

NOTE:

Video: How to update the firmware on Altivar with EcoStruxure Automation Device Maintenance ?

You can watch our video on theFAQ FAQ000233943.

Altivar Firmware Catalog in EcoStruxure Automation Device Maintenance

Firmware Packages Repository

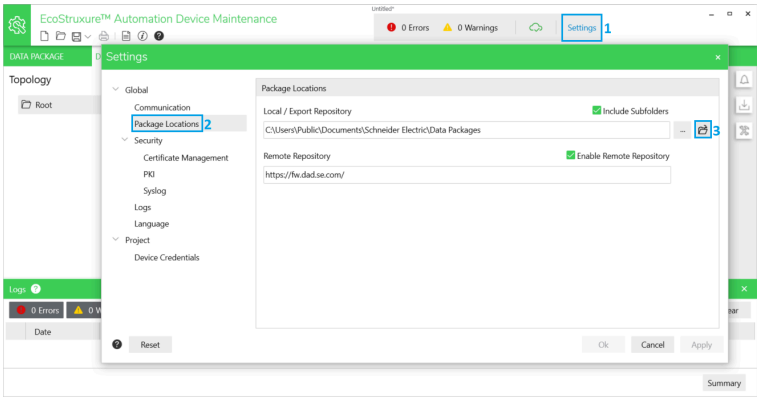
Before updating the firmware of your device, make sure to follow these steps:

1. For Altivar devices: copy the firmware package files with the extension *.fwp*
2. For signed firmware packages: copy the signature files with the extension *.cms*, that match the firmware package files. Otherwise, the unsigned firmware packages will not be displayed in EcoStruxure Automation Device Maintenance.

   NOTE: For unsigned firmware packages, only the *.fwp* file is required.
3. For ATV dPAC devices: copy the firmware package files with the extension *.sedp*
4. Paste all these files into the default data package folder.

TIP:

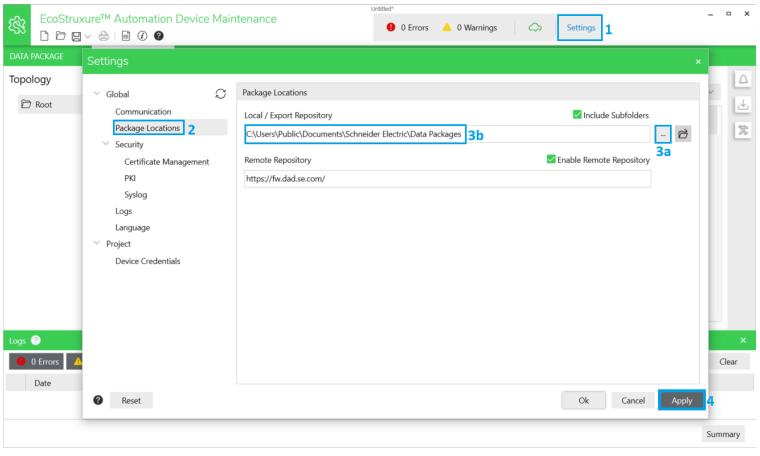
- To access the default path of the data package folder, follow these steps:

Step	Action
1	Click **Settings** in the upper right corner of EcoStruxure Automation Device Maintenance. **Result**: The **Settings** window opens.
2	Select **Package Locations**
3	Click the  icon to open the data package folder.  **Result**: The the data package folder opens.

The default EcoStruxure Automation Device Maintenance Data Packages folder is:

C:\Users\Public\Documents\Schneider Electric\Data Packages.

- To change the path of the data package folder, do the following steps:

Step	Action
1	Click **Settings** at the top right side of EcoStruxure Automation Device Maintenance. **Result**: The **Settings** dialog box opens.
2	Select **Package Locations**
3a	You can either choose the step 3a or 3b: 1. Click the ... icon to change the path of the data package folder. 2. Select a folder from your local PC. 3. Click **OK**.
3b	Paste the new URL of the data package folder, in the **Local Repository** field.
4	Click **Apply**. 

NOTE:

- You can find the regular firmware packages on se.com, or get them from Customer Care Center. To reach the Customer Care Center, go to: se.com/CCC.
- The specific firmware packages for EcoStruxure Automation Expert are provided within EcoStruxure Automation Expert installation package folder.

Firmware Packages Display

EcoStruxure Automation Device Maintenance software analyses the .fwp files stored in the **Data Packages** folder (.sedp package for ATV dPAC device), and lists them in the **DATA PACKAGE** tab, grouped together. For example, it might list firmware packages as follows:

- Altivar dPAC Option Module VW3A3530D. Refer to Altivar dPAC Module VW3A3530D User Guide for more details about its firmware update.
- Altivar Ethernet Option Module VW3A3720 and VW3A3721.
- Altivar Machine ATV340 (ATV340-Firmware).
- Altivar Process ATV6•• (ATV600-Firmware).
- Altivar Process ATV9•• (ATV900-Firmware).
- Altivar Soft Starter ATS430 (ATV340-Firmware).
- Altivar Soft Starter ATS480 (ATS480-Firmware).
- Altivar Soft Starter ATS490 (ATS490-Firmware).

Each firmware package present in the repository is listed under the relevant Altivar product.

Here is an example of how firmware packages for an Altivar device can be listed:

Altivar Machine ATV340

- ATV34x_Customer_S1-3_NoEthEmb_V3.5IE29_B10
- ATV34x_Customer_S4-5_V3.5IE29_B10
- ATV34x_Customer_S1-3_EthEmb_V3.5IE29_B10

If there are multiple versions of the same package in the repository, then the package is listed several times. Each version is displayed with its specific firmware version on the front (Vx.xIExx Bxx), to help identify it.

Package Information

The package information area displays:

- The category of the package.
- The description of the package

  It lists all the product families supported by the firmware package file.

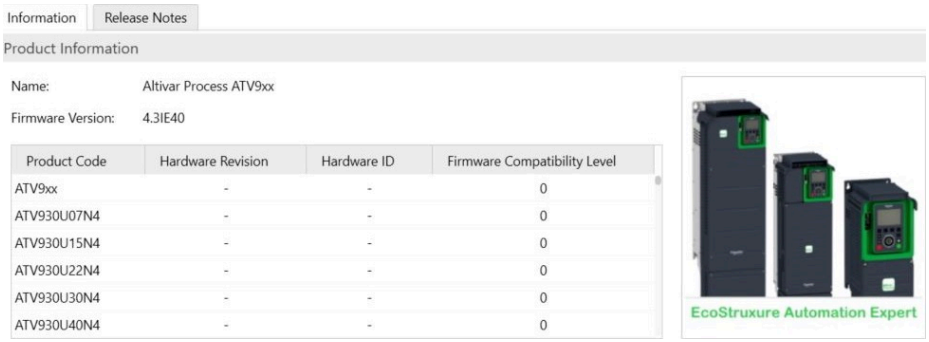
Package Information area has 2 tabs:

- **Information** tab.
- **Release Notes** tab.

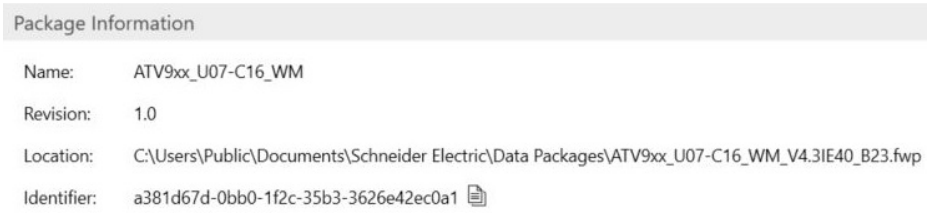
Information tab

The information tab displays:

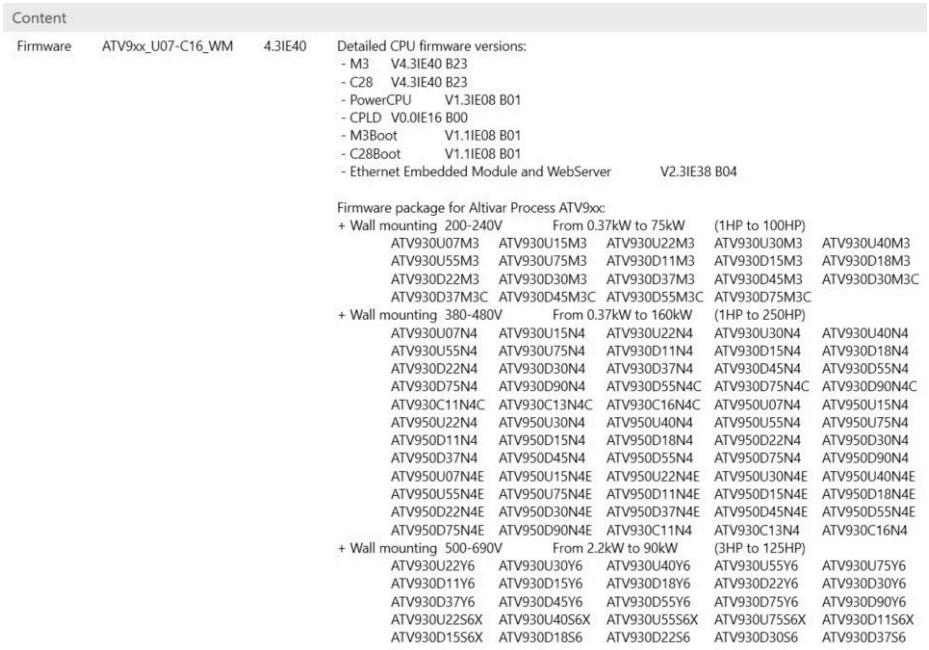
- **Product information**: it shows the information related to the product (Product Name, Product Code, Firmware Version, Hardware Revision and Hardware ID).



- **Package Information**: it shows the information related to the package (Package Name, Revision, Location and Identifier).



- **Content**: it lists all product references supported by the firmware package, organized by product family.



Release Notes tab

The Release Notes tab displays the Release Notes included in the device specific firmware package. It presents:

- The concerned product: the device identification as well as the firmware package version of the concerned device.
- The safety information: it contains the instructions that you should follow before starting the firmware update procedure.

- The software enhancements: it contains the list of new features that are designed to bring added value to you, it excludes pure technical features.
- Notes: it contains additional information regarding the firmware version.

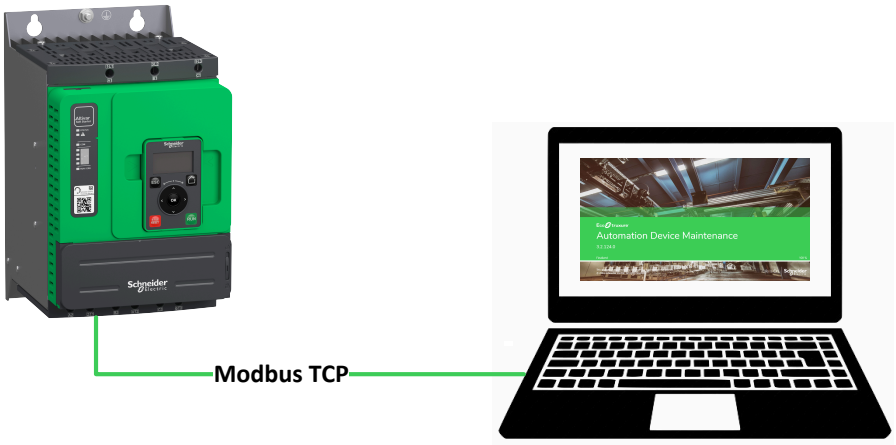
Supported Fieldbuses to connect the device to the software

Ethernet scanners: Modbus TCP and DPWS

The discovery mode allows you:

- To discover the device automatically using DPWS or Modbus TCP scanner.
- To add the device manually using Modbus TCP scanner.

When possible, it is preferable to connect to Altivar devices via Ethernet.



This allows:

- Easy device discovery (IPv6 or using a range of IPv4 addresses).
- Easy multipoint connectivity.
- Firmware update of multiple devices in parallel.
- Faster firmware update file transfer rates (compared to ModBus Serial Line).

TIP: If some devices are not automatically discovered as expected, try to disable the PC firewall and/or restart your device. If the problem persists, consult your system administrator.

Modbus Serial Line (manual add)

If your device does not support Ethernet, you can use Modbus Serial Line instead.

For Altivar soft starter, it is possible to connect to the software using:

- The firmware flashing cordset, USB/RJ45 VW3A8127.
- The connection cable USB/RJ45 - for connection between PC and drive TCSMCNAM3M002P.

NOTE: It is recommended to use the firmware flashing cordset, USB/RJ45 VW3A8127, because it allows a firmware transfer with a high baud rate.

For ATV drives, the connection can be done using the connection cable USB/RJ45 for connection between PC and drive TCSMCNAM3M002P.

Limitations:

- Automatic discovery is not possible, you must add the device manually.
- Multipoint connectivity feature is not available.
- File transfer rates for firmware updates are slower (compared to Ethernet protocol for ATV drives), taking approximately 1 hour.
- Accessing device pre-configuration is not possible, therefore, neither changing the name nor the IPv4 Address of your device is possible.

  NOTE:

  - It is preferable to connect the device via Ethernet when supported, to have a faster transfer rate.
  - It is possible to increase the Modbus speed rate from 19.2 kbps to 38.4 kbps for ATV drives by changing the baud rate value (Refer to the FAQ section to know How to reduce the transfer time, using a Modbus serial link connection?, page 56).

Unsupported fieldbuses

The following fieldbuses are not supported to connect your device to EcoStruxure Automation Device Maintenance software:

- CANopen®
- PROFINET®
- PROFIBUS®
- DeviceNet™
- EtherCAT®
- POWERLINK
- BACnet®
- SERCOS III®

Altivar Automatic Discovery

Overview

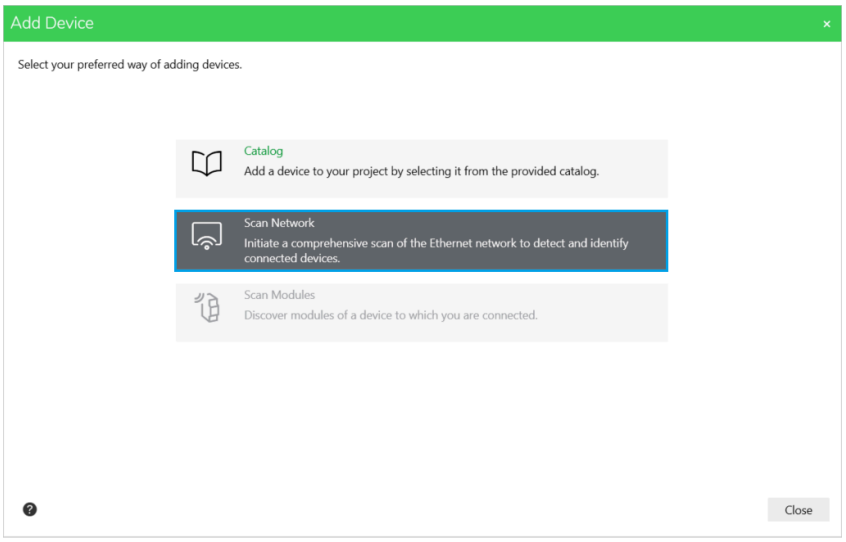
EcoStruxure Automation Device Maintenance software can discover automatically the connected devices using either:

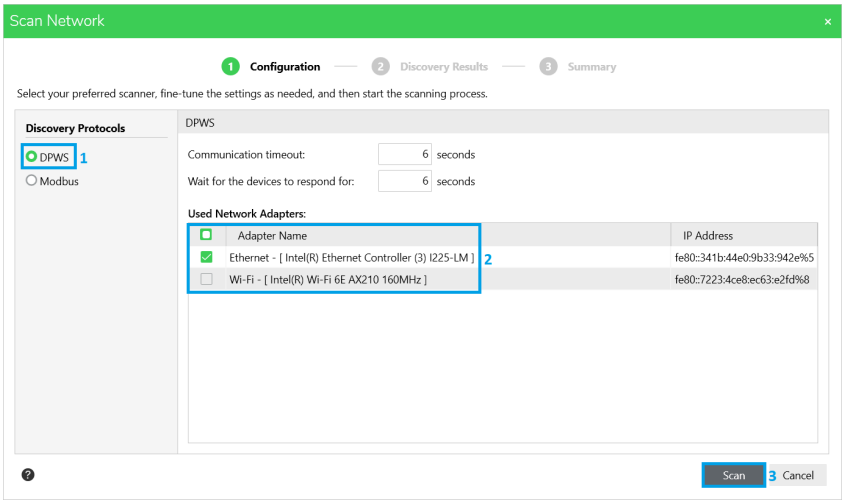
- DPWS Discovery Protocol (IPv6).
- Modbus Discovery Protocol (IPv4).

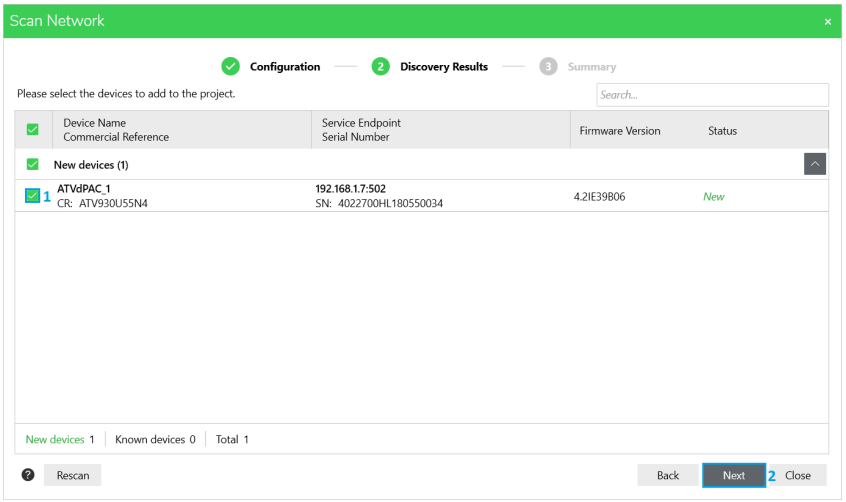
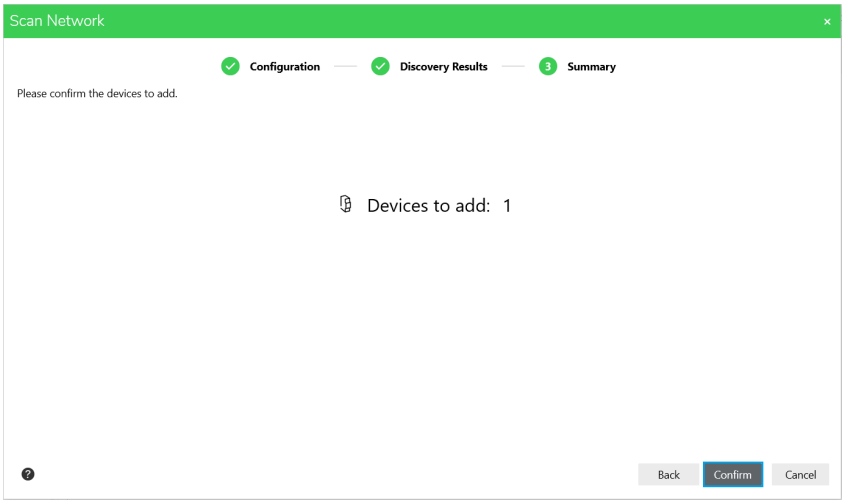
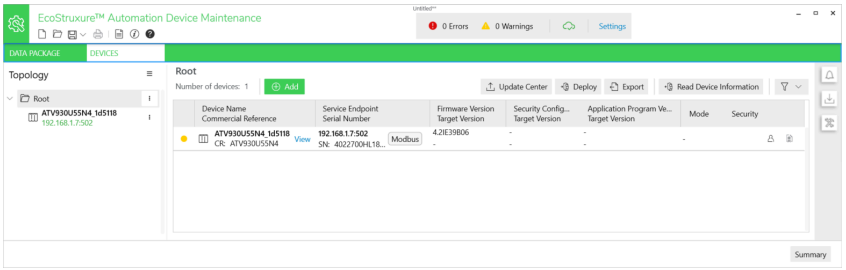
The data reported by the device may defer slightly, depending on the discovery method.

DPWS Discovery Protocol (IPv6)

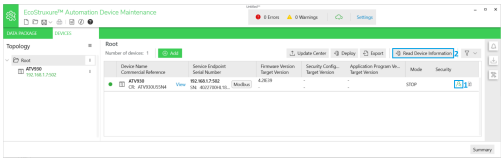
Devices supporting IPv6 over Ethernet can be discovered in EcoStruxure Automation Device Maintenance, using DPWS Discovery Protocol. The connected devices will be listed in **DEVICES** tab, shortly after you discover them.

Step	Action
1	Click the **Add** icon  to add a new device.
2	Select **Scan Network**. 

Step	Action
3	In the **Configuration** step: 1. Select **DPWS**, for **Discovery Protocols**. 2. Select all the needed network adapters, for **Used Network Adapters**. 3. Click **Scan**.  To automatically discover your device using DPWS discovery and to log in, follow these guidelines: • If you want to log to your device using an IPv6 address, make sure your device does not have a pre-set IPv4 address. • If you prefer to log to your device using an IPv4 address, ensure that both your PC and your device have an IPv4 address set within the same network.. The table below shows all the possible combinations that appear when you use DPWS discovery to automatically discover your device: **If the IPv4 of your device is …** / **And if the IPv4 of your PC is …** / **then your device is discovered with the …** / **and login is …** set / Set on the same network / IPv4 address / Possible not set / set / IPv6 address / Possible not set / not set / IPv6 address / Possible set / not set or set on a different network / IPv4 address / Not possible Follow these steps to set the IPv4 address of your device: **Step** / **Action** 1 / On the display terminal, select **[Main Menu]** > **[Communication]** COM > **[Comm parameters]** CMP > **[Embd Eth Config]** ETE > **[IP address]** 2 / Type the IP address of your device using the touch wheel, up/down arrows, and the right/left arrows of the display terminal. 3 / Press OK. 4 / Restart (turn off then turn on) your device.

Step	Action
4	In the **Discovery Results** step: 1. Select your device. 2. Click **Next**. 
5	In the **Summary** step, click **Confirm**. 
6	**Result:** The discovered devices are listed in the **DEVICES** tab.  • If your device is not automatically discovered, try to disable the PC firewall and/or restart your device. If the problem persists, consult your system administrator. • The DPWS discovery protocol with IPv6 is the preferred method, as it provides the detailed information about the connected device, without the need to log in to each device.

NOTE: If you make changes to the device information using an external tool, follow these steps to update the changes.

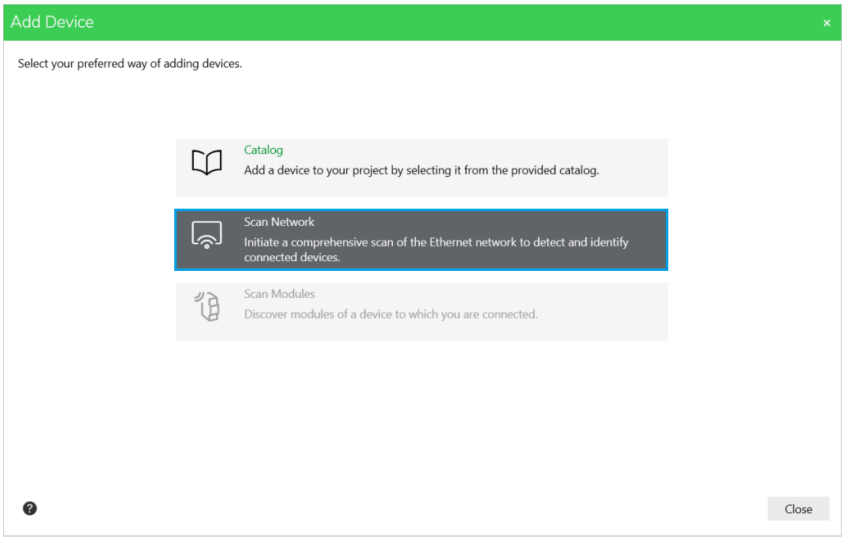
<table>
<tr><th>If the DPWS/ ModbusTCP automatic scan is running ...</th><th>Otherwise ...</th></tr>
<tr><td>The DEVICES tab displays the updated change.</td><td>The information changes will not be reflected. You need to click Read Device Configuration button to display the modified information.
<table>
<tr><th>Step</th><th>Action</th></tr>
<tr><td>1</td><td>In the DEVICES tab, connect to your device using its credentials.</td></tr>
<tr><td>2</td><td>Click Read Device Information button.
  </td></tr>
</table>
Result: The Device information changes after some time.</td></tr>
</table>

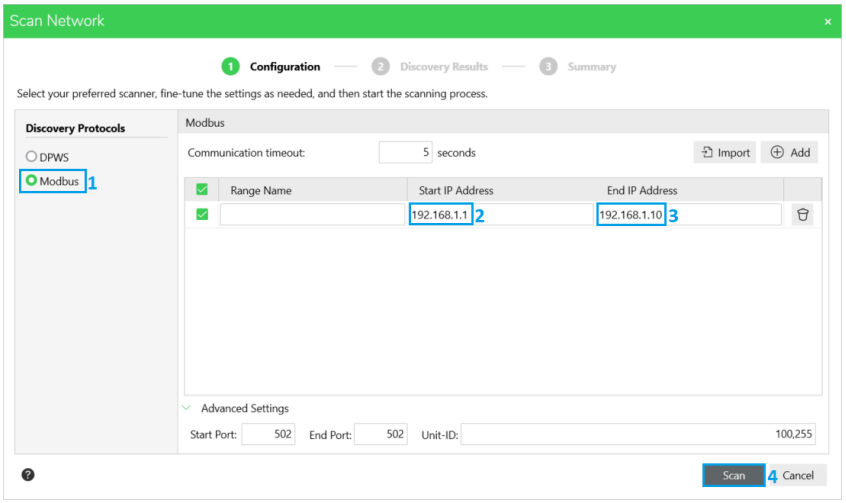
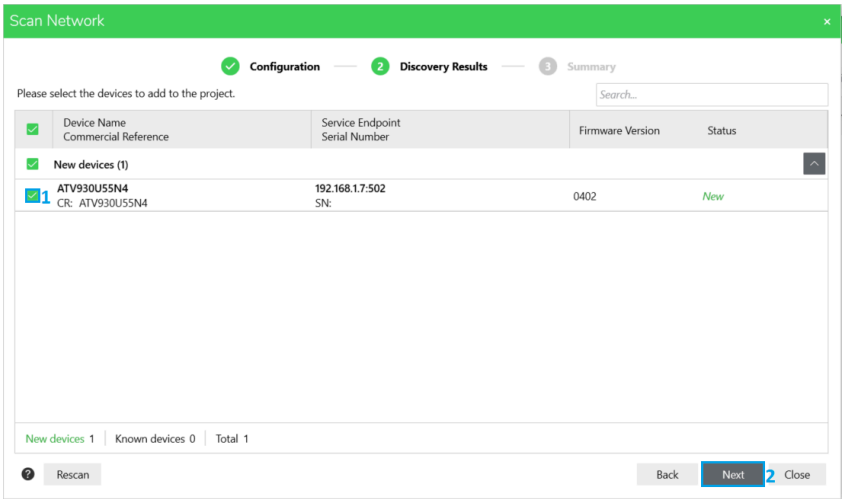
NOTE: If you cannot discover a device with the Serial Number ••*000000* or with an old firmware version using DPWS scanner, you need to manually add the Altivar device using Modbus discovery protocol. Refer to FAQ “Update of devices with old firmware versions”, page 59 for more information.

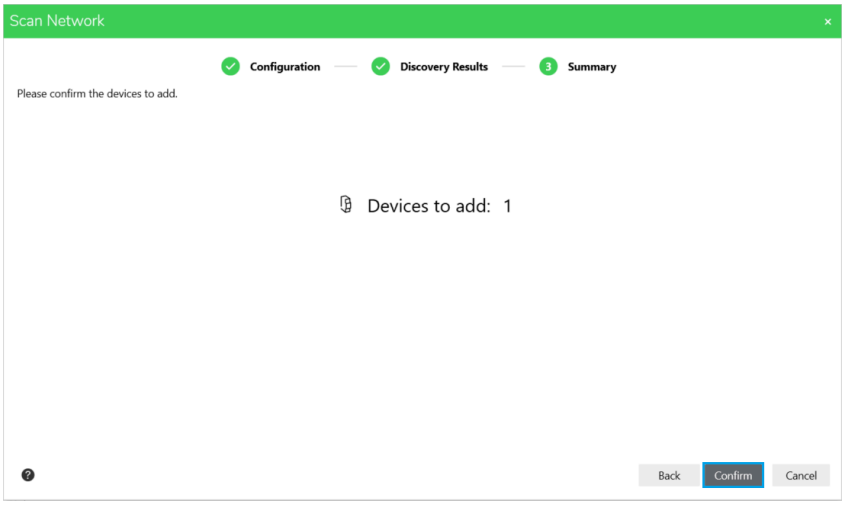
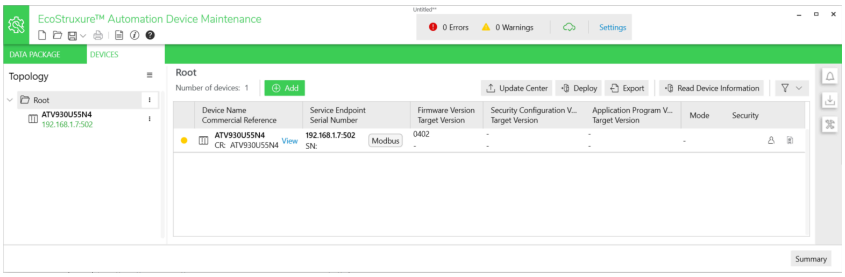
Modbus Discovery Protocol (IPv4)

Devices supporting IPv4 over Ethernet can be discovered in EcoStruxure Automation Device Maintenance, using Modbus discovery protocol.

Follow these steps, before you start the automatic discovery.

Step	Action
1	Click the **Add** icon  to add a new device.
2	Select **Scan Network**. 

Step	Action
3	In the **Configuration** step 1. Select **Modbus**, for **Discovery Protocols**. 2. Type the **Start IP Address**. 3. Type the **End IP Address**. 4. Click **Scan**.  **TIP:** • To automatically discover your device using modbus discovery protocol you need to configure the IPv4 address of your device as well as the IPv4 address of your PC on the same network. • The IP Address of the devices that you want to discover should be between the **Start IP Address** and the **End IP Address**. • Follow these steps to set the IPv4 address of your device: **Step** / **Action** 1 — On the display terminal, select **[Main Menu]** > **[Communication]** COM > **[Comm parameters]** CMP > **[Embd Eth Config]** ETE > **[IP address]** 2 — Type the IP address of your device using the touch wheel, up/down arrows, and the right/left arrows of the display terminal. 3 — Press OK. 4 — Restart (turn off then turn on) your device.
4	In the **Discovery Results** step: 1. Select your device. 2. Click **Next**. 

Step	Action
5	In the **Summary** step, click **Confirm**. 
6	**Result:** The discovered devices are listed in the **DEVICES** tab.  **NOTE:** If your device is not automatically discovered, try to disable the PC firewall and/or restart your device. If the problem persists, consult your system administrator.

NOTE:

- If the device is not discovered, make sure to check if the IP address of your device is properly set using the display terminal, then restart your device.
- When using Modbus discovery protocol, the device information such as the serial number and the current firmware version are not displayed until you connect to the device.

Ways of representing the firmware version

The following table displays the ways of representing the firmware version in EcoStruxure Automation Device Maintenance after a Modbus discovery protocol:

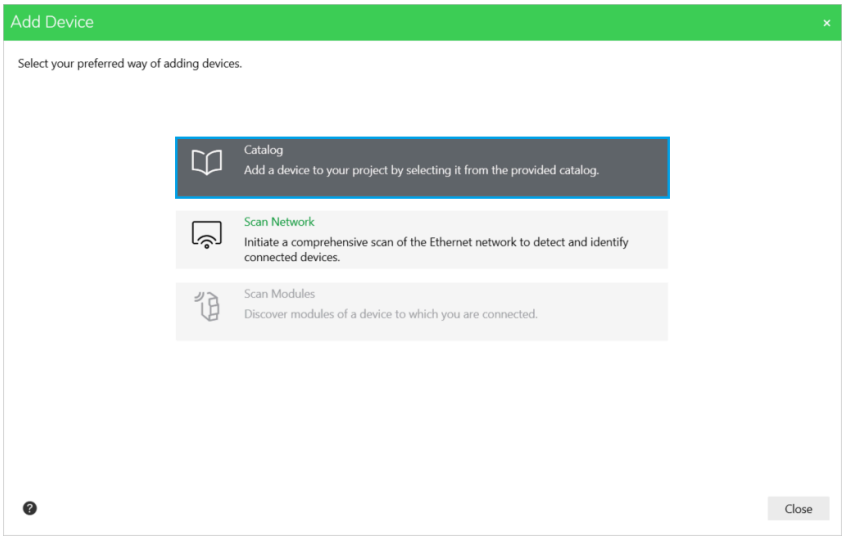
Representation ways	Description	Example
Long representation	Showing the version number and the release number (all the parts of the firmware version)	3.8IE94B04
Short representation	Showing only the version number (only the first part of the firmware version)	0308

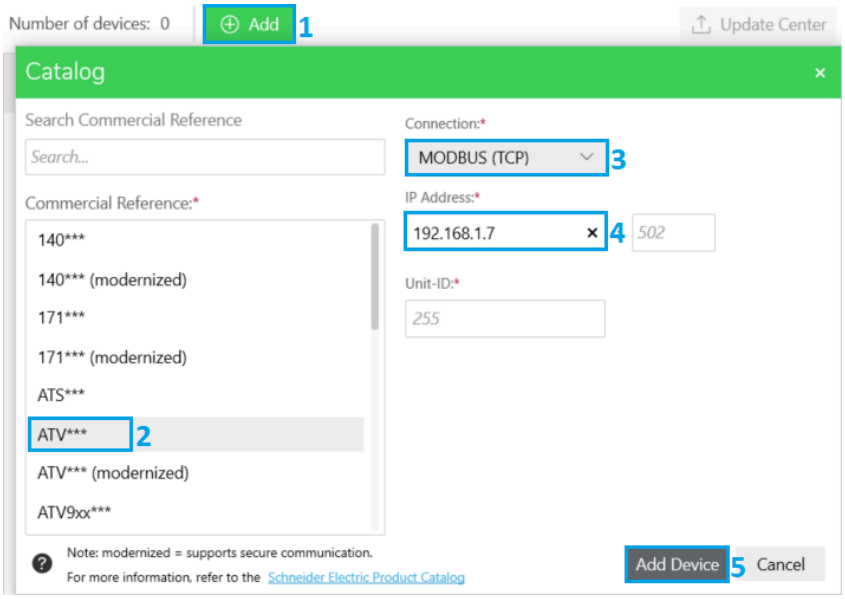
NOTE: You may see the short representation of the firmware version especially when you connect your device using Modbus Discovery protocol.

Manual Altivar add

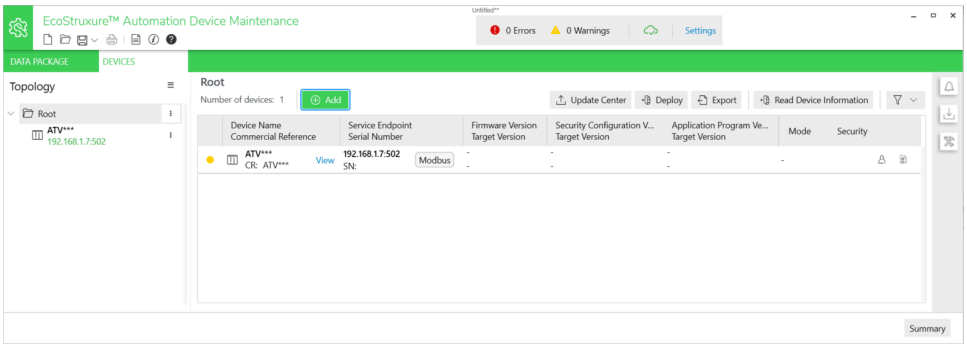
Modbus TCP Manual Add

Follow these steps to manually add devices supporting IPv4 over Ethernet.

Step	Action
1	Click **Add**  to add a new device. **Result:** **Result**: The **Add Device** window opens. Select **Catalog**. 
2	Select the **Commercial Reference** of your device. **NOTE:** To add an altivar drive device manually using **Modbus TCP** protocol, select **ATV*****, not **ATV*** (modernized)**.
3	For *Connection*, select **MODBUS (TCP)**.

Step	Action
4	Type the *IP Address* of your device (port 502).
5	Click **Add Device**. The following figure shows all the steps:  **NOTE:** The Ethernet port of your PC needs to be set on the same network as the connected device. If they are not on the same network, you will not be able to reach the device, and it will be displayed with a gray status indicator. 

When clicking **Add Device** button, the device appears in **DEVICES** tab with a yellow status indicator.



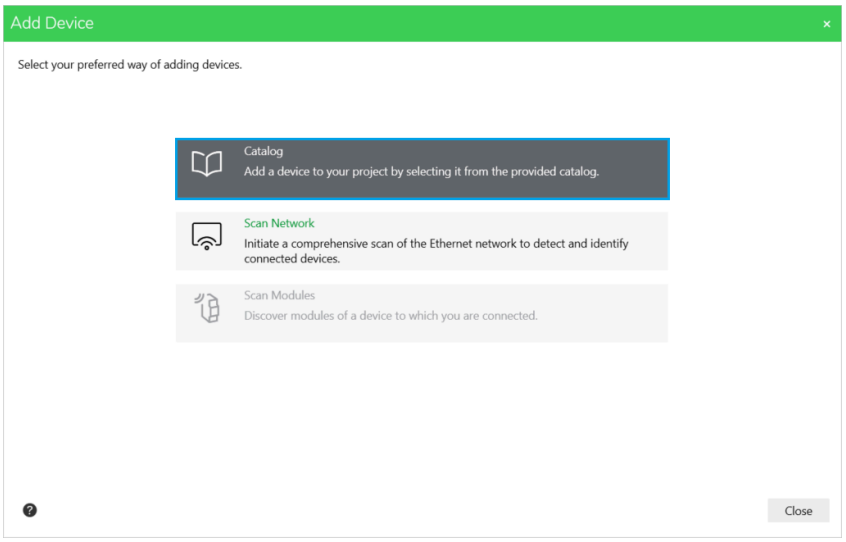
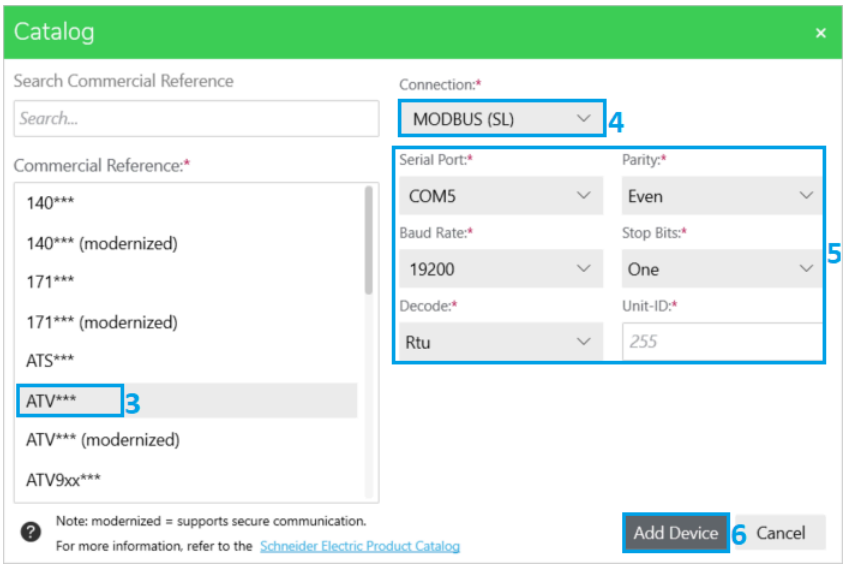
NOTE:

- When using Modbus TCP discovery, the device information is not displayed until you connect to the device.
- For ATV dPAC module, refer to Altivar dPAC Module VW3A3530D User Guide for more details about its firmware update.

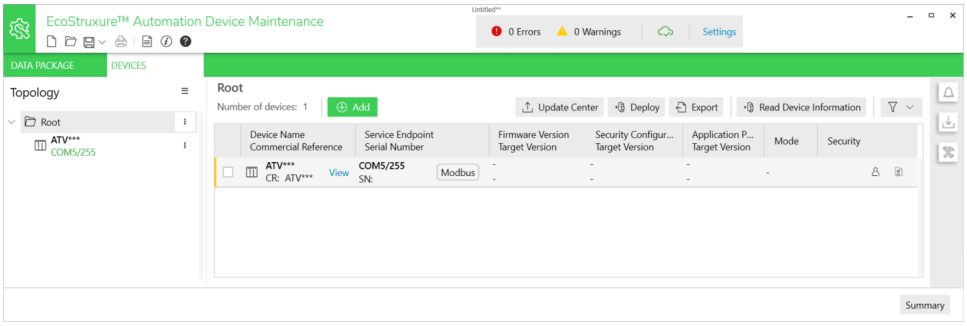
Modbus SL Manual Add

If you cannot manually add your device using Modbus TCP connection over Ethernet, you can add it using Modbus serial line connection instead, if your device supports it.

Follow these steps to manually add your device using Modbus serial line

Step	Action
1	Click **Add**  to add a new device. **Result:** **Result**: The **Add Device** window opens.
2	Select **Catalog**. 
3	Select the **Commercial Reference** of your device. **NOTE:** To add an altivar drive device manually using **MODBUS (SL)** connection, select **ATV*****, not **ATV*** (modernized)**.
4	For *Connection*, select **MODBUS (SL)**.
5	Update the port settings (**Serial Port**, **Parity**, **Baud Rate**, **Stop Bits**, and **Decode**) according to the laptop port you are using to physically connect your device. **TIP:** For more information about the cable to be used for establishing the Modbus Serial Line connection, refer to the following paragraph: Modbus Serial Line cable reference, page 21.
6	Click **Add Device**. The following figure shows all the steps: 

Result: When clicking the **Add Device** button, the device appears in the **DEVICES** tab with a yellow status indicator.



Connect the Altivar Device

Overview

The device authentication feature allows to connect to a device to perform actions on it, after it has been discovered automatically, or added manually.

There are two types of device authentication to connect your altivar device:

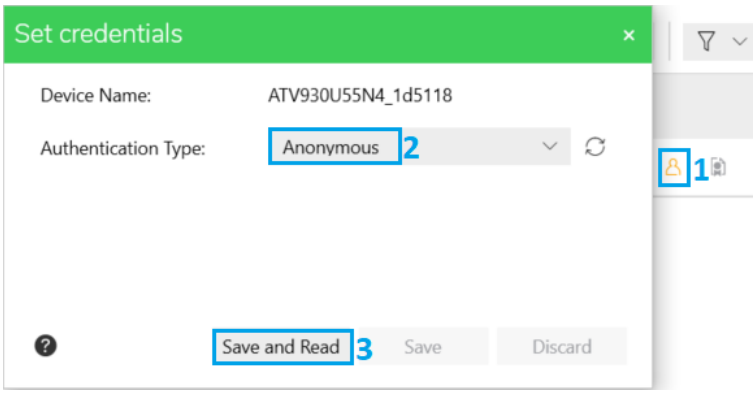
- Devices without user authentication feature, page 34: they can be connected through anonymous authentication type (without using credentials)
- Devices with user authentication feature, page 35: they can be connected through username authentication type (using device credentials).

Devices without User Authentication Feature

The following devices connected over Ethernet do not support the user authentication feature. Thus, they can be authenticated through the anonymous authentication type:

- All devices with the user authentication feature disabled.
- All devices connected over Modbus Serial Line except ATS430, ATS480 and ATS490.
- The following devices connected over Ethernet:
  - All ATV340•••••E with firmware version 3.1 or earlier.
  - All ATV6•• with firmware version 2.6 or earlier.
  - All ATV9•• with firmware version 3.1 or earlier.

Follow these steps to connect a device that does not support the user authentication feature, once the device is added or discovered:

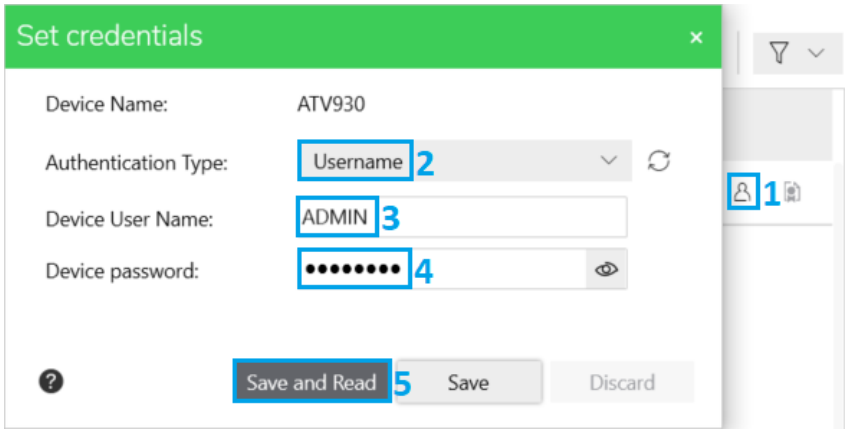
Step	Action
1	Click **Set credentials** icon . **Result:** the **Set credentials** window opens. The following figure displays the three steps: 
2	For *Authentification Type*, select **Anonymous**. **NOTE:** :If a device without the user authentication feature does not have the **Anonymous** *Authentication Type*, you can connect with empty credentials.
3	Click **Save and Connect**.

Devices with User Authentication Feature

The following devices connected over Ethernet support the user authentication feature. Thus, they can be authenticated through username authentication type (using device credentials):

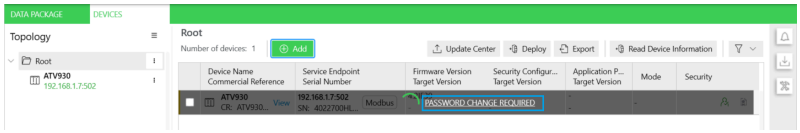
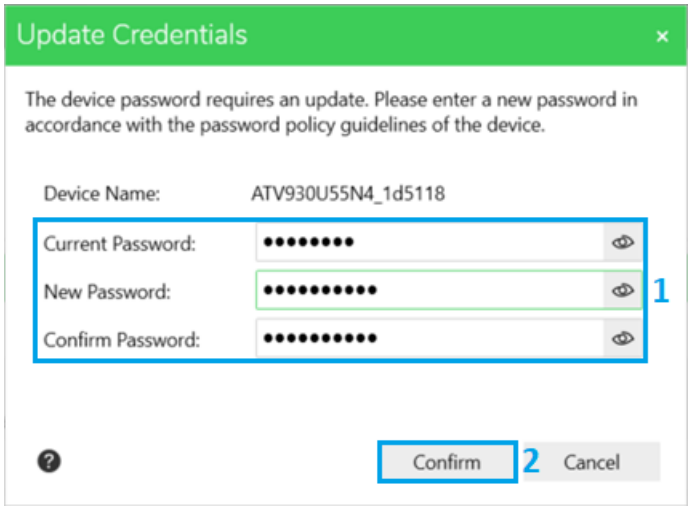
- All ATV340•••••E with firmware version 3.1 or later.
- All ATV6•• with firmware version 2.6 or later.
- All ATV9•• with firmware version 3.1 or later.
- ATS480, regardless of its firmware version.
- ATS490, regardless of its firmware version.

Follow these steps to connect a device that supports the user authentication feature:

Step	Action
1	Click **Set credentials** icon . **Result:** the **Set credentials** window opens. The following figure displays the 5 steps: 
2	For *Authentification Type*, select **Username**.
3	Type the *Device User Name*. **NOTE:** By default the *Device User Name* is `ADMIN`.

Step	Action
4	Type the *Device password*. • If the password has not been modified, use the default password. • If the password has been modified, use the redefined password. • If the password has been modified, but you do not know the redefined password, reset the password and use the default password. **Where to find the default password on the Display Terminal?** • If you are using a drive and it is physically connected to the embedded Ethernet port: **[Main menu]** MnP **> [Communication]** COM **> [Comm parameters]** CMP **> [Embd Eth Config]** ETE **> [User authentication]** SECE **> [Default Pwd Eth Embd]** WDPE. • If you are using a drive and it is physically connected to the Ethernet option module port: **[Main menu]** MnP **> [Communication]** COM **> [Comm parameters]** CMP **> [Eth Module Config]** ETO **> [User authentication]** SECO **> [Default Pwd Eth Opt]** WDPO. • If you are using an Altivar Soft Starter ATS430, or ATS480, or ATS490: **[Main menu]** MnP **> [Device Management]** DMT **> [Cybersecurity]** CYBS **> [Default Password]** SDPW. **How to reset the password on the Display Terminal?** • If you are using a drive and it is physically connected to the Ethernet option module port: **[Main menu]** MnP **> [Communication]** COM **> [Comm parameters]** CMP **> [Embd Eth Config]** ETE **> [User authentication]** SECE **> [Reset Eth Embd Pwd]** RWPE **>[Yes]** YES. • If your drive is physically connected to the Ethernet option module port: **[Main menu]** MnP **> [Communication]** COM **> [Comm parameters]** CMP **> [Eth Module Config]** ETO **> [User authentication]** SECO **> [Reset Eth Opt Pwd]** RWPO **>[Yes]** YES. • If you are using an Altivar Soft Starter ATS430, or ATS480, or ATS490: **[Main menu]** MnP **> [Device Management]** DMT **> [Cybersecurity]** CYBS **> [Reset Password]** SRPW **> [Yes]** YES. **NOTE:** • If the device user authentication feature setting is modified after discovery, the device must be manually deleted and rediscovered or manually added again. • For ATS490 and ATS430, Admin access is required to find the default password and to reset the password. For more information, please refer to the ATS430 user manual and ATS490 user manual. • For ATS490 and ATS430 ATS480, standard or expert level access is needed to configure the device security.
5	Click **Save and Connect**.

NOTE: If you connect to your device that supports the user authentication feature, using the default password, the EcoStruxure Automation Device Maintenance tool requests to define a new password. Follow these steps to define a new password:

Step	Action
1	Connect to your device, using the default credentials. Result: You will receive a message, informing you that the password change is required.
2	Click on Click on **PASSWORD CHANGE REQUIRED**. 
3	1. Type: • your **Current Password**. • your **New Password**. 2. Click **Confirm**.  **NOTE:** The default rules for creating a new password: • It must be at least 8 characters long. • It should include at least one uppercase letter. • It should include at least one lowercase letter. • It should include at least one special character. • It should include at least one number.

NOTE:

- If a device with user authentication feature disabled does not connect automatically, you can connect with empty credentials.
- For devices supporting https communication, make sure to select and trust the device certificate, before connecting.
- On out-of-the-box
  - ATS480 and ATS490 Devices, you can change the default password using the Display Terminal or SoMove.
  - For ATS430, you can change the default password using the embedded display terminal.
- To ensure that the user authentication menu is correctly displayed on the Altivar Graphic Display Terminal (VW3A1111) , update the labels files as instructed in Languages_Drives_VW3A1111.
- For plain text and embedded display terminal , the labels are automatically transferred with the device package during the firmware update, make sure to manually update them.
- For ATV dPAC module, refer to Altivar dPAC Module VW3A3530D User Guide for more details.

Limitations:

The table below displays some limitations that you may encounter during the firmware update, regarding the user authentication feature:

If …	**then …**
you update the firmware of your device from a version that does not have the user authentication feature to a version that includes the user authentication feature,	you will need to remove your device using the dispose button Dispose, and then re-add it in order to be able to log in.
you change the status of the user Authentication from YES to NO or from NO to YES, after discovering or adding your device.	
you change the status of the user authentication feature from NO to YES during the firmware update (transfer or apply),	the firmware will result in an unsuccessful firmware update. **NOTE:** Do not change the user authentication feature from NO to YES during the firmware update, as it may result in an unsuccessful firmware update.

Altivar Pre-Configuration

Locate your device

The **Optical** locate device feature helps physically locate connected devices, by emitting an orange-colored optical signal in **STATUS** LED of the control block's LED indicators for 5 seconds (The LED located at the top of the control block).

Follow these steps to locate your device after you connect to it:

Step	Action
1	In the **Topology** view, located in the left corner of the **DEVICES** tab, click your device to display its information.
2	Click **Optical** symbol . **Result:** The device emits an orange-colored optical signal in **STATUS** LED of the control block's LED indicators for 5 seconds, This signal is designed to help you in identifying your device. 

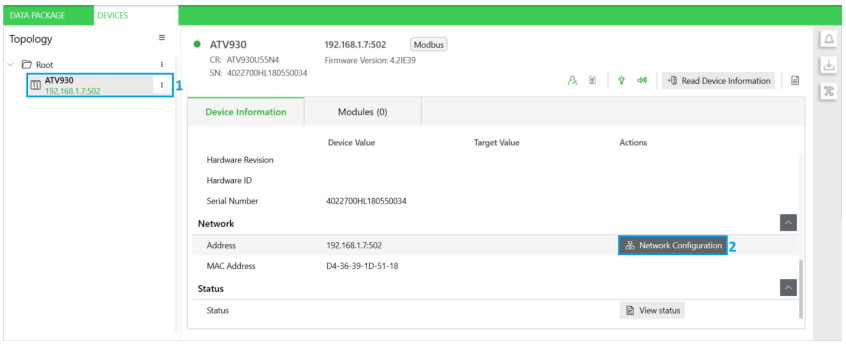
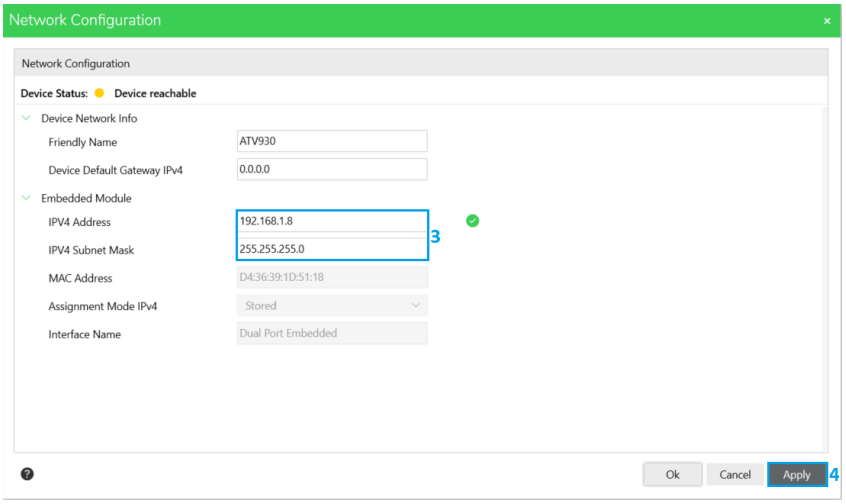
IP Setting

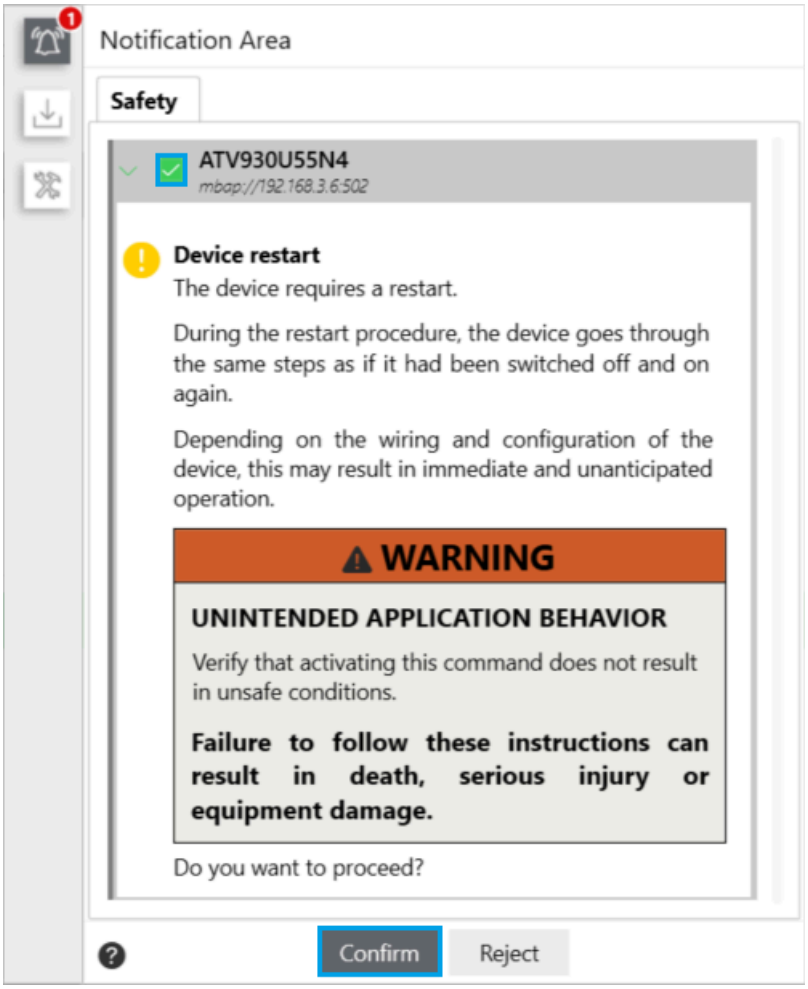
This feature is used to configure the IPv4 address of your device connected over Ethernet. This IP address is effective after a restart of the device.

NOTE:

- When your device is connected to EcoStruxure Automation Device Maintenance via Modbus Serial Link, you cannot configure the Ethernet settings. Thus, you cannot modify the IPv4 address of your device.
- EcoStruxure Automation Device Maintenance can only modify the IP settings of the connected port. For instance, you cannot change the IP settings of the Ethernet module through the embedded port, and vice versa.

To change the IPv4 address of your device connected over Ethernet, follow these steps:

Step	Action
1	In the **Topology** view, located in the left corner of the **DEVICES** tab, click your device to display its information.
2	Select **Network Configuration** located under **Device Information**.  **Result:** The **Network Configuration** window opens.
3	Type the **IPV4 Address** and the **IPV4 Subnet Mask** of your device.
4	Click **Apply**. The following figure shows the steps 3 and 4:  **Result:** You will receive a notification in the notification area. **NOTE:** Within EcoStruxure Automation Device Maintenance, there is only one assignment IPv4 mode which is Stored.

Step	Action
5	Click  icon to open the **Notification Area**.
6	• Select the message by activating the check box. • Click **Confirm**. The following figure shows this step:  **Device restart** The device requires a restart. During the restart procedure, the device goes through the same steps as if it had been switched off and on again. Depending on the wiring and the configuration of the device, this may result in immediate and unanticipated operation. **⚠WARNING** **UNINTENDED APPLICATION BEHAVIOR** Verify that activating this command does not result in unsafe conditions. **Failure to follow these instructions can result in death, serious injury, or equipment damage.** **Result:** The IPv4 address of your device is changed. **NOTE:** • If you reject the restart, the change of settings is still effective, the device may not be discovered automatically. • Once the IP settings change has taken place, the device may not be discovered automatically. To reconnect to your device, reconfigure your network to align with the new IP settings of your device.

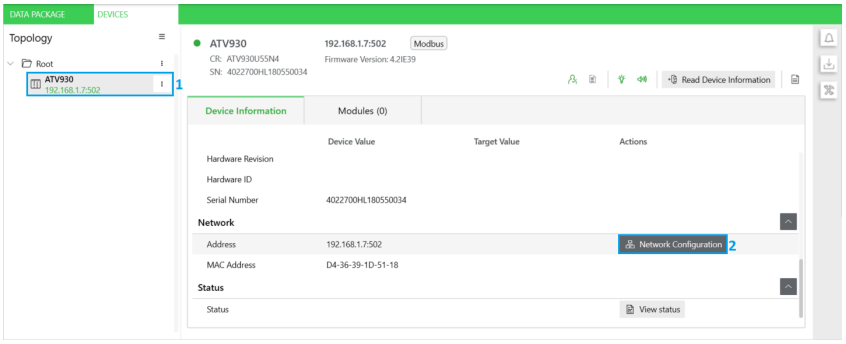
Device Name Setting

This feature is used to set the Device Name of the product. This Device Name is effective immediately (restarting your device is not needed).

NOTE:

- If your device is connected to EcoStruxure Automation Device Maintenance via Modbus Serial Link, then you cannot configure the Ethernet settings. Thus, you cannot change the **Friendly Name** of your device.
- If you are connected to ATV6•• through Ethernet communication module, then you cannot change the IP address of your drive.

To change the name of your device, follow these steps:

Step	Action
1	In the **Topology** view, located in the left corner of the **DEVICES** tab, click your device to display its information.
2	Select **Network Configuration** located under **Device Information**.  **Result:** The **Network Configuration** window opens.
3	Type the **Friendly Name** which corresponds to the name of your device. **NOTE:** You can type a maximum of 15 characters for the Friendly Name**Friendly Name**.
4	Click **Apply**. **Result:** The new **Friendly Name** of your device is effective immediately (restart is not required).

NOTE: If you do not manually assign a name to your device, EcoStruxure Automation Device Maintenance proposes a **Friendly Name** that consists of the product code followed by the last 5 digits of its MAC address. This device name is displayed and can be modified if needed.

Firmware update with EcoStruxure Automation Device Maintenance

Overview

Once the device is connected to EcoStruxure Automation Device Maintenance, follow these steps to update the firmware of your device:

1. Select the firmware package.
2. Start the firmware update.
3. Confirm the firmware update.

NOTE:

- You can optionally copy the configuration file of your device before starting the update procedure. For more information about this step, refer to the following procedure Backing up the device configuration file, page 43.
- The firmware update cannot be done if the device is in Operating State Fault. Verify that the product is not in Operating State Fault.
- Do not turn off the device during the operation:
  - If you turn off the device after the data transfer, then the data will be cleared upon the next restart of the device.
  - If you turn off the device during the *remote/manual firmware apply* operation, do not operate the product and contact your local Schneider Electric representative.
- Do not consider the messages displayed on the Display Terminal until the operation is complete.
- If the Display Terminal is not updated, you might not be able to perform multiple actions.

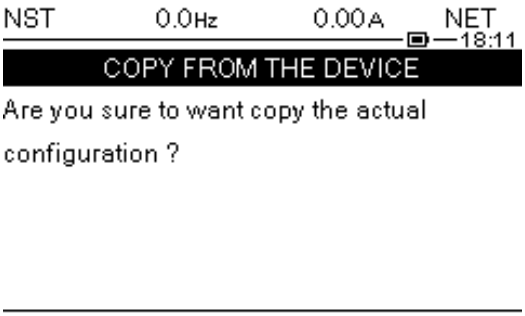
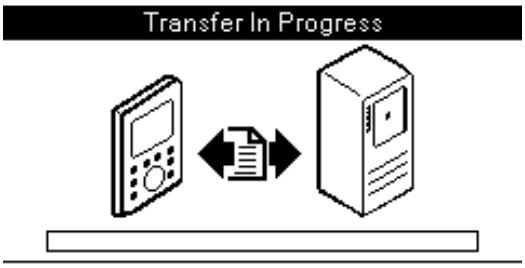
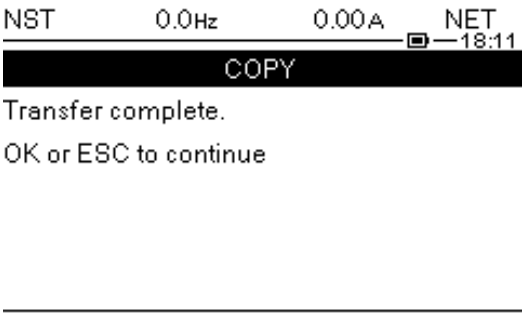
NOTE: When you start the firmware update process and the device is in **FWUP** state, ignore any messages on the display terminal until you see:

- **Firmware Update Done** message for a successful update.
- **Firmware Update Error** message for an unsuccessful update.
- **Firmware Update Pending** message indicating only the device control block supplied with 24V power has been updated.

Refer to FAQ How to update the Altivar Process and Altivar Machine when supplied with 24V power only (P24)?, page 55 for more details.

Saving the device configuration file (optional)

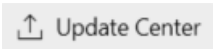
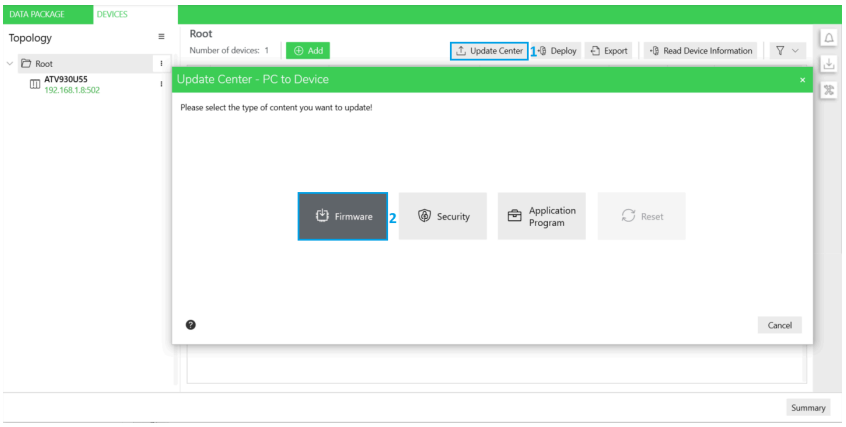
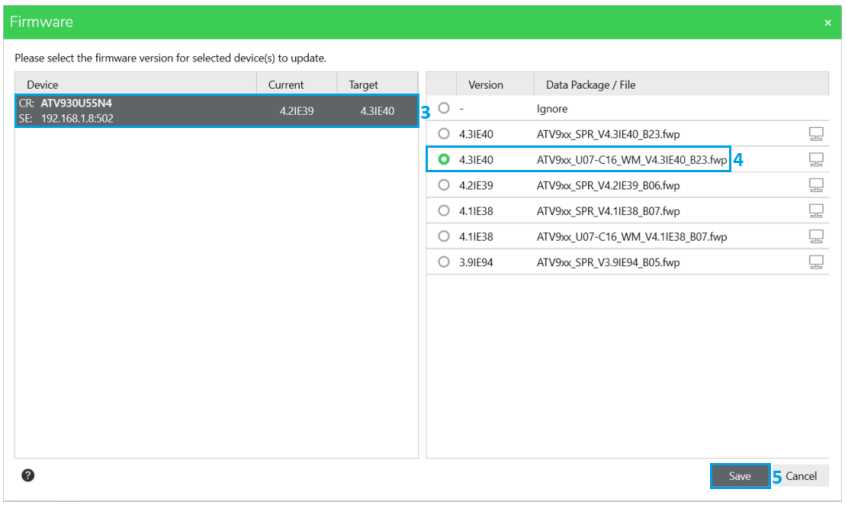
Follow these instructions for copying the configuration file from your device to the Display Terminal, before starting the update sequence.

Step	Action
1	**For ATV drives:** Select **[Main menu]** MnP **>[File management]** FMT **>[Transfer config file]** TCF **> [Copy From Device]** SAF. **For Altivar Soft Starter ATS430, ATS480 and ATS490:** Select **[Main menu]** MnP **> [Device Management]** DMT **>[Transfer config file]** TCF **> [Copy From Device]** SAF.
2	Type the name of your file, then press **OK**, then press again **OK** to confirm the copying of the actual configuration.  **NOTE:** If you are using Plain Text or Embedded Display Terminal (for ATS430), the name is not configurable. **Result:** The transfer is started, you may need to wait for a few seconds for it to complete. 
3	When the transfer is complete, press **OK** to continue.  ***Result:*** The configuration file of your device is locally saved in the display terminal.

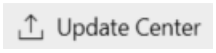
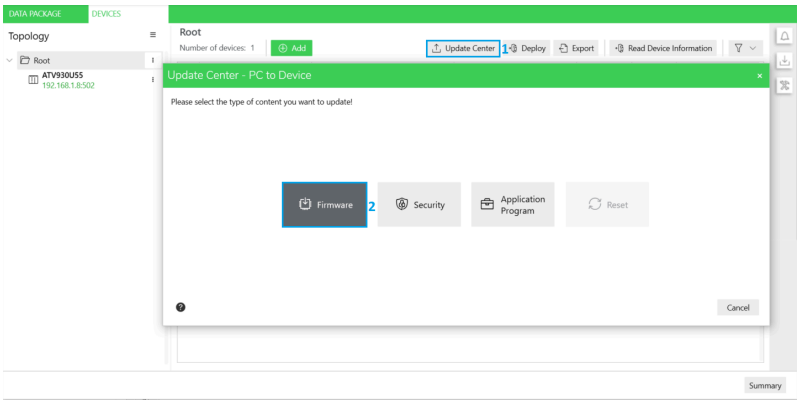
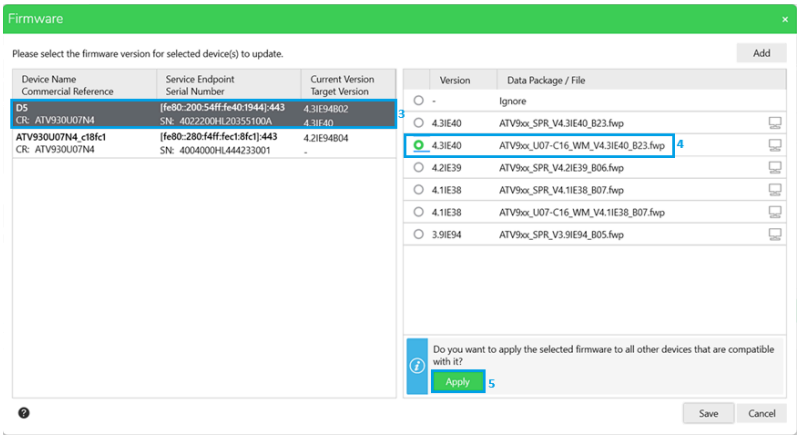
NOTE: The device configuration file can also be copied using SoMove or Webserver (if available). Refer to SoMove Online Help for more information.

1. Select the firmware package

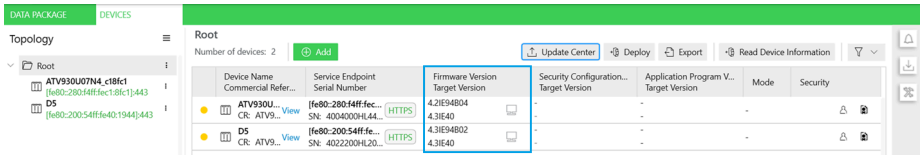
Follow these instructions to select the firmware package.

Step	Action
1	Click **Update Center** icon  from the **DEVICES** tab.
2	Select **Firmware**. The following figure shows the steps 1 and 2: 
3	Select the device that you want to update. The following figure shows the steps 3,4 and 5: 
4	Select the correct firmware package. **NOTE:** The firmware packages compatible with your device are filtered and listed in the Data Package drop-down list, as shown in the figure in step 5.
5	Click **Save**. **NOTE:** Option modules packages compatible with your device are listed (ATV9xx_ VW3A3530D in the previous figure), although they are not physically present in your device. Make sure to select the required firmware package.

NOTE: You can update multiple devices at once, as long as they are the same type. To do so, follow these steps

Step	Action
1	Open the Update Center: • Go to the **DEVICES** tab. • Click the **Update Center** icon 
2	In the Update Center, select **Firmware**. The following figure shows the steps 1 and 2: 
3	Select the device you want to update. The following figure shows the steps 3,4 and 5: 
4	From the **Data Package** drop-down list, select the correct firmware. **NOTE:** Only compatible firmware packages will be shown.
5	Click **Apply** to apply the selected firmware package on all compatible devices.

Result: The target firmware version is shown on all the devices of the same type.

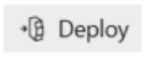
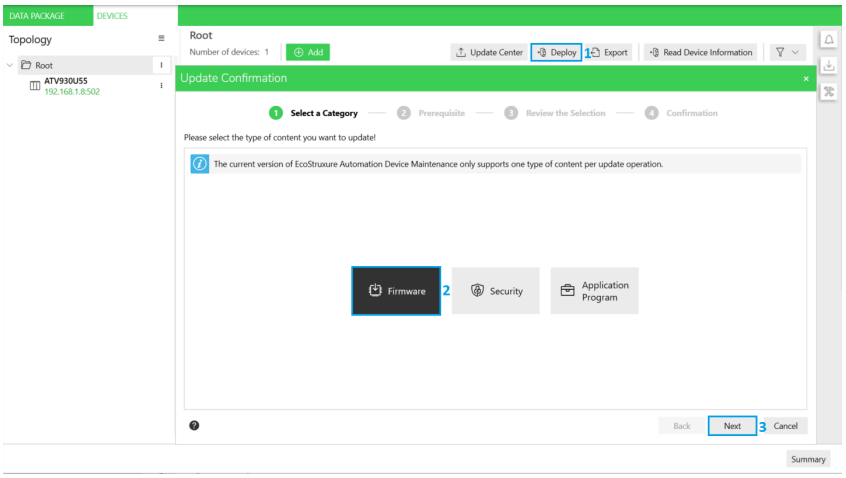
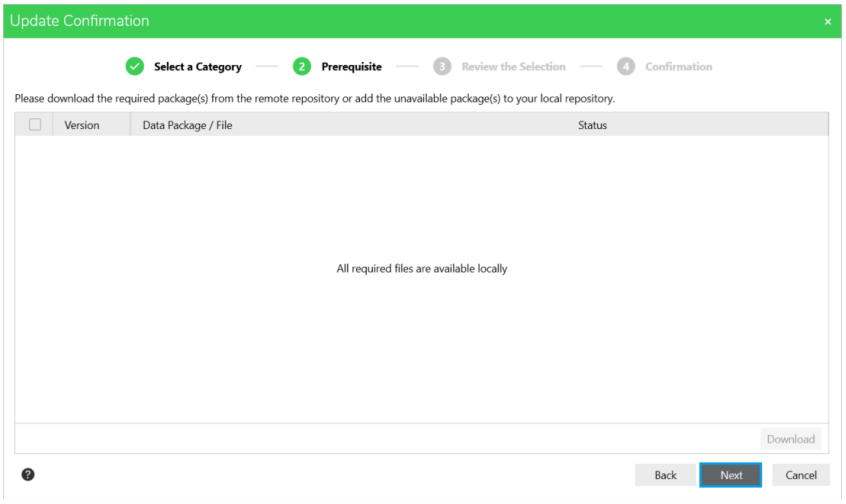


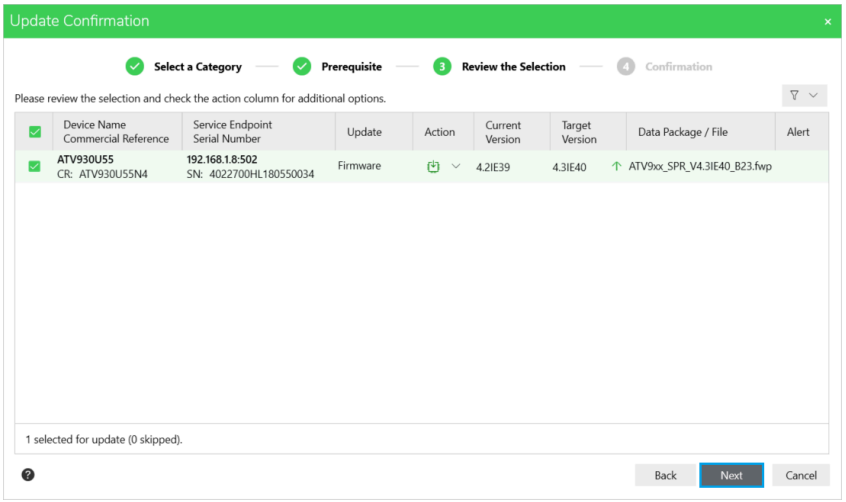
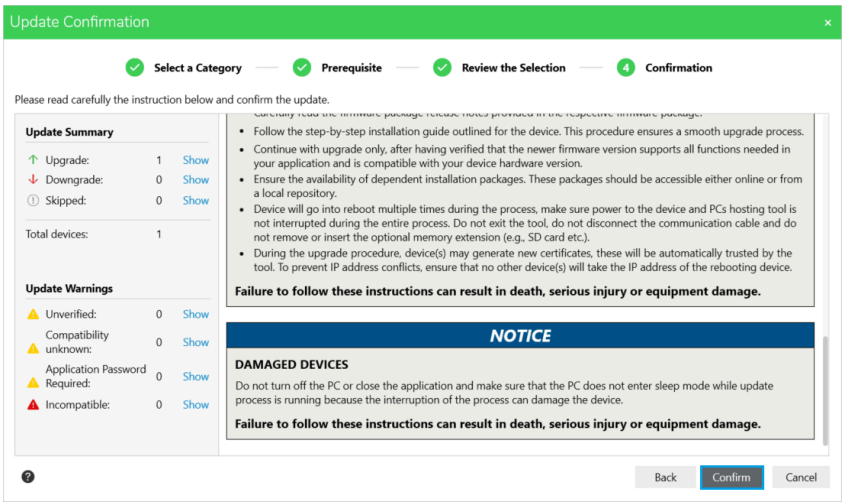
2. Start the firmware update

IMPORTANT:

- **For ATV drives:** The firmware package can only be transferred when the ATV drive is stopped (RDY or NST state). The drive will not be operational until the firmware update procedure is completed.
- **For Altivar Soft Starter ATS430, ATS480 and ATS490:** The firmware package can be transferred even when the soft starter is in running (RUN/BYP state).

Follow these instructions to start the firmware update.

Step	Action
1	Click **Deploy** icon  from the **DEVICES** tab.
2	Select **Firmware**.
3	In the **Select a Category** step. Select **Next**. The following figure shows the steps 1, 2 and 3: 
4	In the **Prerequisite** step, click **Next**. Select **Next** if your required files are available locally. 

Step	Action
5	In the **Review the Selection** step: 1. For the **Action** column, make sure **Download and installation** is selected if you want to perform the firmware update from EcoStruxure Automation Device Maintenance tool. 2. Click **Next**.  **NOTE:** If you want to transfer the firmware from EcoStruxure Automation Device Maintenance and apply from the graphic display terminal, select **Download and defer installation (Transfer and manual installation on device)**, then follow these steps to Apply the firmware locally from the Graphic Display Terminal, page 51.
6	In the **Confirmation** step: • Read the safety messages. • Scroll down. • Click **Confirm**. 

Step	Action
	⚠WARNING **UNANTICIPATED SYSTEM BEHAVIOR** To facilitate safe device operations, please strictly adhere to the instructions outlined below: • Ensure constant power supply to the device(s). • Verify that you are connected to the correct device(s), by using the localization function. • Verify the accuracy and integrity of the data intended for the transfer. • Ensure the device(s) are brought to a complete stop, the device(s) will not be operational until the operation is completed. • Note that the device(s) may reboot multiple times, the device(s) goes through the same steps as if it had been switched off and on again. • Preserve the compatibility between the software versions of all devices present in the system. • Before utilizing the tool for device interaction, refer to the chapter of “safety information” in the user manual and respective hardware documentation. **Failure to follow these instructions can result in death, serious injury, or equipment damage.** **⚠WARNING** **UNEXPECTED EQUIPMENT OPERATION** To facilitate downgrade operations, please strictly adhere to the instructions outlined below: • Carefully read the firmware package release notes provided in the respective firmware package. • Follow the step-by-step installation guide outlined for the device. This procedure ensures a smooth downgrade process. • Continue with downgrade only, after having verified that the older firmware version supports all functions needed in your application and is compatible with your device hardware version. • Ensure the availability of dependent installation packages. These packages should be accessible either online or from a local repository. • Device will go into reboot multiple times during the process, make sure power to the device and PCs hosting tool is not interrupted during the entire process. Do not exit the tool, do not disconnect the communication cable and do not remove or insert the optional memory extension (e.g., SD card etc.). • Performing a firmware downgrade may preclude or eliminate important updates, and in particular, mitigation f certain cybersecurity vulnerabilities. **Failure to follow these instructions can result in death, serious injury, or equipment damage.**

Step	Action

⚠WARNING

UNEXPECTED EQUIPMENT OPERATION

To facilitate safe and successful upgrade operations, please strictly adhere to the instructions outlined below:

- Carefully read the firmware package release notes provided in the respective firmware package.
- Follow the step-by-step installation guide outlined for the device. This procedure ensures a smooth downgrade process.
- Continue with upgrade only, after having verified that the older firmware version supports all functions needed in your application and is compatible with your device hardware version.
- Ensure the availability of dependent installation packages. These packages should be accessible either online or from a local repository.
- Device will go into reboot multiple times during the process, make sure power to the device and PCs hosting tool is not interrupted during the entire process. Do not exit the tool, do not disconnect the communication cable and do not remove or insert the optional memory extension (e.g., SD card etc.).
- During the upgrade procedure, device(s) may generate new certificates, these will be automatically trusted by the tool. To prevent IP address conflicts, ensure that no other device(s) will take the IP address of the rebooting device.

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

NOTICE

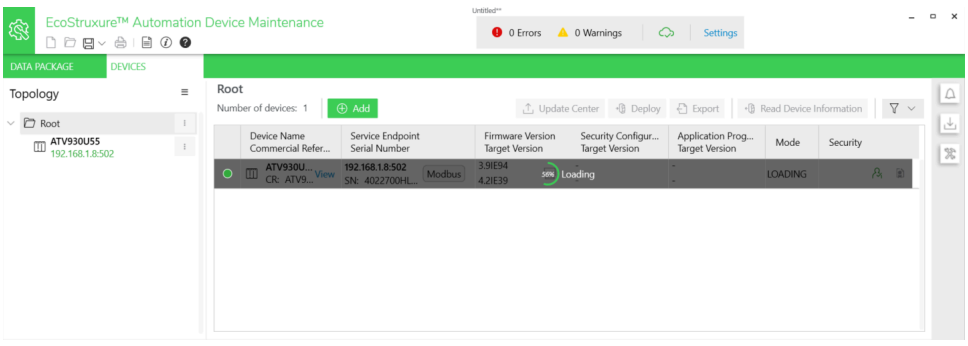
DAMAGED DEVICES

Do not turn off the PC or close the application and make sure that the PC does not enter sleep mode while update process is running because the interruption of the process can damage the device.

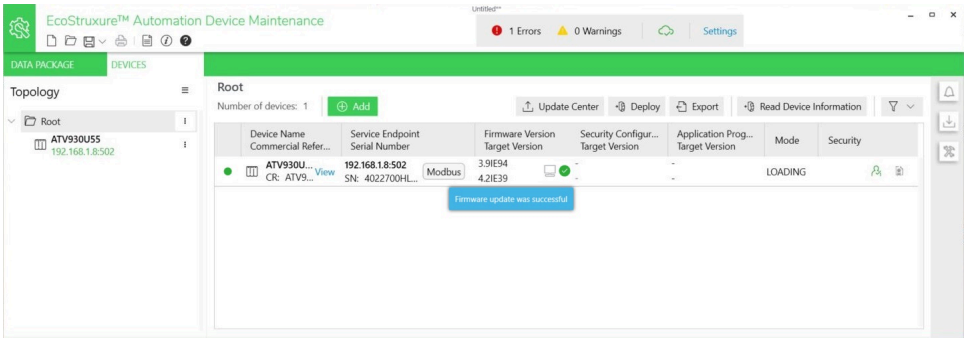
Failure to follow these instructions can result in equipment damage.

NOTE: To achieve faster transfer times, it is recommended to use the Ethernet option port for transferring the Ethernet Option Module package and the embedded Ethernet port for transferring the device package.

Result: When you confirm the safety message, the tool starts the firmware update:



When the firmware update is complete, the current firmware version is updated and the update info shows the icon ● indicating that the firmware update was successful.

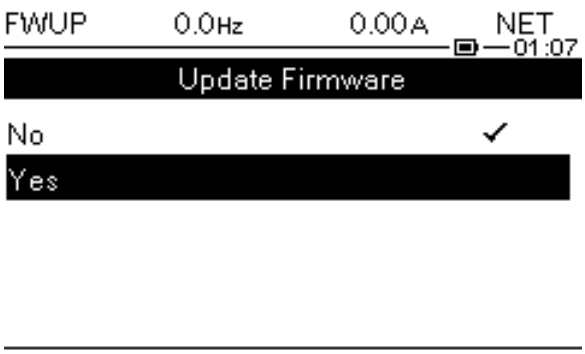
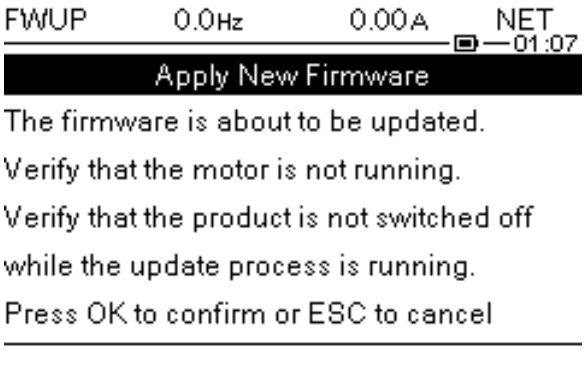


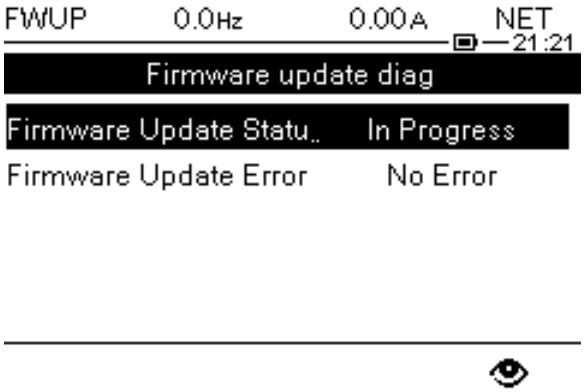
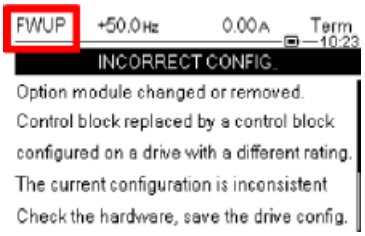
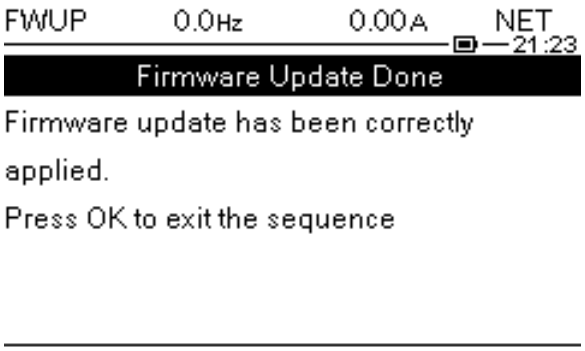
Apply locally from the Graphic Display Terminal

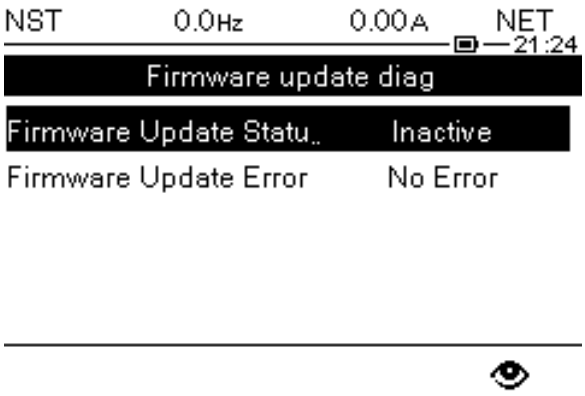
NOTE:

- The firmware update menu cannot be accessed from the Plain Text Display Terminal (VW3A1113). Therefore, you cannot update the firmware using this display terminal. However, you can access the firmware update menu from the Graphic Display Terminal (VW3A1111).
- For *ATV••••••••Z*, or *ATV340* delivered without the display terminal, then you can only update the firmware using EcoStruxure Automation Device Maintenance.

Follow these instructions to apply locally the transferred firmware from the Graphic Display Terminal (VW3A1111).

Step	Action
1	**For ATV drives:** Select **[Main menu]** `MnP` **>[File management]** `FMT` **>[Firmware Update]** `FWUP` **>[Update Firmware]** `FWAP` **> [Yes]** `YES`.  **NOTE: [Firmware Update]** can be accessed if **[Access Level]** is set to **[Expert]** mode: to do so select **[Main menu]** `MnP` **> [My preferences]** `MYP` **> [Access Level]** `LAC` **> [Expert]** `EPR`. For more details about the parameters of the **[Main menu]**, refer to the programming manual of the device.
2	Press **OK** on the Display Terminal to confirm the application of the new firmware. 

Step	Action
	Result: The **[Firmware Update Status]** changes to **[In Progress]**.  **NOTE:** During the process, the status is `FWUP`, the following message will be displayed several times.  Do not validate this message, wait until you see the **Firmware Update Done** message.
3	When the application of the new firmware is complete, you will receive the **Firmware Update Done** message, indicating that the firmware update has been correctly applied.  **NOTE:** You might receive also: • **Firmware Update Error** message for an unsuccessful update. • **Firmware Update Pending** message indicating only the device control block supplied with 24V power has been updated. Refer to FAQ How to update the Altivar Process and Altivar Machine when supplied with 24V power only (P24)?, page 55 for more details. Press **OK** to finalize the firmware update.

Step	Action
4	**Result:** The drive status changes from FWUP to NST and the ***Firmware Update Status*** changes to **[Inactive]**. 

NOTE:

- If the above message is not validated, then your device will remain in FWUP state and will not be operational.
- If the message is not visible, disconnect then reconnect the display terminal.
- After updating the firmware, you might encounter a ***Security files corrupt*** SPFC error, restart the drive to clear the error. Additionally, ensure to verify the password on the display terminal to connect to EcoStruxure Automation Device Maintenance tool, refer to Devices with User Authentication Feature, page 35 for more information.
- If the firmware update has not been successful, a ***Firmware Update error*** message appears on the display terminal, with the state FWER.
- If the firmware update is only done for the control block of the device, the device remains in FWUP state until it is connected to the supply mains. Refer to FAQ How to update the Altivar Process and Altivar Machine when supplied with 24V power only (P24)?, page 55 for more information.
- Once the firmware update is finished, update the labels displayed on your Display Terminal (VW3A1113 or VW3A1111). Refer to How to update the labels displayed on the Display Terminal (VW3A1113, VW3A1111)?, page 56 for more details about this step.

Verify the application of the firmware update procedure

Once the firmware update process is finished, it is required to conduct commissioning tests to ensure that the device is functioning correctly.

Firmware update additional information

- If you try to close EcoStruxure Automation Device Maintenance while certain operations are in progress, such as a firmware update, a pop-up window appears. It informs you that *one or more operations are in progress. Closing the applications now may result in undefined behavior. Do you want to continue?*. If you click yes, EcoStruxure Automation Device Maintenance closes.
- You can update the firmware of the Ethernet communication card (VW3A3720/ VW3A3721) even when connected directly from the drive.
- During the firmware update process on the device, if an error occurs that is not related to the firmware update itself, EcoStruxure Automation Device Maintenance is unable to recognize the new status of the device.

- If your device disconnects during the firmware application process, you will see a *Firmware update not successful* message in the update information column on EcoStruxure Automation Device Maintenance. In such cases, you may need to wait for the firmware to be applied, then finalize it manually on the graphic display terminal.
- To update the firmware package of the Ethernet communication card (VW3A3720/VW3A3721) using EcoStruxure Automation Device Maintenance, you need to perform the update from **DEVICES** tab and not from **Extensions** tab.

  NOTE:

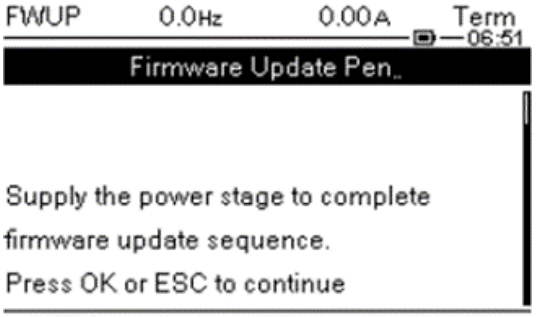
  - Once the firmware is finalized, restart (turn off then turn on) your device, then log in to EcoStruxure Automation Device Maintenance. This refreshes the firmware version of your device on EcoStruxure Automation Device Maintenance.
  - Once the firmware application is launched, you cannot cancel the firmware update using the cancel button on EcoStruxure Automation Device Maintenance.
  - In case of firmware downgrade, you may need to finalize the firmware update on the display terminal.
  - If you encounter a firmware update error, without any relevant information available about it on EcoStruxure Automation Device Maintenance, you may need to use the display terminal to gather more information about the error.

FAQ and maintenance

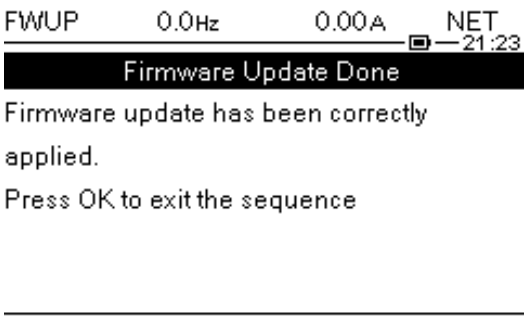
How to update the Altivar Process and Altivar Machine with 24V power supply (P24)?

If you try to update the firmware on the control block of a device with 24V power supply, the update process will not be fully completed. Only the first part of transferring the firmware data package and partially the second part of applying the new firmware is possible. However, since the supply mains is not present, the power stage is not updated during this process, only the control block is updated.

The display terminal will show the **FWUP** state and the message **Firmware Update Pending** (see the following image), indicating that the firmware update process for the power stage is awaiting completion.



Follow these instructions to update the firmware of the power stage:

Step	Action
1	Connect your device to the supply mains, to supply the power stage of your device. **Result:** The firmware update process will automatically start, resulting in the update of the power stage. During this process, the device may restart multiple times. At the end of this process, you will receive **Firmware Update Done** message on your Display Terminal. 
2	Press **OK** on your Display Terminal to finalize the procedure.

NOTE:

- If you don't validate the **Firmware Update Done** message, your device remains in **FWUP** state.
- If the **Firmware Update Done** message is not visible, disconnect the display terminal then reconnect it.
- For altivar drives, If the control block is turned off before applying the new firmware, the data will be cleared upon turning it back on. Consequently, the message sequence mentioned earlier is not displayed.
- Contact the Customer Care Center on www.se.com/CCC to obtain the firmware package.

How to update the labels displayed on the Graphic Display Terminal (VW3A1111)?

You cannot update the display terminal labels from EcoStruxure Automation Device Maintenance software, Thus, you need to do the operation manually.

- For the Graphic Display Terminal VW3A111:

Step	Action
1	Download the latest version of the labels and languages of the Graphic Display Terminal (VW3A1111) from the following location: Languages_Drives_VW3A1111.
2	Save the downloaded file to your computer.
3	Unzip the file and follow the **Readme** file instructions.

  NOTE: To transfer the labels and languages of the Graphic Display Terminal (VW3A1111), you have two options for connecting the terminal to your laptop. You can use either of the following cables:
  - Any USB plug-type A connector to USB plug-type mini B connector.
  - BMXXCAUSBH018 cable.
- When updating the firmware of ATS480 using the Plain Text Display Terminal (VW3A1113) or the Embedded Display Terminal of ATS430, the languages package is included in the firmware package. It is transferred along with the firmware during the transfer part of the update process.

  To select the languages package on your Plain Text Display Terminal VW3A1113, select **[main menu] > [Device Management] DMT > [Firmware Update] FWUP > [Check for update] NFW**.

Cancelling firmware package transfer in DPWS

When the Cancel button is pressed during the firmware package transfer of a device discovered through **DPWS** mode (IPv6) and connected using the following protocols:

- Modbus RTU: The software takes 30 seconds to detect the cancellation request. In order to restore the communication you need to restart the device.
- Modbus TCP: The cancellation request is immediately acknowledged and executed by the software.

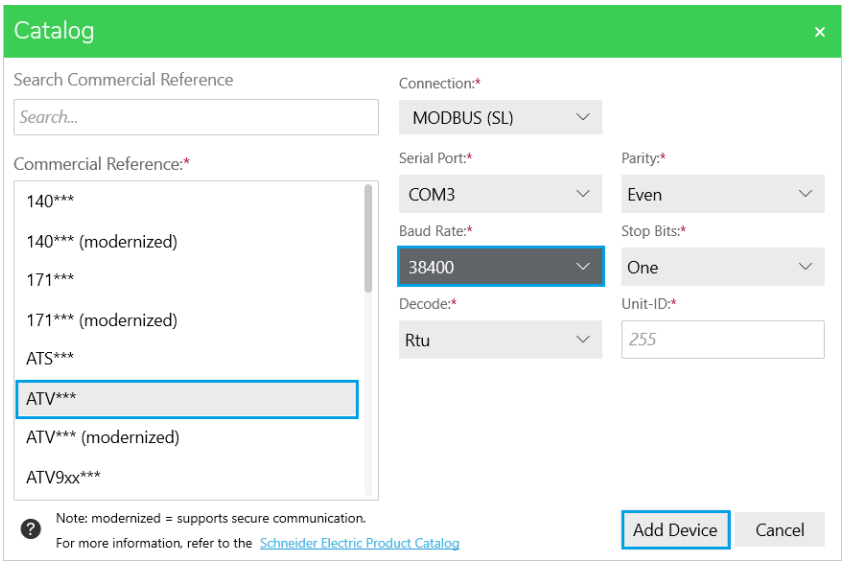
How to reduce the transfer time, using a Modbus serial link connection?

Transferring the firmware using a Modbus serial link cable can be time-consuming, taking approximately 1 hour.

- If possible, it is recommended to use an Ethernet cable to transfer the firmware.
- If you cannot use an Ethernet cable, you can use a Modbus serial link cable and set the baud rate to its highest value (38.4 Kbps). By doing this, you can reduce the firmware transfer time by half.

  IMPORTANT: Ensure that the baud rate value is restored to its original setting at the end of the firmware update operation.

Follow these steps to change the baud rate value:

Step	Action
1	On the display terminal select: **[Main Menu]** > **[Communication]** COM > **[Comm parameters]** CMP > **[Modbus SL]** MSL > **[Modbus Fieldbus]** MD1 > **[Modbus Baud Rate]** TBR > **[38.4 Kbps]**
2	Restart (turn off then turn on) your device.
3	On EcoStruxure Automation Device Maintenance software: Add your device using a MODBUS (SL) connection, with a higher value of the Baud Rate. 

The correct settings for a Modbus serial link connection

When connecting to your device using Modbus Serial Link, it is important that both your device and EcoStruxure Automation Device Maintenance Modbus Serial Link configuration have the same modbus format.

Ensure that you refer to the table below for the correct modbus format to be used:

Modbus format of EcoStruxure Automation Device Maintenance software	Modbus format of your device
Decode: 8 bits; Parity: Odd; Stop Bits: one	8-O-1
Decode: 8 bits; Parity: Even; Stop Bits: one	8-E-1
Decode: 8 bits; Parity: None; Stop Bits: one	8-N-1

NOTE:

- To access the modbus format of the drive using the display terminal, select **[Main Menu]** > **[Communication]** COM > **[Comm parameters]** CMP > **[Modbus SL]** MSL > **[Modbus Fieldbus]** MD1 > **[Modbus Format]** TBR, select the desired modbus format, then restart (turn off then turn on) your device.
- Do not use the following modbus format:

Modbus format of EcoStruxure Automation Device Maintenance software	Modbus format of your device
Decode: 8 bits; Parity: None; Stop Bits: two	8-N-2

- Do not use the value of the decode as ASCII (7 bits).

Updating the properties of your device

If you update a property of your device, such as the device name or the IPv4 address, outside of the EcoStruxure Automation Device Maintenance tool (e.g., using the display terminal or SoMove), data may not be refreshed automatically on EcoStruxure Automation Device Maintenance. You can refresh these data in EcoStruxure Automation Device Maintenance by disconnecting and reconnecting the device.

NOTE: In certain specific cases, such as modifying the IPv4 address from the display terminal, it may be necessary to restart (turn off then turn on) the device.

Firmware update for multiple devices in a ring connection

To ensure that devices remain connected during the firmware update for multiple devices in a ring connection, follow these steps:

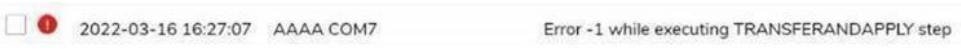
- Perform all transfers at once: Instead of transferring firmware updates to each device individually, transfer the updates simultaneously to all devices in the ring connection.
- Launch the firmware apply operation on all devices at once when the transfer operation is done: Once the firmware updates have been transferred to all devices, initiate the firmware apply operation on all devices simultaneously.
- After updating the firmware for all devices, verify that the ring connection is intact and functioning properly.

  NOTE: You can also proceed this way to ensure that devices remain connected during the firmware update for multiple devices in a ring connection:

  - Begin the firmware update process for one device at a time, starting from any device in the ring.
  - Once the firmware update is complete for the first device, move on to the next device in the ring.
  - Continue updating the firmware for each device in the ring until all devices have been updated.
  - After updating the firmware for all devices, verify that the ring connection is intact and functioning properly.

Error during the firmware update of ATS430, or ATS480, orATS490

The following error may occur during the firmware update procedure:



The following table displays the probable cause of this error along with its remedy:

Probable Cause	Communication error between EcoStruxure Automation Device Maintenance and the device.
Remedy	Restart the device, then restart the update procedure.

Firmware update with an [Internal Error 6] INF6 error triggered on ATS480 or ATS490

Follow these instructions, if you need to update the Ethernet option module through Modbus TCP while the device is showing **[Internal Error 6]** INF6 (Refer to ATS480 User manual and ATS490 User manual for more details about this error), before proceeding with the update operation.

Step	Action
1	On the Display Terminal select: **[Main menu]** MnP **> [Device Management]** DMT **> [Cybersecurity]** CYBS **> [Access control]** CSAC **> [Eth Opt User Auth.]** SCPO.
2	Select **[No]** NO.
3	Start the update operation.
4	Once the update operation is done, set back the **Cybersecurity** to **Yes**. On the display terminal, select: **[Main menu]** MnP **> [Device Management]** DMT **> [Cybersecurity]** CYBS **> [Access control]** CSAC **> [Eth Opt User Auth.]** SCPO **> [Yes]** YES.

How to connect to a device with a fixed IPv4 address after a DPWS discovery?

After performing a DPWS discovery, if you're unable to connect to the device: follow these steps:

1. Ensure that the Service Endpoint displayed corresponds to the IPv4 address of the device
2. Make sure to set the IPv4 address of your PC to the same network as the device.

   NOTE: If the PC and device are not on the same network, you won't be able to reach the device.

Updating devices that have old firmware versions

If you encounter issues with displaying or connecting to devices that have older firmware versions during a DPWS discovery, you can follow these steps:

- Set the IP addresses of both the devices and the PC before manually adding them to EcoStruxure Automation Device Maintenance.
- Alternatively, you can set the IP addresses and device names of the devices, along with the IP address of the PC, then discover them automatically using Modbus TCP Discovery (IPv4).

By following these steps, you should be able to successfully display and update the devices with older firmware versions.

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As standards, specifications, and design change from time to time, please ask for confirmation of the information given in this publication.

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