

EcoStruxure Automation Device Maintenance

Altivar User Manual

12/2022

JYT50472.04

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

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Safety Information

Important Information

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



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



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

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

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

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

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

Please Note

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

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

Qualification Of Personnel

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
<p>EQUIPMENT OPERATION HAZARD</p> <ul style="list-style-type: none"> • 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 from all component devices. • Remove tools, meters, and debris from equipment. <p>Failure to follow these instructions can result in death, serious injury, or equipment damage.</p>

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.

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.

About the Book

Document Scope

This document contains important information about the Altivar for EcoStruxure Automation Device Maintenance V3.0, (referred to as "EADM" in the present document). Read the complete document before you use the product or products that are described in here.

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 V3.0.

The technical characteristics of the devices described in the present document also appear online. To access the information online, go to the Schneider Electric home page www.se.com/ww/en/download/.

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

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:

Title of Documentation	Catalog Number
Digital Catalog for Industrial Automation	Digit-Cat
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 (English), EIO0000004048 (French), EIO0000004046 (German), EIO0000004047 (Spanish), EIO0000004049 (Italian), EIO0000004050 (Chinese).
Recommended Cybersecurity Best Practices	CS-Best-Practices-2019-340 (English)

Title of Documentation	Catalog Number
ATV340 Getting Started - Video	FAQ FA367923 (English) 
ATV340 Getting Started	NVE37643 (English), NVE37642 (French), NVE37644 (German), NVE37646 (Spanish), NVE37647 (Italian), NVE37648 (Chinese), NVE37643PT (Portuguese), NVE37643TR (Turkish)
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 - Video	FAQ FA364431 (English) 
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)
ATV930, ATV950 Getting Started - Video	FAQ FAQ000240081 (English)

Title of Documentation	Catalog Number
	
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)
ATS480 User Manual	NNZ85515 (English), NNZ85516 (French), NNZ85517 (Spanish), NNZ85518 (Italian), NNZ85519 (German), NNZ85520 (Chinese), NNZ85521 (Portuguese), NNZ85522 (Turkish)

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.

Contact Us

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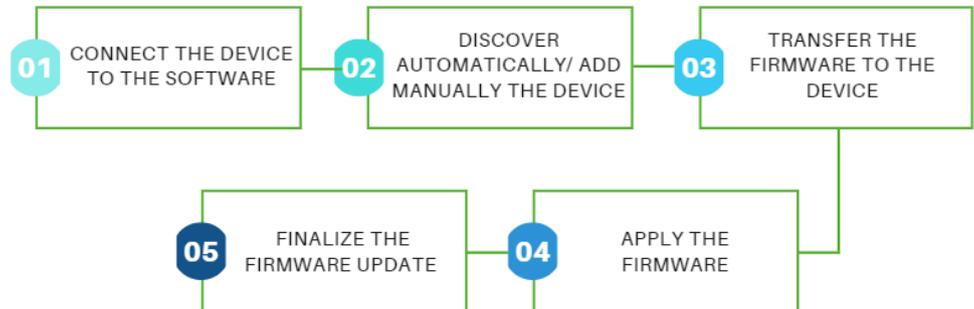
92500 Rueil-Malmaison

France

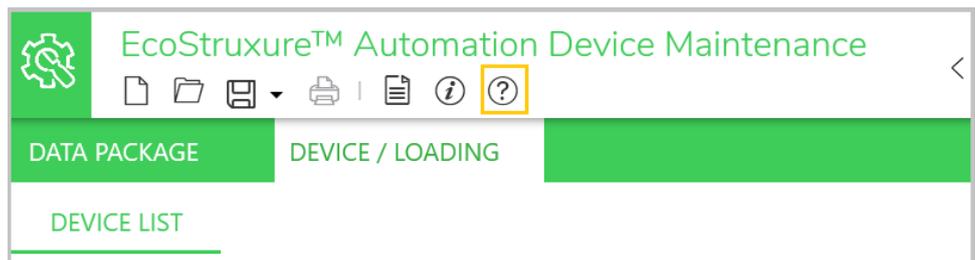
Offer Overview

EcoStruxure Automation Device Maintenance

The EcoStruxure Automation Device Maintenance software allows to update the firmware on multiple SE 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 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 ATV6xx drives
- Altivar Process ATV9xx drives (except for ATV991 and ATV992)
- Altivar Machine ATV340 drives (except for ATV340S)
- Altivar Soft Starter ATS480

NOTE: To update Altivar Process Drive System (ATV•60, ATV•80), 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:

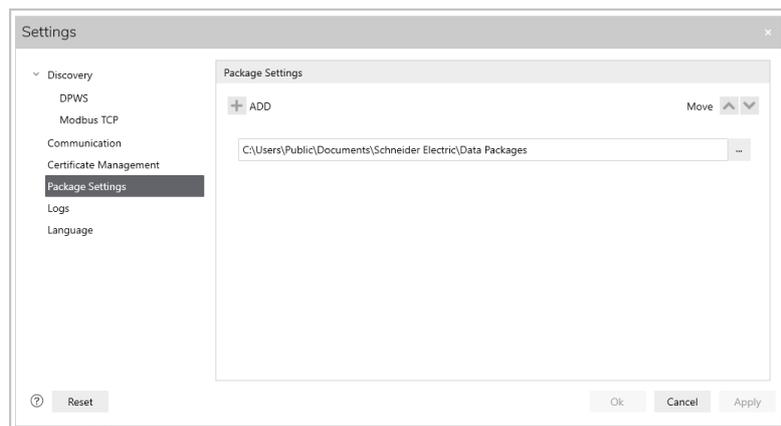
- VW3A3720 EtherNet/IP and Modbus TCP dual port module.
- VW3A3721 EtherNet/IP, Modbus TCP, and MD-Link dual port module.
- VW3A3530D ATV dPAC module. Refer to *Getting Started with ATV dPAC VW3A3530D* manual for more details about its the firmware update.

Altivar Firmware Catalog in EADM

Firmware Packages Repository

The user needs to copy the .fwp firmware package file for its Altivar devices or .SEDP packages for ATVdPAC device in the Data Package folder. The .cms signature files matching the firmware package files must be stored in the same location unsigned FW update packages will not be displayed in EADM.

The screenshot below shows the default access and where it can be configured.



The default EADM Data Packages folder is:

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

NOTE:

The standard firmware packages are available on se.com, or provided by the Customer Care Center, that can be contacted on : se.com/CCC

The Ecostruxure Automation Expert specific firmware packages are provided within the Ecostruxure Automation Expert software installer archive.

Firmware Packages Display

The software parses the .fwp files present in the folder (.SEDP package for ATVdPAC device), and lists them in the **DATA PACKAGE** tab, grouped together:

- Altivar dPAC Option Module VW3A3530D. Refer to [Getting Started with ATV dPAC VW3A3530D manual](#) for more details about its the firmware update.
- Altivar Ethernet Option Module VW3A372X.
- Altivar Machine ATV340.
- Altivar Process ATV6xx.
- Altivar Process ATV9xx.
- Altivar Soft Starter ATS480.

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

Here is an example of an Altivar device firmware packages listing:

Altivar Machine ATV34x

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

If several versions of the same package are present in the repository, then the package is listed several times, with its specific firmware version upfront (Vx.xIExx Bxx), so that it can be identified.

Package Information

The Description area lists all the product families supported by the firmware package file.

Package Information - (V2.6IE94 B12) ATV6xx_0.75-160kW_WM

Category: Firmware

Description: Firmware package for Altivar Process ATV6xx:
 - Wall Mounting 200-240V From 0.75kW to 75kW (1HP to 100HP)
 - Wall Mounting 380-480V From 0.75kW to 160kW (1HP to 250HP)
 - Wall Mounting 500-690V From 2.2kW to 90kW (3HP to 125HP)

Information Release Notes

Product Information



Name: Altivar Process ATV6xx

Product Code: See the full list of supported products in the Content section below.

Firmware Version: V2.6IE94 B12

Hardware Revision: 0.0.50

Package Information

Name: ATV6xx_0.75-160kW_WM

Revision: 1

Location: C:\Users\Public\Documents\Schneider Electric\Data Packages\ATV6xx_0.75-160kW_WM.fwp

Identifier: f5447cb5-69fb-e8d5-723e-74fceacf90d1

The Content lists all product references supported by the firmware package, organized by product family.

Content

Detailed CPU firmware versions:
 - M3_Cortex V2.6IE94 B12
 - C28_Dsp V2.6IE94 B12
 - PowerCPU V1.3IE08 B01
 - PowerCPLD V0.0IE11 B00
 - M3Boot V1.1IE05 B01
 - C28Boot V1.1IE05 B01
 - EthEmbModule V1.FIE25 B06

Firmware package for Altivar Process ATV6xx:
 + Wall Mounting 200-240V From 0.75kW to 75kW (1HP to 100HP)
 ATV630D11M3 ATV630D15M3 ATV630D18M3 ATV630D22M3 ATV630D30M3
 ATV630D37M3 ATV630D45M3 ATV630D55M3 ATV630D75M3 ATV630D07M3
 ATV630U15M3 ATV630U22M3 ATV630U30M3 ATV630U40M3 ATV630U55M3
 ATV630U75M3

+ Wall Mounting 380-480V From 0.75kW to 160kW (1HP to 250HP)
 ATV630C11N4 ATV630C13N4 ATV630C16N4 ATV630D11N4 ATV630D11N4E
 ATV630D15N4 ATV630D18N4 ATV630D22N4 ATV630D30N4 ATV630D37N4
 ATV630D45N4 ATV630D55N4 ATV630D75N4 ATV630D90N4 ATV630D07N4
 ATV630U15N4 ATV630U22N4 ATV630U30N4 ATV630U40N4 ATV630U55N4
 ATV630U75N4 ATV630U75N4E ATV650D11N4E ATV650D11N4E
 ATV650D15N4E ATV650D15N4E ATV650D18N4E ATV650D18N4E
 ATV650D22N4E ATV650D22N4E ATV650D30N4E ATV650D30N4E
 ATV650D37N4E ATV650D37N4E ATV650D45N4E ATV650D45N4E
 ATV650D55N4E ATV650D55N4E ATV650D75N4E ATV650D75N4E
 ATV650D90N4E ATV650D90N4E ATV650U07N4E ATV650U07N4E
 ATV650U15N4E ATV650U15N4E ATV650U22N4E ATV650U22N4E
 ATV650U30N4E ATV650U30N4E ATV650U40N4E ATV650U40N4E
 ATV650U55N4E ATV650U55N4E ATV650U75N4E ATV650U75N4E

Firmware ATV6xx_0.75-160kW_WM V2.6IE94 B12

Release Notes

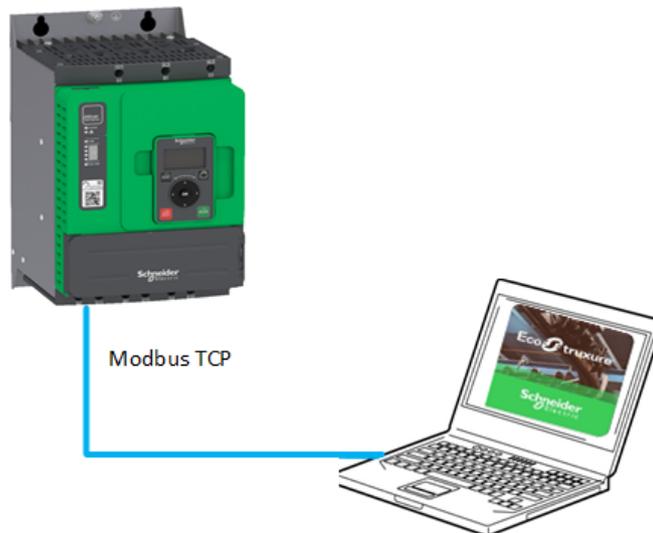
The Release Notes tab displays the Release Notes included in the device specific firmware package. It presents:

- The firmware update procedure.
- The firmware version history.
- Known issues and limitations.
- Notes (optional).

Supported Fieldbuses to connect device to the software

Ethernet: Modbus TCP (manual add or discovery) & DPWS (discovery)

The preferred way to connect to Altivar devices is through Ethernet when available.



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)

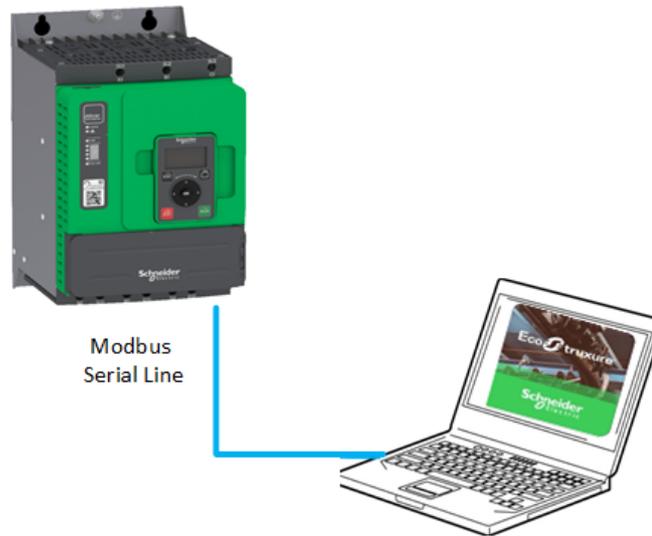
NOTE: In case devices are not discovered as expected, check the PC firewall settings, and/or restart the devices.

Modbus Serial Line (manual add)

For devices not supporting Ethernet, Modbus Serial Line is possible.

For Altivar soft starter, it is possible to connect to the software using the flashing Cordset VW3A8127 or TCSMCNAM3M002P cable.

For ATV drives, the connection can be done using the TCSMCNAM3M002P cable.



Limitations:

- No discovery, the device must be added manually
- No multipoint connectivity
- Slower firmware update file transfer rates (compared to Ethernet protocol for ATV drives)

NOTE:

- It is preferable to connect the device through Ethernet when supported to have a better transfer rate.
- It is possible to increase the Modbus speed rate from 19 200 bps to 38.4 kbps for ATV drives(see programming manual for more details).

Fieldbuses Not Supported to connect the devices to the software

The following fieldbuses are not supported:

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

Altivar Discovery

The EcoStruxure Automation Device Maintenance software allows to discover the connected devices using DPWS Discovery (IPv6) or Modbus TCP Discovery (IPv4). The data reported by the device may defer slightly, depending on the discovery method.

Consequently, if the discovery mode is set to Automatic with both DPWS and IPv4 discovery methods enabled simultaneously, this leads to a cyclic data change on screen. To prevent this effect, select only one discovery method.

DPWS Discovery (IPv6)

Devices supporting IPv6 over Ethernet can be discovered in EADM, using the DPWS protocol. The connected devices will be listed in the DEVICE / LOADING area, shortly after the discovery operation has been started by user, using the button below in the status bar.

Status	Device Name Commercial Reference	Service Endpoint Serial Number	Firmw... Version	Security Configurat...	Mode	Update Center Info	Extensions	Actions
ON	ATV630U55N4 CR: ATV630U55N4	mbap://[fe80::280:f4ff:fedc:f84b]502 SN: 40023000HL442520002	3.5IE36802	-	-	-	-	[Icons]

NOTE:

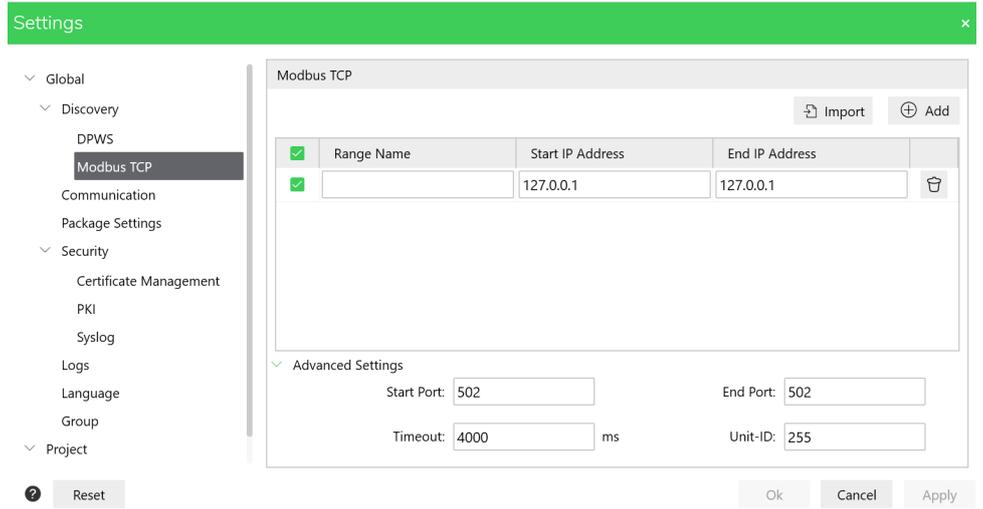
- The DPWS discovery (enabled by default) is the preferred method, as it provides the detailed information about the connected device, without the need to log in to each device.
- Verify whether Enable Scanner is set to DPWS in Automatic Discovery Mode. For access, go to: **Setting > Discovery**.
- Depending on your company's IT security policy, the firewall settings may need to be adjusted to successfully discover devices over DPWS.
- When changing device information from an external tool, changes will be refreshed on the card/list view, if DPWS/Modbus TCP automatic scan is running. If the automatic scan is not running, the information changes will not be reflected. A manual discovery operation is needed to display the modified information

NOTE:

If it is not possible to connect a discovered device with the Serial Number "xx000000", the Altivar device must be discovered or added manually in Modbus TCP mode. More generally, Altivar devices with old firmware versions can not be discovered properly in this mode. Refer to FAQ "Update of devices with old firmware versions", page 37.

Modbus TCP Discovery (IPv4)

Devices supporting IPv4 over Ethernet can be discovered in EADM, using the Modbus TCP protocol. The IP address range settings can be defined in the dialog below, before starting the discovery operation.



If the device is not discovered, verify that the device name is set through the display terminal.

NOTE: When using Modbus TCP discovery, the device information, such as the reference and the version, will not be available before logging into the device.

Manual Altivar Selection

Modbus TCP Connection

The user can manually add devices supporting IPv4 over Ethernet, by clicking on the button below:



The user can:

- Select the appropriate Commercial Reference.
- Select the MODBUS (TCP) Connection.
- Set the IPv4 Address of the device (port 502).

NOTE:

The PC Ethernet port must be configured to be on the same network as the connected device, otherwise the device is not reachable, and showed with the Status indicator in gray.

When clicking on the **Add Device** button, the device appears in the **DEVICE / LOADING** tab.

DATA PACKAGE		DEVICE / LOADING									
DEVICE LIST											
□	Status	Device Name Commercial Reference	Service Endpoint Serial Number	Firmw... Version	Security Configurat...	Mode	Update Center Info	Extensions	Actions		
□		Device Default Group (1)									
●		ATV*** CR: ATV***	mbap//192.168.0.1502 SN:								

NOTE: When using Modbus TCP, the device information will not be available before logging into the device.

NOTE: For ATV dPac device, refer to [Getting Started with ATV dPAC VW3A3530D manual](#) for more details about its the firmware update.

Modbus SL Connection

The user can manually add devices supporting Modbus Serial Line, by selecting the MODBUS (SL) Connection.

The user can update the MODBUS (SL) settings.

Add Device ✕

Search Commercial Reference

Commercial Reference:*

- 140***
- 140*** (modernized)
- 171***
- 171*** (modernized)
- ATS***
- ATS*** (modernized)
- ATV***
- ATV*** (modernized)

Connection:*

MODBUS (SL) ▾

Serial Port:*

COM3 ▾

Parity:*

Even ▾

Baud Rate:*

19200 ▾

Stop Bits:*

1 ▾

Decode:*

RTU (8 bits) ▾

Unit-ID:*

ⓘ Note: Modernized = commercialized after 2019.
For more information, refer to the [Schneider Electric Product Catalog](#)

When clicking on the **Add Device** button, the device appears in the **DEVICE / LOADING** tab.

Altivar Login

Devices without User Authentication feature

The Device Login procedure allows to perform actions on a given device, after it has been discovered, or added manually.

The devices connected through Ethernet:

- All ATV340....E with firmware V3.1 or lower
- All ATV6xx with firmware V2.6 or lower
- All ATV9xx with firmware V3.1 or lower

Which are not supporting the user authentication feature will log in automatically, through anonymous login.

The screenshot shows the Altivar Login interface. At the top, there are tabs for 'DATA PACKAGE' and 'DEVICE / LOADING'. Below this is a 'DEVICE LIST' table with columns: Status, Device Name, Service Endpoint, Firmw... Version, Security Confi..., Mode, Update Center Info, Extens..., and Actions. A single device is listed with a yellow status indicator.

Status	Device Name	Service Endpoint	Firmw... Version	Security Confi...	Mode	Update Center Info	Extens...	Actions
<input type="checkbox"/>	ATV630U55N4_dcf84b CR: ATV630U55N4	ffe80:280:f4ff:fedcf84... SN: 18000000	2.05	-	-	-	-	

Below the table is a 'Set credentials' dialog box with a green header and a close button (X). It contains the following fields:

- Device Name: ATV630U55N4_dcf84b
- Authentication Type: Anonymous (dropdown menu)

At the bottom of the dialog box, there is a help icon (question mark), a 'Save and Connect' button, a 'Save' button, and a 'Discard' button.

NOTE: if a device without the user authentication feature does not log in automatically, the user can have to login in with empty credentials.

Devices with User Authentication feature

The devices supporting the user authentication feature are:

- All ATV340...E with firmware V3.1 or higher
- All ATV6xx with firmware V2.6 or higher
- All ATV9xx with firmware V3.1 or higher
- ATS480 with firmware irrespective of its firmware version

The devices with the user authentication feature disabled will log in automatically, as well as through Anonymous login.

The devices with the user authentication feature enabled will not log in automatically. Credentials will be required to access the device, in the form of a login and password, specific to the device (“Enter passcode”).

By default, the user name is ADMIN.

If the password has not been modified, the default password is used, and is available from:

- The Display Terminal of the drive in the **[Main Menu] > [Communication] COM > [Comm parameters] CMP > [Embd Eth Config] ETE > [User authentication] SECE > [Default Pwd Eth] WDPE** menu.

NOTE: If the device used is an ATV6xx drive, with an Ethernet option module, the password is available in the **[Main Menu] > [Communication] COM > [Comm parameters] CMP > [Opt Eth Config] ETO > [User authentication] SECO > [Default Pwd Eth Opt] WDPO** menu.

- The Display Terminal of Altivar Soft Starter ATS480 in the **[Main Menu] > [Device management] DMT > [Cybersecurity] CYBS > [Default Password] SDPW**.

If the password has been modified via SoMove or Web server, the redefined password is used.

If the device user authentication feature setting is modified after it is discovered, the device must be deleted manually and discovered or added manually again.

NOTE: If a device with the user authentication feature disabled does not log in automatically, the user can have to log in with empty credentials.

NOTE: For devices supporting https communication, the user will need to select and trust their digital certificate, before logging in.

NOTE: On out-of-the-box ATS480 devices, the default password can be changed using the Plain Text Display Terminal or using SoMove.

NOTE: To ensure that the user authentication menu is correctly displayed on the Altivar Graphic Display Terminal, its labels files can be updated. Refer to the instructions located at [Languages_Drives_VW3A1111](#).

NOTE: For ATV dPac device, refer to [Getting Started with ATV dPAC VW3A3530D](#) manual for more details.

Altivar Pre-Configuration

Locate device

The Optical Locate Device feature helps physically locate connected devices, by setting the **STATUS** LED to the orange color, for a duration of 5 seconds (LED at the top of the control block).

DATA PACKAGE									
DEVICE / LOADING									
DEVICE LIST									
Status	Device Name Commercial Reference	Service Endpoint Serial Number	Firmw... Version	Security Configurat...	Mode	Update Center Info	Extensions	Actions	
Device Default Group (1)									
<input type="checkbox"/>	ATV630U55N4 CR: ATV630U55N4	mbap://fe80:280:44ff:fedc:f84b:502 SN: 4002600HL442520002	3.5IE36802	-	STOP	-	-		



IP Setting

This feature is used to set the IPv4 address of the Ethernet adapter connected. This IP address is effective after power cycle of the device.

When validating a modification of IP setting, EADM can propose to restart the device automatically. If the restart is rejected, the modification of settings are still done but the restart of the device must be done locally to apply the change.

Device Name Setting

This feature is used to set the Device Name of the product. This Device Name is effective immediately.

If no device name has been assigned manually in the drive, EADM proposes a "Friendly Name" composed by the product code followed by the last 5 digits of the MAC address. This device name is displayed and can be modified if needed.

Firmware update with EADM

Introduction to the device firmware update procedure

The device firmware update procedure consists of 3 parts:

1. Transfer the firmware data package
2. Apply the new firmware
3. Finalize the firmware update procedure

NOTE: For ATV dPAC device, the three parts of the firmware update are done in a single step, launched after validating the "Preparation" safety message displayed in the notification area.

NOTE: The user can optionally copy the device's configuration before starting the update procedure.

⚠ WARNING

UNANTICIPATED EQUIPMENT OPERATION

Before transferring data to the drive or its option module(s):

- Read the firmware package release notes.
- Verify that you are connected to the correct device, by using the visual localization function. Transferring data to the wrong device may result in unsafe conditions.
- In case of a downgrade operation, only continue after having verified that the older firmware version supports all functions needed in your application.

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

- The firmware update cannot be done if the device(s) is (are) in operating state Fault. Verify that the product(s) is (are) not in operating state Fault.
- Do not switch off the device during the operation:
 - If the device is switched off after the data transfer, then the data will be cleared upon the next power-up.
 - If the device is switched off 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 device's display terminal until the operation is complete
- If the Display Terminal is not up to date, several update actions may not be possible.

NOTE: Once the firmware update procedure is initiated, and the device is in FWUP state, all the messages displayed on the display terminal must not be considered until the "Firmware Update Done" message is shown when the firmware update is successful, or the "Firmware Update Error" when the firmware update procedure has not been successful, or the "Firmware Update Pending" when 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 35 for more details).

Device configuration backup (optional)

Observe the following instructions to copy the device's configuration file, before starting the update sequence.

Step	Action
1	Using the display terminal, go to [Main menu]
2	Select [File management] for ATV drives Select [Device Management] for Altivar Soft Starter ATS480
3	Select [Copy from the drive] Select [Copy From Device] for Altivar Soft Starter ATS480
4	Set a filename and press the OK button NOTE: for ATS480 with a Plain Display Terminal, the name is not configurable.
5	<ul style="list-style-type: none"> Press OK button to validate the copy Wait during the transfer
6	Press OK button to continue Result: The configuration is locally saved in the display terminal.

NOTE: The device's configuration file can also be copied using SoMove or Webserver (if available).

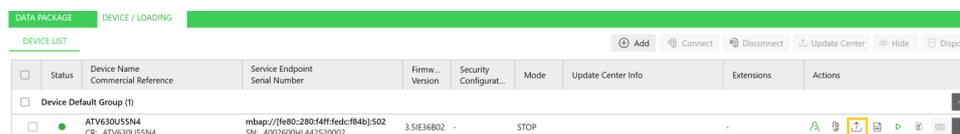
Transfer the firmware data package

For ATV drives, the transfer of the firmware package can be done only if the ATV drive is stopped (RDY or NST state). The drive will not be operational until the firmware update procedure is completed.

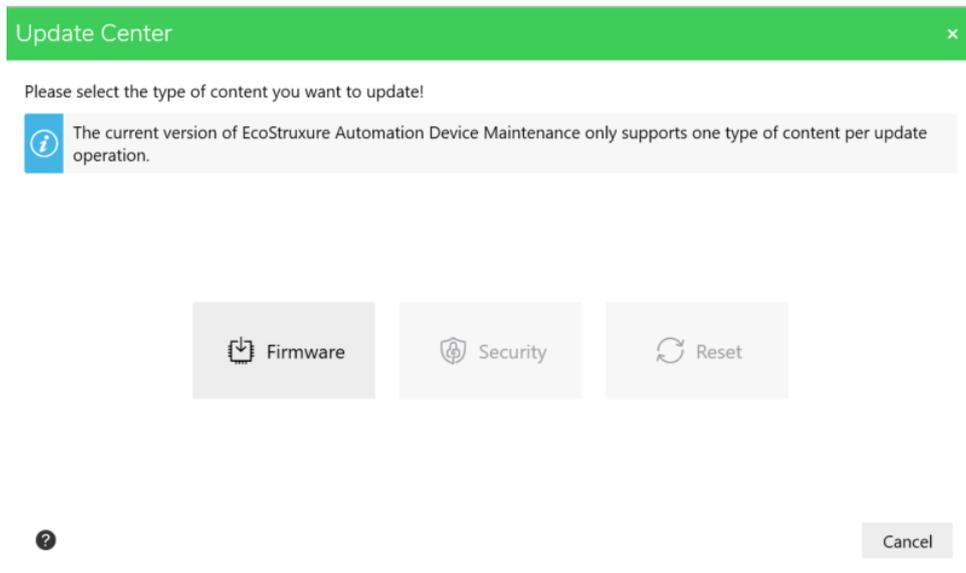
For Altivar Soft Starter ATS480, the transfer of the firmware package can be done while the soft starter is in running state.

The firmware packages compatible with the device are filtered and listed in the Data Package drop-down box.

To access the firmware packages list, click on the update center button as shown below:

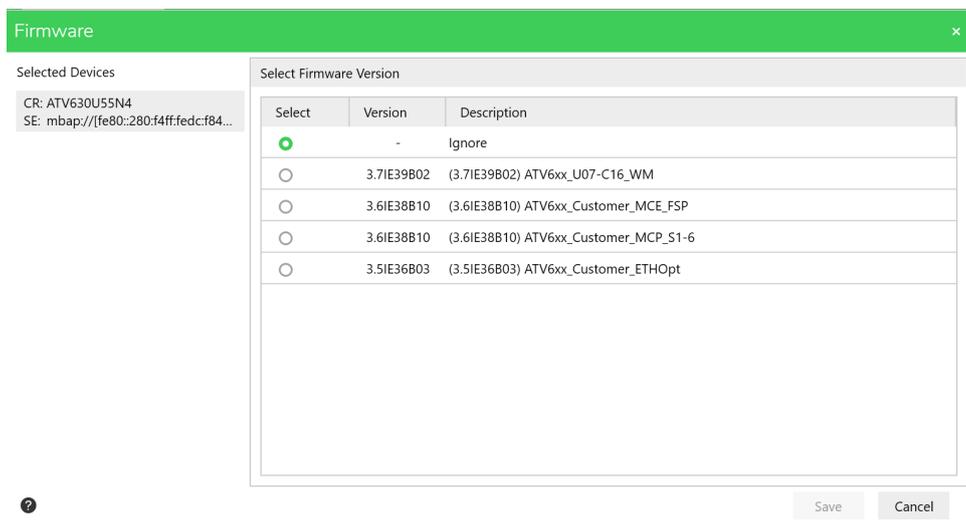


DATA PACKAGE		DEVICE / LOADING								
DEVICE LIST										
	Status	Device Name Commercial Reference	Service Endpoint Serial Number	Firmw... Version	Security Configurat...	Mode	Update Center Info	Extensions	Actions	
Device Default Group (1)										
<input type="checkbox"/>	●	ATV630U55N4 CR: ATV630U55N4	mbap://fe80:280:14ff:fedc:f84b:502 SN: 4002600HL442520002	3.5IE36802	-	STOP	-	-	<input type="checkbox"/>	

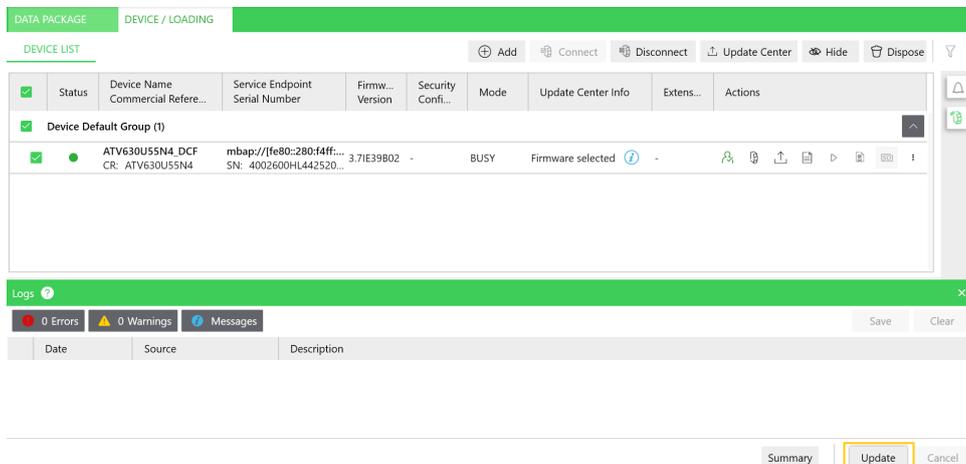


NOTE: Option modules packages compatible with the device can be listed, although they are not physically present in the device.

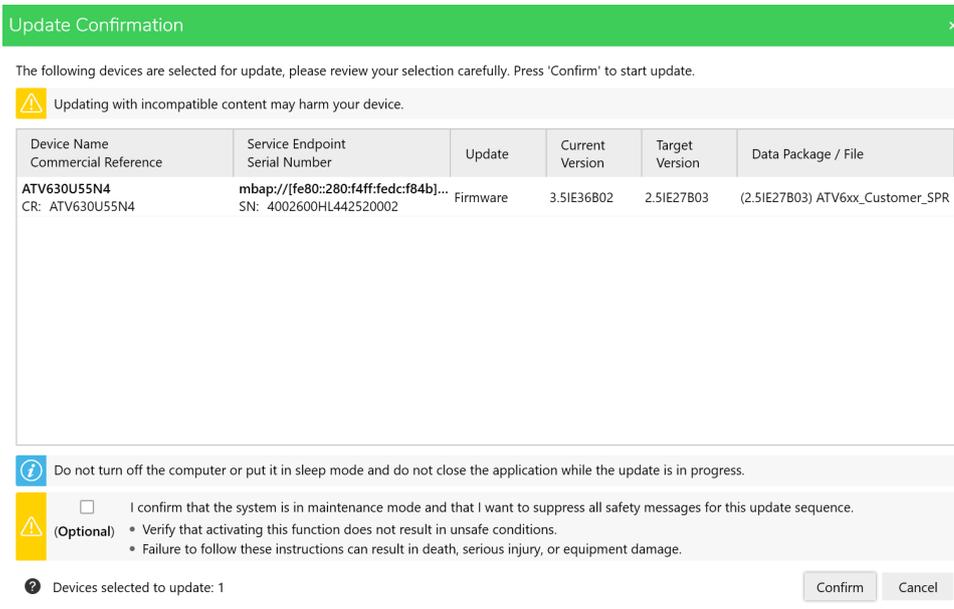
The user must select the required firmware package version.



To enable the “Update” button, the user must select one or several online devices when all the devices to be updated are selected, the user must click the “Update” button, at the bottom of the main window.



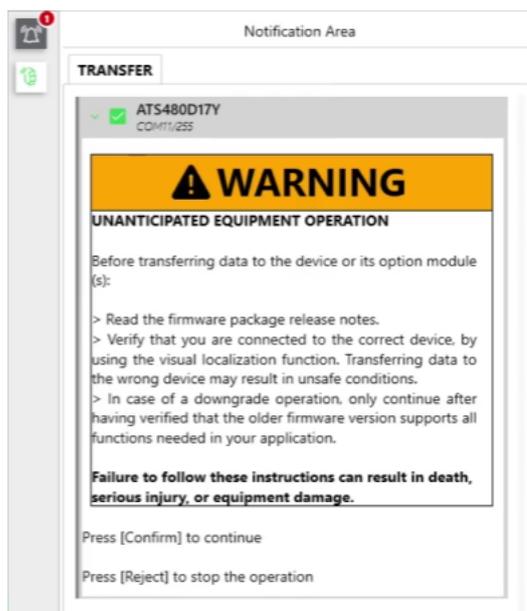
As a result, the devices to be updated will switch to Loading Mode (dark grey background), waiting for the user's final confirmation.



Observe the instructions in EADM to transfer the firmware package to the device.

During the firmware update procedure (Transfer the firmware package, Apply the new firmware and Finalize the firmware update), several safety messages will be displayed in the Notification area. They must be acknowledged by the user in order to continue the procedure.

See the example below:



NOTE: When the devices are connected via Ethernet in a daisy chain topology, it is required to transfer each firmware package to each corresponding device in parallel. Once the transfer procedure for all connected devices is done, the firmware packages can be applied to the devices in parallel or in sequence.

NOTE: If the connection between the device and the software has been disturbed (cable disconnected) after the FW transfer and before its apply, the transfer must be performed again.

Apply the new firmware

Apply remotely from EADM

Verify that the devices are not in an operating state before the application of the new firmware.

⚠ WARNING

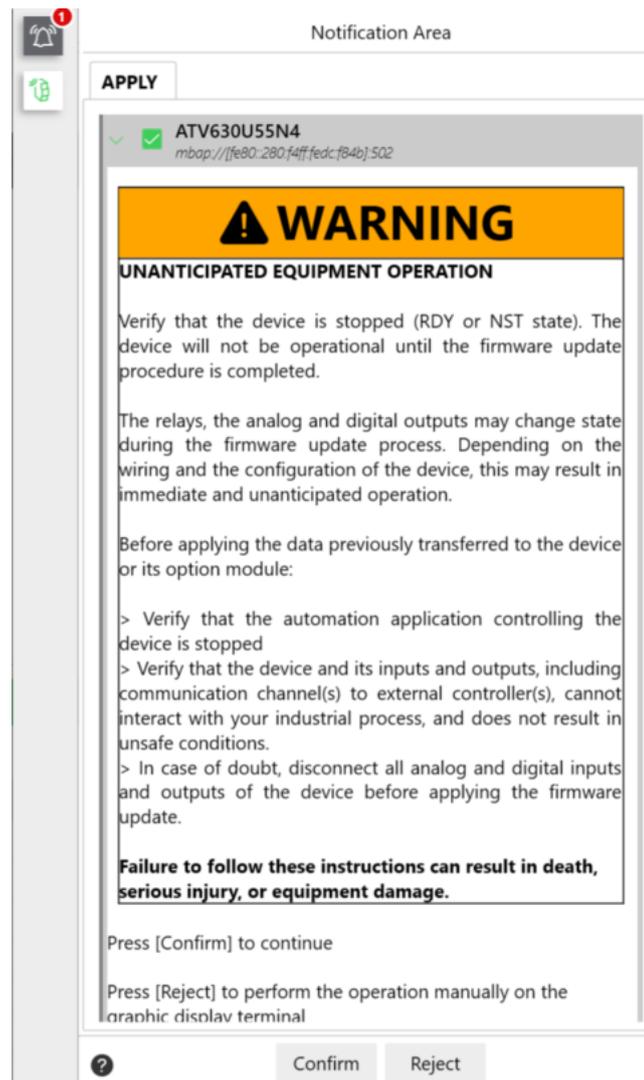
UNANTICIPATED EQUIPMENT OPERATION

Verify the device is stopped (RDY or NST state). The device will not be operational until the firmware update procedure is completed.

The relays, the analog and digital outputs may change state during the firmware update process. Depending on the wiring and the configuration of the device, this may result in immediate and unanticipated operation. Before applying the data previously transferred to the device or its option module, verify that the device and its inputs and outputs, including communication channel(s) to external controller(s), cannot interact with your industrial process, and does not result in unsafe conditions. In case of doubt, disconnect all analog and digital inputs and outputs of the device before applying the firmware update.

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

Observe the instructions in EADM to execute the update remotely.



NOTE: The device restarts several times during the update operation.

If the firmware procedure is interrupted by clicking on **[Reject]** in the safety panel displayed in EADM, the user should either:

- Restart the whole procedure, including the firmware package transfer,
- Or continue the firmware update procedure manually (see next section).

NOTE: When updating a device discovered using DPWS, during the apply phase, the updated device may be displayed on a duplicated line. The initial line displaying a device with a serial number of "xx000000" can be manually deleted by clicking on the "Dispose" button.

OR apply manually on the device's display terminal

Observe the following instructions to execute the update on the device's display terminal.

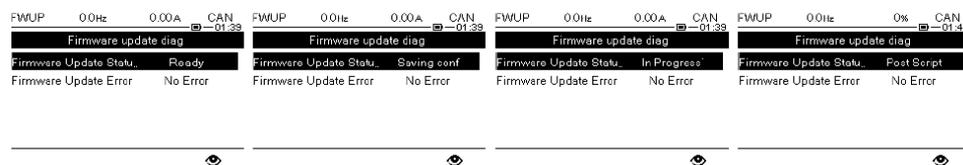
For ATV.....Z, delivered with no display terminal, the FW update is only possible through EADM.

For ATV340, the display terminal is an accessory, to access the Update Firmware menu the Graphic Display Terminal must be used.

Step	Action
1	Using the display terminal, go to [Main menu]
2	<ul style="list-style-type: none"> • For ATV drives, select [File management] • For Altivar soft starter ATS480, select [Device management]
3	Select [Firmware update]
4	Select [Update Firmware] NOTE: [Firmware update] can be accessed if [Access level] is set to [Expert] mode: [My Preferences] > [Access Level]
5	Set Update Firmware to Yes
6	Press the OK button of the display terminal

For more details about the parameters of the menu, refer to the programming manual of the device.

Wait for the process to complete (the device will restart several times).



NOTICE

DAMAGE TO THE DRIVE

During the process, the status is **FWUP**, the following message will be displayed several times:

Do not validate this message, wait until **"Firmware Update Done"** message.

Failure to follow these instructions can result in equipment damage.

FWUP +50.0Hz 0.00A Term 10.23

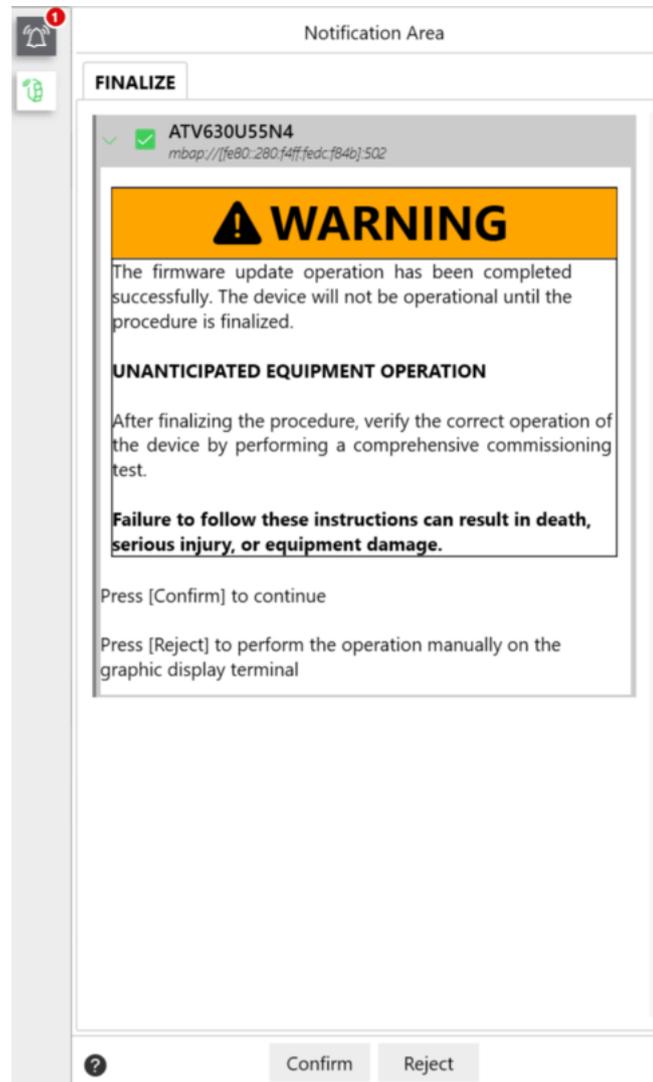
INCORRECT CONFIG.

Option module changed or removed.
Control block replaced by a control block configured on a drive with a different rating.
The current configuration is inconsistent
Check the hardware, save the drive config.

Finalize the firmware update procedure

Apply remotely from EADM

Observe the instructions in EADM to finalize the update remotely.



If the firmware procedure is interrupted by clicking on **[Reject]** in the safety panel displayed in EADM, the user should either:

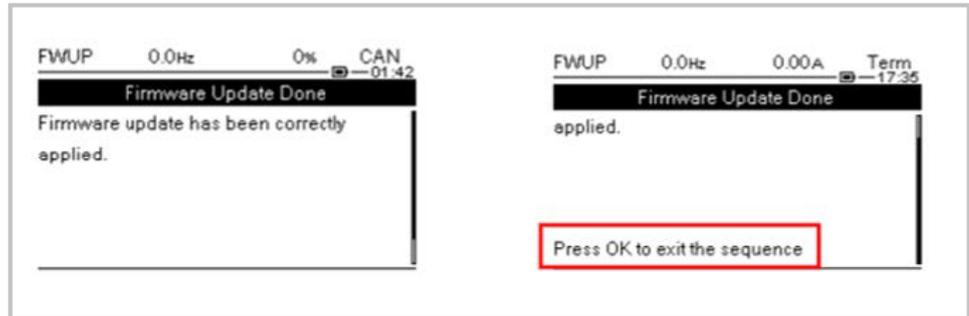
- Restart the whole procedure, including the firmware package transfer,
- Or continue the firmware update procedure manually (see next section).

OR apply manually on the device's display terminal

Observe the following instructions to finalize the update on the device's display terminal.

On the display terminal, wait for the "Firmware Update Done" message to appear, then:

- Scroll down to display the finalization message
- Press the **OK** button to exit the firmware update sequence

**NOTE:**

- If the above message is not validated, then the Altivar will remain in state "FWUP" and will not be operational.
- If the message is not visible, disconnect then reconnect the display terminal.
- When the firmware update has not been successful, a "Firmware Update Error" message appears on the display terminal, with a drive state in "FWER".
- If the firmware update is only done for the control block of the device, the device stays 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 35.

Verify the application of the firmware update procedure

After the firmware update procedure is completed, it is recommended to perform commissioning tests to verify the correct operation of the device.

⚠ WARNING

UNANTICIPATED EQUIPMENT OPERATION

After finalizing the procedure, verify the correct operation of the device by performing a comprehensive commissioning test.

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

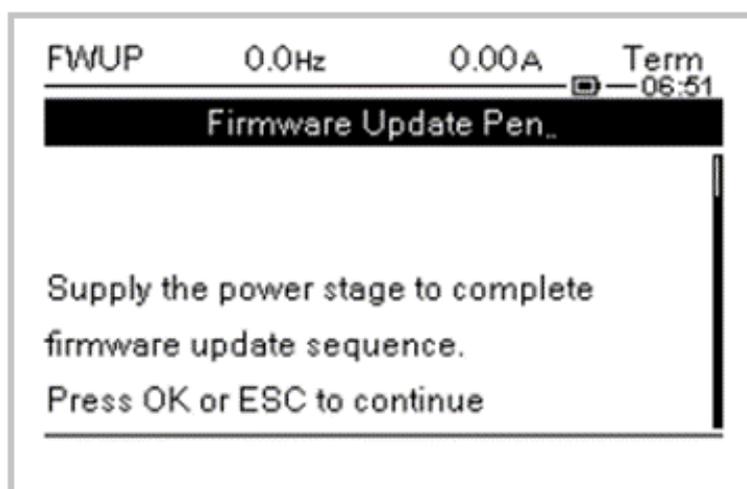
FAQ

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

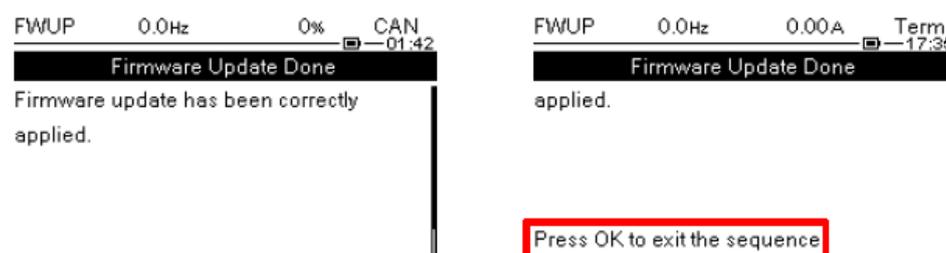
When executing the firmware update procedure on a device's control block supplied with 24V power, the update will not be complete.

It will be possible to perform the first part (Transfer the firmware data package) and partially the second part (Apply the new firmware). As the supply mains is not present, the power stage will be not updated during the process (only the control block).

The **FWUP** state and the **"Firmware Update Pending."** message shown below will be displayed on the display terminal, indicating that the firmware update process is pending on the power stage. As soon as the device is connected to the supply mains, the firmware update process will begin automatically and update the power stage (the device will restart several times).



After the firmware update process begins, wait for the **"Firmware Update Done"** message to appear, then press the **OK** button on the display terminal to finalize the procedure.



NOTE:

If the message is not validated by the user, then the Altivar will remain in **FWUP** state.

- If the message is not visible, disconnect then reconnect the display terminal.
- Alternatively, if you need to update the control block only (and not the power stage), you can select a control-block only firmware update package in EADM. In that case the above message sequence is not applicable.

Contact the Customer Care Center on www.se.com/CCC to provide the FW package.

- If the control block is switched off before applying the new firmware, the data will be cleared at power up (and the above message sequence will not appear).

How to update the labels displayed on the Display Terminal (VW3A1113, VW3A1111)?

The display terminal labels cannot be updated in EcoStruxure Automation Device Maintenance software.

The operation can be done manually.

For the Graphic Display Terminal VW3A111, the languages package can be downloaded here: [Languages_Drives_VW3A1111](#).

After downloading the package, follow the instructions listed in the “**ReadMe**” file.

For the Plain Display Terminal VW3A1113, the languages package is included in the firmware package. It is transferred along with the firmware during the transfer part.

The languages package can be selected in the menu **[Device Management]** DMT > **[Firmware Update]** > **[Check for update]**.

Cancel the firmware package transfer

When the Cancel button is pressed during a firmware package transfer of a device discovered via DPWS mode (IPv6) connected through:

- Modbus RTU: the software takes 30 seconds to detect the cancel request. The user must restart the device to re-establish the communication
- Modbus TCP: the cancel request is immediately considered and performed by the software.

Error during the firmware update of an ATS480

The following error occurs during a firmware update procedure:

 2022-03-16 16:27:07 AAAA COM7 Error -1 while executing TRANSFERANDAPPLY step



Probable Cause

Communication error between EcoStruxure Automation Device Maintenance and the device.



Remedy

Perform a Power Off/Power On operation on the device, then restart the update procedure.

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

If an update of the Ethernet option module through Modbus TCP is required while the device is in **[Internal Error 6]** INF6 (see ATS480 User manual, page 11 for details about the error code), the **[Eth Opt User Auth.]** SCPO must be set to **[No]** NO before proceeding with the update operation.

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

After a DPWS discovery, if the device cannot be connected:

- Verify that the Service Endpoint displayed is the IPv4 address of the device.
- Set the IPv4 address of the PC to the same network as the device, otherwise the device cannot be reached.

Update of devices with old firmware versions

Some devices with old firmware versions discovered through DPWS may not be displayed or connected to correctly.

To display and update these devices connected on the network:

- Set the IP addresses of the devices and of the PC before adding them manually on EADM;
- Or set the IP addresses, device names of the devices and the IP address of the PC, then discover them using Modbus TCP Discovery (IPv4).

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