

Altivar Process (ATV6000/900/600/340/212) Driver for Power Monitoring Expert Release Notes

This document contains information about the EcoStruxure™ Power Monitoring Expert SE (Standard Edition) driver for the Altivar range of devices.

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Additional Information

- [Altivar device documentation](#)
- [Power Monitoring Expert documentation](#)

Version History

The following table lists the version history of the Altivar:

Version Number	Description of changes
2.0.22168	Issues Resolved: Corrected the Real Energy register labels
2.0.22084	First Release

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 manual or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.



The addition of either 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, installation, and operation of electrical equipment and has received safety training to recognize and avoid the hazards involved.

Safety Precautions

During installation or use of this software, pay attention to all safety messages that occur in the software and that are included in the documentation. The following safety messages apply to this software in its entirety.

▲ WARNING

UNINTENDED EQUIPMENT OPERATION

- Do not use the software for critical control or protection applications where human or equipment safety relies on the operation of the control action.
- Do not use the software to control time-critical functions because communication delays can occur between the time a control is initiated and when that action is applied.
- Do not use the software to control remote equipment without securing it with an authorized access level, and without including a status object to provide feedback about the status of the control operation.

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

▲ WARNING

INACCURATE DATA RESULTS

- Do not incorrectly configure the software, as this can lead to inaccurate reports and/or data results.
- Do not base your maintenance or service actions solely on messages and information displayed by the software.
- Do not rely solely on software messages and reports to determine if the system is functioning correctly or meeting all applicable standards and requirements.
- Consider the implications of unanticipated transmission delays or failures of communications links.

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

Altivar Process Driver

Power Monitoring Expert Requirements

The device can be connected to Power Monitoring Expert using any one of the following methods:

- Serial Device on Ethernet Gateway Site
- Ethernet Device

NOTE: Unit Id for Ethernet devices varies from 1 to 247.

While configuring the device as an Ethernet device, right-click the grid, select **Advanced Properties**, and enter the unit ID.

Driver Version

This release notes apply to the Altivar Process driver version 2.0.22168.

Supported Models

This driver has been tested with the below firmware revision of Altivar devices. All features might not work for other firmware revisions.

The supported variants and Firmware versions are:

Altivar Devices	ATV 6000	ATV 600	ATV 900	ATV 340	ATV 212
Firmware Versions	v1.5IE01	v3.4IE35	v3.4IE28	v3.3IE27	v5.5IE57

Device License Types

The supported variants and Device License Types are:

Altivar Devices	ATV 6000	ATV 600	ATV 900	ATV 340	ATV 212
Device License Types	DL-M	DL-M	DL-M	DL-M	DL-E

Features

This device driver supports the following features:

- All-important real-time registers
- Time sync to server local time (without DST adjustment)
- Event Log (Alarm and Fault Log)
- Real-time data transfer using OPC and EWS
- A set of factory diagrams
- Support for the following factory-provided default reports in the Web application:
 - Trend
 - Tabular
 - Energy Cost
 - Energy Period Over Period
 - Energy Usage by Shift
 - Single Device Usage
 - Multi Device Usage
 - Event History

Installation

Device Driver Installer

▲ WARNING

LOSS OF CONTROL

Do not ignore the alerts during driver installation. If you choose to ignore such alerts, the driver will be installed but may operate incorrectly.

Failure to follow this instruction can result in death, serious injury, or equipment damage.

The associated device driver installer is used to add this driver and all the required supporting files to the target Power Monitoring Expert system. The supporting files consist of:

- Device map and tree files
- Vista diagrams
- Altivar_plugin.dll
- evt file

NOTE: The device driver installation process requires restarting the Site Server component of Power Monitoring Expert. This results in a brief disruption of the communication between the Power Monitoring Expert server and the devices connected to it.

Uninstalling

Uninstalling by re-running the installer removes all the files that were added by the Device Driver Installer.

For more information about uninstalling the driver, refer to the Known Issues section.

NOTE: Uninstallation can only be performed when the device instance in management console is removed.

Repair

Repair by re-running the installer restores all device driver related modified files to the default files. All the modified files will be backed up in the customized folder (/config/translator/customizations).

NOTE: Remove the translator files (ion and xml) from the folder config/translator after running the Repair.

Implementation Details

Device Configuration and Upgrade

SoMove is used for device configuration and firmware upgrade.

NOTE: Power Monitoring Expert cannot be used to configure this device or to upgrade the device firmware.

Event Log

The driver supports on-board event logging. The device driver polls the device and checks for new log entries at regular intervals. The default polling interval is 30 seconds.

NOTE: Event log is not supported for ATV 212 Series.

PC-based Logging

The device driver allows you to log data using PC-based logging feature. The following measurements are logged by default using PC-based logging:

Measurements	ATV 6000	ATV 600	ATV 900	ATV 340	ATV 212
Warning Active	✓	✓	✓	✓	✓
Alarm Active	✓	✓	✓	✓	X
Real Power Total - Estimated	✓	✓	✓	✓	X
Reactive Power Total	✓	✓	✓	✓	X
Power Factor Total	✓	✓	✓	X	X
Real Power Total - Output	✓	✓	✓	✓	✓
Real Energy into The Load	✓	✓	✓	✓	✓
Real Energy into The Load@!!DeviceName!!_Drive	✓	✓	✓	✓	X
Active Energy Delivered - Motor - Today	✓	✓	✓	✓	X
Active Energy Delivered - Motor - Yesterday	✓	✓	✓	✓	X
Max Real Power Total - Motor	✓	✓	✓	✓	X
Real Power Total - Motor Mechanical Estimated	✓	✓	✓	✓	X
Real Energy into The Load@!!DeviceName!!_Motor	✓	✓	✓	✓	X
Real Power Total - Reference	✓	✓	✓	✓	X

Measurements	ATV 6000	ATV 600	ATV 900	ATV 340	ATV 212
Energy Cost (Kwh)	✓	✓	✓	✓	X
CO ₂ Quantity by Kwh	✓	✓	✓	✓	X
Energy Saved	✓	✓	✓	✓	X
Cost Saved with Drive Solution	✓	✓	✓	✓	X
CO ₂ Saved with Drive Solution	✓	✓	✓	✓	X
Drive Thermal State	✓	✓	✓	✓	X
Motor Thermal State	✓	✓	✓	✓	X
Fan Operation Hours	✓	✓	✓	✓	X
Cabinet Fan Operation Hours	✓	✓	✓	X	X
Flow Rate Maximum	✓	✓	X	X	X
Flow Rate Minimum	✓	✓	X	X	X
Efficiency	✓	✓	X	X	X
Efficiency Maximum	✓	✓	X	X	X
Efficiency Minimum	✓	✓	X	X	X
Power Level Over Consumption	✓	✓	✓	✓	X
Power Level Under Consumption	✓	✓	✓	✓	X
Alarm counter	X	✓	✓	✓	X
Motor Current Estimated	X	✓	✓	✓	X
Real Energy Into The Load - Input	X	✓	✓	✓	X
Real Energy Out of The Load - Input	X	✓	✓	✓	X
Fan speed	X	✓	✓	✓	X
Main Voltage	X	✓	✓	✓	X
Power elapsed time	X	✓	✓	✓	X
Real Energy Into The Load - Motor	X	✓	✓	✓	X
Real Energy Out of The Load - Motor	X	✓	✓	✓	X
Motor Mechanical Power Estimated	X	✓	✓	✓	X
Operating time	X	✓	✓	✓	X
Motor Frequency	X	✓	✓	✓	✓
Motor Speed	X	✓	✓	✓	✓
Motor Torque	X	✓	✓	✓	✓
Motor Voltage	X	✓	✓	✓	✓
Motor Current	X	X	X	X	✓
Motor Load	X	X	X	X	✓

Measurements	ATV 6000	ATV 600	ATV 900	ATV 340	ATV 212
Drive Running Hours	X	X	X	X	✓
Real Power Total - Input	X	X	X	X	✓
Real Energy Out of the Load	X	X	X	X	✓
Drive Ready	X	X	X	X	✓

To change the list of measurements being logged, use the Device Type Editor, accessed from the **Management Console > Tools > System > Software Logging** menu in Management Console.

Time Synchronization Enable/Disable

By default, the Power Monitoring Expert server synchronizes the device time with local time without DST adjustment at an interval of 1 hour.

NOTE: Time sync Enable/Disable by device instance is possible only if device is configured as Serial Device on Ethernet Gateway Site in Management Console.

For a device instance, disable time synchronization through Management Console as follows:

1. Click the **Devices** icon, right-click the device instance and select the **Configure Device** option.
2. Right-click the grid area and select the **Advanced Properties** menu option.
3. To enable the Timesync, select Yes from the **Timesync Enabled** dropdown list. To disable Timesync, select No from the **Timesync Enabled** drop down list.

Time synchronization interval can be modified by changing the **TimeSyncIntervallnMinutes** attribute in the Altivar_ATV6000.xml and Altivar_ATV600_900_340_Series.xml map file, which determines the time synchronization interval in seconds.

To disable the time synchronization for the entire device type, set the **TimeSyncIntervallnMinutes** attribute in Altivar_ATV6000.xml Altivar_ATV600_900_340_Series.xml file to 0.

NOTE: Time Synchronization is not supported for ATV 212 Series.

Known Issues

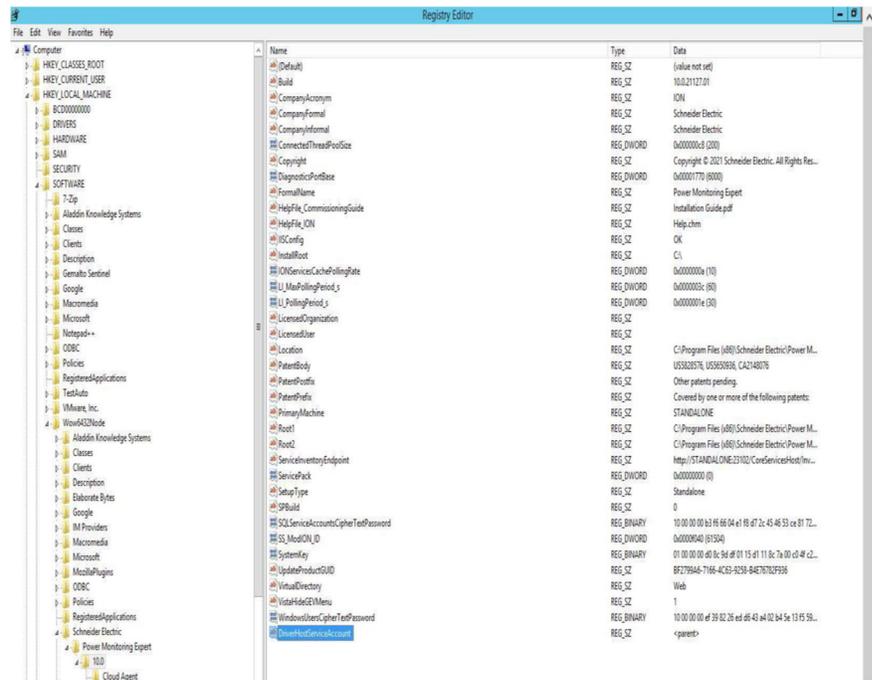
Following are the known issues as of the publication date of this document. These issues might be resolved in future releases:

- Time synchronization cannot be disabled on a device instance basis if the device is connected as Ethernet Device.

Workaround: Configure the device as a Serial Device on the Ethernet Gateway site.

- Driver does not communicate when installed in a PME server with Integrated SQL Authentication setup.

Workaround: Add a new string registry entry DriverHostServiceAccount with the value <parent>.



Web Factory Diagram Screenshots

This section contains samples of the Web factory diagrams for the device.

The screenshot displays the 'Power Monitoring Expert' web interface for an 'Altivar.Atv600' device. The interface includes a navigation menu with 'DASHBOARDS', 'DIAGRAMS', 'TRENDS', 'ALARMS', 'REPORTS', and 'SETTINGS'. The main content area is titled 'Altivar.Atv600' and features a 'Back to Network' button. The 'Drive and Motor' section shows the following data:

Parameter	Value
Drive State	Ready
Drive Name	PMEdeviceATV600
Motor Running Hours	88
Motor Start Count	12
Frequency	50 Hz

The 'Alarms and Warnings' section contains the following table:

	Status	Date and Time	Last
Alarm	Inactive		No Alarm Detected
Warning	Inactive		No Warning Memorized

At the bottom of the interface, the device time is shown as '3/21/2022 4:10:35.861 AM' and the device type as 'ATV600 Series'.

The screenshot displays the Schneider Electric EcoStruxure Power Monitoring Expert interface for an Altivar.Atv600 device. The interface is organized into several sections:

- Header:** EcoStruxure Power Monitoring Expert logo, navigation tabs (DASHBOARDS, DIAGRAMS, TRENDS, ALARMS, REPORTS, SETTINGS), user information (supervisor | Logout | Help), and the Schneider Electric logo.
- Navigation:** A "Diagram Library" sidebar on the left and a "Back to Network" button at the top right.
- Overview:** A central area with tabs for Overview, Energy & Pwr, Thermal Monitoring, Pump Application, and Diagnostics. The "Energy & Pwr" tab is active.
- Energy Section:** A schematic diagram shows a power source connected to a motor (M) and a load. To the right, energy consumption metrics are displayed:
 - Real Input Energy: 1 kWh
 - Motor Energy Consumption: 0 kWh
 - Load Energy: 0 kWh
- Power and Power Factor Section:** A table of power-related metrics:

Real Power Estimated	0	kW
Real Power Output	0	kW
Real Power Reference	0	kW
Real Power - Motor Mech. Estimated	0	kW
Reactive Power	0	kW
Power factor	0	%
- Electrical Energy Consumed by Motor Section:** A table showing energy consumption for the motor:

Today	0 kWh
Yesterday	0 kWh
- Footer:** Device Time: 3/21/2022 4:11:31.075 AM, Device Type: ATV600 Series.

The screenshot displays the 'Power Monitoring Expert' interface for an 'Altivar.Atv600' device. The top navigation bar includes 'DASHBOARDS', 'DIAGRAMS', 'TRENDS', 'ALARMS', 'REPORTS', and 'SETTINGS'. The user is logged in as 'supervisor'. The main content area is divided into several tabs: 'Overview', 'Energy & Pwr', 'Thermal Monitoring', 'Pump Application', and 'Diagnostics'. The 'Thermal Monitoring' tab is active, showing two panels: 'Drive Thermal Status' and 'Motor Thermal Status'. The 'Drive Thermal Status' panel displays: Drive Thermal State (43%), DC Choke Thermal State (0%), and Temperature AFE (0%). The 'Motor Thermal Status' panel displays: Motor Thermal State (0%) and Motor 1 Thermal State (0%). A 'Back to Network' button is located in the top right corner of the main area. At the bottom, the device time is '3/21/2022 4:12:39 176 AM' and the device type is 'ATV600 Series'.

The screenshot displays the 'Power Monitoring Expert' interface for a device labeled 'Altivar:Atv600'. The interface includes a top navigation bar with 'DASHBOARDS', 'DIAGRAMS', 'TRENDS', 'ALARMS', 'REPORTS', and 'SETTINGS'. A 'supervisor' user is logged in. The main content area is divided into several sections:

- Pump Application:** A section with three data fields: 'Application Type' (Generic Pump Control), 'Application Status' (No application in progress Drive not running), and 'Pump Characteristics' (Function Not activated).
- Pump Values:** A section containing:
 - Cumulated Flow:** Three input fields for 'Flow Total', 'Flow Rate Max', and 'Flow Rate Min', all showing '0'.
 - Pump Monitoring:** Three input fields for 'Energy Consumption', 'Energy Performance', and 'Pump Application Units' (M3/h), all showing '0'.
 - Power/Flow Graph:** A line graph with three data series: 'Max' (0%), 'Efficiency' (0%), and 'Min' (0%). The y-axis is labeled 'Power/Flow' and the x-axis is labeled 'Pump Log'.

At the bottom of the interface, the device information is displayed: 'Device Time 3/21/2022 4:13:23 232 AM' and 'Device Type ATV600 Series'.

The screenshot displays the 'Power Monitoring Expert' interface for an 'Altivar.Atv600' device. The top navigation bar includes 'DASHBOARDS', 'DIAGRAMS', 'TRENDS', 'ALARMS', 'REPORTS', and 'SETTINGS'. A 'Back to Network' button is visible in the top right corner. The main content area is divided into several sections:

- Drive Section:**
 - Nominal voltage: 480V three-phase
 - Drive Rated Power: 1.1 kW / 1.5 Hp
 - Cabinet Fan Operation Time: 0 Hrs
 - Option Board 1 Card: No card
 - Option Board 2 Card: No card
 - Nominal Drive Current: 2.2 A
 - Fan Operation Time: 88 Hrs
 - Power On Time: 0 Hrs
- Active Front End Section:**
 - Start Count: 0
 - Fan Operation Time: 0 Hrs
 - Brick Run Elapsed Time: 0 Hrs
 - Brick Power Elapsed Time: 0 Hrs
- Device Information:**
 - Serial Number: 4004000HL21266500X
 - F/W Revision: V2.6IE29

At the bottom of the interface, the following information is displayed:
Device Time: 3/21/2022 4:13:53.338 AM
Device Type: ATV600 Series