Part Type Designation	Part Number
atvise® scada 50 CCD [1] **micro**	00021504-00
atvise® scada 150 CCD [1] **small**	00021504-10
atvise® scada 1500 CCD [1] **standard**	00021504-20 [2]
atvise® scada 5000 CCD [1] **large**	00021504-30 [2]

[1] *CCD = Concurrent Connected Datapoints (via HTTP). For example: 50 CCD = one open web browser shows 50 data points or two open web browsers show 25 data points each, etc.*

[2] *A fixed client is included for standard or higher*

atvise® scada

Visualising strictly using web technology

The implementation of atvise® scada was based strictly on web technology from the very beginning. This means that any end device with a web browser can become a SCADA client, without any installation effort or additional licensing costs. All that is needed for visualization is a web browser.

Vertical communication via OPC UA

A wide range of available OPC UA services allows process data to be distributed flexibly in the overall architecture. OPC UA Data Access, Alarms & Conditions, Historical Access and Methods are available as interfaces for retrieving and providing process data. These interfaces can be used not only for the interaction between atvise® systems, but also by all communication participants that have implemented one of these OPC UA services.

Such implemented systems remain continuously synchronised in the overall architecture, all without loss of information or interface adjustments [1].

[1] *Provided on all supported platforms.*

Completely scalable

Solutions implemented with atvise® scada can be expanded at any time. This means that the same project can be scaled from a small-scale application with a few data points to a distributed large-scale application with several million data points. The full range of functions is always provided on all supported platforms, on both low-end and high-end hardware.

Wide range of data interfaces

Process data from all well-known control manufacturers can be connected via OPC UA. In addition, atvise® scada offers ready-made interfaces to databases and web services. With the atvise® connect communication module, the data interfaces of atvise® scada can be expanded further and nothing stands in the way of convenient data access to Siemens and Rockwell controllers. Modbus TCP, BACNet, KNX and MQTT are also available as communication interfaces.

Dynamic alarm processing

Many powerful features are offered in the area of alarm processing. Alarms can be structured in arbitrarily nestable alarm hierarchies and enhanced with further process information at runtime. In addition to delayed alarms, alarm management functions such as reset, deactivate, suppress, acknowledge and comment are offered; these can be executed by the operator as well as by the runtime system itself.

High-performance archiving

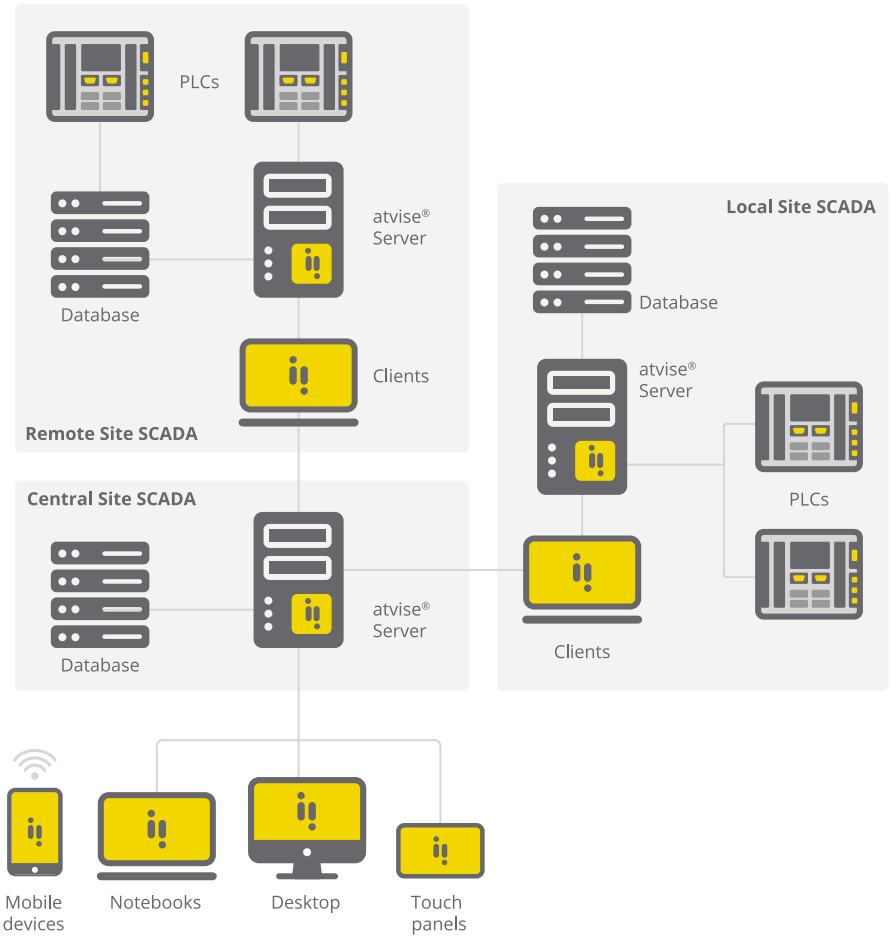
Process data, alarms and user interactions can be easily and conveniently historised. Large data queries are intelligently divided into small data packages and reloaded piece by piece. For the management of historised data, online archive management is offered, with which data archives can be removed and then restored again at runtime.

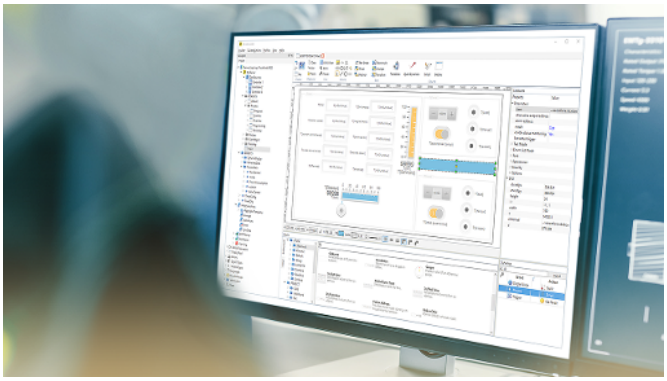
High-performance scripting engine

With fully parallel processing of server-side scripts, the scripting engine of atvise® scada offers outstanding scalability and performance for industrial data processing. All available process data can be accessed, and the manipulation of existing data points and the creation of new data structures is also possible dynamically at runtime. In addition, ready-made functions for processing text files in CSV and XML format are also provided.

Failure safety as a system solution

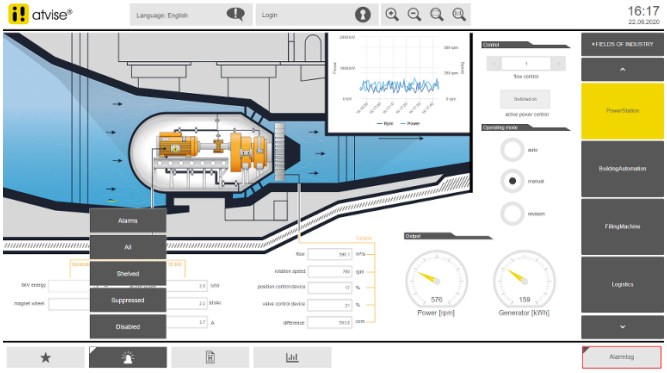
The hot-standby redundancy of atvise® scada ensures comprehensive fail-safe reliability of the data source connections, the runtime environment itself as well as web clients. The redundancy system is synchronised throughout and a switchover to the operating server takes place without data loss. Even in the event of a fail-over, the process is handled fully automatically by the passive server system within a few seconds.





Powerful project planning

The engineering tool of atvise® scada offers flexible remote access to the project server, which can be used by several team members at the same time. Using online engineering, project updates can be imported at runtime without interrupting processes currently running in the runtime system. Numerous editors are offered for the engineering of data structures, alarms, archive configurations and much more. Furthermore, with an extensive catalogue of graphic objects and many prepared visualization layouts with responsive design support, everything that is needed for the fast and efficient implementation of applications is provided.



Fine-grained access control

The access control implementation within atvise® scada enables the efficient realisation of simple as well as complex authorisation structures at the same time. Authorisations can be defined for subtrees or individual data points of an atvise® project. These defined authorisations can be extended at any hierarchical level, which means that atvise® scada offers a high degree of design freedom and flexibility in the implementation of authorisation systems. With an additional separation option between visualization and engineering users and integrated authorisation indications in all atvise® graphic objects, the convenient implementation of authorisation systems is easily possible.

Features

- Powerful responsive web visualization with touch-optimised object catalogue
- Outstanding connectivity through server and client-side implementation of OPC UA DA, HA, A&C, methods and aggregates
- Easy data acquisition via OPC UA, S7 Step7/TIA, Ethernet/IP, Modbus TCP, BACNet, KNX, MQTT databases, web services
- High-performance data archiving with 40 aggregate functions
- Flexible alarm processing with high-level alarm functions (reset, suppress, deactivate) and freely configurable alarm hierarchies
- Efficient engineering through use of of consistent object orientation of graphic and data objects
- Fail-safe due to hot-standby redundancy
- Group-based access control with nestable authorisation hierarchies at data point level

atvise® scada

Process connection	
Protocols	• OPC UA Data Access, OPC UA Historical Access Server and Client • OPC UA Alarms & Conditions Server & Client, OPC UA Methods Server & Client • OPC Data Access V2.05, V3.0, webMI Data Interface, SNMP V1.0, V2.0c • Siemens S7 Step7/TIA, Rockwell Compact/Control Logix, Modbus, BACnet, KNX, MQTT via atvise® connect • Databases via ODBC, web services via HTTP/HTTPS
Physical interface	Ethernet – physical characteristics depend on the target device
Parallel operation	Yes – multiple protocols, multiple data sources
Data types	All OPC UA compliant elementary types, fields and structures
Data mapping	Integrated – digital, analogue and character strings
Data model transfer	Yes – either manual or automatic
Data designation	Freely selectable – transfer from data source possible
Source timestamping	Yes – by controller, OPC compliant
Quality labelling	Yes – by controller, OPC compliant
Transmission modes	Depending on the protocol, event-driven or cyclic
Update rate	• Project and configuration-dependent from 100 ms • Adjustable, depending on protocol
Update suppression	Time and threshold-dependent
Connection monitoring	Yes
Access security/security	Yes – OPC UA compliant, optionally with SSL encryption
Data structure determination	Hierarchical browser interface for parameter assignment and runtime
Simulation mode	Yes
Logging	Yes

Server	
Core processes technology	C++ platform-neutral
Module interface	C++ API
Processing in multiple threads	Yes
Client-side interface	Integrated web server – either HTTP or HTTPS
Interface to higher-level systems	• OPC UA Data Access, OPC UA Alarms & Conditions, OPC UA Historical Access • OPC UA Methods, HTTP/HTTPS
Configuration persistence	Given – configuration is stored in the implemented database
Process data model	• Optionally fully structured or object-oriented • Support of hierarchies and derived types
Server timestamping	Yes – independent of the source timestamp
Alarm system	OPC UA Alarms and Conditions compliant alarm processing
Historization	Process value database and alarm database with incremental data archiving
Aggregation	• OPC UA compliant • Support for derived archives and nested aggregation
Reporting	Yes – automated generation of PDFs
Scripting of runtime environment	• Yes – server-side JavaScript runtime environment • Full access to data point functions and database queries possible • Support for external function extensions via DLLs
User management	Yes – users, groups, rights; 2-factor authentication

Server	
Failure safety	Yes – by configuring a redundant partner server
Virtualization	Possible in standalone operation
Quantity structures	Project and hardware-dependent [1)]

Client	
Client technology	Standards-compliant web browser [2)]
Process images technology	HTML, SVG, JavaScript
Number of clients	Project, hardware and license-dependent [1)]
Continuous zooming	Yes
Automatic scaling	Yes
Multilingual	Yes
Character set	Any selectable
Process data display	Display of process data and structures possible
Trending	• Optional online configurable and/or offline trending possible • Support for multiple trends in one view
Alarm screen	Yes
History screen	Yes
Time planner	Yes

Configuration/engineering	
Interface to the server	OPC UA
Online engineering	Yes
Remote engineering	Yes
Multiuser engineering	Yes
Undockable views	Yes
Global parameters	Yes
Data point views	Yes
Graphics library	Yes (optional)
Import/Export	XML and CSV
Customisable user profiles	Yes
Help systems	Yes
Primitive graphic objects	Line, spline, rectangle, circle, ellipse, polygon, HTML elements, text fields
Adaptability of graphics	• Shape and size adjustment, roundings, colours and colour gradients • Transparency, semi-transparency, rotation, mirroring
Types of dynamisation	• Changing of text content, changing of colours, switching of visibility • Scaling, shifting, rotation, flashing
Global search	Yes
Automated engineering	Yes

[1)] *Contact us for detailed information on quantity structures. An overview of possible project configurations and hardware setups can be accessed at ➦ www.atvise.com in the "System Requirements" area.*

[2)] *Detailed information on supported operating systems and web browsers can be found at ➦ www.atvise.com and accessed in the "System Requirements" area. The information in this document applies to atvise® 3.10. In the product tests of atvise® 3.10, Windows 10 and Ubuntu 22.04 LTS are tested to their full extent. These platforms are recommended for running atvise® 3.10.*

Installation	
Clients	No installation necessary
Server	• Windows: Installation via executable • Linux: Installation via package

Installation	
Licensing	• Licensing based on CCDs (Concurrent Connected Data Points) • Number of all data points displayed simultaneously
Licence protection	Server-side verification through a hardware-dependent software key

Diagnostics	
Process data monitor	Yes
Process data statistics	Yes
Systemlog	Yes

System requirements for server	
Device	• Generally project-dependent • Minimum scope: – x86 or ARM-based CPU with at least 1 core and 500 MHz clock speed – At least 500 MB RAM – At least 128 MB free space – At least one network card
Operating system [1)]	• Windows 10 (32 bit and 64 bit) • Windows 11 (64 bit) • Windows Server 2019/2022 (64 bit) • Ubuntu 20.04/22.04 LTS (64 bit) • Debian 11 (64 bit) • Debian 11 (32 bit, ARMv6 command set)

System requirements for engineering	
Device	• Generally project-dependent • Minimum scope: – x86-based CPU with at least 2 cores and 1.0 GHz clock speed – At least 2 GB RAM – At least 512 MB free space – Graphic resolution at least 1280 x 1024 pixels
Operating system [1)]	• Windows 10 (32 bit and 64 bit) • Windows 11 (64 bit) • Windows Server 2019/2022 (64 bit)
Container virtualisation	Yes, according to guidelines on ➦ *www.atvise.com*
Operating elements	• Keyboard • 2-button mouse

[1)] *Detailed information on supported operating systems and web browsers can be found at ➦ www.atvise.com and accessed in the "System Requirements" area. The information in this document applies to atvise® 3.10. In the product tests of atvise® 3.10, Windows 10 and Ubuntu 22.04 LTS are tested to their full extent. These platforms are recommended for running atvise® 3.10.*

System requirements for client	
Device	• Generally project-dependent • Minimum scope: – See minimum requirements of the web browser used. – If client and server are operated on the same hardware, the minimum requirements for both need to be added. – At least one network card – Graphic resolution at least 800 x 480 pixels
Operating system [1)]	Freely selectable
Web browser [1)]	• Chrome • Chromium • Firefox ESR • Firefox • Microsoft Edge • Safari Mobile
Operating elements	• Keyboard • 2-button mouse • Touch screen

[1)] *Detailed information on supported operating systems and web browsers can be found at ➦ www.atvise.com and accessed in the "System Requirements" area. The information in this document applies to atvise® 3.10. In the product tests of atvise® 3.10, Windows 10 and Ubuntu 22.04 LTS are tested to their full extent. These platforms are recommended for running atvise® 3.10.*

atvise ® scada

Versions	
atvise® scada micro RT	Licence for the operation of one server instance on one Windows PC with a maximum of 50 CCD [2)] (="Concurrent Connected Data Points" corresponds to "process variables visualised simultaneously on clients")
atvise® scada small RT	Licence for the operation of one server instance on one Windows PC with a maximum of 150 CCD [2)] (="Concurrent Connected Data Points" corresponds to "process variables visualised simultaneously on clients")
atvise® scada standard RT	Licence for the operation of one server instance on one Windows PC with a maximum of 1500 CCD [2)] (="Concurrent Connected Data Points" corresponds to "process variables visualised simultaneously on clients"), this licence includes a fixed client
atvise® scada large RT	Licence for the operation of one server instance on one Windows PC with a maximum of 5,000 CCD [2)] (="Concurrent Connected Data Points" corresponds to "process variables visualised simultaneously on clients"), this licence includes a fixed client

[2)] *CCD = Concurrent Connected Datapoints (via HTTP). For example: 50 CCD = one open web browser shows 50 data points or two open web browsers show 25 data points each, etc.*

atvise ® connect Option

Versions	
atvise® connect standard Modbus/ MQTT RT	Licence for the operation of an atvise® connect server with 20 data sources and 20 000 communicable variables. Enables communication via Modbus TCP and MQTT.
atvise® connect standard Modbus/ MQTT/Siemens RT	Licence for the operation of an atvise® connect server with 20 data sources and 10 000 communicable variables. Enables communication via Modbus TCP, MQTT and Siemens S7 300/400/1200/1500 controllers.
atvise® connect standard Modbus/ MQTT/Rockwell RT	Licence for the operation of an atvise® connect server with 20 data sources and 10 000 communicable variables. Enables communication via Modbus TCP, MQTT and Rockwell Compact/Control Logix controllers.
atvise® connect standard Modbus/MQTT/Mitsubishi RT	Licence for the operation of an atvise® connect server with 20 data sources and 10 000 communicable variables. Enables communication via Modbus TCP, MQTT and Mitsubishi Melsec Q,QL,FX5 controllers.
atvise® connect large Modbus/MQTT/ BACnet/KNX RT	Licence for the operation of an atvise® connect server with 100 data sources and 10 000 communicable variables. Enables communication via Modbus TCP, MQTT and BACnet as well as KNX
atvise® connect large Modbus/MQTT/Siemens/Rockwell/Mitsubishi RT	Licence for the operation of an atvise® connect server with 50 data sources and 50 000 communicable variables. Enables communication via Modbus TCP, MQTT as well as Siemens S7 300/400/1200/1500 controllers, Rockwell Compact/Control Logix controllers and Mitsubishi Melsec Q,QL,FX5 controllers.
atvise® connect xlarge Modbus/MQTT RT	Licence for the operation of an atvise® connect server with 200 data sources and 20 000 communicable variables. Enables communication via Modbus TCP and MQTT.
atvise® connect xlarge Modbus/ MQTT/ BACnet/KNX/Siemens/ Rockwell/Mitsubishi RT	Licence for the operation of an atvise® connect server with 200 data sources and 1 000 000 communicable variables. Enables communication via Modbus TCP, MQTT and BACNet as well as Siemens S7 300/400/1200/1500 controllers, Rockwell Compact/Control Logix controllers and Mitsubishi Melsec Q,QL,FX5 controllers as well as KNX.