Catalog | December 2024

Altivar Soft Starter ATS430

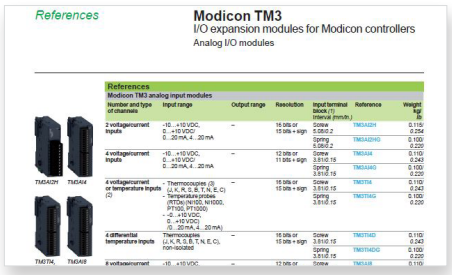
Soft starters for standard machines in industry from 4 to 400 kW/3 to 500 HP

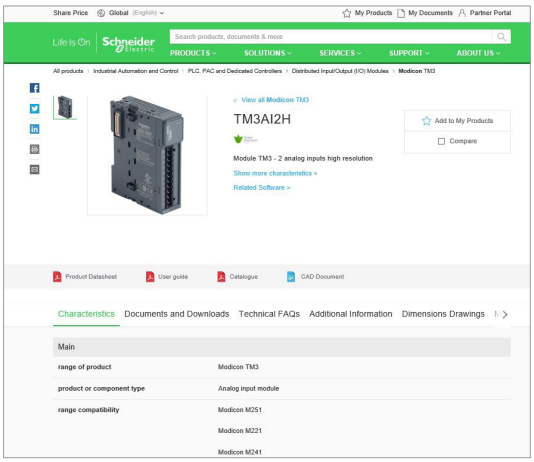
www.se.com

Life Is On Schneider Electric

Quick access to product information

Get technical information about your product

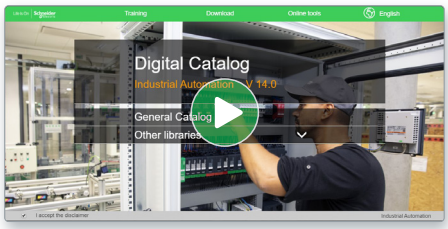


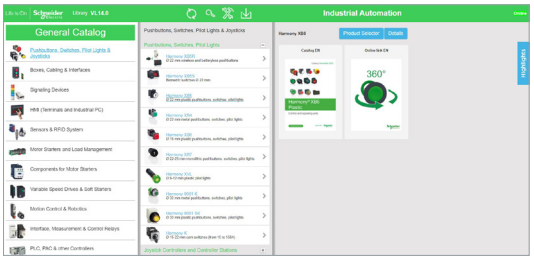


Each commercial reference presented in a catalog contains a hyperlink. Click on it to obtain the technical information of the product:

- Characteristics, Dimensions and drawings, Mounting and clearance, Connections and schemas, Performance curves
- Product image, Instruction sheet, User guide, Product certifications, End of life manual

Find your catalog

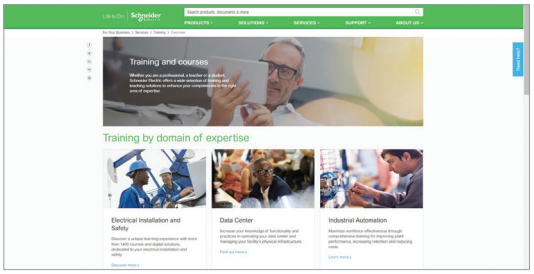




> With just 3 clicks, you can access the Industrial Automation and Control catalogs, in both English and French
> Consult digital automation catalogs at Digi-Cat Online

- Up-to-date catalogs
- Embedded product selectors, 360° pictures
- Optimized search by commercial references

Select your training



> Find the right Training for your needs on our Global website
> Locate the training center with the selector tool, using this link

Life Is On Schneider Electric

mySchneider, your personalized digital experience

Access an all-in-one customized online experience and benefit from tailored business services, resources, and tools to efficiently support your business operations.

- **Efficiency:** In just a few clicks, find all the information and support you need to get the job done.
- **Simplicity:** Use a single login to access all business services, in one place, available 24/7. You no longer need to log in to multiple platforms.
- **Personalization:** Benefit from content, tools, and business services tailored to your activity, and customize your landing page based on your preferences.

Watch the How-to Videos

Order management

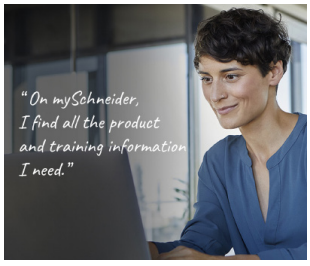
> Select Products and Add to Cart
> Check for Products' Price and Availability
> Order Products with Generic Commercial References

Product information

> Find a Product Data Sheet and Related Documents
> Select Products and Add to Cart
> Stay Up to Date on the Status of My Products

Support

> Get Quicker Answers Thanks to Online Support



Training

> Access Trainings Dedicated to My Activity

Create your account

Life Is On Schneider Electric

Digital tools to quickly select your soft starter solution

Product selector for ATS430

- Easy selection of the ATS430 commercial reference
- Expand it with options and accessories
- Get the Bill of Material in standard format
- Drop it into the product cart
- Access technical information and documentation

Scan or click on the QR code

EcoStruxure™ Motor Control Configurator

- From your application, select your soft starter reference
- Expand it with coordinated combination, options, and accessories
- Convert into Bill of Material, add the product to the cart
- Directly access product documentation
- Save, rework, share your solution with unique ID

Scan or click on the QR code

EcoStruxure™ Motor Management Design

- From your project, perform electrical design calculation
- Compare direct-on-line, soft starter, and variable speed drive
- Verify starting feasibility from mechanical standpoint
- Verify that power factor and harmonics levels objectives are met
- Build a complete Motor Management solution: circuit breakers, soft starters, drives, contactors, MCC panels, power quality monitoring
- Get a summary report with calculations and recommended offers

Scan or click on the QR code

Life Is On | Schneider Electric

Altivar

Discover Altivar

Variable speed drives and soft starters

Improve your energy efficiency and sustainability with Altivar variable speed drives and soft starters. Manage motor control applications up to 20 MW with products ranging from compact products to custom-engineered solutions. Our connected devices offer built-in intelligence to improve operational efficiency, availability, and functional safety in various application areas, such as industrial processes, machines, or buildings.

Explore our offer

- Altivar Process
- Altivar Machine
- Altivar Building
- Altivar Soft Starters

Life Is On | Schneider Electric

Environmental Data Program

Enhance sustainability with Altivar™ Soft Starter ATS430

Superior environmental performance thanks to high durability

Altivar™ Soft Starter ATS430 is **RoHS** and **REACH** compliant
- Transparent environment information
- Life Cycle Analysis, compliant with ISO 14025
- Circularity profile

Altivar Soft Starter ATS430 brings key benefits to help you achieve superior sustainability thanks to high-durability performance:

- by increasing the reliability of the system to maximize process continuity and operations
- by allowing hardware and firmware upgradability to extend the service life of the equipment and keep it up to date
- by providing repairability and diagnostics to minimize downtime

Durability = Reliability + Upgradability + Repairability

Benefits

- Maximize machine uptime
- Best-in-class motor control
- Reduce overall cost thanks to embedded functions
- Enhance sustainability
- Optimize time from design to operation

Altivar™ Soft Starter ATS430 is designed for high-durability performance

Visit the Altivar Soft Starter ATS430 web pages on se.com to access environmental data

Reliability

The Altivar Soft Starter ATS430 has been designed to deliver enhanced reliability to withstand high stress, whatever the origin - whether thermal mechanical, chemical, or operational - to reduce downtime.

Additionally, the ATS430 integrates cybersecurity best practices that help to protect against casual or coincidental violation.

To avoid unplanned downtime, the ATS430 also embeds condition monitoring features to detect deviation at an early stage and provide proactive condition-based maintenance.

Upgradability

You can upgrade ATS430 firmware using SoMove or EcoStruxure Automation Device Maintenance software. Available on the Schneider Electric website, the firmware is digitally signed and its authenticity is verified by the ATS430. This operation can only be performed by authorized people as defined in the cybersecurity policy.

Repairability

The Altivar Soft Starter ATS430 is designed to simplify on-site maintenance and repair processes thanks to integrated diagnostic functions, spare parts available from stock, and fast, documented replacement operations.

In addition, Schneider Electric implements a circular model, offering replacement with repaired or reconditioned products so that your asset can be put back into service quickly.

Contents

Altivar Soft Starter ATS430

Services

Index

EcoStruxure™
Innovation At Every Level

Schneider Electric's IoT-enabled, plug-and-play, open, secure, interoperable architecture and platform, in Industries, Infrastructures, Data Centers, and Buildings.

Innovation at every level

EcoStruxure is based on a three-tiered technology stack delivering innovation at every level, from connected products to edge control and apps, analytics, and services.

Together with our hybrid segments approach, this enhances your value around safety, reliability, operational efficiency, sustainability, and connectivity across 6 domains of expertise:

- Power
- IT
- Building
- Machine
- Plant
- Grid

Dedicated architectures and IoT

We tailor our solutions in the form of dedicated reference architectures for plants:

- Management systems
- Power systems
- Data center systems
- Industrial plant and machine systems
- Smart grid systems

The Industrial Internet of Things (IIoT) gives an additional boost to technologies. That's why we provide our customers with an IoT-enabled architecture and platform offering simple, reliable, productive, and cost-efficient solutions.

Cybersecurity solutions

Robust cybersecurity protection is a must, and Schneider Electric's solutions can deliver it, regardless of business type or industry.

The vendor-agnostic services provided by our skilled professionals help to protect your entire critical infrastructure. We help to assess your risk, implement cyber-specific solutions, and maintain your onsite defenses over time, while integrating appropriate IT policies and requirements.

This is our difference and your advantage.

Enhanced safety

With the release of M580 Safety, Schneider Electric further expands the EcoStruxure platform.

This consolidates our position as one of the most trusted industrial safety vendor, with thousands of Modicon and Triconex safety systems protecting the most critical industrial processes globally.

EcoStruxure™ Innovation At Every Level **for Industry**

*The Schneider Electric industrial software business and AVEVA have merged to trade as AVEVA Group plc, a UK listed company.

Altivar Soft Starter

Soft starters for asynchronous motors

Altivar Soft Starter ranges

Market segments		**Simple machines**			**Industrial machines**		
Applications		**Simple starting**	**Simple starting and stopping**		**Controlled starting and stopping of pumps, fans, compressors, agitators, mixers, conveyors**	**Simple starting and stopping of pumps and fans**	
							
Operational voltage range Ue (V)		**110…480**	**200…480**	**200…480**	**208...600**	**230…440**	**208…600**
Operational current range Ie (A)		**3…25**	**6…32**	**38…105**	**17...590**	**17…590**	**17…590**
Power range	**For 50…60 Hz line supply (kW/*HP*)**	**0.37…11/*0.5…15***	**0.75…15/*1…20***	**11…55/*10…75***	**4...400/*3...500***	**4…355**	**4…400/*3…500***
	Single-phase 110…230 V (kW)	0.37…2.2	–				
	Three-phase 200…240 V (kW/*HP*)	–	0.75…*7.5*/*1…10*	–			
	200…480 V (kW/*HP*)	0.37…11/*0.5…15*	–				
	208 V (*HP*)	–		10…30	3...150	–	*3…150*
	230…240 V (kW/*HP*)	–		11…30/*10…40*	4...160/*5...200*	4…160/–	4…160/*5…200*
	380…440 V (kW)	1.1…11	1.5…15	18.5…55	7.5...355	7.5…355	7.5…355
	460…480 V (*HP*)	*0.5…15*	*2…20*	*25…75*	10...400	–	*10…400*
	500…525 V (kW)	–			9...400	–	9…400
	575 V (*HP*)	–			15...500	–	*15…500*
Motor control	Operating cycle	–		Normal duty			
	Current limiting	–			500% current rating (700% rated motor current)	350% current rating	
	Boost	–		Yes		–	
	Type of control	Configurable voltage ramp			Torque control (TCS = Torque Control System), voltage control	Configurable voltage ramp	
	Deceleration	Voltage ramp			Torque ramp, voltage ramp	Voltage ramp	
	Braking	–					
	Number of controlled phases	1	2			3	
	Connection inside the motor delta	–				Yes	–
	Bypass	Integrated					
Functions	Thermal protection	External			Electronic embedded, or with PTC 1/3 resistors in series, 2 wires	Electronic embedded, or with PTC	
	Other protections	–		Soft starter overheating	Underload, overload, motor phase loss, line phase inversion, motor phase inversion, excessive acceleration time, current overload, ground leakage, undervoltage, overvoltage, unbalance, time before restart.	Underload, overload, motor phase loss, line phase inversion, excessive acceleration time, current overload, ground leakage	
	Safety functions	–					
	Cybersecurity	–			Yes	–	
	Condition monitoring	–			Energy, power consumption, power quality Soft starter: fan(s), bypass relays	Energy, power consumption	
	Application functions	–			Preheating, smoke extraction, voltage boost	Second motor set, voltage boost	
Communication	Embedded	–			Modbus serial link (RJ45), Modbus serial link (open style)	Modbus serial link	
	Option modules	–					
Configuration and runtime tools		2 potentiometers	3 potentiometers		Integrated plain text display terminal, graphic display terminal (optional), DTM (device type manager), SoMove software	7-segment display, SoMove software	
Number of I/O	Analog inputs	–			PTC 1/3 resistors in series, 2 wires	1 PTC probe	
	Digital inputs	–	3		4	3	
	Analog outputs	–			1	–	
	Digital outputs	–	1		–		
	Relay outputs	–	1		2	2	
Standards and certifications		IEC/EN 60947-4-2 CE, UL, CSA, C-Tick, CCC		IEC/EN 60947-4-2 CE, CCC, UKCA, EAC, RCM	IEC/EN 60947-4-2, EMC class A, CE, cULus, UKCA, RCM, CCC, REACH, RoHS	IEC/EN 60947-4-2, EMC class A CE, UL, CSA, C-Tick, GOST, CCC	
References		**ATS01N1●●●●**	**ATS01N2●●●●**	**ATS130N2●●●LT**	**ATS430●●●S6**	**ATS22●●●Q**	**ATS22●●●S6●**

More technical information on www.se.com

Altivar Soft Starter

Soft starters for asynchronous motors

Altivar Soft Starter ranges

Market segments			**Process and infrastructure, demanding machines**	
Applications			**Controlled starting and stopping of pumps, fans, compressors, agitators, mixers, grinders, crushers, refiners, conveyors, lifting screws, presses**	
				
Operational voltage range Ue (V)			**208…690**	
Operational current range Ie (A)			**17…1,200**	
Power range	**For 50…60 Hz line supply (kW/*HP*)**		**4…900/*3…1,200***	
	Three-phase	208 V (*HP*)	*3…400*	
		230…240 V (kW/*HP*)	4…355/*5…450*	
		380…440 V (kW)	7.5…710	
		460…480 V (*HP*)	*10…1,000*	
		500…525 V (kW)	9…800	
		575 V (*HP*)	*15…1,200*	
		660…690 V (kW)	11…900	
Motor control	Operating cycle		Normal duty and heavy duty	
	Current limiting		500% current rating (700% rated motor current)	
	Boost		Yes	
	Type of control		Torque control (TCS = Torque Control System), voltage control	
	Deceleration		Torque ramp, voltage ramp	
	Braking		Yes	
	Number of controlled phases		3	
	Connection inside the motor delta		Yes	Yes, with embedded wiring diagnostics
	Bypass		External with soft starter optimization or without bypass	Integrated
Functions	Thermal protection		Electronic embedded, with PTC, or with PT100 2/3 wires	Electronic embedded, or with PTC 1/6 resistors in series, or with PT100 2/3 wires, or with PT1000 2/3 wires, or with KTY84
	Other protections		Underload, overload, motor phase loss, line phase inversion, overcurrent,excessive acceleration time, current overload, ground leakage	Underload, overload, motor phase loss, line phase inversion, motor phase inversion, excessive acceleration time, current overload, ground leakage, undervoltage, overvoltage, mains frequency out of range
	Safety functions		–	1: embedded STO (Safe Torque Off) certified IEC 61508 SIL1, EN 13849 Cat.2 PLc
	Cybersecurity		Yes	Yes, certified IEC 62443-4-2 SL1
	Condition monitoring		Energy, power consumption	Energy, power consumption, power quality Soft starter: fan(s) and bypass relays Driven equipment: discrete Fourier transform
	Application functions		Preheating, smoke extraction, voltage boost, multimotor cascade, second motor set	Preheating, smoke extraction, voltage boost, second motor set, forward/reverse with two contactors managed by the soft starter, JOG, anti-jam, borehole pumps
Communication	Embedded		Modbus serial link	Modbus TCP, EtherNet/IP, Modbus serial link
	Option modules		Modbus TCP, EtherNet/IP, PROFIBUS DP V1, CANopen daisy chain, SUB-D, and screw terminal block	PROFIBUS DP V1, CANopen daisy chain, SUB-D, and screw terminal block
Configuration and runtime tools			Plain text display terminal, graphic display terminal (option), DTM (device type manager), SoMove software	Graphic display terminal, embedded Web server, DTM (device type manager), SoMove software
Number of I/O	Analog inputs		PTC or PT100 2/3 wires	PTC 1/6 resistors in series, PT100 2/3 wires, PT1000 2/3 wires, KTY
	Digital inputs		4	
	Analog outputs		1	
	Digital outputs		2	
	Relay outputs		3	
Standards and certifications			IEC/EN 60947-4-2, EMC class A and B CE, cULus, UKCA, CCC, RCM, KC, EAC, DNV, ABS, BV, CCS, REACH, RoHs	IEC/EN 60947-4-2, EMC class A CE, cULus, UKCA, RCM, CCC, DNV, REACH, RoHS
References			**ATS480●●●Y**	**ATS490●●●Y**

Altivar Soft Starter ATS430

Soft starters for asynchronous motors
The essential for effectiveness
Best-in-class motor control and high-durability performance

Altivar Soft Starter ATS430 range

Effective motor management

Altivar Soft Starter ATS430 is the new comprehensive range of soft starters from Schneider Electric for standard industrial machines. It provides functions for effective motor management, including operational performance, reliability, protection, integration in the automation system, and energy efficiency.

Altivar Soft Starter ATS430 had been designed to deliver:

- Best-in-class motor control
- High-durability performance to reduce downtime and extend lifespan
- Superior sustainability through energy efficiency and resources preservation
- Cost reduction at each phase of the life cycle

ATS430 covers the operational voltage range from 208 to 600 V in a single product range from 17 up to 590 A to meet the requirements of the most stringent applications in normal duty. The range embeds best practice cybersecurity functions helping to protect operations, and integrates condition monitoring of its most sensitive parts.

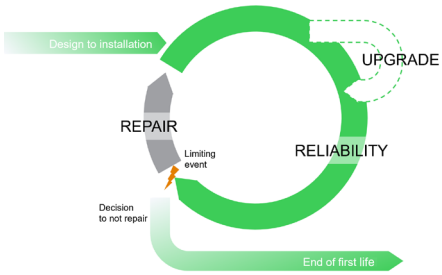
Best-in-class motor control

ATS430 integrates TCS, the original torque control system from Schneider Electric that helps to ensure smooth acceleration/deceleration and preserve the mechanics and hydraulics. Monitoring of the motor, application, power, and energy is built-in: all the data is available to users and the automation system.

High-durability performance

Altivar Soft Starter ATS430 is designed to help ensure operational continuity. The high-durability performance of ATS430 allows downtime and operational expenditure to be reduced and equipment lifespan to be extended. Durability encompasses:

- Reliability
- Upgradability
- Repairability



Reliability by design

ATS430 withstands high stress from several sources, whether environmental or operational. It offers enhanced robustness in terms of:

- Thermal conditions, with an extended operating ambient temperature range from -25 to 60 °C/*-13 to 140 °F* (with derating above 40 °C/*104 °F*)
- Mechanical conditions, by using a long-lasting power connection with integrated EverLink™ technology and complying with class 3M3 and class 3S3 according to IEC 60721-3-3 ed. 2002
- Chemical conditions, by complying with class 3C3 according to IEC 60721-3-3 ed. 2002 with salt mist
- Electrical conditions, thanks to a large mains voltage range from 208 to 600 V and a large mains frequency range from 50 or 60 Hz +/-20%

Torque control, the boost function, and the ATS430 starting capabilities all help to increase the withstand to stress originating from the application.

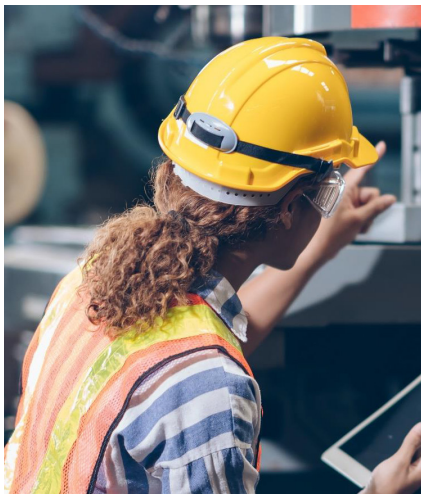
Cybersecurity best practices

As limiting events resulting in downtime can also be caused by operators, the Altivar Soft Starter ATS430 embeds best practice cybersecurity functions covering:

- User account management, including user authentication, role-based authorization, access channels, and strong passwords
- Hardening to restrict ports, functions, or services
- Threat intelligence to manage cybersecurity-related events
- Cybersecure firmware upgrade

Altivar Soft Starter ATS430

Soft starters for asynchronous motors
The essential for effectiveness
High-durability performance



Fan kit VZ3V4903 for ATS430C21S6...C59S6

High-durability performance (continued)

Integrated condition monitoring

To avoid unplanned downtime and move to a proactive maintenance strategy, Altivar Soft Starter ATS430 embeds early detection of deviation in operation of its most sensitive parts:

- Monitoring of cooling fans based on operation time and rotation speed
- Monitoring of bypass relays based on cycle counter and life cycle rate

The operator is alerted by flashing of the associated LED on the front panel. An output relay can also be assigned to this function.

Upgradability

It is easy to extend the lifetime of the equipment with ATS430 and keep it up to date thanks to the firmware upgrade.

- Up-to-date firmware is available on the Schneider Electric website.
- A firmware upgrade can be performed directly by customers with SoMove or EcoStruxure Automation Device Maintenance software through a Modbus serial port.
- Firmware upgrades follow the cybersecurity rules in terms of authorization and authenticity.

Repairability

To reduce the mean time to repair and therefore increase machine uptime, Altivar Soft Starter ATS430 offers:

- Easy diagnostics thanks to direct access to online help via the QR code sticker on the ATS430 front panel, and use of the error code on the built-in display to open the corresponding troubleshooting documentation
- Wear parts, such as fans and control block, available with documented operations for easy replacement by the user
- Spare parts, such as bypass contactor, power board, and thyristors, for replacement by Schneider Electric after-sales service

In addition, Schneider Electric implements a circular model, offering replacement with repaired or refurbished products.

Altivar Soft Starter ATS430

Soft starters for asynchronous motors
The essential for effectiveness
Improved efficiency

Improved efficiency

Energy efficiency and management

- Efficiency higher than 99.5%
- Integrated bypass
- Power monitoring with accuracy better than 95%: active and reactive power, active and reactive energy, current, voltage, power factor
- Power quality monitoring: voltage sag, voltage and current unbalance

Energy management capabilities are provided thanks to integration in EcoStruxure Power Monitoring Expert, by combining power and energy data provided by the ATS430 and process data according to different standpoints.

High environmental performance

- Use of plastic with at least 20% bio-based content
- Use of ASI-certified aluminum for responsible production, sourcing, and material stewardship
- Packaging using recycled cardboard

Environmental Data Program

Environmental data

ATS430 meets the following requirements:

- Use of hazardous substances
  - Compliance with the European RoHS directive (2011/65/EU and 2015/863/EU) and RoHS China
  - Compliance with REACH regulation No.1907/2006 for the declaration of substances of very high concern (SVHC), authorization (Annex XIV), and restriction (Annex XVII)
- Environmental impact

  The Product Environmental Profile (PEP) is a quantitative Type III Environmental Declaration in compliance with ISO 14025 that helps to ensure appropriate reliability and transparency. Based on a Life Cycle Assessment (LCA) of the product along its whole life cycle, the document presents the different impacts, such as energy consumption, carbon footprint, consumption of raw materials, and pollution of air, water, and soil.
- End-of-Life management

  The “ATS430 End-of-life” information document in accordance with IEC 62635 guidance contains the instructions for responsible disposal of the products and maximizes recycling in a step towards a more circular economy, improving operational efficiency and reducing environmental hazards.

Please consult the Altivar Soft Starter ATS430 product pages on our website to access the environmental data of the given reference: environmental and carbon footprint data, material and substances data, energy efficiency data, lifetime extension, repacking and remanufacturing data.

Altivar Soft Starter ATS430

Soft starters for asynchronous motors
The essential for effectiveness
Contributing to overall cost reduction

Contributing to overall cost reduction

Reduce engineering time and cost

With EcoStruxure solutions, the engineering time is drastically reduced:

- It takes just two minutes to select the complete soft starter solution with EcoStruxure Motor Control Configurator: no need to be an expert
- The power architecture is optimized with EcoStruxure Motor Management Design, which analyses different solutions
- ATS430 is integrated in EcoStruxure Power Monitoring Expert for energy management
- Small motor tests can be run to check the complete sequence

Reduce the cost of the solution

Altivar Soft Starter ATS430 incorporates functions that eliminate the need to use and integrate external devices:

- No need for external instrumentation for energy management with the embedded power monitoring and power quality functions
- No need for external bypass contactor and wiring thanks to the embedded bypass relays
- Motor thermal monitoring with PTC probes
- Simple Modbus wiring through open-style terminals

Reduce your operational expenditure (OpEx)

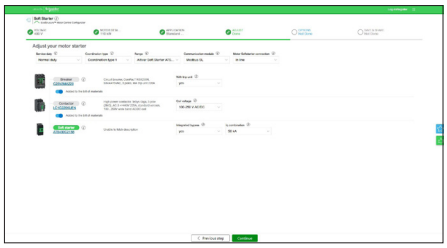
Altivar Soft Starter ATS430 is designed to reduce the Mean Time to Repair (MTTR) and:

- Reduce your energy bill:
  - High efficiency level of ATS430 (99.5%) thanks to integrated bypass
  - Embedded power and energy monitoring and management
- Increase uptime with a high-durability device
- Reduce maintenance cost by moving from reactive maintenance to condition-based maintenance thanks to the embedded condition monitoring of the soft starter and the driven equipment
- Help protect your process integrity against casual or coincidental violations thanks to the embedded best practice cybersecurity functions

Altivar Soft Starter ATS430

Soft starters for asynchronous motors

Applications, functions, and EcoStruxure integration



Machines for industrial applications

Altivar Soft Starter ATS430 is specifically designed to meet the requirements of normal duty applications in standard industrial machines such as:

- Centrifugal pumps
- Fans
- Screw compressors
- Centrifugal compressors
- Conveyors
- Agitators
- Mixers

The Altivar Soft Starter ATS430 range increases durability and availability of your machines, helps to ensure continuous operations, and reduces downtime thanks to its:

- Torque Control System (TCS)
- Simplicity
- Reliability
- Integrated bypass relays
- Condition monitoring functions
- Cybersecurity features
- Repairability

Functions

The Altivar Soft Starter ATS430 range masters the acceleration and deceleration of normal duty applications while reducing mechanical wear and fluid shocks in hydraulic machines.

Additional functions:

- Up to 700% motor current starting without tripping
- Boost function to override locked shaft and friction
- Motor preheating

Full set of functions to monitor:

- The motor: overload, ground fault
- The application: underload and overload, phase rotation, starting time
- The mains: phase loss, phase rotation, phase inversion

Integration in EcoStruxure software

The Altivar ATS430 soft starter is integrated in EcoStruxure software to save time and improve project efficiency with:

- EcoStruxure Motor Management Design for power architecture design and selection of the solution
- EcoStruxure Motor Control Configuration for selection of the complete motor starter solution including circuit breakers and contactors
- EcoStruxure Power Monitoring Expert for energy management using power and energy data reported by the ATS430
- EcoStruxure Architecture Builder for definition of the automation architecture and the detailed design, including the Bill of Material and quotation

Altivar Soft Starter ATS430

Soft starters for asynchronous motors

The offer

ATS430_SIZE_0B_Default

The offer

The Altivar Soft Starter ATS430 is a controller with four thyristors using the TCS (torque control system) algorithm to control acceleration, deceleration, and stopping of three-phase squirrel cage asynchronous motors up to 400 kW/*500 HP*.

- ■ The ATS430 is a cost-effective solution designed to:
  - □ Reduce machine operating costs by reducing mechanical stress and improving machine availability
  - □ Reduce the risk of severe damage by reducing fluid shocks and improving installation availability
- ■ Reduce the stress on the electrical distribution system by reducing line current peaks and voltage drops during motor starts
- ■ Reduce the installation cost thanks to the integrated bypass relays
- ■ Improve reliability of your asset thanks to embedded features such as condition monitoring and cybersecurity

Altivar Soft Starter ATS430 consists of one range only covering:

- ■ Operational voltage from 208 to 600 V
- ■ Operational current from 17 to 590 A
- ■ Control power supply from 110 to 230 VAC

ATS430 integrates two Modbus serial lines as standard:

- ■ One Modbus serial line available on an RJ45 port for:
  - □ Connection to configuration and firmware update software
  - □ Connection of a remote display terminal
  - □ Connection to a Modbus fieldbus
- ■ One Modbus serial line available on open-style terminals for connection to a Modbus fieldbus

Altivar Soft Starters ATS430 has an integrated display terminal that allows the user to change the configuration and settings, or monitor parameters related to the application, motor, or soft starter.

Altivar Soft Starter ATS430

Soft starters for asynchronous motors

The offer (continued)

Altivar Soft Starter ATS430 equipped with optional protective covers

The offer (continued)

Reliability by design

Altivar Soft Starter ATS430 is designed for harsh environments.

- ■ Ambient operating temperature:
  - □ -25...+40 °C/*-13...104 °F* without derating, up to 60 °C/*140 °F* with derating of 1% per °C above 40 °C/*104 °F*
- ■ Relative humidity without condensing: 5...95%
- ■ Storage and transport temperature: -40…+70 °C/*-40…+158 °F*
- ■ Withstand to harsh environments:
  - □ Conforming to IEC/EN 60721-3-3 ed. 2002
    - Chemical substances class 3C3 with salt mist
    - Mechanical substances class 3S3
    - Mechanical conditions class 3M3
  - □ Printed circuit boards with protective coating
- ■ Operating altitude:
  - □ 0…2,000 m/*0…6,562 ft* without derating
  - □ 2,000...4,800 m/*6,562…15,748 ft* with derating of 1% per 100 m/*328 ft*
  - □ Altitude also has an impact on the overvoltage category of the supply source (see the "System earthing arrangement and mains voltage" section below).

System earthing arrangement and mains voltage

To comply with IEC 60947-2, the system earthing arrangement, the mains voltage used on the ATS430 soft starter, and the altitude define the overvoltage category of the supply source.

Mains voltage	System earthing arrangement	Supply source overvoltage category, up to 4,800 m/*15,748 ft*
208…600 V	TT or TN	OVCIII
	IT or corner grounded	OVCIII

The supply source overvoltage category could be reduced by using an appropriate system such an insulation transformer.

Installation

ATS430 soft starters are intended to be mounted in a cabinet. The protection degree of the products is as follows:

- ■ IP20 for current rating from 17 to 110 A
- ■ IP00 for current rating from 140 to 590 A

The units rated from 140 to 590 A have unprotected power terminals. These terminals can be fitted with protective covers (see page 32) to obtain an IP20 solution. The protective covers are to be used with eyelet connections.

Electromagnetic compatibility (EMC)

Compliance with electromagnetic compatibility requirements has been incorporated into the design of the Altivar Soft Starter ATS430 to help ensure equipment meets CE marking requirements.

Conducted and radiated emissions according to IEC 60947-4-2 class A applies to the whole ATS430 range.

Certification

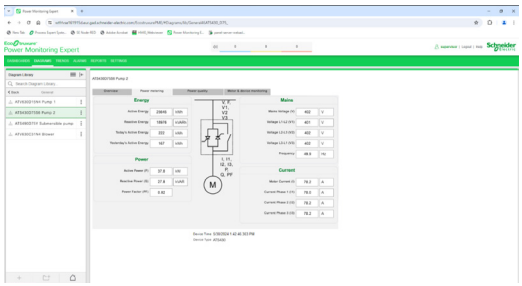
The Altivar Soft Starter ATS430 range has the following certifications: cULus, CE, UKCA, CCC, EAC, and RCM.

Marking: CE, cULus, CCC, RCM, EAC, and UKCA.

Altivar Soft Starter ATS430

Soft starters for asynchronous motors

Integrated functions



Integrated functions

The Altivar Soft Starter ATS430 includes numerous functions related to monitoring, the application, and start/stop performance, including:

- TCS, the original torque control system: constant control of the torque supplied to the motor during acceleration and deceleration phases (significantly reducing pressure surges)
- Bypassing function of the thyristors, managed by the integrated relays, at the end of a start period whilst maintaining electronic protection
- Wide frequency tolerance for generator set power supplies
- Wiring diagnostics functions: small motor test

Condition monitoring

The Altivar Soft Starter ATS430 embeds condition monitoring functions to improve uptime and reduce the maintenance cost of your assets:

- Condition monitoring of the embedded cooling fans
- Condition monitoring of the integrated bypass relays

Power and energy monitoring

The Altivar Soft Starter ATS430 is equipped with nine measuring sensors (six voltage sensors and three current sensors) with better than 95% accuracy, monitoring each phase at mains supply and motor level:

- Power metering
  - Active energy and reactive energy
  - Active power and reactive power
  - Mains voltage (global and phase-to-phase) and frequency
  - Motor current (global and per phase)
- Power quality
  - Current unbalance
  - Voltage unbalance and voltage sag

Motor and mains monitoring

- Built-in motor thermal monitoring
- Motor thermal state with connection of a PTC probe
- Time before restart
- Phase rotation
- Phase loss
- Mains loss
- Excessive starting time locked rotor
- Overloads, underloads, overcurrent, and undercurrent during continuous operation
- Main phase inversion

Application functions

- Smoke extraction
- Boost
- Torque limitation
- Motor preheating
- Forced local mode
- Automatic restart

Altivar Soft Starter ATS430

Soft starters for asynchronous motors

Cybersecurity

Cybersecurity best practices for your assets

Cybersecurity best practices

Altivar Soft Starter ATS430 embeds cybersecurity features as standard. These features contribute to the enhanced protection of your machines against casual or coincidental violations from insiders, such as well-intentioned yet careless employees or contractors with no cybersecurity attack skills, which represent 60% of cyberattacks.

Cybersecurity features help to:

- ■ Enforce authorization of users through:
  - □ User profile assignment
  - □ User authentication
  - □ Administrator ability to override user authorization
  - □ Strong password
  - □ Password encrypted in a non-reversible way
  - □ Authorization managed according to channels
  - □ After-sales services authorization
- ■ Restrict and disable functions or services:
  - □ Sign-in required after a configurable period of inactivity
  - □ Prohibit or restrict the use of communication ports and related services such as protocols, I/O scanner, commissioning software
  - □ Counter brute force attacks by blocking repeat login attempts
  - □ Cybersecurity events recorded in a dedicated database
  - □ Reports include user's name, type of operation, time stamp
  - □ Alert when storage capacity is approaching
  - □ Storage capacity up to 500 logins
  - □ 10-year battery life, alert when low battery is approaching
- ■ Protect authenticity of the firmware through:
  - □ Digitally signed firmware
  - □ Cryptographic firmware keys
  - □ Original firmware stored in location
  - □ Verification of firmware validity on each power-up
  - □ Verification of operation of the ATS430 soft starter
- ■ Increase the hardening robustness of the device
  - □ After-sales services management

Cybersecurity settings can be exported from the ATS430 as an individual file that can be saved and duplicated by transfer to other ATS430 devices.

Altivar Soft Starter ATS430

Soft starters for asynchronous motors

Integration, dialog and configuration tools

Dialog interface solutions for ATS430

SoMove software

Integration

Embedded fieldbus protocol

- ■ Modbus serial link with RJ45 port **1**
- □ Standard Modbus
- □ Connection of configuration and runtime tools
- □ Control of the Altivar Soft Starter ATS430 in automation architectures (PLCs, IPCs, HMIs, etc.) in Modbus protocol for reading/writing data: diagnostics, supervision, and fieldbus management functions
- ■ Modbus serial link with open-style port **2**
- □ Standard Modbus
- □ Control of the Altivar Soft Starter ATS430 in automation architectures (PLCs, IPCs, HMIs, etc.) in Modbus protocol for reading/writing data: diagnostics, supervision, and fieldbus management functions

Dialog and configuration tools

The Altivar Soft Starter ATS430 is supplied as standard with a plain text display terminal and four buttons for menu navigation and incremental entry of settings integrated into the front panel of the device.
An additional removable remote terminal can be connected to the device's Modbus RJ45 serial port. This can be:

- ■ a plain text display terminal with an IP43 door mounting **3** (see page 23)
- ■ a graphic display terminal with an IP65 door mounting **4** (see page 24)

These options provide an operator interface outside the cabinet and raise the level of usable functionality.

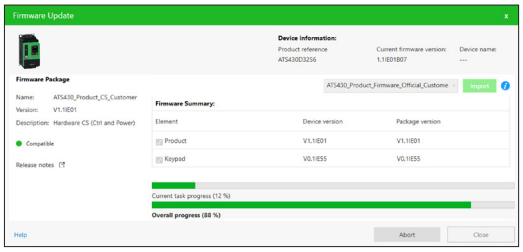
- ■ The integrated plain text display and keys are used for:
- □ ATS430 control, adjustment, and configuration
- □ Diagnostics
- □ Displaying current values (motor, I/O, etc.), notifications, and warning messages
- ■ The optional door-mounted plain text terminal offers more services such as:
- □ Configuration storage and download
- □ Duplication of the configuration of a powered-up ATS430 onto another powered-up ATS430
- ■ The optional door-mounted graphic display terminal offers additional high-level services such as:
- □ Copying configuration files from a PC or an ATS430 in the graphic display terminal and duplicating them on other ATS430 (the soft starter must be powered-on for the duration of the duplication operation)
- □ Access to digital portal via dynamic QR code
- □ Connection to several Altivar Soft Starters using multidrop link components
- □ Enhanced remote visibility of a detected error by switching the backlight color from white to red

The Altivar Soft Starter ATS430 is supported by SoMove software, which covers all Altivar drives and soft starters.
SoMove software provides advanced functions for configuration, setup, and maintenance of the Altivar Soft Starter ATS430.

Altivar Soft Starter ATS430

Soft starters for asynchronous motors

Service features



Firmware update with SoMove software

Scanning the QR code from a smartphone or tablet

Integrated service features

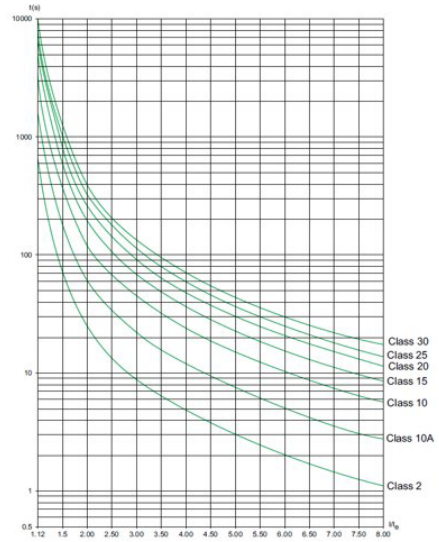
Altivar Soft Starter ATS430 provides built-in service features to help achieve optimum time savings:

- ■ Native simplicity to set up and start
- ■ Simplified communication with integrated Modbus serial communication
- ■ Secure firmware update:
  - □ Firmware version available on se.com from the Altivar Soft Starter ATS430 web page
  - □ Single device firmware update using SoMove
  - □ Mass firmware update deployment using EcoStruxure Automation Device Maintenance
  - □ Applying the new firmware can be automatic or manual
  - □ Applying a new version is only possible when the Altivar Soft Starter ATS430 has validated the digital signature of the firmware. If this is not the case, the ATS430 will restart on the firmware version that was previously installed.
  - □ Firmware update is available on ATS430 products and optional plain text terminal and graphic display terminal languages.

- ■ Three types of QR code are available:
  - □ QR code located on the front face of the product, to access the:
    - digital Customer Care Center application
    - product data sheet
    - ATS430 ID card and documentation
  - □ Dynamic QR code generated when an error is detected (red screen):
    - Identification of the detected error and link to a description of probable cause and possible corrective actions
  - □ Custom QR codes with links to your own support pages

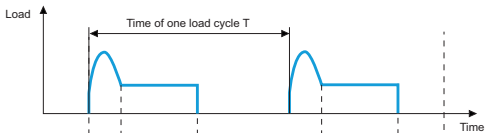
Selection guide: page 4 | References: page 20 | Combinations: page 28 | Coordination: page 33 | Dimensions: page 39

Altivar Soft Starter ATS430
Soft starters for asynchronous motors
Selection criteria



Motor thermal protection curves (from cold state)

Motor service duty S1



Motor service duty S4

Selection criteria for Altivar Soft Starter ATS430

- The mains voltage
- The rated motor power and rated motor current
- The type of application: normal duty

Examples of normal duty applications for Altivar ATS430 soft starter

In the table below you will find applications categorized as normal duty, which are given as examples only.

Application	Limiting current	Acceleration	Initial starting torque	Type of stop
	% of motor nominal current	Seconds	% of nominal torque	
Centrifugal pump	450	5 to 15	0	Deceleration
Submersible pump	450	Up to 2	0	Deceleration
Piston pump	525	5 to 10	30	Deceleration
Fan	450	10 to 40	0	Freewheel
Cold compressor	450	5 to 10	30	Deceleration
Screw compressor	450	3 to 20	30	Deceleration
Centrifugal compressor	450	10 to 40	0	Freewheel
Piston compressor	525	5 to 10	30	Deceleration
Conveyor, transporter	450	3 to 10	30	Deceleration
Agitator	525	5 to 20	10	Deceleration
Mixer	525	5 to 10	50	Deceleration

A normal duty application corresponds to motor protection class 10E.

Starting capabilities of ATS430 according to the service duty

From an application standpoint, the overload is defined depending on the service duty of the motor, S1 (continuous operation) or S4 (intermittent operation), according to the following table:

Service type	Overload (starting)		Service cycle	
	Overcurrent	Duration	No. of starts/h	Service factor
Normal duty				
S1	4 x In 3 x In	23 s 46 s	Continuous operation after starting	
S4	4 x In 3 x In	13 s 23 s	ATS430D17...C17S6: **10** ATS430C21...C59S6: **6**	50%

Altivar Soft Starter ATS430

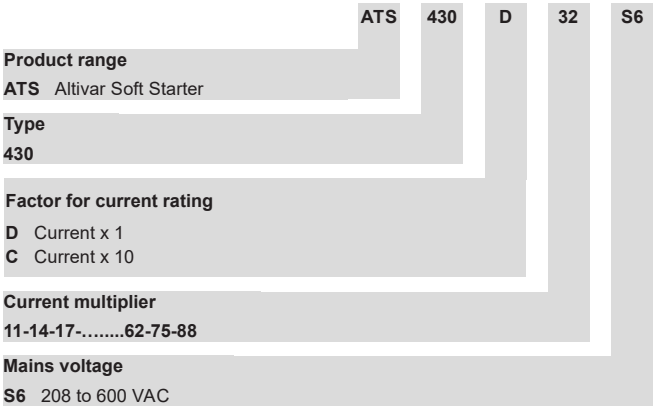
Soft starters for asynchronous motors
Selection of ATS430 commercial reference

Selection of ATS430 commercial reference

Once the appropriate application has been validated based on the above elements, select the soft starter from page 20 according to the supply voltage and the motor power. Check that the rated motor current is lower than the operational current of the ATS430.
The Altivar Soft Starter ATS430 is designed to respect the above operations (see previous page) without triggering an overheat error at 40 °C/*104 °F* max. and at an altitude of 2000 m/*6562 ft*. Above those limits, the operational current of the soft starter needs to be derated as follows:

- Derating of 1% per °C above 40 °C/*104 °F* up to 60 °C/*140 °F*
- Derating of 1% per 100 m/*328 ft* up to 4,800 m/*15,748 ft*

Breakdown of ATS430 product reference:



For example, for the reference ATS430C17S6, the current rating is 170 A (17 x 10).
The current rating is defined as the rated operational current in normal duty, in-line, at 40 °C/*104 °F*.

Special uses

Other use cases that influence the selection of the Altivar Soft Starter ATS430 are outlined below.

Motors in parallel

Motors may be connected in parallel provided that the power limit of the soft starter is not exceeded (the sum of the motor currents must not exceed the nominal current of the soft starter selected depending on the type of application) and that thermal protection by sensors is provided on each motor.

Brush motor

The Altivar Soft Starter ATS430 can operate with a bypassed rotor resistance motor or with a resistance lug. The starting torque is modified in accordance with the rotor resistance. If necessary, maintain a low resistance to obtain the required torque to overcome the resistive torque on starting.
A bypassed brush motor has a very low starting torque. A high stator current is required to obtain sufficient starting torque.
Select an ATS430 soft starter with a limiting current equal to or higher than seven times the motor nominal current.
Note: Check that the starting torque capability of the soft starter, equal to seven times of its rated current, is greater than the resistive torque.

Note: The ATS430 torque control enables excellent soft starting despite the limiting current being seven times the rated current required to start the motor.

Very long motor cable

Very long motor cables cause voltage drops due to the resistance of the cable. If the voltage drop is significant, it could affect the current consumption and the torque available. Therefore, this must be taken into account when selecting the motor and the soft starter.

Soft starters in parallel on the same line supply

If several soft starters are installed on the same line supply, line chokes should be installed between the transformer and the soft starter (see page 32).

Restricted use

- Do not connect the Altivar Soft Starter ATS430 inside the motor delta.
- Do not connect the ATS430 to loads other than motors (for example, transformers and resistors are not allowed).
- Do not connect power factor correction capacitors to the terminals of a motor controlled by an Altivar Soft Starter ATS430.

Altivar Soft Starter ATS430

Soft starters for asynchronous motors

Connection in-line

Motor power in kW and HP

ATS430D17S6

ATS430 in-line

Motor nameplate					ATS430				
Rated operational voltage (Ue) Rated motor power					Reference	Operational rated current (Ie)	Power loss at Ie	Power loss during starting at 4xIe	Weight
230 V	400 V	440 V	500 V	525 V					
kW	kW	kW	kW	kW		A	W	W	kg/*lb*
Normal duty applications									
4	7.5	7.5	9	9	ATS430D17S6	17	2	133	2.9/*6.4*
7.5	15	15	18.5	18.5	ATS430D32S6	32	6	281	2.9/*6.4*
11	22	22	30	30	ATS430D47S6	47	12	375	3.4/*7.5*
15	30	30	37	37	ATS430D62S6	62	6	460	6.4/*14.3*
18.5	37	37	45	45	ATS430D75S6	75	8	640	6.4/*14.3*
22	45	45	55	55	ATS430D88S6	88	11	717	6.6/*15.6*
30	55	55	75	75	ATS430C11S6	110	18	904	6.6/*15.6*
37	75	75	90	90	ATS430C14S6	140	19	1,059	8.6/*19*
45	90	90	110	110	ATS430C17S6	170	28	1,388	8.6/*19*
55	110	110	132	132	ATS430C21S6	210	35	1,763	14.6/*32.2*
75	132	132	160	160	ATS430C25S6	250	47	2,085	15.6/*34.4*
90	160	160	220	220	ATS430C32S6	320	46	2,819	16.5/*36.4*
110	220	220	250	250	ATS430C41S6	410	76	3,462	16.5/*36.4*
132	250	250	315	315	ATS430C48S6	480	81	4,551	24.5/*54*
160	315	355	400	400	ATS430C59S6	590	122	5,655	24.5/*54*

Motor nameplate				ATS430				
Rated operational voltage (Ue) Rated motor power				Reference	Operational rated current (Ie)	Power loss at Ie	Power loss during starting at 4xIe	Weight
208 V	230 V	460 V	575 V					
HP	HP	HP	HP		A	W	W	kg/*lb*
Normal duty applications								
3	5	10	15	ATS430D17S6	17	2	133	2.9/*6.4*
7.5	10	20	25	ATS430D32S6	32	6	281	2.9/*6.4*
–	15	30	40	ATS430D47S6	47	12	375	3.4/*7.5*
15	20	40	50	ATS430D62S6	62	6	460	6.4/*14.3*
20	25	50	60	ATS430D75S6	75	8	640	6.4/*14.3*
25	30	60	75	ATS430D88S6	88	11	717	6.6/*15.6*
30	40	75	100	ATS430C11S6	110	18	904	6.6/*15.6*
40	50	100	125	ATS430C14S6	140	19	1,059	8.6/*19*
50	60	125	150	ATS430C17S6	170	28	1,388	8.6/*19*
60	75	150	200	ATS430C21S6	210	35	1,763	14.6/*32.2*
75	100	200	250	ATS430C25S6	250	47	2,085	15.6/*34.4*
100	125	250	300	ATS430C32S6	320	46	2,819	16.5/*36.4*
125	150	300	350	ATS430C41S6	410	76	3,462	16.5/*36.4*
150	–	350	400	ATS430C48S6	480	81	4,551	24.5/*54*
–	200	400	500	ATS430C59S6	590	122	5,655	24.5/*54*

Altivar Soft Starter ATS430

Soft starters for asynchronous motors

Replacement parts

VZ3V4903

Replacement parts

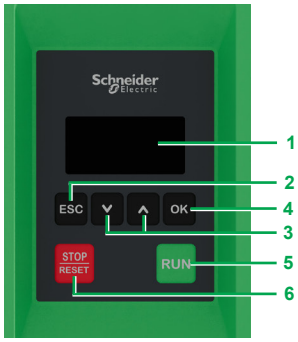
Description	Corresponding soft starter	Reference	Weight kg/*lb*
Fan kit + instruction sheet	ATS430C14S6…C17S6	VZ3V4902	0.125/*0.276*
	ATS430C21S6…C59S6	VZ3V4903	0.275/*0.606*
Control block + instruction sheet	ATS430D17S6….ATS430D47S6	VX4G4301	0.350/*0.772*
	ATS430D62S6….ATS430C59S6	VX4G4302	0.400/*0.882*

Altivar Soft Starter ATS430

Soft starters for asynchronous motors

Configuration and runtime tools
Integrated display terminal

ATS430_SIZE_0A_front



Integrated plain text display terminal

Integrated plain text display and input keys

The integrated plain text display and input keys are used to:
- Control, adjust, and configure the ATS430
- Display current values (motor, I/O, and machine data)

Other features:
- Two-line display
- Languages (Chinese, English, French, German, Italian, Korean, Russian, Spanish, Traditional Chinese, Turkish)
- White backlit LCD screen
- Sensitive-effect buttons

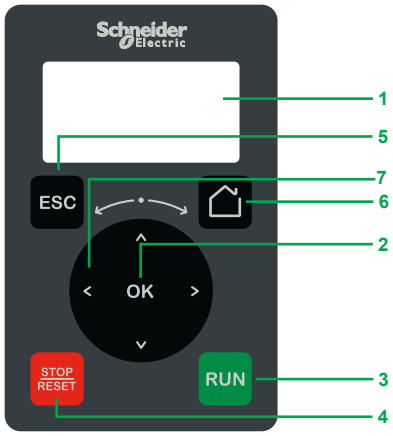
Description

The integrated display and input keys comprise:
1. LCD backlit screen
2. ESC button: aborts a value, parameter, or menu to return to the previous selection
3. Up/Down buttons: increases/decreases a value, scrolls through lines
4. OK button: saves the current value (ENT), selects the menu
5. RUN button: local control of motor run command
6. STOP/RESET button: local control of motor stop command/clearing detected errors

An additional removable remote terminal can be connected to the device's Modbus RJ45 serial port. This can be:
- a plain text display terminal with an IP43 door-mounting solution (see page 23)
- a graphic display terminal with an IP65 door-mounting solution (see page 24)

These options provide an operator interface outside the cabinet and raise the level of usable services.

PF142246



Plain text display terminal VW3A1113

Plain text display terminal

The plain text display terminal can be ordered separately for mounting on a cabinet door with an IP43 solution, using a mounting accessory and a remote connection to the ATS430.

This terminal is used to:
- Control, adjust, and configure the ATS430
- Display current values (motor, I/O, and machine data)
- Store and download configuration (one configuration file can be stored)
- Duplicate the configuration of an ATS430 on another ATS430

Other features:
- Two-line display
- Languages (Chinese, English, French, German, Italian, Korean, Russian, Spanish, Traditional Chinese, Turkish)
- White backlit LCD screen
- Operating range: -15...60 °C/*+5...140 °F*
- Removable, easy plug-in with RJ45 port

Description

The front of the display terminal comprises:
1 LCD backlit screen
2 OK button: saves the current value (ENT), selects the menu
3 RUN button: local control of motor run command
4 STOP/RESET button: local control of motor stop command/clearing detected errors
5 ESC button: aborts a value, parameter, or menu to return to the previous selection
6 Home: root menu
7 Turn ±: navigation dial, increases or decreases a value, scrolls through lines

References

Description	Reference	Weight kg/*lb*
Plain text display terminal	VW3A1113	0.200/*0.441*

Altivar Soft Starter ATS430

Soft starters for asynchronous motors

Configuration and runtime tools

Graphic display terminal

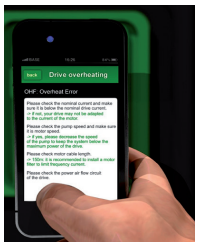
PF140357

Embedded dynamic QR codes generated on error detection

PF140358

Scanning QR code from a smartphone or tablet

PF140359



Contextual instantaneous access to online help

ATS430_63441_CPSCT16025

Red backlight automatically activated on detection of an error

PF130899

Graphic display terminal VW3A1111

Graphic display terminal

The graphic display terminal can be ordered separately for mounting on a cabinet door with an IP65 solution, using a mounting accessory and a remote connection to the ATS430.

This terminal can also be connected to:

- A PC to exchange files via a Mini USB/USB connection *(1)*
- Several Altivar devices in multipoint mode

This terminal is used to:

- Control, adjust, and configure the ATS430
- Display current values (motor, I/O, and machine data)
- Display graphic dashboards such as the energy consumption monitoring dashboard
- Store and download configurations (several configuration files can be stored)
- Copy the configuration from one ATS430 and duplicate it to other ATS430 devices
- Load configurations from a PC and duplicate them on Altivar devices

Other characteristics:

- Up to 24 languages (complete alphabets) covering most countries around the world (languages can be removed, added, and updated according to user needs; please consult our website)
- Two-color backlit display (white and red). If an error is detected, the red backlight is automatically activated (function can be disabled)
- Operating range: -15…60 °C/*5…140 °F*
- Trend curves: graphic display of changes in monitoring variables over time

Multipoint screen

In most cases, the graphic terminal is connected point-to-point with an ATS430. However, communication is possible between a graphic display terminal and several Altivar soft starters and Altivar drives (ATV340, ATV600, and ATV900) connected on the same Modbus serial fieldbus via the RJ45 port (HMI or Modbus serial). In this case, multipoint mode is automatically applied to the graphic display terminal.

A maximum of 32 Altivar devices can be connected on the same Modbus serial fieldbus.

Apart from the Stop function linked to the STOP/RESET key, multipoint mode cannot be used to apply a reset after an error has been detected or control the drive via the graphic display terminal: in multipoint mode, the Run key and the Local/Remote key are disabled.

Description

The front of the graphic display terminal comprises:

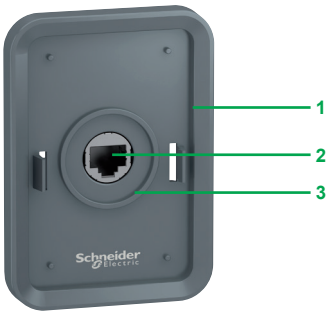
1. 8-line, 240 x 160-pixel screen, to display bar charts, gages, and trend charts
2. 4 function keys to facilitate navigation and provide contextual links for enabling functions
3. STOP/RESET button: Local control of motor stop command/clearing detected errors
4. RUN button: Local control of motor run command
5. Navigation buttons:
   - OK button: saves the current value (ENT), selects the menu
   - Turn ±: navigation dial, increases or decreases a value, scrolls through lines
   - ESC button: aborts a value, parameter, or menu to return to the previous selection
   - Home: root menu
   - Information (i): contextual help

References

Description	Reference	Weight kg/*lb*
Graphic display terminal *(2)*	VW3A1111	0.200/*0.441*

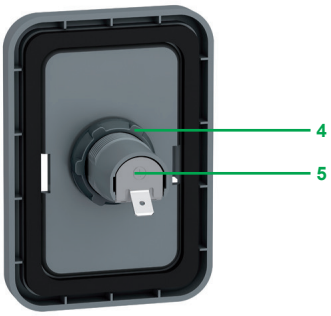
(1) Graphic display terminal used as a handheld terminal only
(2) Minimum version compatible with Altivar Soft Starters ATS430: V2.3

PF142222



Remote-mounting kit VW3A1114 (front view)

PF142251



Remote-mounting kit VW3A1114 (rear view)

Mounting kit for plain text display terminal

Remote-mounting kit for mounting on an enclosure door with IP43 degree of protection as standard.

Description

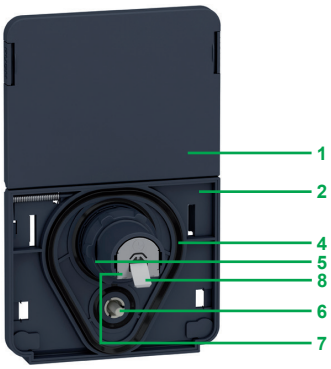
The kit comprises:
– Tightening tool (also sold separately under the reference ZB5AZ905)
1 Mounting plate
2 RJ45 port for the plain text display terminal
3 Seal
4 Fixing nut
5 RJ45 port for connecting the remote-mounting cordset
Cordsets should be ordered separately depending on the length required.

Drilling a hole with a standard Ø 22 tool, as used for a pushbutton, allows the terminal to be mounted without the need for a cut-out in the enclosure.
When the kit is locked tightly onto the panel by the nut, the gasket on the back cannot rotate.

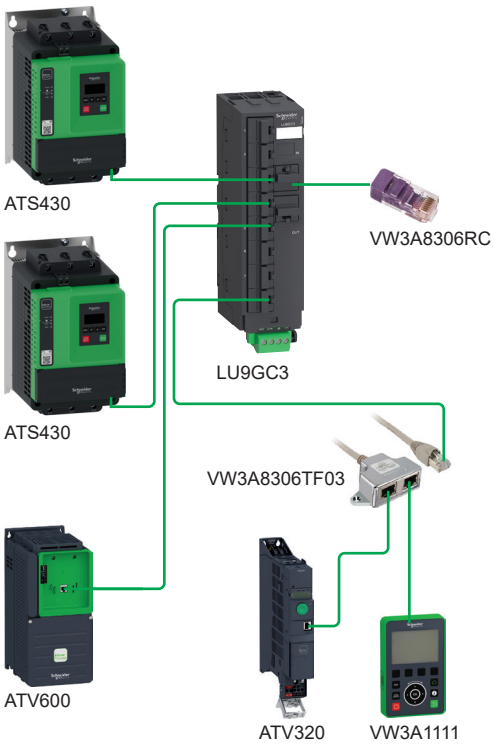
References

Description	Length m/*ft*	IP degree of protection	Reference
Remote-mounting kit Order with remote-mounting cordset W3A1104R●●	–	43	VW3A1114
Tightening tool for remote-mounting kit	–	–	ZB5AZ905
Remote-mounting cordset equipped with 2 RJ45 connectors	1/*3.28*	–	VW3A1104R10
	3/*9.84*	–	VW3A1104R30

Remote-mounting kit for mounting graphic display terminal on enclosure door (front panel)



Remote-mounting kit for graphic display terminal (rear panel)



Example of multipoint architecture with a graphic display terminal, Altivar Soft Starter ATS430, and other Altivar devices

Accessories for graphic display terminal

Remote-mounting kit for mounting on enclosure door with IP65/UL Type 12 degree of protection as standard.

Description

The kit includes:
– Tightening tool (also sold separately under the reference ZB5AZ905)
1 Cover plate to maintain IP65 protection when there is no terminal connected
2 Mounting plate
3 RJ45 port for the graphic display terminal
4 Seal
5 Fixing nut
6 Anti-rotation pin
7 RJ45 port for connecting the remote-mounting cordset (10 m/*32.8 ft* maximum) Cordsets should be ordered separately depending on the length required.
8 Grounding connector

Drilling a hole with a standard Ø 22 tool, as used for a pushbutton, allows the unit to be mounted without the need for a cut-out in the enclosure (Ø 22.5 mm/*Ø 0.89 in.* drill hole).

References

Description	Length m/*ft*	IP rating	Reference
Remote mounting kit Order with remote-mounting cordset VW3A1104R●●	–	65/UL Type 12	VW3A1112
Tightening tool for remote-mounting kit	–	–	ZB5AZ905
Remote-mounting cordset equipped with two RJ45 connectors	1/*3.28*	–	VW3A1104R10
	3/*9.84*	–	VW3A1104R30
USB/Mini B USB cable for connecting the graphic display terminal to a PC	–	–	TCSXCNAMUM3P

Multidrop connection accessories

These accessories are used to connect a graphic display terminal to several Altivar devices via a multidrop link. This multidrop connection uses the Modbus serial RJ45 port of the ATS430, and the RJ45 terminal port on the front face of an Altivar device equipped with a removable terminal communication port.

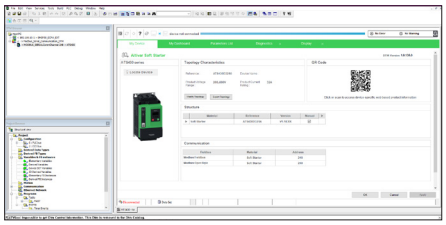
.

Connection accessories

Description			Sold in sets of	Unit reference
Modbus splitter box, 10 RJ45 connectors, and one screw terminal block			–	LU9GC3
Modbus T-junction boxes	With 0.3 m/*0.98 ft* integrated cable		–	VW3A8306TF03
	With 1 m/*3.28 ft* integrated cable		–	VW3A8306TF10
Modbus line terminator	For RJ45 connector	R = 120 Ω C = 1 nf	2	VW3A8306RC

Cordsets (equipped with two RJ45 connectors)

Used for	Length m/*ft*	Reference
Serial link	0.3/*0.98*	VW3A8306R03
	1/*3.28*	VW3A8306R10
	3/*9.84*	VW3A8306R30



Altivar Soft Starter ATS430 DTM in EcoStruxure Control Expert

DTM

Presentation

Using FDT/DTM technology, it is possible to configure, control, and diagnose the Altivar Soft Starter ATS430 directly in third party and SoMove software by means of the same software brick (DTM).
FDT/DTM technology standardizes the communication interface between field devices and host systems. The DTM contains a uniform structure for managing soft starter access parameters.

Specific functions of Altivar Soft Starter ATS430

- Offline or online access to soft starter data
- Configuration and management of cybersecurity features
- Access to threat intelligence file
- Transfer of configuration files from and to the soft starter
- Customization (My Menu, etc.)
- Access to drive parameters
- Graphic interface to assist with configuration of the ATS430 functions
- Detected error and warning logs (with timestamping)

Advantages of the DTM library in SoMove:

- Altivar-oriented software environment
- Wired connection to the Modbus serial communication port
- Standard cable (file transfer performance)
- Third-party software and download
- The Altivar Soft Starter DTM library is a flexible, open, and interactive tool that can be used in a third-party FDT.
- DTMs can be downloaded from our website.

SoMove software

SoMove software

SoMove software for PC is used to configure, set up, maintain, and upgrade the firmware (see page 31) of the Altivar Soft Starter ATS430.

The software can be connected to the Altivar Soft Starter ATS430 via Modbus serial connection.

For more information on SoMove setup software, please consult the SoMove Setup Software catalog.

Altivar Soft Starter ATS430

Soft starters for asynchronous motors

Accessories and options

Table showing possible combinations of accessories for ATS430

ATS430 reference	Protective covers for power terminals	Line chokes
ATS430D17S6	–	VZ1L015UM17T
ATS430D32S6	–	VZ1L040U600T
ATS430D47S6	–	VZ1L070U350T
ATS430D62S6	–	VZ1L070U350T
ATS430D75S6	–	VZ1L150U170T
ATS430D88S6	–	VZ1L150U170T
ATS430C11S6	–	VZ1L150U170T
ATS430C14S6	VW3G4701	VZ1L150U170T
ATS430C17S6	VW3G4701	VZ1L250U100T
ATS430C21S6	VW3G4702	VZ1L250U100T
ATS430C25S6	VW3G4702	VZ1L250U100T
ATS430C32S6	VW3G4702	VZ1L325U075T
ATS430C41S6	VW3G4702	VZ1L530U045T
ATS430C48S6	VW3G4703	VZ1L530U045T
ATS430C59S6	VW3G4703	VZ1LM10U024T

Altivar Soft Starter ATS430

Soft starters for asynchronous motors
Communication buses
Description and functions

Altivar Soft Starter ATS430 ports and slots

Description

The Altivar Soft Starter ATS430 range has been designed to simplify connections to communication buses by means of the following:

1 Integrated RJ45 communication port for display terminal (HMI) or Modbus fieldbus

2 Integrated 4-way screw terminal block communication port for Modbus fieldbus

Functions

Altivar Soft Starter ATS430 functions can be accessed via the Modbus fieldbus:

- Control
- Monitoring
- Condition monitoring
- Adjustment
- Configuration

The command may come from different sources:

- Digital input or analog I/O terminals
- Modbus fieldbus
- Remote/local display terminals

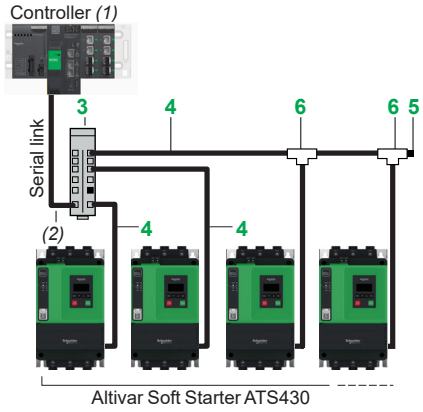
As one of the advanced functions, ATS430 control sources can be managed and switched according to the application requirements.
The communication periodic I/O data assignment can be selected using the communication bus configuration software.

Communication is monitored according to criteria specific to the Modbus protocol. The response of the soft starter to a detected communication interruption can be configured as follows:

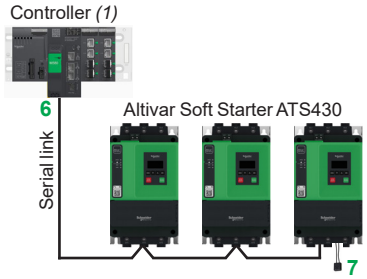
- Freewheel stop
- Stop on ramp
- Ignore the detected error

Altivar Soft Starter ATS430

Soft starters for asynchronous motors
Communication buses
Accessories for integrated communication protocol



Example of connection to the Modbus RTU with an RJ45 connexion



Example of connection to the Modbus RTU with open-style connection

Accessories for integrated communication protocol

Description		Item	Length m/*ft*	Reference
RJ45 Modbus serial link connection accessories				
Modbus splitter box 10 RJ45 connectors and one screw terminal block		3	–	LU9GC3
Cordsets for modbus serial link equipped with two RJ45 connectors		4	0.3/*0.98*	VW3A8306R03
			1/*3.28*	VW3A8306R10
			3/*9.84*	VW3A8306R30
Modbus T-junction boxes (with integrated cable)		6	0.3/*0.98*	VW3A8306TF03
			1/*3.28*	VW3A8306TF10
Modbus line terminator for RJ45 connector *(3)*	R = 120 Ω	5	–	VW3A8306RC
	R = 150 Ω		–	VW3A8306R
Open-style Modbus serial link connection accessories				
Cable for Modbus serial link 1x RJ45 and free wires at other end		6	3/*9.84*	VW3A8306D30
Modbus line terminator for screw terminal C = 1 nf	R = 120 Ω	7	–	VW3A8306DRC
	R = 150 Ω		–	VW3A8306DR

(1) Please refer to the Modicon catalogs.
(2) Cable depends on the controller.
(3) Sold in sets of two.

Altivar Soft Starter ATS430

Soft starters for asynchronous motors
Firmware update
Presentation and process

Firmware update through Modbus serial using SoMove

Firmware upload of several ATS430 soft starters at the same time through Modbus serial using Ecostruxure Automation Device Maintenance

Firmware update using SoMove or EcoStruxure Automation Device Maintenance

Presentation

The firmware of the Altivar Soft Starter ATS430 offer can be updated.
This includes:
- The firmware of the ATS430 product
- The texts and languages of the display terminals
- The firmware of the display terminals *(1)*

The firmware and languages are available from the Altivar Soft Starter ATS430 page on our website. Using the Schneider Electric Software Update tool, notifications are automatically sent when new updates are available.

Firmware update process

There are different ways to update the firmware:
- Single product firmware update using SoMove software *(2)*
- Multiple product firmware update using EcoStruxure Automation Device Maintenance *(3)*

The update process comprises two steps:
- The first step is to transfer the firmware to the product, which can be performed when the motor is either running or stopped. The control section of the ATS430 must be powered on. The product firmware package and keypad languages can be uploaded in one operation via the Modbus serial port.
- The second step is to apply the uploaded firmware in the products: the control section must be powered on and this operation can only be performed with the motor stopped. The firmware can be applied from EcoStruxure Automation Device Maintenance, SoMove, or the display terminal.

This two-step process avoids the risk of a potential loss of usability of the product in case of incorrect operations during the firmware update process, while also reducing the amount of time the motor is stopped.

Cybersecurity-related features in the firmware update:
- The firmware is delivered with a digital certificate that is generated by a cryptographic key.
- The ATS430 checks the authenticity of the firmware before applying it. The authenticity of the firmware is also checked on each power-up.
- The firmware can only be updated and applied by a registered user with a valid user account and associated rights.
- Firmware update operations are recorded as events in the security-related reports.

Connection accessories

Description	Length m/*ft*	Reference
High-speed USB-A/RJ45 flashing cordset	2.5/*8.2*	VW3A8127
USB/RJ45 connection cable For connection between PC and soft starter Modbus serial port	2.5/*8.2*	TCSMCNAM3M002P
RJ45 female/female adapter For connection to plain text display terminal	–	VW3A1105

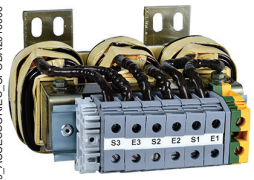
(1) Contact Schneider Electric Services to update the firmware of the graphic display terminal.
(2) Refer to page 27.
(3) Download EcoStruxure Automation Device Maintenance from its dedicated page on our website.

Altivar Soft Starter ATS430

Soft starters for asynchronous motors

Options: Line chokes and protective covers for power terminals

F19_ACCESSORIES_CPODA2016006



VZ1L150U170T

Line chokes

The use of line chokes is recommended in particular when installing several soft starters on the same line supply to limit low frequency interference that may affect low level loads.
The inductance values are defined for a voltage drop between 3% and 5% of the nominal line voltage.
Install the line choke between the line contactor and the soft starter.

References

Corresponding soft starter	Line choke			Reference	Weight
	Inductance value	Nominal current	Degree of protection		
	mH	A			kg/*lb*
ATS430D17S6	1.7	15	IP20	VZ1L015UM17T	3/*6.6*
ATS430D32S6	0.6	40	IP20	VZ1L040U600T	4.5/*9.9*
ATS430D47S6 ...D62S6	0.35	70	IP20	VZ1L070U350T	5.5/*12.1*
ATS430D75S6 ...C14S6	0.17	150	IP00	VZ1L150U170T	9/*19.8*
ATS430C17S6 ...C25S6	0.1	250	IP00	VZ1L250U100T	16/*35.3*
ATS430C32S6	0.075	325	IP00	VZ1L325U075T	23.3/*51.4*
ATS430C41S6 ... C48S6	0.045	530	IP00	VZ1L530U045T	28.2/*62.2*
ATS430C59S6	0.024	1025	IP00	VZ1LM10U024T	66/*145*

ATS430_S2_COVER_Default

VW3G4701

Protective covers for power terminals

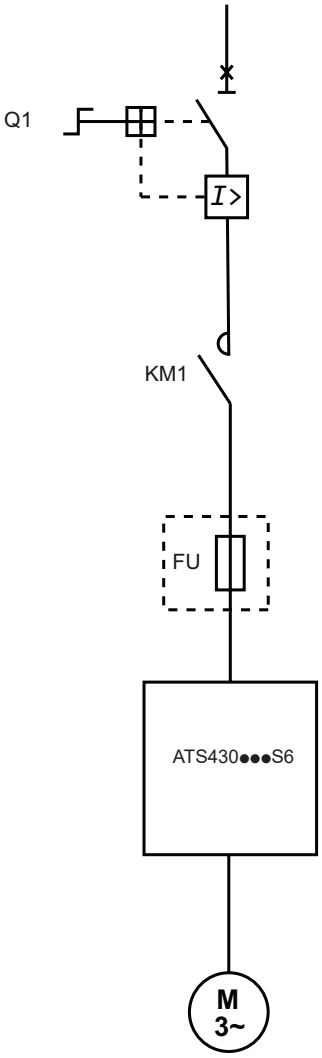
The protective covers are intended to be mounted on 140 to 590 A soft starters that have unprotected power terminals. The protective covers provide an IP20 protection rating.

References

Corresponding soft starter	Number of covers per set	Reference	Weight
			kg/*lb*
ATS430C14S6 ... C17S6	6	VW3G4701	0.2/*0.44*
ATS430C21S6 ... C41S6	6	VW3G4702	0.6/*1.32*
ATS430C48S6 ... C59S6	6	VW3G4703	0.7/*1.54*

Altivar Soft Starter ATS430

Soft starters for asynchronous motors
Coordination
Presentation



Presentation

Type of coordination

The EN/IEC 60947-4-2 standard makes a distinction between two different types of coordination: type 1 coordination and type 2 coordination:

- Type 1 coordination requires that, under short-circuit conditions, the contactor or soft starter shall cause no danger to persons or the installation and may not be suitable for further service without repair and replacement of parts.

- Type 2 coordination requires that, under short-circuit conditions, the contactor or soft starter shall cause no danger to persons or the installation and shall be suitable for further use. The risk of contact welding is recognized, in which case the manufacturer shall indicate the measures to be taken as regards the maintenance of the equipment.
  For type 2 coordination (according to IEC 60947-4-2), fast-acting fuses must be installed in series with the soft starter to provide protection for the ATS430 in the event of a short circuit. After a short circuit, the fast-acting fuses must be replaced and the contactor must be checked.

***Note**: Use of a short-circuit protection device (SCPD) that does not comply with the manufacturer's specification can invalidate the coordination.*

Line contactor

The line contactor on the ATS430 is optional.
When used, the line contactor is controlled by relay R1. There are two possibilities influencing the wiring diagram:

- R1 assigned to "Operating State Fault":
  - The line contactor is controlled by the Power ON and Power OFF pushbuttons and relay R1. Relay R1 is activated when the soft starter is powered up (minimum A1/A2 control) and is deactivated when an error is detected and the motor switches to freewheel mode.
- R1 assigned to "Line Contactor":
  - The line contactor is controlled by relay R1 on the basis of the ATS430 RUN and STOP commands. Relay R1 is activated by a RUN command (or a preheating command). It is deactivated at the end of deceleration, or when the motor switches to freewheel mode after a STOP command. It is also deactivated when an error is detected: the motor switches to freewheel mode at this point.

Thermal monitoring

The Altivar Soft Starter ATS430 will help to protect the motor and the cables against overloads. If this monitoring function is disabled, external thermal monitoring must be provided.

Altivar Soft Starter ATS430

Soft starters for asynchronous motors
Type 1 coordination according to IEC 60947-4-2
230 V and 380/400/415 V power supply

230 V power supply, ATS430 connected in-line

Motor power	Combination	ATS430 reference	Circuit breaker *(1)*	Optional line contactor *(2)*
		Class 10 Normal duty	Q1 reference	KM1 reference
kW	Iq (kA)			
4	50	ATS430D17S6	GV2L20	LC1D18●●
7.5	50	ATS430D32S6	GV2L32	LC1D32●●
11	50	ATS430D47S6	GV3L65	LC1D50A●●
15	50	ATS430D62S6	GV3L65	LC1D65A●●
18.5	50	ATS430D75S6	GV4L80B	LC1D80●●
22	50	ATS430D88S6	GV4L115B	LC1D115●●
30	50	ATS430C11S6	GV4L115B	LC1D115●●
37	50	ATS430C14S6	NSX160F MA	LC1D150●●
45	50	ATS430C17S6	NSX250F MA	LC1G185●●●●
55	50	ATS430C21S6	NSX250F MA	LC1G225●●●●
75	50	ATS430C25S6	NSX400N MicroLogic 1.3 M	LC1G265●●●●
90	50	ATS430C32S6	NSX400N MicroLogic 1.3 M	LC1G330●●●●
110	70	ATS430C41S6	NSX630N MicroLogic 1.3 M	LC1G400●●●●
132	70	ATS430C48S6	NSX630N MicroLogic 1.3 M	LC1G500●●●●
160	70	ATS430C59S6	NS630bN MicroLogic 5.0 LR Off	LC1G630●●●●

380/400/415 V power supply, ATS430 connected in-line

Motor power	Combination	ATS430 reference	Circuit breaker *(1)*	Optional line contactor *(2)*
		Class 10 Normal duty	Q1 reference	KM1 reference
kW	Iq (kA)			
7.5	50	ATS430D17S6	GV2L20	LC1D18●●
15	50	ATS430D32S6	GV2L32	LC1D32●●
22	50	ATS430D47S6	GV3L65	LC1D50A●●
30	50	ATS430D62S6	GV3L65	LC1D65A●●
37	50	ATS430D75S6	GV4L80N	LC1D80●●
45	50	ATS430D88S6	GV4L115N	LC1D115●●
55	50	ATS430C11S6	GV4L115N	LC1D115●●
75	50	ATS430C14S6	NSX160N MA	LC1D150●●
90	50	ATS430C17S6	NSX250N MA	LC1G185●●●●
110	50	ATS430C21S6	NSX250N MA	LC1G225●●●●
132	50	ATS430C25S6	NSX400N MicroLogic 1.3 M	LC1G265●●●●
160	50	ATS430C32S6	NSX400N MicroLogic 1.3 M	LC1G330●●●●
220	70	ATS430C41S6	NSX630H MicroLogic 1.3 M	LC1G400●●●●
250	70	ATS430C48S6	NSX630H MicroLogic 1.3 M	LC1G500●●●●
315	70	ATS430C59S6	NS630bH MicroLogic 5.0 LR Off	LC1G630●●●●

(1) Set Irm current of the circuit breaker (when available) to a minimum of six times the current rating of the soft starter.
(2) Replace with the appropriate control circuit voltage code (refer to page 38).

Altivar Soft Starter ATS430

Soft starters for asynchronous motors
Type 1 coordination according to IEC 60947-4-2
440 and 500 V power supply

440 V power supply, ATS430 connected in-line

Motor power	Combination	ATS430 reference	Circuit breaker *(1)*	Optional line contactor *(2)*
		Class 10 Normal duty	Q1 reference	KM1 reference
kW	Iq (kA)			
7.5	50	ATS430D17S6	GV4L25N	LC1D18●●
15	50	ATS430D32S6	GV4L50N	LC1D40A●●
22	50	ATS430D47S6	GV4L50N	LC1D40A●●
30	50	ATS430D62S6	GV4L80N	LC1D65A●●
37	50	ATS430D75S6	GV4L80N	LC1D65A●●
45	50	ATS430D88S6	GV4L80N	LC1D80●●
55	50	ATS430C11S6	GV4L115N	LC1D115●●
75	50	ATS430C14S6	NSX160N MA	LC1D150●●
90	50	ATS430C17S6	NSX250N MA	LC1G150●●●●
110	50	ATS430C21S6	NSX250N MA	LC1G185●●●●
132	50	ATS430C25S6	NSX250N MA	LC1G225●●●●
160	50	ATS430C32S6	NSX400H MicroLogic 1.3 M	LC1G265●●●●
220	70	ATS430C41S6	NSX630S MicroLogic 1.3 M	LC1G400●●●●
250	70	ATS430C48S6	NSX630S MicroLogic 1.3 M	LC1G400●●●●
355	70	ATS430C59S6	NS630bL MicroLogic 5.0 LR Off	LC1G630●●●●

500 V power supply, ATS430 connected in-line

Motor power	Combination	ATS430 reference	Circuit breaker *(1)*	Optional line contactor *(2)*
		Class 10 Normal duty	Q1 reference	KM1 reference
kW	Iq (kA)			
9	50	ATS430D17S6	NSX100H MA	LC1D40A●●
18.5	50	ATS430D32S6	NSX100H MA	LC1D40A●●
30	50	ATS430D47S6	NSX100H MA	LC1D50A●●
37	50	ATS430D62S6	NSX100H MA	LC1D65A●●
45	50	ATS430D75S6	NSX100H MA	LC1D80●●
55	50	ATS430D88S6	NSX100H MA	LC1D80●●
75	50	ATS430C11S6	NSX160H MA	LC1D150●●
90	50	ATS430C14S6	NSX160H MA	LC1D150●●
110	50	ATS430C17S6	NSX250H MA	LC1G185●●●●
132	50	ATS430C21S6	NSX250H MA	LC1G225●●●●
160	50	ATS430C25S6	NSX400H MicroLogic 1.3 M	LC1G265●●●●
220	50	ATS430C32S6	NSX630H MicroLogic 1.3 M	LC1G400●●●●
250	70	ATS430C41S6	NSX630L MicroLogic 1.3 M	LC1G400●●●●
315	70	ATS430C48S6	NSX630L MicroLogic 1.3 M	LC1G500●●●●
400	70	ATS430C59S6	NS630bL MicroLogic 5.0 LR Off	LC1G800●●●●

(1) Set Irm current of the circuit breaker (when available) to a minimum of six times the current rating of the soft starter.
(2) Replace with the appropriate control circuit voltage code (refer to page 38).

Altivar Soft Starter ATS430

Soft starters for asynchronous motors
Type 2 coordination according to IEC 60947-4-2
230 V and 380/400/415 V power supply

230 V power supply, ATS430 connected in-line

Motor power	Iq	ATS430	Circuit breaker *(1)*	Optional line contactor	Fast-acting fuses with microswitch		Fuse disconnector
kW	(kA)	Class 10 Normal duty	Q1 reference	KM1 reference	FU reference	Size	Reference
4	50	ATS430D17S6	GV2L20	LC1D25●●	DF3ER50	14 x 51	GK1EK
7.5	50	ATS430D32S6	GV2L32 + GV1L3	LC1D32●●	DF3FR80	22 x 58	GS1JD3
11	35	ATS430D47S6	GV3L65	LC1D80●●	DF3FR100	22 x 58	GS1JD3
15	50	ATS430D62S6	GV4L80B	LC1D65A●●	DF400125	00	GS1KKD3
18.5	50	ATS430D75S6	GV4L80B	LC1D80●●	DF400125	00	GS1KKD3
22	50	ATS430D88S6	GV4L115B	LC1D115●●	DF400160	00	GS1LLD3
30	50	ATS430C11S6	GV4L115B	LC1D115●●	DF400160	00	–
37	50	ATS430C14S6	NSX160F MA	LC1D150●●	DF430400	30	–
45	50	ATS430C17S6	NSX250F MA	LC1G185●●●●	DF430400	30	–
55	50	ATS430C21S6	NSX250F MA	LC1G225●●●●	–	31	–
75	50	ATS430C25S6	NSX400F MicroLogic 1.3 M	LC1G265●●●●	DF431700	31	–
90	50	ATS430C32S6	NSX400F MicroLogic 1.3 M	LC1G330●●●●	DF431700	31	–
110	50	ATS430C41S6	NSX630F MicroLogic 1.3 M	LC1G400●●●●	DF433800	33	–
132	50	ATS430C48S6	NSX630F MicroLogic 1.3 M	LC1G500●●●●	–	33	–
160	50	ATS430C59S6	NSX630bN MicroLogic 5.0 LR Off	LC1G630●●●●	–	33	–

380/400/415 V power supply, ATS430 connected in-line

Motor power	Iq	ATS430	Circuit breaker *(1)*	Optional line contactor	Fast-acting fuses with microswitch		Fuse disconnector
kW	(kA)	Class 10 Normal duty	Q1 reference	KM1 reference	FU reference	Size	Reference
7.5	50	ATS430D17S6	GV2L20	LC1D25●●	DF3ER50	14 x 51	GK1EK
15	40	ATS430D32S6	GV2L32 + G1VL3	LC1D32●●	DF3FR80	22 x 58	GS1JD3
22	40	ATS430D47S6	GV3L50	LC1D50A●●	DF3FR100	22 x 58	GS1JD3
30	50	ATS430D62S6	GV3L65	LC1D65A●●	DF400125	00	GS1KKD3
37	50	ATS430D75S6	GV4L80N	LC1D80●●	DF400125	00	GS1KKD3
45	50	ATS430D88S6	GV4L115N	LC1D115●●	DF400160	00	GS1LLD3
55	50	ATS430C11S6	GV4L115N	LC1D115●●	DF400160	00	–
75	50	ATS430C14S6	NSX160N MA	LC1D150●●	DF430400	30	–
90	50	ATS430C17S6	NSX250N MA	LC1G185●●	DF430400	30	–
110	50	ATS430C21S6	NSX250N MA	LC1G225●●	–	31	–
132	50	ATS430C25S6	NSX400N MicroLogic 1.3 M	LC1G265●●●●	DF431700	31	–
160	50	ATS430C32S6	NSX400N MicroLogic 1.3 M	LC1G330●●●●	DF431700	31	–
220	50	ATS430C41S6	NSX630N MicroLogic 1.3 M	LC1G500●●●●	DF433800	33	–
250	50	ATS430C48S6	NSX630N MicroLogic 1.3 M	LC1G500●●●●	–	33	–
315	50	ATS430C59S6	NS630bN MicroLogic 5.0 LR Off	LC1G630●●●●	–	33	–

(1) Set Irm current of the circuit breaker (when available) to a minimum of six times the current rating of the soft starter.
(2) Replace with the appropriate control circuit voltage code (refer to page 38).
(3) Type 2 coordination is only possible if the fast-acting fuses remain in the motor supply circuit and are not bypassed at the end of starting.

Altivar Soft Starter ATS430

Soft starters for asynchronous motors
Type 2 coordination according to IEC 60947-4-2
440 V and 500 Vpower supply

440 V power supply, ATS430 connected in-line

Motor power	Iq	ATS430	Circuit breaker *(1)*	Optional line contactor	Fast-acting fuses with microswitch		Fuse disconnector
kW	(kA)	Class 10 Normal duty	Q1 reference	KM1 reference	FU reference	Size	Reference
7.5	50	ATS430D17S6	GV4L25N	LC1D65A●●	DF3ER50	14 x 51	GK1EK
15	20	ATS430D32S6	GV4L50N	LC1D65A●●	DF3FR80	22 x 58	GS1JD3
22	20	ATS430D47S6	GV4L50N	LC1D65A●●	DF3FR100	22 x 58	GS1JD3
30	50	ATS430D62S6	GV4L80N	LC1D65A●●	DF400125	00	GS1KKD3
37	50	ATS430D75S6	GV4L80N	LC1D65A●●	DF400125	00	GS1KKD3
45	40	ATS430D88S6	GV4L80N	LC1D80●●	DF400160	00	GS1LLD3
55	40	ATS430C11S6	GV4L115N	LC1D115●●	DF400160	00	–
75	50	ATS430C14S6	NSX160N MA	LC1D150●●	DF430400	30	–
90	50	ATS430C17S6	NSX250N MA	LC1G150●●●●	DF430400	30	–
110	50	ATS430C21S6	NSX250N MA	LC1G185●●●●	DF431700	31	–
132	50	ATS430C25S6	NSX400 MA	LC1G225●●●●	–	31	–
160	50	ATS430C32S6	NSX400N MicroLogic 1.3 M	LC1G265●●●●	DF431700	31	–
220	50	ATS430C41S6	NSX630H MicroLogic 1.3 M	LC1G400●●●●	DF433800	33	–
250	50	ATS430C48S6	NSX630H MicroLogic 1.3 M	LC1G400●●●●	–	33	–
355	50	ATS430C59S6	NS630bN MicroLogic 5.0 LR Off	LC1G630●●●●	–	33	–

500 V power supply, ATS430 connected in-line

Motor power	Iq	ATS430	Circuit breaker *(1)*	Optional line contactor	Fast-acting fuses with microswitch		Fuse disconnector
kW	(kA)	Class 10 Normal duty	Q1 reference	KM1 reference	FU reference	Size	Reference
9	50	ATS430D17Y	GV2L20 + LA9LB920	LC1D25●●	DF3ER50	14 x 51	GK1EK
18.5	20	ATS430D32Y	GV2L32 + LA9LB920	LC1D32●●	DF3FR80	22 x 58	GS1JD3
30	20	ATS430D47Y	NSX100H MA	LC1D80●●	DF3FR100	22 x 58	GS1JD3
37	50	ATS430D62Y	NSX100H MA	LC1D150●●	DF400125	00	GS1KKD3
45	50	ATS430D75Y	NSX100H MA	LC1D150●●	DF400125	00	GS1KKD3
55	40	ATS430D88Y	NSX100H MA	LC1D150●●	DF400160	00	GS1LLD3
75	50	ATS430C11Y	NSX160H MA	LC1D150●●	DF400160	00	–
90	50	ATS430C14Y	NSX160H MA	LC1G185●●●●	DF430400	30	–
110	50	ATS430C17Y	NSX160H MA	LC1G185●●●●	DF430400	30	–
132	50	ATS430C21Y	NSX250H MA	LC1G225●●●●	–	31	–
160	50	ATS430C25Y	NSX400H MicroLogic 1.3 M	LC1G265●●●●	DF431700	31	–
220	50	ATS430C32Y	NSX400H MicroLogic 1.3 M	LC1G400●●●●	DF431700	31	–
250	40	ATS430C41Y	NSX630H MicroLogic 1.3 M	LC1G400●●●●	DF433800	33	–
315	50	ATS430C48Y	NSX630H MicroLogic 1.3 M	LC1G500●●●●	–	33	–
400	50	ATS430C59Y	NS630bH MicroLogic 5.0 LR Off	LC1G800●●●●	–	33	–

(1) Set Irm current of the circuit breaker (when available) to a minimum of six times the current rating of the soft starter.
(2) Replace with the appropriate control circuit voltage code (refer to page 38).
(3) Type 2 coordination is only possible if the fast-acting fuses remain in the motor supply circuit and are not bypassed at the end of starting.

Altivar Soft Starter ATS430

Soft starters for asynchronous motors

Line contactor references

Line contactor reference table

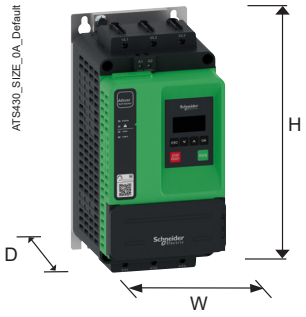
Basic reference	Power supply	Control voltage code												
	AC	24	42	48	110	115	220	230	240	380	400	415	440	500
LC1D18…D150 *(1)*	50/60 Hz	B7	D7	E7	F7	FE7	M7	P7	U7	Q7	V7	N7	R7	S7
LC1D18…D65 *(2)*	50 Hz	B5	D5	E5	–	–	–	P5	–	–	–	–	–	–
LC1D80…D115	50 Hz	B5	D5	E5	F5	FE5	M5	P5	U5	Q5	V5	N5	R5	S5
LC1D80…D115	60 Hz	B6	–	E6	F6	–	M6	–	U6	Q6	–	–	R6	–
	DC	12	24	36	48	60	72	110	125	220	250	440		
LC1D18…D38 *(3)*	U 0.7…1.25 Uc	JD	BD	CD	ED	ND	SD	FD	GD	MD	UD	RD		
LC1D40A…D65A *(3)*	U 0.75…1.25 Uc	JD	*(5)*	*(5)*	*(5)*	*(5)*	*(5)*	*(5)*	*(5)*	*(5)*	*(5)*	RD		
LC1D80…D95	U 0.85…1.1 Uc	JD	BD	CD	ED	ND	SD	FD	GD	MD	UD	RD		
	U 0.75…1.2 Uc	JW	BW	CW	EW	–	SW	FW	–	MW	–	–		
LC1D115…150 *(4)*	U 0.75…1.2 Uc	–	BD	–	ED	ND	SD	FD	GD	MD	UD	RD		
	DC (low consumption)	5	12	20	24	48	110	220	250					
LC1D18…D38 *(3)*	U 0.8…1.25 Uc	AL	JL	ZL	BL	EL	FL	ML	UL					
	AC/DC (low consumption)													
LC1D18…D150	See TeSys D Green, page B8/4 of the TeSys catalog													
	AC/DC	24…48		48…130		100…250		200…500						
LC1G150…G500		BEEA		EHEN		KUEN		LSEA						
LC1G630…G800		–		EHEN		KUEN		LSEA						

(1) D115 and D150 coils with built-in suppression as standard, by bidirectional peak limiting diode.
(2) Not available with connection for lugs or bars.
(3) Coils with integral suppression device fitted as standard, by bidirectional peak limiting diode.
(4) Coil with built-in suppression device as standard.
(5) For these coil voltages, choose from TeSys D Green contactors. Same product reference radical, just add BBE coil voltage code for 24 V DC, BNE for 24-60 V AC/DC, EHE for 48-130 V AC/DC, or KUE for 100-250 V AC/DC. Example: LC1D40ABBE.

Altivar Soft Starter ATS490

Soft starters for asynchronous motors

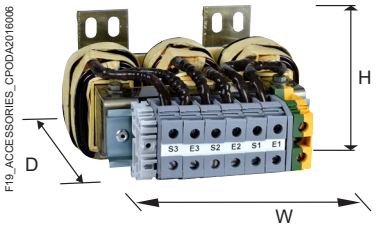
Soft starters and line chokes



Soft starters

Overall dimensions

Reference	W x H x D	
	mm	*in.*
ATS430D17S6	130 x 273 x 169	*5,1 x 10,7 x 6,6*
ATS430D32S6	130 x 273 x 169	*5,1 x 10,7 x 6,6*
ATS430D47S6	130 x 273 x 194	*5,1 x 10,7 x 7,6*
ATS430D62S6	160 x 283 x 230	*6,3 x 11,1 x 9*
ATS430D75S6	160 x 283 x 230	*6,3 x 11,1 x 9*
ATS430D88S6	160 x 289 x 230	*6,3 x 11,4 x 9*
ATS430C11S6	160 x 289 x 230	*6,3 x 11,4 x 9*
ATS430C14S6	160 x 356 x 231	*6,3 x 14,01 x 9,09*
ATS430C17S6	160 x 356 x 231	*6,3 x 14,01 x 9,09*
ATS430C21S6	206 x 443 x 261	*8,11 x 17,44 x 10,28*
ATS430C25S6	206 x 443 x 261	*8,11 x 17,44 x 10,28*
ATS430C32S6	206 x 443 x 261	*8,11 x 17,44 x 10,28*
ATS430C41S6	206 x 443 x 261	*8,11 x 17,44 x 10,28*
ATS430C48S6	304 x 455 x 296	*11,97 x 17,91 x 11,65*
ATS430C59S6	304 x 455 x 296	*11,97 x 17,91 x 11,65*



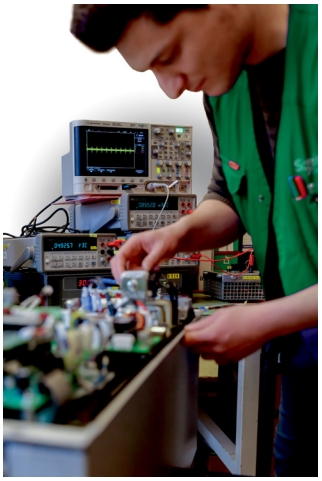
Line chokes

Overall dimensions

Reference	W x H x D	
	mm	*in.*
VZ1L015UM17T	130 x 155 x 80	*5.12 x 6.10 x 3.15*
VZ1L040U600T	175 x 200 x 130	*6.89 x 7.87 x 5.12*
VZ1L070U350T	180 x 200 x 150	*7.09 x 7.87 x 5.91*
VZ1L150U170T	270 x 234 x 147	*10.63 x 9.21 x 5.79*
VZ1L250U100T	270 x 237 x 190	*10.63 x 9.33 x 7.48*
VZ1L325U075T	300 x 260 x 206	*11.81 x 10.24 x 8.11*
VZ1L530U045T	380 x 415 x 225	*14.96 x 16.34 x 8.86*
VZ1LM10U024T	455 x 420 x 300	*17.91 x 16.54 x 11.81*

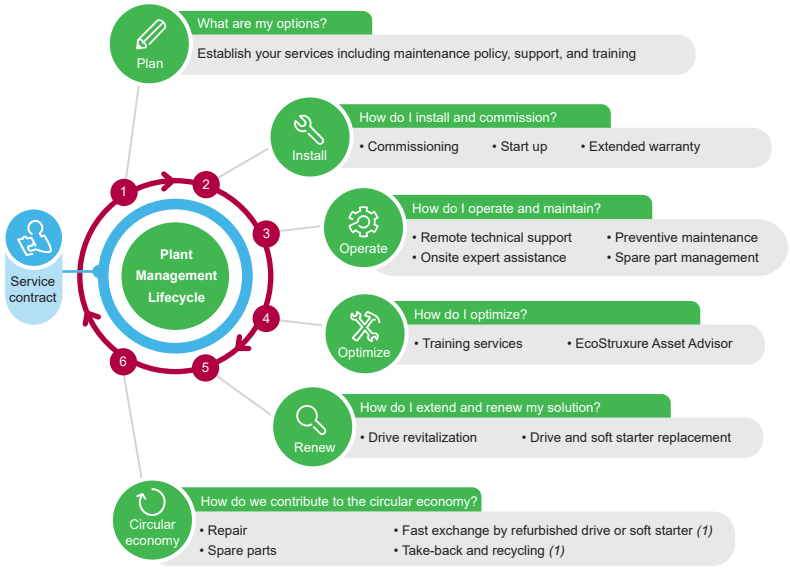
Variable speed drives and soft starters

A whole world of Services for your drives and soft starters by Schneider Electric



Support and services offer by Schneider Electric

Variable speed drives and soft starters are an important part of your operation, with downtime having a significant impact on your business. Protecting that investment through comprehensive services means that you can continue to deliver optimally throughout the lifecycle of your drive and soft starter. Our range of services is designed to help you get more out of your drives and soft starters, your operation, and to improve your environmental impact.



Install

- **Extended Warranty** service helps you control your maintenance costs. Schneider Electric will provide a replacement drive and soft starter or repair the product on site during a period of one or three years more than the standard warranty, in all conditions covered by the extended warranty.
- **Start-up** service is the first essential step in maintenance and optimal operational performance of the drive or soft starter. Our comprehensive review checks up to 100 parameters and is especially designed for drives and soft starters in simple applications.
- **Commissioning** service ensures a reliable start for operations with more complex applications and drive systems. The unique requirements of your process need to be carefully considered to ensure efficient operations.

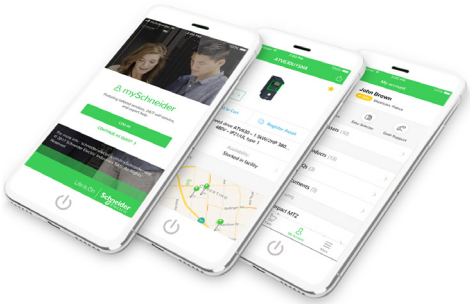
Operate

- **Preventive Maintenance** service performs predetermined maintenance actions according to a product-specific schedule. The work is carried out by certified technical experts following Schneider Electric instructions. This service minimizes unplanned downtime and extends your equipment lifetime.
- **Remote Technical Support** brings you expert product assistance over the phone, email, chat, or web for any technical questions relating to your drives and soft starters, including configuration, diagnostics, and maintenance. Our global support team is multi-lingual with support available up to R&D level experts if needed.
- **On-Site Expert Assistance** service offers you highly skilled field service experts to troubleshoot and resolve drive or soft starter equipment-related matters at your site, as a back-up source of expertise for your personnel.
- **Spare Part Management** service identifies and manages your critical spare parts either on your site or offsite. This service ensures that you have access to the spares you need without having to invest in capital to maintain the stock.

(1) Services available in countries that have the right structure and capabilities.

Variable speed drives and soft starters

A whole world of Services for your drives and soft starters by Schneider Electric



Support and services offer by Schneider Electric (continued)

Optimize

- **Training** service offers eLearning, classroom, and onsite training provision to enhance the technical installation, commissioning, and maintenance competencies of your personnel. Added competence translates into further process efficiency and reliability, as well as employee satisfaction.

- **EcoStruxure Asset Advisor** service enables you to move from reactive to predictive maintenance and access actionable insight provided by the advisor. The service predicts drive- and motor-related actions through connected devices and advanced algorithms monitored by Schneider Electric's experts.

Renew

- **Drive Revitalization** is an excellent choice if you prefer to use your aging drives longer and want to extend their service life with affordable and comprehensive inspection and replacement of all critical parts.

- **Drive and soft starter replacement** involves modernizing equipment by replacing the previous aged or obsolete product with a new one matched to the purpose. The service can be extended with engineering in case the device and process requires more advanced engineering.

Circular economy

- **Spare Parts** are available from our local, regional, and global stocks. Original equipment parts from Schneider Electric are reliable and easily available. They will help to keep your product in operation for longer.

- **Repair** allows you to extend the life of your drive or soft starter. The affected product can be replaced, or repaired on site or at our repair centers, depending on the type of product in question.

- **Fast Exchange by refurbished drive or soft starter** *(1)* gives a second life to inoperative drives or soft starters. In this case, we offer an immediate exchange with a replacement refurbished drive or soft starter and take back the product, repair it, and keep it ready for the next exchange.

- **Take-back and recycling** *(1)* is the last step to improve your environmental impact. Unrepairable products are dismantled, raw materials are collected and given a second life. Up to 85% of the product components can be recycled.

Service contracts secure recovery, availability, and outcome

Service contracts manage the safety and performance of your assets through well-defined maintenance plans tailored to your operational needs. The predefined service contract – Advantage Service Plan – and fully customizable "à la carte" service contract are built from the services in the "Operate" and "Optimize" phases and service levels defining availability, response, and lead times matching your particular needs. You will enjoy priority access to Schneider Electric support when you need it, as well as having an expert partner to plan the long-term evolution of your drives and soft starters.

mySchneider app

With the mySchneider app you have easy 24/7 access to product information and expert support. All registered users have access to additional features, such as real-time notifications, order tracking, product pricing, and availability. The mySchneider app is available for download from the IOS and Android app store.

Schneider Electric – helping you succeed

Schneider Electric, the leader in digital transformation of energy management and automation, has operations in more than 100 countries. With this global footprint we have certified field service representatives, regional expert and advanced level support up to product R&D to provide you the right support across the lifecycle of your drives and soft starters. Furthermore, we offer an extensive network of local and global repair centers and a logistics chain that underpins our ability to respond to your needs.

To order services or find out more, please contact your local Schneider Electric service center.

(1) Services available in countries that have the right structure and capabilities.

Altivar Soft Starter ATS430

Soft starters for asynchronous motors

Product reference index

Legal information

The information provided in this Catalog contains description of Schneider Electric products, solutions and services (“Offer”) with technical specifications and technical characteristics of the performance of the corresponding Offer.

The content of this document is subject to revision at any time without notice due to continued progress in methodology, design and manufacturing.

To the extent permitted by applicable law, no responsibility or liability is assumed by Schneider Electric and its subsidiaries for any type of damages arising out of or in connection with (i) informational content of this Catalog not conforming with or exceeding the technical specifications, or (ii) any error contained in this Catalog, or (iii) any use, decision, act or omission made or taken on basis of or in reliance on any information contained or referred to in this Catalog.

SCHNEIDER ELECTRIC MAKES NO WARRANTY OR REPRESENTATION OF ANY KIND, WHETHER EXPRESS OR IMPLIED, AS TO WHETHER THIS CATALOG OR ANY INFORMATION CONTAINED THEREIN SUCH AS PRODUCTS AND SERVICES WILL MEET REQUIREMENTS, EXPECTATIONS OR PURPOSE OF ANY PERSON MAKING USE THEREOF.

Schneider Electric brand and any trademarks of Schneider Electric and its subsidiaries referred to in this Catalog are property of Schneider Electric or its subsidiaries. All other brands are trademarks of their respective owners.

Life Is On | Schneider Electric

Life Is On | Schneider Electric

Learn more about our products at www.se.com

Design: Schneider Electric
Photos: Schneider Electric

Schneider Electric Industries SAS
Head Office
35, rue Joseph Monier - CS 30323
F-92500 Rueil-Malmaison Cedex
France

DIA2ED2240602EN
December 2024 - V1.0