Altivar Process
High Performance Drive Systems

From simple solutions → up to individual customizations

The customized solution for your drive

"Ready-to-use" Drive Systems:

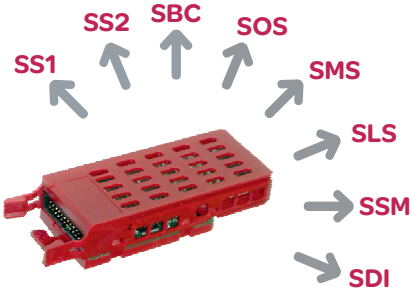
+ Developed on highest quality level
+ Manufactured according to your needs
+ Tested at full-load operating conditions
+ Pre-set appropriate to the design

Sophisticated motor control system

+ High overload capability
+ Especially good motor efficiency
+ Impressive robustness against load impacts
+ Excellent performance for all common motor types
+ Significant speed and torque accuracy with and without encoder feedback

> Asynchronous motors
> PM motors
> Torque motors
> Reluctance motors
> Special motors like submersible pumps, sliding rotor motors,...

Optimally equipped for safety-relevant applications



Support of all major safety functions:

+ SS1, SS2 (Safe Stop 1, 2)
+ SBC (Safe Brake Control)
+ SOS (Safe Operating Stop)
+ SMS (Safe Maximum Speed)
+ SLS (Safe Limited Speed)
+ SSM (Safe Speed Monitor)
+ SDI (Safe Direction)

ATV960 – High Performance Drive Systems

High Performance Frequency inverter as enclosure unit for speed control of asynchronous and synchronous motors as well as special motors.

Concept

The concept of the ATV960 High Performance Drive Systems offers standard enclosures ready to connect. The modular construction makes it possible to adapt the enclosure unit to the individual requests. This economic enclosure variant makes the planning easy and supports a quick installation and commissioning of the drive.

Power versus overload

For optimum adaptation to the application you can select between two overload models when dimensioning the Altivar Process Drive System.

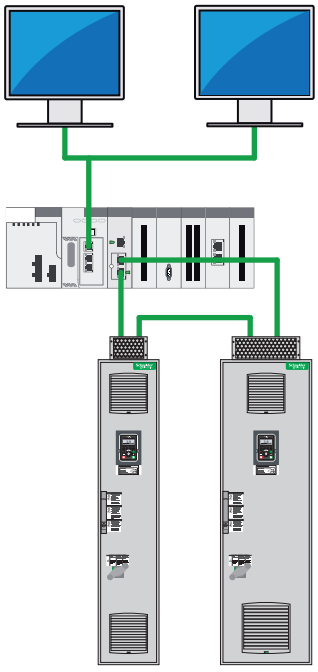
- Normal Duty
  High continuous power with an overload capability of 20 % (typically compressors, centrifugal pumps and fans)
- Heavy Duty
  Reduced continuous power but increased overload capability of 50 % for 60 s; suitable for drives with enhanced requirements regarding overload capability, starting torque, load impacts and control performance (typically mixers, crushers, mills, conveyor belts).

Basic equipment

The basic equipment contains frequency inverter modules, semiconductor fuses, a main switch, a line reactor to reduce the harmonics, a dv/dt filter choke (from 355 kW) for protection of the motor and spacious mains and motor bars for connection of the power cables. The design is based on the standard enclosure system Spacial SF with an graphical operating panel integrated into the enclosure door.

The control is located on a spacious control panel. It provides compact dimensions, nevertheless it is enough space for additional extensions and accessibility in case of maintenance.

Device features



High motor performance

Perfect control over the motor in each operating state due to the new motor control method of the ATV960 High Performance Drive Systems.

- Asynchronous motors (all efficiency classes, high number of poles)
- Synchronous motors (PM motors, torque motors, reluctance motors)
- Special motors for submersible pumps

Extended connectivity

Embedded Dual Ethernet as standard provides increased redundancy and supports RSTP (Rapid Spanning Tree Protocol). Dynamic drive-to-drive communication for multi-motor drives with master/slave groups and perfect load sharing between all motors.

Cooling concept

The power part components are cooled in a separate cooling air channel. Via this channel about 90 % of the heat losses are exhausted. The interior of the enclosure is cooled via fans in the enclosure door.

At enclosure design IP54 the separated air supply for the power part takes place through the enclosure plinth.

Enclosure Design 400 V

ATV960 - General technical data	
Mains voltage	3 AC 380 V -10 % ... 415 V +6 %, 50/60 Hz ±5 % for TT, TN-C or TN-S Other voltages and other types of mains possible
Maximum current	Normal duty (ND): 120 % for 60 s per 10 minutes Heavy duty (HD): 150 % for 60 s per 10 minutes
Ambient temperature	-10...+50 °C (below 0 °C with additional enclosure heating, above +40 °C with derating)
Standard equipment	Enclosure system Spacial SF in RAL 7035, protection degree IP23, graphical operating panel in the enclosure door, frequency inverter including main switch, line reactor (32...48 % THDi), mains and motor terminals, cable entry from bottom
Interfaces	Pluggable control terminals, fieldbus connection via Ethernet or Modbus
Possible customizations	• Braking unit BUO • Increased protection degree IP54 • Enclosure plinth for basic device • Connection enclosure cable from top/bottom • Enclosure lighting • Enclosure heating • Key switch "local/remote" • Ethernet port on front door • Digital and analog I/O card • Relay output card • Communication cards for various fieldbus systems • Encoder interface modules • STO - SIL 3 Stop category 0 or 1 • Front display module (FDM) • Modified wiring colors • Remote monitoring • Seaworthy packaging • Differing mains voltages • Multipulse supply (12-pulse) • Design without main switch • Increased short-circuit strength (100 kA) • Indicator lamps on front door • Motor temperature monitoring • Bearing temperature monitoring • dv/dt filter choke • Motor heating • Circuit breaker • Undervoltage coil for circuit breaker 230 V • Motor for circuit breaker 230 V • Automated mains disconnect • Safety labels in local language • Air intake from back • Differing enclosure colors • Customized documentation • Customized labeling • Design for IT mains • Motor contactor • ...
Standards	CE, EAC, ATEX, RFI filter for second "industrial environment" C3 integrated

Type	Size	Motor rating (ND / HD)	Output current (ND / HD)	Dimensions		
				Width	Depth (1)	Height
ATV960C11Q4X1	1p	110 kW / 90 kW	211 A / 173 A	400 mm	600 mm	2150 mm
ATV960C13Q4X1		132 kW / 110 kW	250 A / 211 A	400 mm	600 mm	2150 mm
ATV960C16Q4X1		160 kW / 132 kW	302 A / 250 A	400 mm	600 mm	2150 mm
ATV960C20Q4X1	2p	200 kW / 160 kW	370 A / 302 A	600 mm	600 mm	2150 mm
ATV960C25Q4X1		250 kW / 200 kW	477 A / 370 A	600 mm	600 mm	2150 mm
ATV960C31Q4X1		315 kW / 250 kW	590 A / 477 A	600 mm	600 mm	2150 mm
ATV960C35Q4X1	3p	355 kW / 280 kW	660 A / 520 A	800 mm	600 mm	2150 mm
ATV960C40Q4X1		400 kW / 315 kW	730 A / 590 A	800 mm	600 mm	2150 mm
ATV960C45Q4X1		450 kW / 355 kW	830 A / 660 A	800 mm	600 mm	2150 mm
ATV960C50Q4X1		500 kW / 400 kW	900 A / 730 A	800 mm	600 mm	2150 mm
ATV960C56Q4X1	4p	560 kW / 450 kW	1020 A / 830 A	1200 mm	600 mm	2150 mm
ATV960C63Q4X1		630 kW / 500 kW	1140 A / 900 A	1200 mm	600 mm	2150 mm
ATV960C71Q4X1	5p	710 kW / 560 kW	1260 A / 1020 A	1400 mm	600 mm	2150 mm
ATV960C80Q4X1		800 kW / 630 kW	1420 A / 1140 A	1400 mm	600 mm	2150 mm

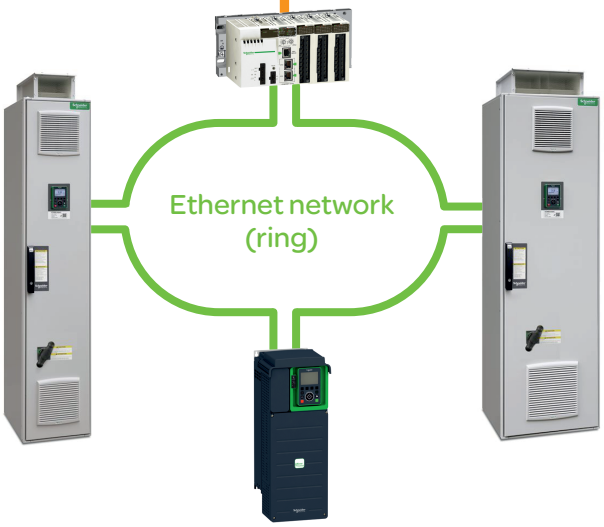
(1) Total depth including door handle and switch handle: 664 mm

Innovative braking operation by 3-phase design

+ Intelligent monitoring of the braking resistors for overload and wire break
+ Extended life-time of the capacitors
+ Integrated protection against short-circuits and ground faults for the resistor wiring
+ Shielded lines of the optional braking unit for optimal EMC characteristics

Extended connectivity

+ Embedded Dual Ethernet for simple wiring and increased availability
+ Dynamic drive-to-drive communication for multi-motor operation
+ Easy integration thanks to standardized FDT/DTM and ODVA technology
+ Easy access via PC, tablet or smartphone



Available on the App Store

Get it on Google play

Sophisticated service concept with QR code

+ Modular design allows easy logistics of spare parts
+ Optimized costs of maintenance due to dynamic maintenance schedule with integrated monitoring of the individual components
+ Simple exchange of power modules and fans
+ Quick assistance with dynamic QR codes and Customer Care App

Schneider Electric Power Drives GmbH

Ruthnergasse 1
A-1210 Vienna
Phone: +43 (0) 1 29191 0
Fax: +43 (0) 1 29191 15

More Information