



**SCHNEIDER VARIATOR DE VITEZA ALTIVAR ATV900 - 22KW - 30HP - 400/480V - IP21**

<b>device application</b>	Industrial application
<b>device short name</b>	ATV930
<b>product destination</b>	Synchronous motors Asynchronous motors
<b>EMC filter</b>	Integrated with 50 m conforming to EN/IEC 61800-3 category C2 Integrated with 150 m conforming to EN/IEC 61800-3 category C3
<b>IP degree of protection</b>	IP21 conforming to IEC 61800-5-1 IP21 conforming to IEC 60529
<b>degree of protection</b>	UL type 1 conforming to UL 508C
<b>type of cooling</b>	Forced convection
<b>supply frequency</b>	50...60 Hz +/- 5 %
<b>network number of phases</b>	3 phases
<b>motor power kW</b>	22 kW (normal duty) 18.5 kW (heavy duty)
<b>motor power hp</b>	30 hp normal duty 25 hp heavy duty
<b>line current</b>	39.6 A at 380 V (normal duty) 34.4 A at 480 V (normal duty) 34.1 A at 380 V (heavy duty) 29.9 A at 480 V (heavy duty)
<b>continuous output current</b>	46.3 A at 4 kHz for normal duty 39.2 A at 4 kHz for heavy duty
<b>maximum transient current</b>	55.6 A during 60 s (normal duty) 58.8 A during 60 s (heavy duty)

<b>speed drive output frequency</b>	0.1...599 Hz
<b>safety function</b>	STO (safe torque off) SIL 3
<b>option module</b>	Slot A: communication module for Profibus DP V1 Slot A: communication module for Profinet Slot A: communication module for DeviceNet Slot A: communication module for EtherCAT Slot A: communication module for CANopen daisy chain RJ45 Slot A: communication module for CANopen SUB-D 9 Slot A: communication module for CANopen screw terminals Slot A/slot B/slot C: digital and analog I/O extension module Slot A/slot B/slot C: output relay extension module Slot B: 5/12 V digital encoder interface module Slot B: analog encoder interface module Slot B: resolver encoder interface module communication module for Ethernet Powerlink
<b>range of product</b>	Altivar Process ATV900
<b>product or component type</b>	Variable speed drive
<b>variant</b>	Standard version With braking chopper
<b>mounting mode</b>	Wall mount Modbus serial
<b>communication port protocol</b>	EtherNet/IP Modbus TCP
<b>[Us] rated supply voltage</b>	380...480 V - 15...10 %
<b>IP degree of protection</b>	IP21
	Complementary
<b>output voltage</b>	<= power supply voltage
<b>frequency resolution</b>	Display unit: 0.1 Hz Analog input: 0.012/50 Hz
<b>electrical connection</b>	Control: screw terminal 0.5...1.5 mm <sup>2</sup> /AWG 20...AWG 16 Line side: screw terminal 10...16 mm <sup>2</sup> /AWG 8...AWG 6 DC bus: screw terminal 10...16 mm <sup>2</sup> /AWG 8...AWG 6 Motor: screw terminal 16 mm <sup>2</sup> /AWG 6
<b>connector type</b>	2 RJ45 for Ethernet IP/Modbus TCP on the control block 1 RJ45 for Modbus serial on the control block
<b>physical interface</b>	2-wire RS 485 for Modbus serial
<b>transmission frame</b>	RTU for Modbus serial
<b>transmission rate</b>	10/100 Mbit/s for Ethernet IP/Modbus TCP 4.8, 9.6, 19.2, 38.4 kbit/s for Modbus serial
<b>exchange mode</b>	Half duplex, full duplex, autonegotiation Ethernet IP/Modbus TCP
<b>data format</b>	8 bits, configurable odd, even or no parity for Modbus serial
<b>type of polarization</b>	No impedance for Modbus serial
<b>number of addresses</b>	1...247 for Modbus serial
<b>supply</b>	External supply for digital inputs: 24 V DC (19...30 V), Internal supply for reference potentiometer (1 to 10 kOhm): 10.5 V DC +/- 5 %, Internal supply for digital inputs and STO: 24 V DC (21...27 V), Local diagnostic: 3 LED (mono/dual colour)
<b>local signalling</b>	Embedded communication status: 5 LED (dual colour) Communication module status: 2 LED (dual colour) Presence of voltage: 1 LED (red)

<b>input compatibility</b>	DI1...DI8: discrete input level 1 PLC conforming to EN/IEC 61131-2 DI7, DI8: pulse input level 1 PLC conforming to IEC 65A-68 STOA, STOB: discrete input level 1 PLC conforming to EN/IEC 61131-2
<b>discrete input logic</b>	Positive logic (source) (DI1...DI8), < 5 V (state 0), > 11 V (state 1) Negative logic (sink) (DI1...DI8), > 16 V (state 0), < 10 V (state 1) Positive logic (source) (DI7, DI8), < 0.6 V (state 0), > 2.5 V (state 1) Positive logic (source) (STOA, STOB), < 5 V (state 0), > 11 V (state 1)
<b>sampling duration</b>	2 ms +/- 0.5 ms (DI1...DI8) - discrete input 5 ms +/- 1 ms (DI7, DI8) - pulse input 1 ms +/- 1 ms (AI1, AI2, AI3) - analog input 5 ms +/- 1 ms (AQ1, AQ2) - analog output
<b>accuracy</b>	+/- 0.6 % AI1, AI2, AI3 for a temperature variation 60 °C analog input +/- 1 % AQ1, AQ2 for a temperature variation 60 °C analog output
<b>linearity error</b>	AI1, AI2, AI3: +/- 0.15 % of maximum value for analog input AQ1, AQ2: +/- 0.2 % for analog output
<b>refresh time</b>	Relay output (R1, R2, R3): 5 ms (+/- 0.5 ms)
<b>isolation</b>	Between power and control terminals Food and beverage processing Mixer Food and beverage processing Conveyor Food and beverage processing Shredder Hoisting Process crane Marine Thruster Marine Winch
<b>Variable speed drive application selection</b>	Material working (wood, ceramic, stone, pvc, metal) Press Material working (wood, ceramic, stone, pvc, metal) Extruder Mining mineral and metal Other application Oil and gas Drilling rig Oil and gas Progressive cavity pump Oil and gas Rod pump Oil and gas Swapping pump Oil and gas Compressor for regasification Oil and gas Separator Oil and gas Other application Water and waste water Separator
<b>power range</b>	15...25 kW at 380...440 V 3 phases 15...25 kW at 480...500 V 3 phases
<b>discrete input number</b>	10
<b>discrete input type</b>	DI1...DI8 programmable, 24 V DC (<= 30 V), impedance: 3.5 kOhm DI7, DI8 programmable as pulse input: 0...30 kHz, 24 V DC (<= 30 V) STOA, STOB safe torque off, 24 V DC (<= 30 V), impedance: > 2.2 kOhm
<b>number of preset speeds</b>	16 preset speeds
<b>discrete output number</b>	2
<b>discrete output type</b>	Logic output DQ+ 0...1 kHz <= 30 V DC 100 mA Programmable as pulse output DQ+ 0...30 kHz <= 30 V DC 20 mA Logic output DQ- 0...1 kHz <= 30 V DC 100 mA
<b>analogue input number</b>	3
<b>analogue input type</b>	AI1, AI2, AI3 software-configurable voltage: 0...10 V DC, impedance: 30 kOhm, resolution 12 bits AI1, AI2, AI3 software-configurable current: 0...20 mA/4...20 mA, impedance: 250 Ohm, resolution 12 bits

<b>analogue output number</b>	2
<b>analogue output type</b>	Software-configurable voltage AQ1, AQ2: 0...10 V DC impedance 470 Ohm, resolution 10 bits Software-configurable current AQ1, AQ2: 0...20 mA impedance 500 Ohm, resolution 10 bits
<b>relay output number</b>	3
<b>relay output type</b>	Configurable relay logic R1: fault relay NO/NC electrical durability 100000 cycles Configurable relay logic R2: sequence relay NO electrical durability 1000000 cycles Configurable relay logic R3: sequence relay NO electrical durability 1000000 cycles Relay output R1 on resistive load, cos phi = 1: 3 A at 250 V AC Relay output R1 on resistive load, cos phi = 1: 3 A at 30 V DC Relay output R1 on inductive load, cos phi = 0.4 and L/R = 7 ms: 2 A at 250 V AC Relay output R1 on inductive load, cos phi = 0.4 and L/R = 7 ms: 2 A at 30 V DC
<b>maximum switching current</b>	Relay output R2, R3 on resistive load, cos phi = 1: 5 A at 250 V AC Relay output R2, R3 on resistive load, cos phi = 1: 5 A at 30 V DC Relay output R2, R3 on inductive load, cos phi = 0.4 and L/R = 7 ms: 2 A at 250 V AC Relay output R2, R3 on inductive load, cos phi = 0.4 and L/R = 7 ms: 2 A at 30 V DC
<b>minimum switching current</b>	Relay output R1, R2, R3: 5 mA at 24 V DC
<b>method of access</b>	Slave Modbus TCP
<b>asynchronous motor control profile</b>	Variable torque standard Optimized torque mode Constant torque standard
<b>synchronous motor control profile</b>	Permanent magnet motor Synchronous reluctance motor
<b>acceleration and deceleration ramps</b>	Linear adjustable separately from 0.01...9999 s
<b>motor slip compensation</b>	Adjustable Automatic whatever the load Can be suppressed Not available in permanent magnet motor law
<b>switching frequency</b>	2...16 kHz adjustable 4...16 kHz with derating factor
<b>nominal switching frequency</b>	4 kHz
<b>braking to standstill</b>	By DC injection
<b>apparent power</b>	28.6 kVA at 480 V (normal duty) 24.9 kVA at 480 V (heavy duty)
<b>prospective line Isc</b>	50 kA
<b>power dissipation in W</b>	Natural convection: 68 W at 380 V, switching frequency 4 kHz Forced convection: 505 W at 380 V, switching frequency 4 kHz

**protection type**  
 Thermal protection: motor  
 Safe torque off: motor  
 Motor phase break: motor  
 Thermal protection: drive  
 Safe torque off: drive  
 Overheating: drive  
 Overcurrent between output phases and earth: drive  
 Overload of output voltage: drive  
 Short-circuit protection: drive  
 Motor phase break: drive  
 Overvoltages on the DC bus: drive  
 Line supply overvoltage: drive  
 Line supply undervoltage: drive  
 Line supply phase loss: drive  
 Overspeed: drive  
 Break on the control circuit: drive

**width** 211 mm

**height** 545.9 mm

**depth** 235 mm

**product weight** 14.3 kg

Environment

**insulation resistance** > 1 MOhm 500 V DC for 1 minute to earth

**noise level** 59.5 dB conforming to 86/188/EEC

**vibration resistance** 1.5 mm peak to peak (f= 2...13 Hz) conforming to IEC 60068-2-6  
 1 gn (f= 13...200 Hz) conforming to IEC 60068-2-6

**shock resistance** 15 gn for 11 ms conforming to IEC 60068-2-27

**environmental characteristic** Chemical pollution resistance class 3C3 conforming to EN/IEC 60721-3-3  
 Dust pollution resistance class 3S3 conforming to EN/IEC 60721-3-3

**pollution degree** 2 conforming to EN/IEC 61800-5-1

**relative humidity** 5...95 % without condensation conforming to IEC 60068-2-3

**ambient air temperature for operation** -15...50 °C (without derating)  
 50...60 °C (with derating factor)

UL 508C

EN/IEC 61800-3

Environment 1 category C2 EN/IEC 61800-3

Environment 2 category C3 EN/IEC 61800-3

**standards** EN/IEC 61800-5-1

IEC 61000-3-12

IEC 60721-3

IEC 61508

IEC 13849-1

**operating altitude** ≤ 1000 m without derating  
 1000...4800 m with current derating 1 % per 100 m

**operating position** Vertical +/- 10 degree

CSA

**product certifications** UL

TÜV

**marking** CE

**maximum THDI**

	Electrostatic discharge immunity test level 3 conforming to IEC 61000-4-2
	Radiated radio-frequency electromagnetic field immunity test level 3 conforming to IEC 61000-4-3
<b>electromagnetic compatibility</b>	Electrical fast transient/burst immunity test level 4 conforming to IEC 61000-4-4
	1.2/50 µs - 8/20 µs surge immunity test level 3 conforming to IEC 61000-4-5
	Conducted radio-frequency immunity test level 3 conforming to IEC 61000-4-6
<b>volume of cooling air</b>	215 m3/h
<b>ambient air temperature for storage</b>	-40...70 °C

#### Packing Units

<b>Unit Type of Package 1</b>	PCE
<b>Number of Units in Package 1</b>	1
<b>Package 1 Weight</b>	18.049 kg
<b>Package 1 Height</b>	26 cm
<b>Package 1 width</b>	34.5 cm
<b>Package 1 Length</b>	73.5 cm

#### Offer Sustainability

<b>Sustainable offer status</b>	Green Premium product
<b>REACH Regulation</b>	<a href="#">REACH Declaration</a>
<b>EU RoHS Directive</b>	Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>
<b>Mercury free</b>	Yes
<b>RoHS exemption information</b>	<a href="#">Yes</a>
<b>China RoHS Regulation</b>	<a href="#">China RoHS declaration</a>
<b>Environmental Disclosure</b>	<a href="#">Product Environmental Profile</a>
<b>Circularity Profile</b>	<a href="#">End of Life Information</a>
<b>WEEE</b>	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins
<b>California proposition 65</b>	WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a>
<b>Upgradeability</b>	<a href="#">Upgraded components available</a> action_new_window

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Detalii online: <https://www.materialelectrice.ro/variator-de-viteza-altivar-atv900-22kw-30hp-400-480v-ip21>