

## Product data sheet

### Characteristics

# ATER

## ATV340D22N4E

### Frekventni pretvarač - 22kW - 400V - 3 faze - ATV340 Ethernet



#### Main

Range of product	Altivar Machine ATV340
Product or component type	Variable speed drive
Device application	Machine
Device short name	ATV340
Variant	Standard version
Product destination	Synchronous motors Asynchronous motors
EMC filter	Integrated 20 m EN/IEC 61800-3 category C3
IP degree of protection	IP20IEC 61800-5-1 IP20IEC 60529
Type of cooling	Forced convection
Supply frequency	50...60 Hz +/- 5 %
Network number of phases	3 phases
[Us] rated supply voltage	380...480 V - 15...10 %
Motor power kW	30 kW normal duty 22 kW heavy duty
Motor power hp	40 Hp normal duty 30 hp heavy duty
Line current	63,5 A 380 V without line choke heavy duty) 50,5 A 480 V without line choke heavy duty) 67,9 A 480 V with external line choke normal duty) 54,4 A 380 V with external line choke heavy duty) 64,1 A 480 V with external line choke heavy duty) 50,8 A 380 V with external line choke normal duty)
Prospective line I <sub>sc</sub>	22 kA
Apparent power	45,1 kVA 480 V normal duty) 42,1 kVA 480 V heavy duty)
Continuous output current	62 A 4 kHz normal duty 46 A 4 kHz heavy duty
Maximum transient current	68,2 A 60 s normal duty) 69 A 60 s heavy duty) 83,7 A 2 s normal duty) 83 A 2 s heavy duty)
Asynchronous motor control profile	Optimized torque mode Constant torque standard Variable torque standard
Synchronous motor control profile	Permanent magnet motor Reluctance motor
Speed drive output frequency	0,1...599 Hz
Nominal switching frequency	4 kHz
Switching frequency	2...16 kHz adjustable 6...16 kHz with derating factor
Safety function	STO (safe torque off) SIL 3

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## Complementary

Number of preset speeds	16 preset speeds
Communication port protocol	Modbus TCP Ethernet/IP Modbus serial
Option card	Slot GP-X digital and analog I/O extension module Slot GP-X output relay extension module Slot GP-ENC 5/12 V digital encoder interface module Slot GP-ENC analog encoder interface module Slot GP-ENC resolver encoder interface module
Output voltage	<= power supply voltage
Permissible temporary current boost	1.1 x In 60 s normal duty) 1.35 x In 2 s normal duty) 1.5 x In 60 s heavy duty) 1.8 x In 2 s heavy duty)
Motor slip compensation	Automatic whatever the load Can be suppressed Adjustable Not available in permanent magnet motor law
Acceleration and deceleration ramps	S, U or customized Linear adjustable separately from 0.01...9999 s
Braking to standstill	By DC injection
Protection type	Thermal protection motor Safe torque off motor Motor phase loss motor Thermal protection drive Safe torque off drive Overheating drive Overcurrent drive Output overcurrent between motor phase and earth drive Output overcurrent between motor phases drive Short-circuit between motor phase and earth drive Short-circuit between motor phases drive Motor phase loss drive DC Bus overvoltage drive Line supply overvoltage drive Line supply undervoltage drive Input supply loss drive Exceeding limit speed drive Break on the control circuit drive
Frequency resolution	Display unit 0.1 Hz Analog input 0.012/50 Hz
Electrical connection	Control screw terminal 0.2...2.5 mm <sup>2</sup> AWG 24...AWG 12 Motor screw terminal 6...25 mm <sup>2</sup> AWG 8...AWG 3 Line side screw terminal 10...25 mm <sup>2</sup> AWG 6...AWG 3 DC bus screw terminal 10...25 mm <sup>2</sup> AWG 6...AWG 3
Connector type	1 x RJ45, Modbus serial on front face 1 x RJ45, Modbus serial HMI on front face 2 x RJ45, Ethernet IP/Modbus TCP on front face
Physical interface	2-wire RS 485 Modbus serial
Transmission frame	RTU Modbus serial
Transmission rate	4800 bps, 9600 bps, 19200 bps, 38.4 Kbps Modbus serial 10/100 Mbit/s Ethernet IP/Modbus TCP
Exchange mode	Half duplex, full duplex, autonegotiation Ethernet IP/Modbus TCP
Data format	8 bits, configurable odd, even or no parity Modbus serial
Type of polarization	No impedance Modbus serial
Number of addresses	1...247 Modbus serial
Method of access	Slave Modbus RTU Slave Modbus TCP
Supply	External supply for digital inputs 24 V DC 19...30 V), <1,25 mA overload and short-circuit protection Internal supply for reference potentiometer (1 to 10 kOhm) 10.5 V DC +/- 5 %, <10 mA overload and short-circuit protection Internal supply for digital inputs and STO 24 V DC 21...27 V), <200 mA overload and short-circuit protection
Local signalling	Local diagnostic 4 LED mono/dual colour) Communication module status 4 LED dual colour)
Maksimalna širina	180 mm

Maksimalna visina	385 mm
Maksimalna dubina	249 mm
Neto težina	10,2 kg
Analogue input number	2
Analogue input type	AI1 software-configurable current 0...20 mA 250 Ohm 12 bits AI1 software-configurable temperature probe or water level sensor AI1 software-configurable voltage 0...10 V DC 31.5 kOhm 12 bits AI2 software-configurable voltage - 10...10 V DC 20 kOhm 12 bits
Discrete input number	8
Discrete input type	PTI programmable as pulse input 0...30 kHz, 24 V DC <= 30 V) STOA, STOB safe torque off, 24 V DC <= 30 V)> 2.2 kOhm DI1...DI5 programmable, 24 V DC <= 30 V)4.4 kOhm
Input compatibility	DI1...DI5 discrete input level 1 PLC EN/IEC 61131-2 PTI pulse input level 1 PLC IEC 65A-68 STOA, STOB discrete input level 1 PLC EN/IEC 61131-2
Discrete input logic	Positive logic (source) DI1...DI5), < 5 V, > 11 V Negative logic (sink) DI1...DI5), > 16 V, < 10 V Positive logic (source) PTI), < 0.6 V, > 2.5 V Positive logic (source) STOA, STOB), < 5 V, > 11 V
Analogue output number	1
Analogue output type	Software-configurable voltage AQ1 0...10 V DC 470 Ohm 10 bits Software-configurable current AQ1 0...20 mA 500 Ohm 10 bits
Input/output type	Programmable as logic input/output DQ1 0...1 kHz, <= 30 V DC, 100 mA Programmable as logic input/output DQ2 0...1 kHz, <= 30 V DC, 100 mA
Sampling duration	2 Ms +/- 0.5 ms DI1...DI5) - discrete input 5 Ms +/- 1 ms PTI) - pulse input 1 Ms +/- 1 ms AI1, AI2) - analog input 5 Ms +/- 1 ms AQ1) - analog output 2 ms +/- 0.5 ms DQ1, DQ2) - discrete input/output
Accuracy	+/- 0.6 % AI1, AI2 for a temperature variation 60 °C analog input +/- 1 % AQ1 for a temperature variation 60 °C analog output
Linearity error	AI1, AI2 +/- 0.15 % of maximum value analog input AQ1 +/- 0.2 % analog output
Relay output number	2
Relay output type	Configurable relay logic R1 fault relay NO/NC 100000 cycles Configurable relay logic R2 sequence relay NO 100000 cycles
Refresh time	Relay output R1, R2)5 ms +/- 0.5 ms)
Minimum switching current	Relay output R1, R2 5 mA 24 V DC
Maximum switching current	Relay output R1 resistive, cos phi = 1 3 A 250 V AC Relay output R1 resistive, cos phi = 1 3 A 30 V DC Relay output R1 inductive, cos phi = 0,4 7 ms 2 A 250 V AC Relay output R1 inductive, cos phi = 0,4 7 ms 2 A 30 V DC Relay output R2 resistive, cos phi = 1 5 A 250 V AC Relay output R2 resistive, cos phi = 1 5 A 30 V DC Relay output R2 inductive, cos phi = 0,4 7 ms 2 A 250 V AC Relay output R2 inductive, cos phi = 0,4 7 ms 2 A 30 V DC
Mounting mode	Cabinet mount

## Environment

Isolation	Between power and control terminals
Insulation resistance	> 1 MOhm 500 V DC for 1 minute to earth
Noise level	56,7 dB 86/188/EEC
Power dissipation in W	Natural convection 28 W 380 V 4 kHz heavy duty) Forced convection 486 W 380 V 4 kHz heavy duty) Natural convection 39 W 380 V 4 kHz normal duty) Forced convection 631 W 380 V 4 kHz normal duty)
Volume of cooling air	128 m3/h
Operating position	Vertical +/- 10 degree
Electromagnetic compatibility	Electrostatic discharge immunity test level 3 IEC 61000-4-2 Radiated radio-frequency electromagnetic field immunity test level 3 IEC 61000-4-3 Electrical fast transient/burst immunity test level 4 IEC 61000-4-4 1.2/50 µs - 8/20 µs surge immunity test level 3 IEC 61000-4-5 Conducted radio-frequency immunity test level 3 IEC 61000-4-6
Pollution degree	2 EN/IEC 61800-5-1

Vibration resistance	1.5 mm peak to peak 2...19 Hz)EN/IEC 60721-3-3 class 3M3 1 gn 9...200 Hz)EN/IEC 60721-3-3 class 3M3
Shock resistance	15 gn 11 ms, class 3M3 EN/IEC 60721-3-3
Relative humidity	5...95 % without condensation EN/IEC 60721-3-3 class 3K3
Ambient air temperature for operation	-15...50 °C without current derating heavy duty) -15...40 °C without current derating normal duty) 50...60 °C with current derating heavy duty) 40...60 °C with current derating normal duty)
Ambient air temperature for storage	-40...70 °C
Operating altitude	<= 1000 m without derating 1000...3000 m with current derating 1 % per 100 m
Environmental characteristic	Chemical pollution resistance class 3C3 EN/IEC 60721-3-3 Dust pollution resistance class 3S3 EN/IEC 60721-3-3
Standards	EN/IEC 61800-3 Environment 1 category C2 EN/IEC 61800-3 Environment 2 category C3 EN/IEC 61800-3 EN/IEC 61800-5-1 IEC 60721-3 IEC 61508 IEC 13849-1 UL 618000-5-1
Product certifications	CSA TÜV REACH UL
Marking	CE

## Offer Sustainability

Status održive ponude	Proizvod Green Premium
Uredba REACH	<a href="#">Izjava REACH</a>
Direktiva EU RoHS	Proaktivna sukladnost (proizvod izvan zakonskog okvira direktive EU RoHS) <a href="#">Izjava EU RoHS</a>
Bez žive	Da
Informacije o RoHS izuzeću	<a href="#">Da</a>
Propis RoHS za Kinu	<a href="#">Izjava RoHS Za Kinu</a>
Izjava o očuvanju okoliša	<a href="#">Ekološki Profil Proizvoda</a>
Profil cirkularnosti	<a href="#">Informacije O Kraju Vijeka Trajanja</a>
WEEE	Proizvod se na tržištima EU mora odlagati u skladu sa specifičnim propisima o prikupljanju otpada; nikako se ne smije odlagati s komunalnim otpadom.