Product data sheet
Characteristics

ATV930C13N4
variable speed drive, Altivar Process ATV900, ATV930, 132kW, 380 to 480V, with braking unit, IP20



Main

Range of product	Altivar Process ATV900
Product specific application	Process for industrial
Product or component type	Variable speed drive
Variant	Standard version With braking chopper
Device application	Industrial application
Product destination	Synchronous motors Asynchronous motors
Network number of phases	3 phases Single phase
Mounting mode	Wall mount
Continuous output current	250 A at 4 kHz for normal duty 211 A at 4 kHz for heavy duty
Communication port protocol	Ethernet IP/Modbus TCP Modbus
Option card	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
[Us] rated supply voltage	380...480 V - 15...10 %
[Us] rated supply voltage	380...480 V
Relative symmetric mains voltage tolerance	10 %
Relative symmetric network frequency tolerance	5 %
Nominal output current	250.0 A
Motor power kW	132.0 KW for normal duty 110.0 KW for heavy duty
EMC filter	Integrated With EMC plate option
IP degree of protection	IP21
Degree of protection	UL type 1

Complementary

Electrical connection	Line side: screw terminal 2 x 70...3 x 120 mm²/2 x 2/0 AWG...2 x 300 kcmil DC bus: screw terminal 0.5...1.5 mm²/20 AWG...16 AWG Control: screw terminal 0.5...1.5 mm²/20 AWG...16 AWG
Transmission rate	10/100 Mbit/s for Ethernet IP/Modbus TCP 4.8, 9.6, 19.2, 38.4 kbit/s for Modbus serial
Data format	8 bits, configurable odd, even or no parity for Modbus serial
Type of polarization	No impedance for Modbus serial
Number of addresses	1…247 for Modbus serial
Local signalling	Local diagnostic: 3 LEDs (mono/dual colour) 5 LEDs (dual colour) 2 LEDs (dual colour) 1 LED (red)
Isolation	Between power and control terminals
Discrete input number	10
Relay output type	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
Physical interface	Ethernet 2-wire RS 485
Connector type	2 RJ45 1 RJ45
Method of access	Slave Modbus TCP
Transmission rate	10, 100 Mbits 4.8 kbps 9600 bit/s 19200 bit/s
Transmission frame	RTU
Number of addresses	1…247
Data format	8 bits, configurable odd, even or no parity
Type of polarization	No impedance
4 quadrant operation possible	True
Asynchronous motor control profile	Constant torque standard Variable torque standard Optimized torque mode
Synchronous motor control profile	Permanent magnet motor Synchronous reluctance motor
Maximum output frequency	599 Hz
Acceleration and deceleration ramps	Linear adjustable separately from 0.01...9999 s S, U or customized
Motor slip compensation	Adjustable Automatic whatever the load Can be suppressed Not available in permanent magnet motor law
Switching frequency	1...8 kHz adjustable 2.5...8 kHz with derating factor
Nominal switching frequency	2.5 kHz
Braking to standstill	By DC injection
Brake chopper integrated	True
Line current	237.0 A at 380 V (normal duty) 201.0 A at 380 V (heavy duty) 213.0 A at 480 V (normal duty) 165.0 A at 480 V (heavy duty)
Maximum input current	237.0 A
Maximum output voltage	480.0 V
Apparent power	161.4 KVA at 380...480 V (normal duty) 121.8 KVA at 380...480 V (heavy duty)
Maximum transient current	300 A during 60 s (normal duty) 317 A during 60 s (heavy duty)
Network frequency	50...60 Hz
Prospective line Isc	50 KA
Base load current at high overload	211.0 A
Base load current at low overload	250.0 A

With safety function Safely Limited Speed (SLS)	True
With safety function Safe brake management (SBC/SBT)	True
With safety function Safe Operating Stop (SOS)	False
With safety function Safe Position (SP)	False
With safety function Safe programmable logic	False
With safety function Safe Speed Monitor (SSM)	False
With safety function Safe Stop 1 (SS1)	True
With sft fct Safe Stop 2 (SS2)	False
With safety function Safe torque off (STO)	True
With safety function Safely Limited Position (SLP)	False
With safety function Safe Direction (SDI)	False
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
Quantity per set	1
Width	320 Mm
Height	1205 Mm
Depth	393 Mm
Net weight	104 Kg

Environment

Insulation resistance	> 1 MOhm 500 V DC for 1 minute to earth
Noise level	69.9 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	6 gn for 11 ms conforming to IEC 60068-2-27
Environmental characteristic	Chemical pollution resistance class 3C3 conforming to IEC 60721-3-3 Dust pollution resistance class 3S3 conforming to IEC 60721-3-3
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)
Operating position	Vertical +/- 10 degree
Product certifications	UL[RETURN]CSA[RETURN]TÜV
Marking	CE
Standards	UL 508C IEC 61800-3 IEC 61800-5-1 IEC 61000-3-12 IEC 60721-3 IEC 61508 IEC 13849-1
Maximum THDI	<48 % full load conforming to IEC 61000-3-12
Assembly style	Enclosed
Electromagnetic compatibility	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- 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
Environmental class (during operation)	Class 3C3 according to IEC 60721-3-3 Class 3S3 according to IEC 60721-3-3
Maximum acceleration under shock impact (during operation)	150 m/s² at 11 ms
Maximum acceleration under vibrational stress (during operation)	10 m/s² at 13...200 Hz

Maximum deflection under vibratory load (during operation)	1.5 mm at 2...13 Hz
Permitted relative humidity (during operation)	Class 3K5 according to EN 60721-3
Overvoltage category	III
Regulation loop	Adjustable PID regulator
Noise level	69.9 DB
Pollution degree	2
Ambient air transport temperature	-25…70 °C
Ambient air temperature for storage	-25…70 °C

Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	70.000 Cm
Package 1 Width	48.000 Cm
Package 1 Length	145.000 Cm
Package 1 Weight	128.000 Kg

Offer Sustainability

Recyclability potential, in %	84
Total lifecycle Carbon footprint	39 711 kg CO2 eq.
Carbon footprint of the manufacturing phase [A1 to A3]	981.1146477649929
Carbon footprint of the manufacturing phase [A1 to A3]	981 kg CO2 eq.
Carbon footprint of the distribution phase [A4]	22.46386693563043
Carbon footprint of the distribution phase [A4]	22 kg CO2 eq.
Carbon footprint of the installation phase [A5]	24.12828050292337
Carbon footprint of the installation phase [A5]	24 kg CO2 eq.
Carbon footprint of the use phase [B2, B3, B4, B6]	38509.0306022045
Carbon footprint of the use phase [B2, B3, B4, B6]	38 509 kg CO2 eq.
Mercury free	Yes
Sustainable packaging	No
Carbon footprint of the end-of-life phase [C1 to C4]	174.1810435315395
Carbon footprint of the end-of-life phase [C1 to C4]	174 kg CO2 eq.
Environmental Disclosure	Product Environmental Profile
Total lifecycle Carbon footprint	39711
Packaging made with recycled cardboard	Yes
Packaging without single use plastic	No
SCIP Number	2a36d170-61d5-4546-b212-5be0d10219ac
REACh Regulation	Reference contains Substances of Very High Concern above the threshold
EU RoHS Directive	Compliant By Exemption
California proposition 65	WARNING: This product can expose you to chemicals including: Lead and lead compounds, which
Product contributes to saved and avoided emissions	Yes
End of life manual availability	End Of Life Information
Removable battery	Yes
Take-back	No
WEEE Label	The product must be disposed on European Union markets following specific waste collection and

Contractual warranty

Warranty (in months)	18

Product Life Status : Commercialised