Specifications





Variable speed drive, Altivar Machine ATV340, 30 kW, 400 V, 3 phases, Ethernet

ATV340D30N4E

Main

Altivar Machine ATV340
Variable speed drive
Machine
Standard version
Wall mount
EtherNet/IP Modbus TCP Modbus serial
Communication module, PROFINET Communication module, DeviceNet Communication module, CANopen Communication module, EtherCAT
3 phases
5060 Hz +/- 5 %
380480 V - 1510 %
61.5 A
37 kW for normal duty 30 kW for heavy duty
50 hp for normal duty 40 hp for heavy duty
Class C3 EMC filter integrated
IP20
UL type 1

Complementary

Discrete input number	8
Discrete input type	PTI safe torque off: 030 kHz, 24 V DC (30 V) DI1DI5 programmable as pulse input, 24 V DC (30 V), impedance: 3.5 kOhm programmable
number of preset speeds	16 preset speeds
Discrete output number	1.0
Discrete output type	Programmable output DQ1, DQ2 30 V DC 100 mA
Analogue input number	3

Price is "List Price" and may be subject to a trade discount - check with your local distributor or retailer for actual price.

Analogue input type	Al1 software-configurable current: 020 mA, impedance: 250 Ohm, resolution 12 bits Al1 software-configurable temperature probe or water level sensor	
	Al1 software-configurable voltage: 010 V DC, impedance: 31.5 kOhm, resolution 12 bits	
	Al2 software-configurable voltage: - 1010 V DC, impedance: 31.5 kOhm, resolution 12 bits	
Analogue output number	2	
Analogue output type	Software-configurable voltage AQ1, AQ2: 010 V DC impedance 470 Ohm, resolution 10 bits	
	Software-configurable current AQ1, AQ2: 020 mA impedance 500 Ohm, resolution 10 bits	
Relay output number	3	
Dutput voltage	<= power supply voltage	
Relay output type	Relay outputs R1A	
	Relay outputs R1C electrical durability 100000 cycles Relay outputs R2A	
	Relay outputs R2C electrical durability 100000 cycles	
Maximum switching current	Relay output R1C on resistive load, cos phi = 1: 3 A at 250 V AC	
-	Relay output R1C on resistive load, cos phi = 1: 3 A at 30 V DC	
	Relay output R1C on inductive load, cos phi = 0.4 and L/R = 7 ms: 2 A at 250 V AC	
	Relay output R1C on inductive load, cos phi = 0.4 and L/R = 7 ms: 2 A at 30 V DC	
	Relay output R2C on resistive load, cos phi = 1: 5 A at 250 V AC Relay output R2C on resistive load, cos phi = 1: 5 A at 30 V DC	
	Relay output R2C on inductive load, cos phi = 0.4 and L/R = 7 ms: 2 A at 250 V AC	
	Relay output R2C on inductive load, cos phi = 0.4 and L/R = 7 ms: 2 A at 30 V DC	
linimum switching current	Relay output R1B: 5 mA at 24 V DC Relay output R2C: 5 mA at 24 V DC	
Physical interface	2-wire RS 485	
Connector type	3 RJ45	
Method of access	Slave Modbus RTU Slave Modbus TCP	
Transmission rate	4.8 kbit/s	
	9.6 kbit/s	
	19.2 kbit/s 38.4 kbit/s	
Transmission frame	RTU	
Number of addresses	1247	
Data format	8 bits, configurable odd, even or no parity	
Type of polarization	No impedance	
a quadrant operation possible	True	
Asynchronous motor control	Variable torque standard	
profile	Optimized torque mode	
	Constant torque standard	
Synchronous motor control profile	Reluctance motor Permanent magnet motor	
Pollution degree	2 conforming to IEC 61800-5-1	
Maximum output frequency	0.599 kHz	
Acceleration and deceleration ramps	Linear adjustable separately from 0.019999 s S, U or customized	
Motor slip compensation	Automatic whatever the load	
	Not available in permanent magnet motor law	
	Adjustable Can be suppressed	
Switching frequency	2 16 kHz adjustable	
	216 kHz adjustable 416 kHz with derating factor	

Nominal switching frequency	4 kHz
Braking to standstill	By DC injection
Brake chopper integrated	True
Line current	66.2 A at 380 V (normal duty) 57.3 A at 480 V (normal duty) 54.8 A at 380 V (heavy duty) 48.3 A at 480 V (heavy duty)
Line current	66.2 A at 380 V with internal line choke (normal duty) 57.3 A at 480 V with internal line choke (normal duty) 66.2 A at 380 V with internal line choke (heavy duty) 57.3 A at 480 V with internal line choke (heavy duty) 54.8 A 48.3 A
Maximum input current	66.2 A
Maximum output voltage	480 V
Apparent power	47.6 kVA at 480 V (normal duty) 40.2 kVA at 480 V (heavy duty)
Maximum transient current	89.4 A during 60 s (normal duty) 89.4 A during 2 s (normal duty) 92.3 A during 60 s (heavy duty) 92.3 A during 2 s (heavy duty)
Electrical connection	Screw terminal, clamping capacity: 3550 mm² for line side Screw terminal, clamping capacity: 2550 mm² for DC bus Screw terminal, clamping capacity: 3550 mm² for motor Screw terminal, clamping capacity: 0.751.5 mm² for control
Prospective line lsc	50 kA
Base load current at high overload	61.5 A
Base load current at low overload	74.5 A
Power dissipation in W	Natural convection: 77 W at 380 V, switching frequency 4 kHz (heavy duty) Forced convection: 640 W at 380 V, switching frequency 4 kHz (heavy duty) Natural convection: 90 W at 380 V, switching frequency 4 kHz (normal duty) Forced convection: 796 W at 380 V, switching frequency 4 kHz (normal duty)
Electrical connection	Line side: screw terminal 3550 mm²/AWG 3AWG 1 DC bus: screw terminal 2550 mm²/AWG 4AWG 1 Motor: screw terminal 3550 mm²/AWG 3AWG 1 Control: screw terminal 0.751.5 mm²/AWG 18AWG 16
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 loss: motor		
	Thermal protection: drive		
	Safe torque off: drive		
	Overheating: drive		
	Overnealing: 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		
Width	213.0 mm		
Height	660.0 mm		

Depth	262.0 mm
net weight	27.9 kg
Continuous output current	74.5 A at 4 kHz for normal duty 61.5 A at 4 kHz for heavy duty

Environment

Operating altitude	<= 4800 m with current derating above 1000m
Operating position	Vertical +/- 10 degree
Product certifications	UL CSA TÜV EAC CTick
marking	CE
Standards	IEC 61800-3 IEC 61800-5-1 IEC 60721-3 IEC 61508 IEC 13849-1 UL 618000-5-1 UL 508C IEC 61000-3-12
Maximum THDI	<48 % full load conforming to IEC 61000-3-12 <48 % 80 % load conforming to IEC 61000-3-12
Assembly style	With heat sink
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 61000-4-3 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 13200 Hz
Maximum deflection under vibratory load (during operation)	1.5 mm at 213 Hz
Permitted relative humidity (during operation)	Class 3K5 according to EN 60721-3
Volume of cooling air	240.0 m3/h

Type of cooling	Forced convection
Overvoltage category	Class III
Regulation loop	Adjustable PID regulator
Noise level	63.5 dB
Pollution degree	2
Ambient air transport temperature	-4070 °C
Ambient air temperature for operation	-1550 °C without derating (vertical position) 5060 °C with derating factor (vertical position)
Ambient air temperature for storage	-4070 °C
Isolation	Between power and control terminals

Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	51.000 cm
Package 1 Width	84.000 cm
Package 1 Length	34.000 cm
Package 1 Weight	30.000 kg

Sustainability Screen Premium

Green PremiumTM label is Schneider Electric's commitment to delivering products with best-inclass environmental performance. Green Premium promises compliance with the latest regulations, transparency on environmental impacts, as well as circular and low-CO₂ products.

Guide to assessing product sustainability is a white paper that clarifies global eco-label standards and how to interpret environmental declarations.

Learn more about Green Premium >

Guide to assess a product's sustainability >



Transparency RoHS/REACh

Resource performance

Upgraded Components Available

Well-being performance

Mercury Free

Rohs Exemption Information

Certifications & Standards

Reach Regulation	REACh Declaration	
Eu Rohs Directive	Pro-active compliance (Product out of EU RoHS legal scope)	
China Rohs Regulation	China RoHS declaration	
Environmental Disclosure	Product Environmental Profile	
Weee	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins	
Circularity Profile	End of Life Information	

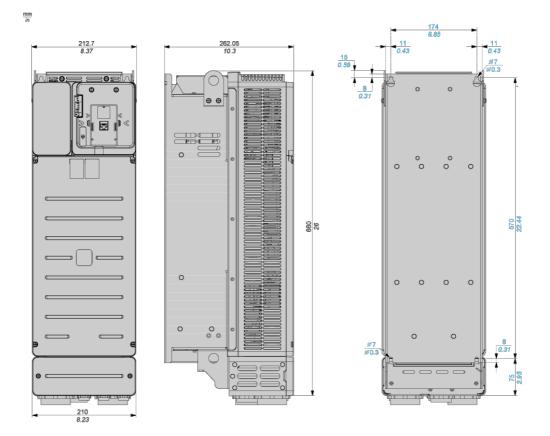
Yes

ATV340D30N4E

Dimensions Drawings

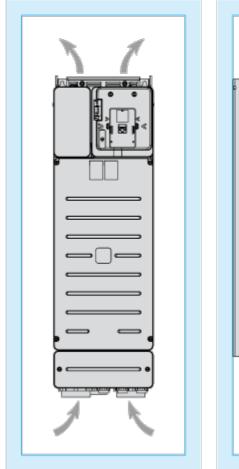
Dimensions

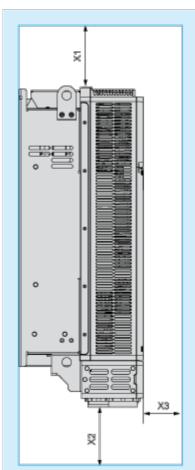
Views: Front - Left - Rear



Mounting and Clearance

Clearance





Dimensions in mm

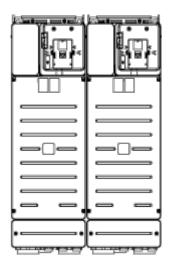
X1	X2	X3
≥ ₁₀₀	≥ 100	≥ ₁₀

Dimensions in in.

X1	X2	X3
≥ _{3.94}	≥ _{3.94}	≥ _{0.39}

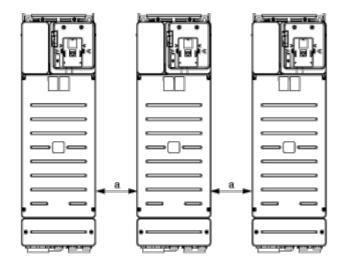
Mounting Types

Mounting Type A: Side by Side IP20



Possible, up to 50 °C, 2 drives only

Mounting Type B: Individual IP20



a 🎽 110 mm (4.33 in.)

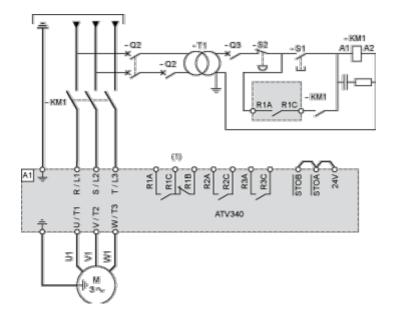
ATV340D30N4E

Connections and Schema

Connections and Schema

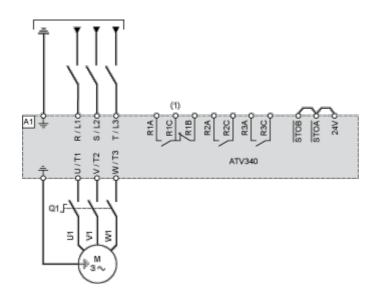
Three-Phase Power Supply with Upstream Breaking via Line Contactor Without Safety Function STO

Connection diagrams conforming to standards ISO13849 category 1 and IEC/EN 61508 capacitySIL1, stopping category 0 in accordance with standard IEC/EN 60204-1.



- (1) Use relay output R1 set to operating state Fault to switch Off the product once an error is detected.
- A1: Drive
- KM1 : Line Contactor
- Q2, Q3 : Circuit breakers
- S1: Pushbutton
- S2 : Emergency stop
- T1: Transformer for control part

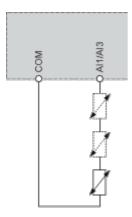
Three-Phase Power Supply with Downstream Breaking via Switch Disconnector



ATV340D30N4E

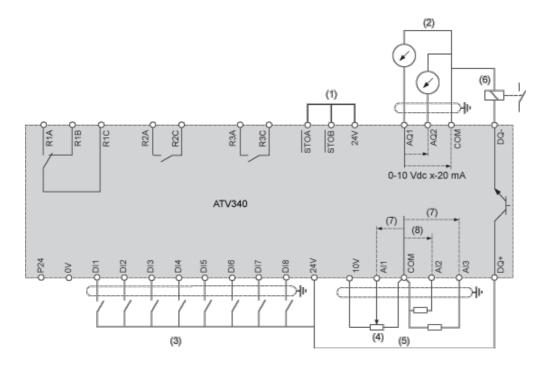
- (1) Use relay output R1 set to operating state Fault to switch Off the product once an error is detected.
- A1: Drive
- Q1 : Switch disconnector

Sensor Connection



It is possible to connect either 1 or 3 sensors on terminals AI1/AI3.

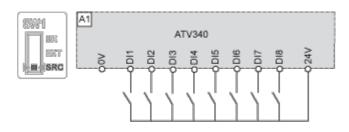
Control Block Wiring Diagram



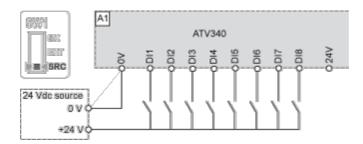
- (1) Safe Torque Off
- (2) Analog Output
- (3) Digital Input
- (4) Reference potentiometer
- (5) Analog Input
- (6) Digital Output
- (7) 0-10 Vdc, x-20 mA
- (8) 0-10 Vdc, -10 Vdc...+10 Vdc
- A1: ATV340 Drive
- R1A, R1B, R1C : Fault relay
- R2A, R2C : Sequence relay
- R3A, R3C : Sequence relay

Digital Inputs Wiring

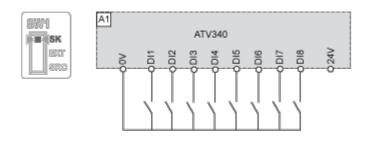
Switch Set to SRC (Source) Position Using the Output Power Supply for the Digital Inputs



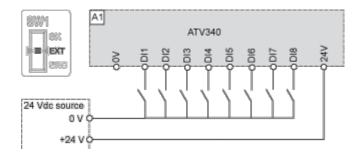
Switch Set to SRC (Source) Position and Use of an External Power Supply for the DIs



Switch Set to SK (Sink) Position Using the Output Power Supply for the Digital Inputs



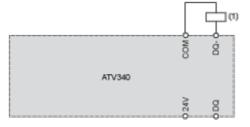
Switch Set to EXT Position Using an External Power Supply for the DIs



Digital Outputs Wiring

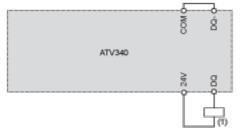
Digital Outputs: Internal Supply

Positive Logic, Source, European Style, DQ switches to +24V



(1) Relay or valve

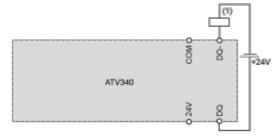
Negative Logic, Sink, Asian Style, DQ switches to 0V



(1) Relay or valve

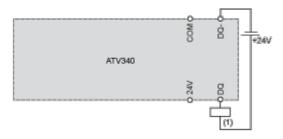
Digital Outputs: External Supply

Positive Logic, Source, European Style, DQ switches to +24V



(1) Relay or valve

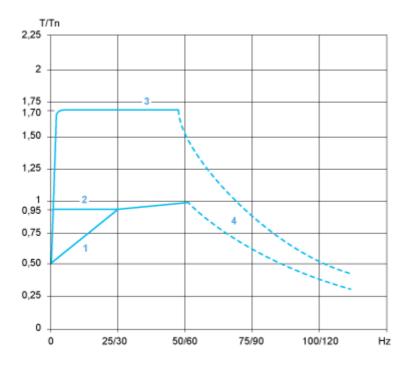
Negative Logic, Sink, Asian Style, DQ switches to 0V



(1) Relay or valve

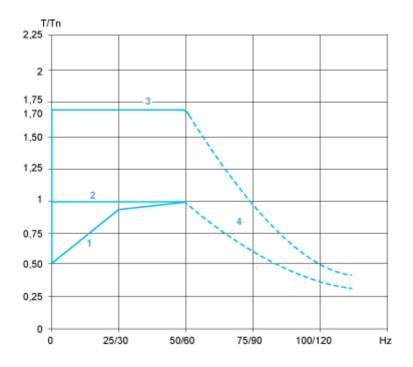
Performance Curves

Open Loop Applications



- 1: Self-cooled motor: continuous useful torque
- 2: Force-cooled motor: continuous useful torque
- 3: Overtorque for 60 s maximum
- 4: Torque in overspeed at constant power

Closed Loop Applications



- 1: Self-cooled motor: continuous useful torque
- 2: Force-cooled motor: continuous useful torque
- 3: Overtorque for 60 s maximum
- 4: Torque in overspeed at constant power