Specification





variable speed drive, Altivar Machine ATV340, 1.5kW, heavy duty, 400V, 3 phases

ATV340U15N4

Product availability: Non-Stock - Not normally stocked in distribution facility

Price*: 727.26 USD

Main

Range Of Product	Altivar Machine ATV340
Product Or Component Type	Variable speed drive
Product Specific Application	Machine
Variant	Standard version
Mounting Mode	Cabinet mount
Communication Port Protocol	Modbus serial
Option Card	communication module, Profibus DP V1 communication module, PROFINET communication module, DeviceNet communication module, CANopen communication module, EtherCAT
Phase	3 phase
Supply Frequency	5060 Hz +/- 5 %
[Us] Rated Supply Voltage	380480 V - 1510 %
Nominal Output Current	4.0 A
Motor Power Kw	2.2 kW normal duty 1.5 kW heavy duty
Maximum Horse Power Rating	3 hp normal duty 2 hp heavy duty
Emc Filter	Class C3 EMC filter integrated
Ip Degree Of Protection	IP20

Complementary

Discrete Input Number	5	
Discrete Input Type	PTI programmable as pulse input 030 kHz, 24 V DC 30 V) DI1DI5 safe torque off, 24 V DC 30 V)3.5 kOhm programmable	
Number Of Preset Speeds	16 preset speeds	
Discrete Output Number	2.0	
Discrete Output Type	Programmable output DQ1, DQ2 30 V DC 100 mA	
Analogue Input Number	2	
Analogue Input Type	Al1 software-configurable current 020 mA 250 Ohm 12 bits Al1 software-configurable temperature probe or water level sensor Al1 software-configurable voltage 010 V DC 31.5 kOhm 12 bits Al2 software-configurable voltage - 1010 V DC 31.5 kOhm 12 bits	

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

Analogue Output Number	1	
Analogue Output Type	Software-configurable voltage AQ1 010 V DC 470 Ohm 10 bits Software-configurable current AQ1 020 mA 500 Ohm 10 bits	
Relay Output Number	2	
Output Voltage	<= power supply voltage	
Relay Output Type	Relay outputs R1A Relay outputs R1C 100000 cycles Relay outputs R2A Relay outputs R2C 100000 cycles	
Maximum Switching Current	Relay output R1C resistive, cos phi = 1 3 A 250 V AC Relay output R1C resistive, cos phi = 1 3 A 30 V DC Relay output R1C inductive, cos phi = 0.4 7 ms 2 A 250 V AC Relay output R1C inductive, cos phi = 0.4 7 ms 2 A 30 V DC Relay output R2C resistive, cos phi = 1 5 A 250 V AC Relay output R2C resistive, cos phi = 1 5 A 30 V DC Relay output R2C resistive, cos phi = 1 5 A 30 V DC Relay output R2C inductive, cos phi = 0.4 7 ms 2 A 250 V AC Relay output R2C inductive, cos phi = 0.4 7 ms 2 A 30 V DC	
Minimum Switching Current	Relay output R1B 5 mA 24 V DC Relay output R2C 5 mA 24 V DC	
Physical Interface	2-wire RS 485	
Connector Type	1 RJ45	
Method Of Access	Slave Modbus RTU	
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	
4 Quadrant Operation Possible	True	
Asynchronous Motor Control Profile	Optimized torque mode Constant torque standard Variable torque standard	
Synchronous Motor Control Profile	Reluctance motor Permanent magnet motor	
Pollution Degree	2 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	Can be suppressed Adjustable Not available in permanent magnet motor law Automatic whatever the load	
Switching Frequency	216 kHz adjustable 816 kHz with derating factor	
Nominal Switching Frequency	4 kHz	
Braking To Standstill	By DC injection	
Brake Chopper Integrated	True	
Line Current	5.1 A 380 V normal duty) 4.1 A 480 V normal duty) 6.0 A 380 V heavy duty) 4.9 A 480 V heavy duty)	

Line Current	6 A 380 V without line choke heavy duty)	
	4.9 A 480 V without line choke heavy duty)	
	5.1 A 380 V with external line choke normal duty)	
	4.1 A 480 V with external line choke normal duty)	
	3.5 A 380 V with external line choke heavy duty)	
	2.8 A 480 V with external line choke heavy duty)	
Maximum Input Current Per Phase	6.0 A	
Maximum Output Voltage	480 V	
Apparent Power	3.8 kVA 480 V normal duty)	
	4.1 kVA 480 V heavy duty)	
Maximum Transient Current	6.2 A 60 s normal duty)	
	6 A 60 s heavy duty)	
	7.6 A 2 s normal duty)	
	7.2 A 2 s heavy duty)	
Electrical Connection	Screw terminal 1.54 mm² line side	
	Screw terminal 46 mm² DC bus	
	Screw terminal 1.54 mm² motor	
	Screw terminal 0.22.5 mm² control	
Prospective Line Isc	5 kA	
Base Load Current At High Overload	4.0 A	
Base Load Current At Low Overload	5.6 A	
Power Dissipation In W	Natural convection 46 W 380 V 4 kHz heavy duty)	
	Forced convection 46 W 380 V 4 kHz heavy duty)	
	Natural convection 59 W 380 V 4 kHz normal duty)	
	Forced convection 59 W 380 V 4 kHz normal duty)	
Electrical Connection	Line side screw terminal 1.54 mm² AWG 14AWG 12	
	DC bus screw terminal 46 mm² AWG 12AWG 10	
	Motor screw terminal 1.54 mm² AWG 14AWG 12	
	Control screw terminal 0.22.5 mm² AWG 24AWG 12	
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		
	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		
Width	3.35 in (85.0 mm)		
Height	10.63 in (270.0 mm)		
Depth	9.15 in (232.5 mm)		
Net Weight	3.75 lb(US) (1.7 kg)		
Continuous Output Current	5.6 A 4 kHz normal duty		
	4 A 4 kHz heavy duty		

Environment

Operating Altitude	<= 9842.52 ft (3000 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	
Assembly Style	With heat sink	
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	
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)	70 m/s² at 22 ms	
Maximum Acceleration Under Vibrational Stress (During Operation)	5 m/s² at 9200 Hz	
Maximum Deflection Under Vibratory Load (During Operation)	1.5 mm at 29 Hz	
Permitted Relative Humidity (During Operation)	Class 3K5 according to EN 60721-3	
Volume Of Cooling Air	4755.18 Gal/hr(US) (18.0 m3/h)	
Type Of Cooling	Forced convection	
Overvoltage Category	Class III	

Regulation Loop	Adjustable PID regulator	
Noise Level	55.4 dB	
Pollution Degree	2	
Ambient Air Transport Temperature	-40158 °F (-4070 °C)	
Ambient Air Temperature For Operation	5122 °F (-1550 °C) without derating vertical position) 122140 °F (5060 °C) with derating factor vertical position)	
Ambient Air Temperature For Storage	-40158 °F (-4070 °C)	
Isolation	Between power and control terminals	

Ordering and shipping details

Category	US1CP4B22182
Discount Schedule	CP4B
Gtin	3606480966880
Returnability	No
Country Of Origin	ID

Packing Units

Unit Type Of Package 1	PCE
Number Of Units In Package 1	1
Package 1 Height	4.33 in (11.000 cm)
Package 1 Width	14.57 in (37.000 cm)
Package 1 Length	12.60 in (32.000 cm)
Package 1 Weight	5.46 lb(US) (2.476 kg)
Unit Type Of Package 2	P06
Number Of Units In Package 2	14
Package 2 Height	29.53 in (75.000 cm)
Package 2 Width	23.62 in (60.000 cm)
Package 2 Length	31.50 in (80.000 cm)
Package 2 Weight	103.97 lb(US) (47.160 kg)

Sustainability Green 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

Yes

Certifications & Standards

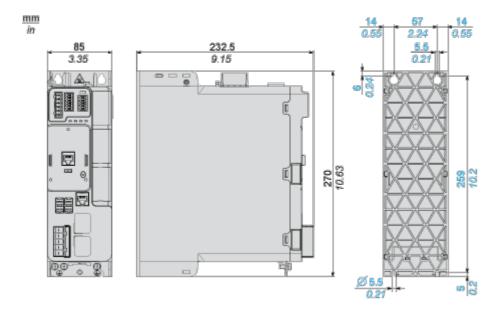
REACh Declaration	
Pro-active compliance (Product out of EU RoHS legal scope) China RoHS declaration	
The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins.	
End of Life Information	
WARNING: This product can expose you to chemicals 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 www.P65Warnings.ca.gov	

ATV340U15N4

Dimensions Drawings

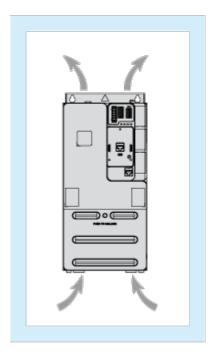
Dimensions

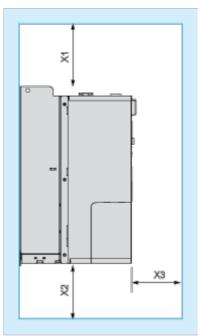
Views: Front - Left - Rear



Mounting and Clearance

Clearance





Dimensions in mm

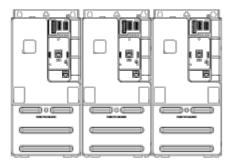
X1	X2	X3
≥ 100	≥ 100	≥ 60

Dimensions in in.

X1	X2	X3
≥ 3.94	≥ 3.94	≥ _{2.36}

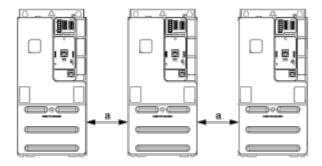
Mounting Types

Mounting Type A: Side by Side IP20



Possible, at ambient temperature ≤ 50 °C (122 °F)

Mounting Type B: Individual IP20



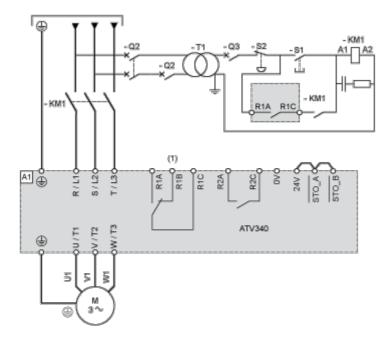
a 50 mm (1.97 in.) from 50...60°C, no restriction below 50°C

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 capacity SIL1, 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

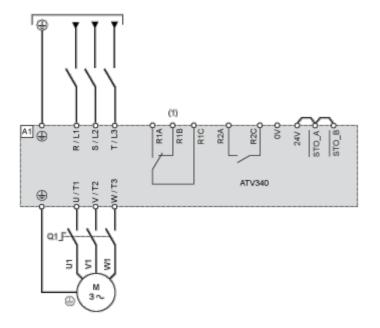
KM1 : Line ContactorQ2, Q3 : Circuit breakers

S1: PushbuttonS2: Emergency stop

T1: Transformer for control part

Three-phase Power Supply With Downstream Breaking via Switch Disconnector

ATV340U15N4

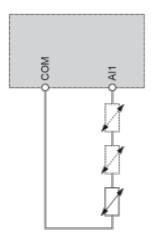


(1) Use relay output R1 set to operating state Fault to switch Off the product once an error is detected.

A1: Drive

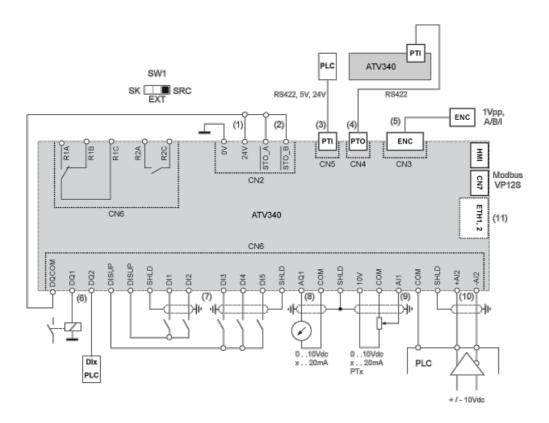
Q1: Switch disconnector

Sensor Connection



It is possible to connect either 1 or 3 sensors on terminals Al1.

Control Block Wiring Diagram

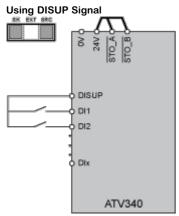


- (1) 24V supply (STO)
- (2) STO Safe Torque Off
- (3) PTI Pulse Train In
- (4) PTO Pulse Train Out
- (5) Motor Encoder connection
- (6) Digital outputs
- (7) Digital inputs
- (8) Analog output
- (9) Analog input
- (10) Differential Analog Input
- (11) Ethernet port (only on Ethernet drive version)

SW1: Sink/Source switch
R1A, R1B, R1C: Fault relay
R2A, R2C: Sequence relay

Digital Inputs Wiring

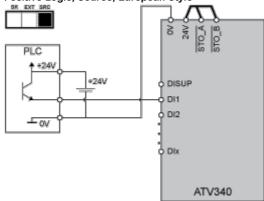
Digital Inputs: Internal Supply



In SRC position DISUP outputs 24 V. In SK position DISUP is connected to 0 V.

Digital Inputs: External Supply

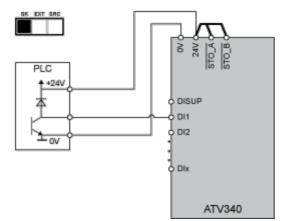
Positive Logic, Source, European Style



Negative Logic, Sink, Asian Style PLC +24V DISUP DIX ATV340

Digital Inputs: Internal supply Negative Logic, Sink, Asian Style

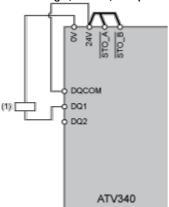
ATV340U15N4



Digital Outputs Wiring

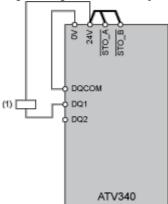
Digital Outputs: Internal Supply

Positive Logic, Source, European Style, DQCOM to +24V



(1) Relay or valve

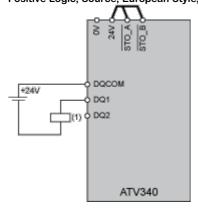
Negative Logic, Sink, Asian Style, DQCOM to 0V



(1) Relay or valve

Digital Outputs: External Supply

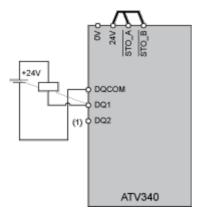
Positive Logic, Source, European Style, DQCOM to +24V



(1) Relay or valve

Negative Logic, Sink, Asian Style, DQCOM to 0V

ATV340U15N4

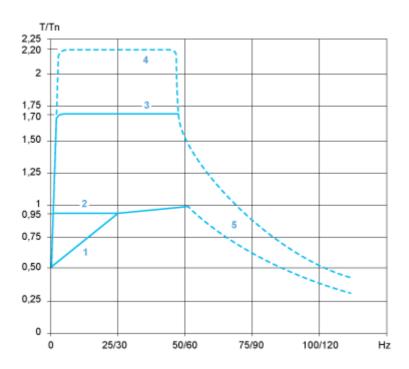


(1) Relay or valve

ATV340U15N4

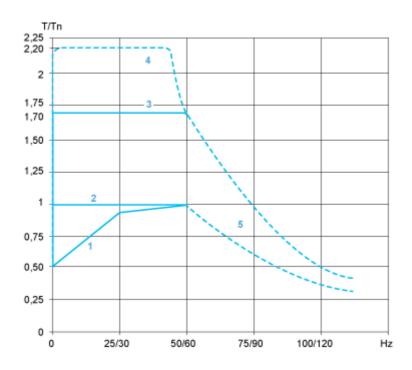
Performance Curves

Open Loop Applications



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