

# variable speed drive - 75kW- 400V - 3 phases - ATV340 Ethernet

Local distributor code:

408900692 ATV340D75N4E

EAN Code: 3606480967139

#### Main

Range of product	Altivar Machine ATV340	
Product or component type	Variable speed drive	
Product specific application	Machine	
Mounting mode	Wall mount	
Variant	Standard version	
Communication port protocol	Modbus serial EtherNet/IP Modbus TCP	
Option card	Communication module, PROFINET Communication module, DeviceNet Communication module, CANopen Communication module, EtherCAT	
Network number of phases	3 phases	
Supply frequency	5060 Hz +/- 5 %	
[Us] rated supply voltage	380480 V - 1510 %	
Nominal output current	145.0 A	
Motor power kW	90 kW for normal duty 75 kW for heavy duty	
Motor power hp	125 hp for normal duty 100 hp for heavy duty	
EMC filter	Class C3 EMC filter integrated	
IP degree of protection	IP20	
Degree of protection	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	

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	
Output voltage	- 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	
Minimum 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	
4 quadrant operation possible	True	
Asynchronous motor control profile	Variable torque standard Constant torque standard Optimized torque mode	
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	S, U or customized Linear adjustable separately from 0.019999 s	
Motor slip compensation	Adjustable Not available in permanent magnet motor law Automatic whatever the load Can be suppressed	
Switching frequency	18 kHz adjustable 2.58 kHz with derating factor	

Nominal switching frequency	2.5 kHz	
Braking to standstill	By DC injection	
Brake chopper integrated	True	
Line current	156.2 A at 380 V (normal duty) 135.8 A at 480 V (normal duty) 134.3 A at 380 V (heavy duty) 118.1 A at 480 V (heavy duty)	
Line current	156.2 A at 380 V with internal line choke (normal duty) 135.8 A at 480 V with internal line choke (normal duty) 134.3 A at 380 V with internal line choke (heavy duty) 118.1 A at 480 V with internal line choke (heavy duty) 134.3 A 118.1 A	
Maximum input current	156.2 A	
Maximum output voltage	480 V	
Apparent power	112.9 kVA at 480 V (normal duty) 98.2 kVA at 480 V (heavy duty)	
Maximum transient current	207.6 A during 60 s (normal duty) 217.5 A during 60 s (heavy duty) 207.6 A during 2 s (normal duty) 217.5 A during 2 s (heavy duty)	
Electrical connection	Screw terminal, clamping capacity: 0.751.5 mm² for control Screw terminal, clamping capacity: 120 mm² for line side Screw terminal, clamping capacity: 95120 mm² for DC bus Screw terminal, clamping capacity: 120 mm² for motor	
Prospective line Isc	50 kA	
Base load current at high overload	145.0 A	
Base load current at low overload	173.0 A	
Power dissipation in W	Natural convection: 158 W at 380 V, switching frequency 4 kHz (heavy duty) Forced convection: 1359 W at 380 V, switching frequency 4 kHz (heavy duty) Natural convection: 180 W at 380 V, switching frequency 4 kHz (normal duty) Forced convection: 1585 W at 380 V, switching frequency 4 kHz (normal duty)	
Electrical connection	Control: screw terminal 0.751.5 mm²/AWG 18AWG 16 Line side: screw terminal 120 mm²/AWG 4/0250 kcmil DC bus: screw terminal 95120 mm²/AWG 3/0250 kcmil Motor: screw terminal 120 mm²/250 kcmil	
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
	bleak on the control circuit. drive
Width	271.0 mm
Height	908.0 mm
Depth	309.0 mm
Net weight	58.4 kg
Continuous output current	173 A at 4 kHz for normal duty
	145 A at 4 kHz for heavy duty
Environment	
Operating altitude	<= 4800 m with current derating above 1000m
Operating position	Vertical +/- 10 degree
——————————————————————————————————————	Ventical III- To degree
Product certifications	UL
	CSA
	TÜV
	EAC
	CTick
	OTION
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
	<u> </u>
Assembly style	With heat sink
Electromagnetic compatibility	Electrostatic discharge immunity test level 3 conforming to IEC 61000-4-2
3	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 alass (during	Class 202 according to IEO 60704 2 2
Environmental class (during	Class 3C3 according to IEC 60721-3-3
operation)	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	10 m/s² at 13200 Hz
operation)	
Maximum deflection under	1.5 mm at 213 Hz
vibratory load (during operation)	
Permitted relative humidity (during operation)	Class 3K5 according to EN 60721-3
Walters of a allientation	

295.0 m3/h

Volume of cooling air

type of cooling	Forced convection
Overvoltage category	Class III
Regulation loop	Adjustable PID regulator
Noise level	69.9 dB
pollution degree	2
Ambient air transport temperature	-4070 °C
Ambient air temperature for operation	-1540 °C without derating (vertical position) 4050 °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	60.000 cm
Package 1 Width	43.000 cm
Package 1 Length	111.000 cm
Package 1 Weight	74.000 kg

## **Contractual warranty**

Warranty 18 months



Schneider Electric aims to achieve Net Zero status by 2050 through supply chain partnerships, lower impact materials, and circularity via our ongoing "Use Better, Use Longer, Use Again" campaign to extend product lifetimes and recyclability.

#### Environmental Data explained >

How we assess product sustainability >

∇ Environmental footprint	
Carbon footprint (kg.eq.CO2 per CR, Total Life cycle)	46745
Environmental Disclosure	Product Environmental Profile

#### **Use Better**

Materials and Substances	
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope)
REACh Regulation	REACh Declaration
Product contributes to saved and avoided emissions	Yes

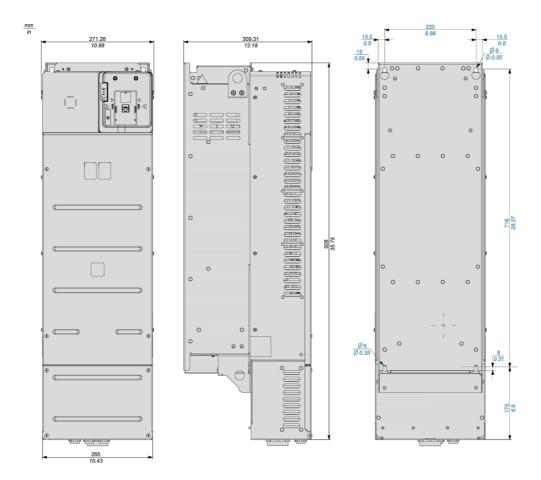
#### **Use Again**

○ Repack and remanufacture	
Circularity Profile	End of Life Information
WEEE	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins
Take-back	No

#### **Dimensions Drawings**

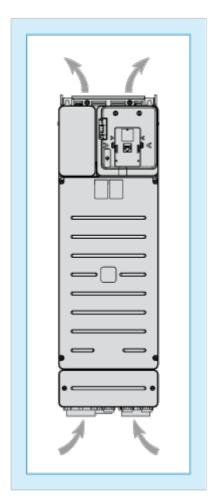
#### **Dimensions**

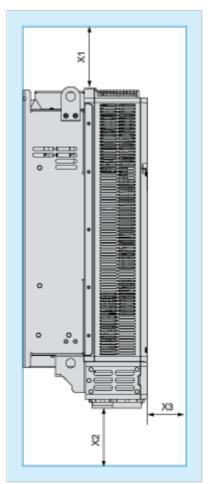
#### Views: Front - Left - Rear



Mounting and Clearance

#### Clearance





#### Dimensions in mm

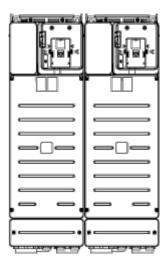
X1	X2	X3
≥ 100	≥ 100	≥ 10

#### Dimensions in in.

X1	X2	X3
≥ 3.94	≥ 3.94	<sup>▶</sup> 0.39

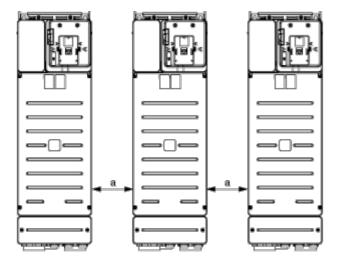
#### **Mounting Types**

#### Mounting Type A: Side by Side IP20



Possible, up to 50 °C, 2 drives only

#### Mounting Type B: Individual IP20



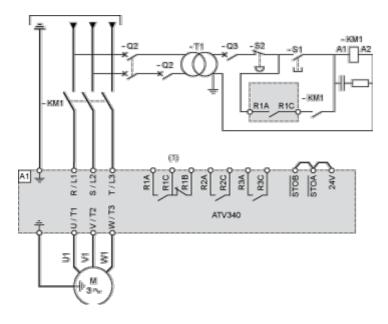
a 110 mm (4.33 in.)

#### 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

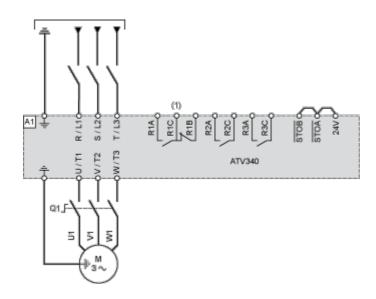
KM1: Line Contactor

Q2, Q3: Circuit breakers

S1: PushbuttonS2: Emergency stop

T1: Transformer for control part

#### Three-Phase Power Supply with Downstream Breaking via Switch Disconnector



#### **Product datasheet**

#### ATV340D75N4E

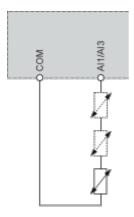
(1) Use relay output R1 set to operating state Fault to switch Off the product once an error is detected.

A1: Drive

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Q1: Switch disconnector

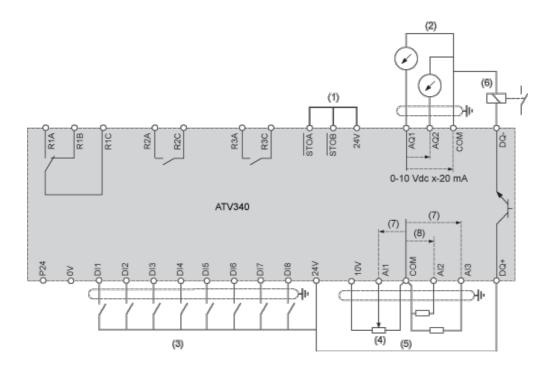
#### **Sensor Connection**



It is possible to connect either 1 or 3 sensors on terminals Al1/Al3.

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#### **Control Block Wiring Diagram**



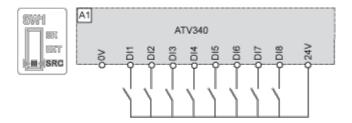
- (1) Safe Torque Off
- (2) Analog Output
- (3) Digital Input
- (4) Reference potentiometer
- (5) Analog Input
- (6) Digital Output
- (7) 0-10 Vdc, x-20 mA
- (8) 0-10 Vdc, -10 Vdc...+10 Vdc

A1: ATV340 Drive

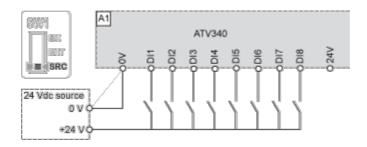
R1A, R1B, R1C: Fault relay
R2A, R2C: Sequence relay
R3A, R3C: Sequence relay

#### **Digital Inputs Wiring**

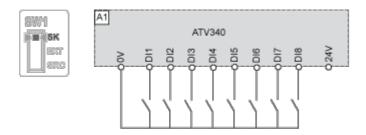
Switch Set to SRC (Source) Position Using the Output Power Supply for the Digital Inputs



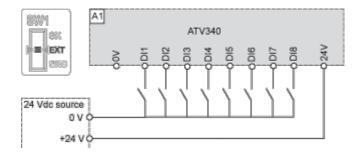
Switch Set to SRC (Source) Position and Use of an External Power Supply for the DIs



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



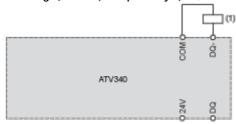
Switch Set to EXT Position Using an External Power Supply for the DIs



#### **Digital Outputs Wiring**

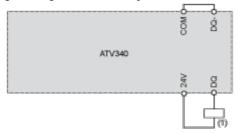
#### **Digital Outputs: Internal Supply**

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



(1) Relay or valve

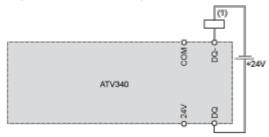
#### Negative Logic, Sink, Asian Style, DQ switches to 0V



(1) Relay or valve

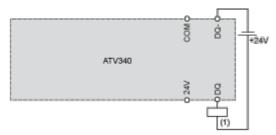
#### **Digital Outputs: External Supply**

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



(1) Relay or valve

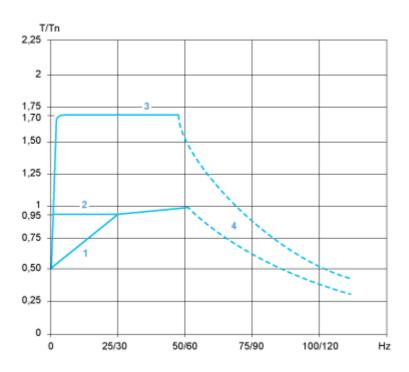
#### Negative Logic, Sink, Asian Style, DQ switches to 0V



(1) Relay or valve

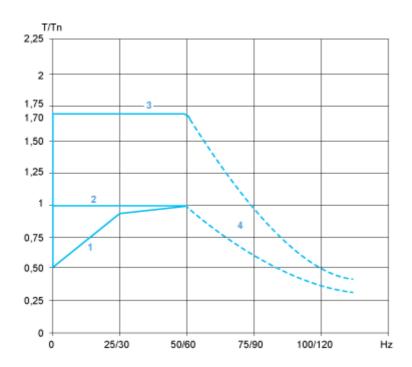
#### Performance Curves

#### **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