Product data sheet
Characteristics

ATV340D75N4E
variable speed drive - 75kW- 400V - 3 phases - ATV340 Ethernet

Galvenā

Produkta sērija	Altivar Machine ATV340
Produkta vai sastāvdaļas veids	Variable speed drive
Produkta specifiskais pielietojums	Machine
Variants	Standard version
Montāžas veids	Wall mount
Komunikācijas porta protokols	Modbus serial Ethernet/IP Modbus TCP
Option card	Communication module, Profinet Communication module, DeviceNet Communication module, CANopen Communication module, EtherCAT
Tīkla fāžu skaits	3 fāzes
Supply frequency	50...60 Hz +/- 5 %
[Us] rated supply voltage	380...480 V - 15...10 %
Nominal output current	145,0 A
Motor power kW	90 KW normal duty 75 kW heavy duty
Motor power hp	125 Hp normal duty 100 hp heavy duty
EMC filter	Class C3 EMC filter integrated
IP degree of protection	IP20
Degree of protection	UL type 1

Papildinošs

Discrete input number	8
Discrete input type	PTI safe torque off 0…30 kHz, 24 V DC 30 V) DI1...DI5 programmable as pulse input, 24 V DC 30 V)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	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 31.5 kOhm 12 bits
Analogue output number	2
Analogue output type	Software-configurable voltage AQ1, AQ2 0...10 V DC 470 Ohm 10 bits Software-configurable current AQ1, AQ2 0...20 mA 500 Ohm 10 bits
Relay output number	3
Izvada spriegums	<= power supply voltage
Relay output type	Relay outputs R1A Relay outputs R1C 100000 cikli Relay outputs R2A Relay outputs R2C 100000 cikli

Maximum switching current	Relay output R1C pretestības, cos phi = 1 3 A 250 V AC Relay output R1C pretestības, cos phi = 1 3 A 30 V DC Relay output R1C induktīvs, cos phi = 0,4 7 ms 2 A 250 V AC Relay output R1C induktīvs, cos phi = 0,4 7 ms 2 A 30 V DC Relay output R2C pretestības, cos phi = 1 5 A 250 V AC Relay output R2C pretestības, cos phi = 1 5 A 30 V DC Relay output R2C induktīvs, cos phi = 0,4 7 ms 2 A 250 V AC Relay output R2C induktīvs, 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
Fiziskais "interfeiss"	2-wire RS 485
Konektora tips	3 RJ45
Method of access	Slave Modbus RTU Slave Modbus TCP
Pārraides ātrums	4.8 kbit/s 9.6 kbit/s 19.2 kbit/s 38.4 kbit/s
Transmission frame	RTU
Adrešu skaits	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	Variable torque standard Constant torque standard Optimized torque mode
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	S, U or customized Linear adjustable separately from 0.01...9999 s
Motor slip compensation	Adjustable Not available in permanent magnet motor law Automatic whatever the load Can be suppressed
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	156,2 A 380 V normal duty) 135,8 A 480 V normal duty) 134,3 A 380 V heavy duty) 118,1 A 480 V heavy duty)
Line current	156,2 A 380 V with internal line choke normal duty) 135,8 A 480 V with internal line choke normal duty) 134,3 A 380 V with internal line choke heavy duty) 118,1 A 480 V with internal line choke heavy duty) 134,3 A 118,1 A
Maksimālā ieejas strāva	156,2 A
Maximum output voltage	480 V
Apparent power	112,9 KVA 480 V normal duty) 98,2 kVA 480 V heavy duty)
Maximum transient current	207,6 A 60 s normal duty) 217,5 A 60 s heavy duty) 207,6 A 2 s normal duty) 217,5 A 2 s heavy duty)
Electrical connection	Skrūvju spaile 0.75...1.5 mm² control Skrūvju spaile 120 mm² line side Skrūvju spaile 95...120 mm² DC bus Skrūvju spaile 120 mm² 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 380 V 4 kHz heavy duty) Forced convection 1359 W 380 V 4 kHz heavy duty) Natural convection 180 W 380 V 4 kHz normal duty) Forced convection 1585 W 380 V 4 kHz normal duty)
Electrical connection	Control skrūvju spaile 0.75...1.5 mm² AWG 18...AWG 16 Line side skrūvju spaile 120 mm² AWG 4/0...250 kcmil DC bus skrūvju spaile 95...120 mm² AWG 3/0...250 kcmil Motor skrūvju spaile 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	Termiskā aizsardzība motor Safe torque off motor Motor phase loss motor Termiskā aizsardzība drive Safe torque off drive Pārkaršana 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
Platums	271,0 mm
Augstums	908,0 mm
Dziļums	309,0 mm
Neto svars	58,4 kg
Continuous output current	173 A 4 kHz normal duty 145 A 4 kHz heavy duty

Vide

Operating altitude	<= 4800 m with current derating above 1000m
Operating position	Vertical +/- 10 degree
Produkta sertifikācija	UL[RETURN]CSA[RETURN]TÜV[RETURN]EAC[RETURN]CTick
Marķējums	CE
Standarti	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 % pilna slodze IEC 61000-3-12 <48 % 80 % load IEC 61000-3-12
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)	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
Volume of cooling air	295,0 m3/h
Type of cooling	Forced convection
Pārsprieguma kategorija	Class III
Regulation loop	Adjustable PID regulator
Noise level	69,9 dB
Piesārņojuma pakāpe	2
Ambient air transport temperature	-40…70 °C
Ambient air temperature for operation	-15…40 °C without derating vertical position) 40…50 °C with derating factor vertical position)
Apkārtējā gaisa temperatūra uzglabāšanai	-40…70 °C
Izolācija	Between power and control terminals

Iepakošanas vienības

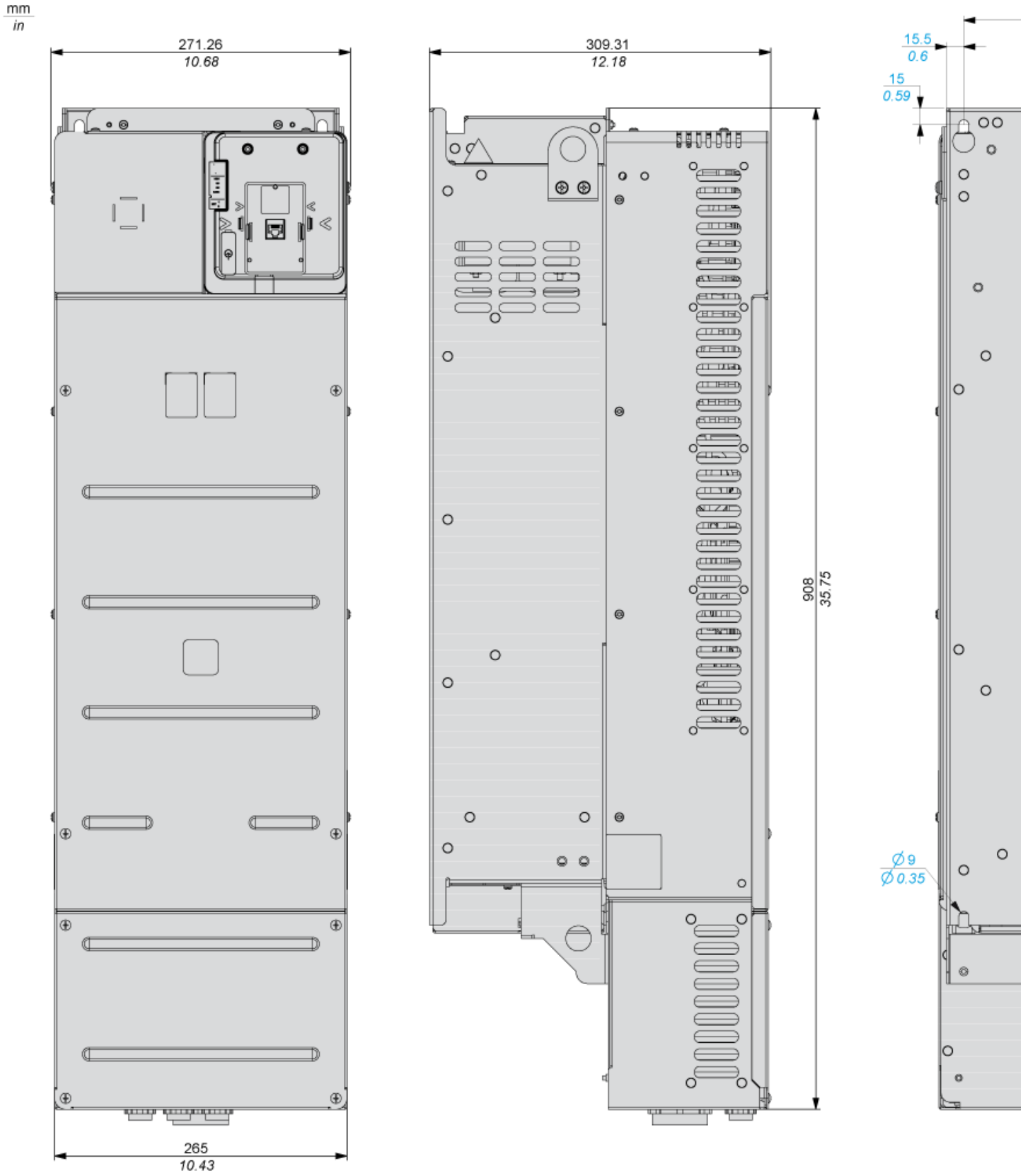
Pirmā iepakojuma vienības tips	PCE
Vienību skaits 1. iepakojumā	1
1. iepakojuma augstums	60 cm
1. iepakojuma platums	43 cm
1. iepakojuma garums	111 cm
1. iepakojuma svars	72,5 kg

Piedāvājiet ilgtspēju

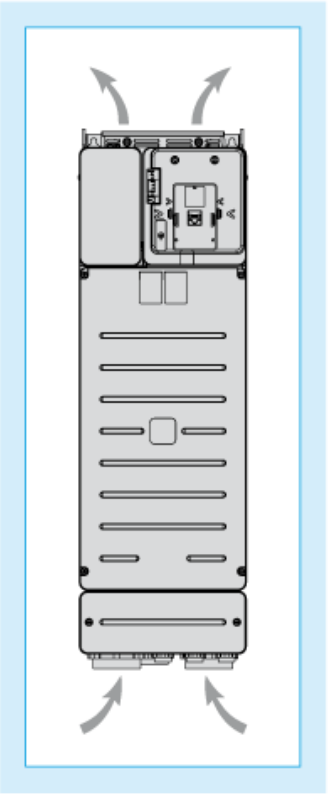
Ilgtspējīgs piedāvājuma statuss	Green Premium izstrādājums
REACh regula	REACh Deklarācija
ES RoHS direktīva	Proaktīva atbilstība (uz izstrādājumu neattiecas ES RoHS juridiskās saistības)
Nesatur dzīvsudrabu	Jā
Ķīnas RoHS regula	Ķīnas RoHS Deklarācija
Informācija par RoHS izņēmumiem	Jā
Vides informācijas publiskošana	Produkta Ietekme Uz Vidi
Cirkularitātes profils	Informācija Par Ekspluatācijas Izbeigšanu
WEEE	Eiropas Savienības tirgū no šī produkta ir jāatbrīvojas, ievērojot noteiktu atkritumu savākšanas kārtību, un produkts nedrīkst nonākt sadzīves atkritumu tvertnēs.
Atjaunināšanas iespējas	Pieejamas atjauninātas komponentes

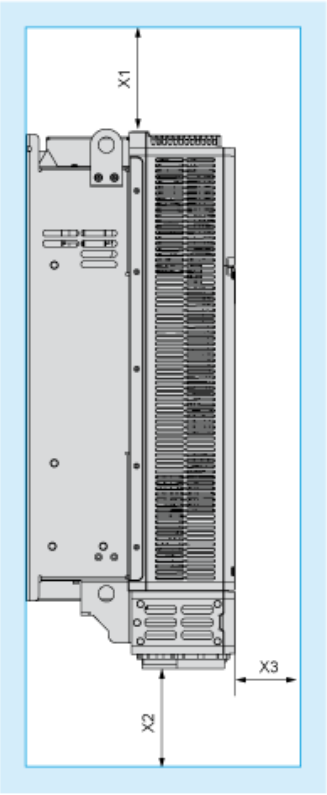
Dimensions

Views: Front - Left - Rear



Clearance





Dimensions in mm

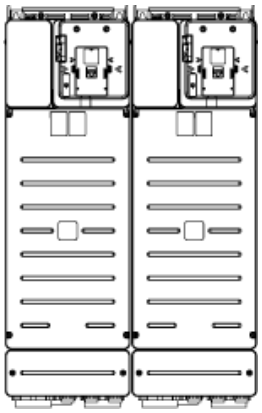
X1	X2	X3
≥ 100	≥ 100	≥ 10

Dimensions in in.

X1	X2	X3
≥ 3.94	≥ 3.94	≥ 0.39

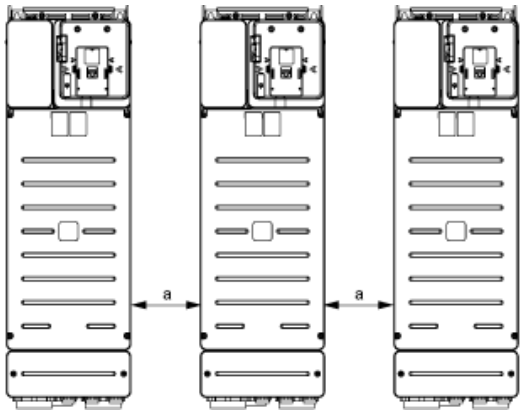
Mounting Types

Mounting Type A: Side by Side IP20



Possible, up to 50 °C, 2 drives only

Mounting Type B: Individual IP20

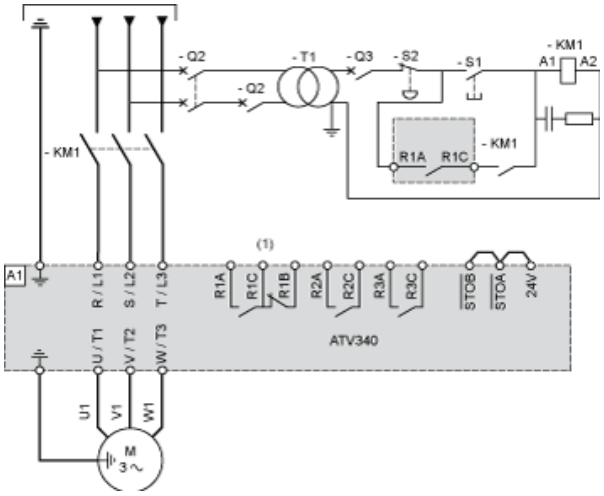


a ≥ 110 mm (4.33 in.)

Connections and Schema

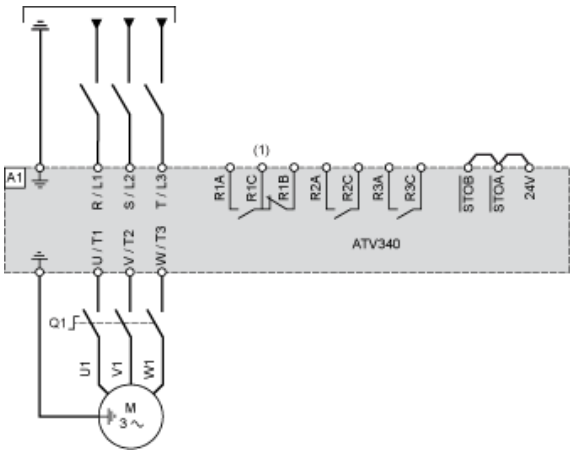
Three-Phase Power Supply with Upstream Breaking via Line Contactor Without Safety Function STO

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



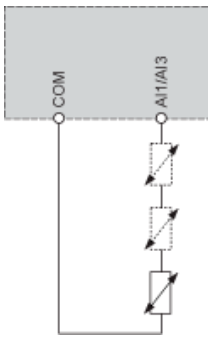
(1) Use relay output R1 set to operating state Fault to switch Off the product once an error is detected.
A1 : Drive
KM1 : Line Contactor
Q2, Q3 : Circuit breakers
S1 : Pushbutton
S2 : Emergency stop
T1 : Transformer for control part

Three-Phase Power Supply with Downstream Breaking via Switch Disconnector



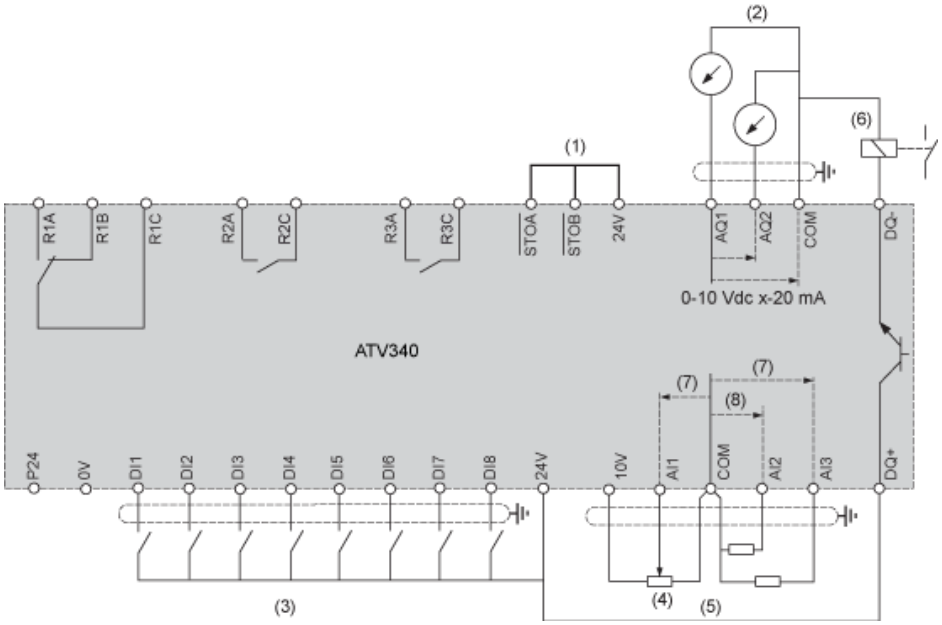
(1) Use relay output R1 set to operating state Fault to switch Off the product once an error is detected.
A1 : Drive
Q1 : Switch disconnector

Sensor Connection



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

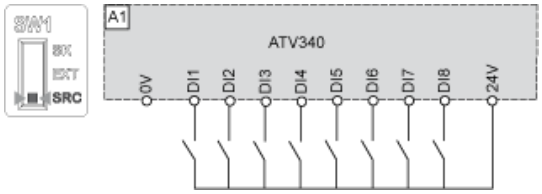
Control Block Wiring Diagram



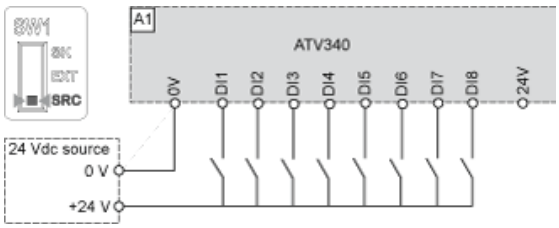
(1) Safe Torque Off
(2) Analog Output
(3) Digital Input
(4) Reference potentiometer
(5) Analog Input
(6) Digital Output
(7) 0-10 Vdc, x-20 mA
(8) 0-10 Vdc, -10 Vdc...+10 Vdc
A1 : ATV340 Drive
R1A, Fault relay
R1B,
R1C :
R2A, Sequence relay
R2C :
R3A, Sequence relay
R3C :

Digital Inputs Wiring

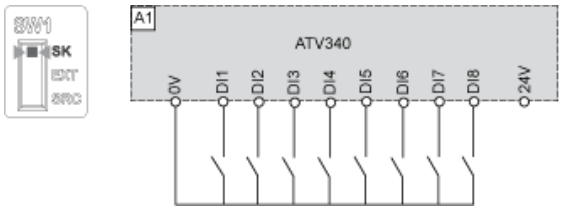
Switch Set to SRC (Source) Position Using the Output Power Supply for the Digital Inputs



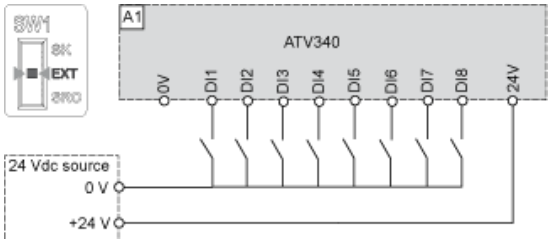
Switch Set to SRC (Source) Position and Use of an External Power Supply for the DIs



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



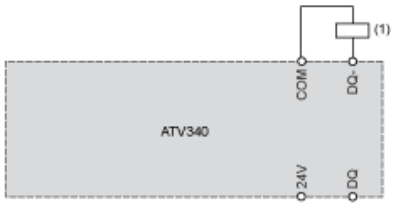
Switch Set to EXT Position Using an External Power Supply for the DIs



Digital Outputs Wiring

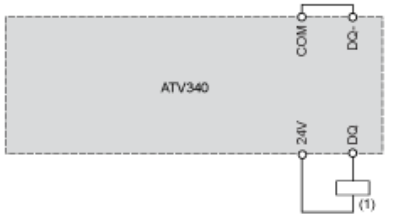
Digital Outputs: Internal Supply

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



(1) Relay or valve

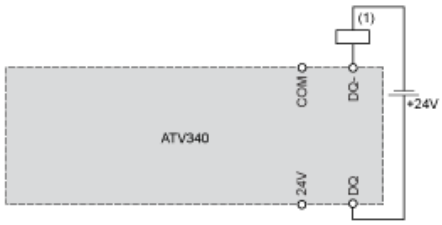
Negative Logic, Sink, Asian Style, DQ switches to 0V



(1) Relay or valve

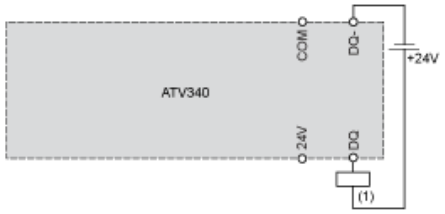
Digital Outputs: External Supply

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



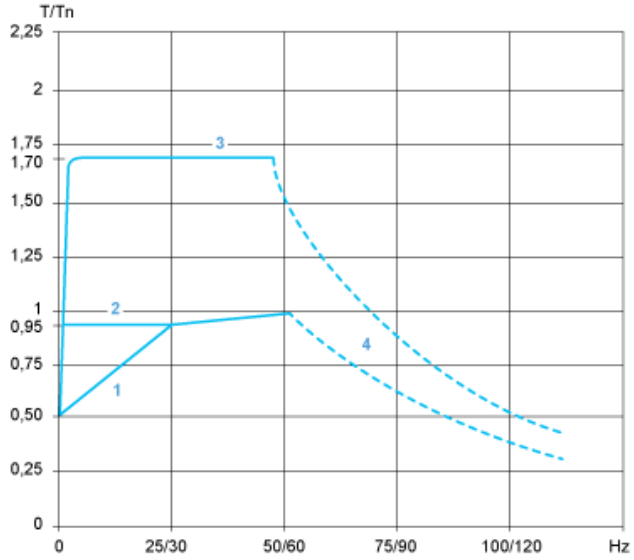
(1) Relay or valve

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



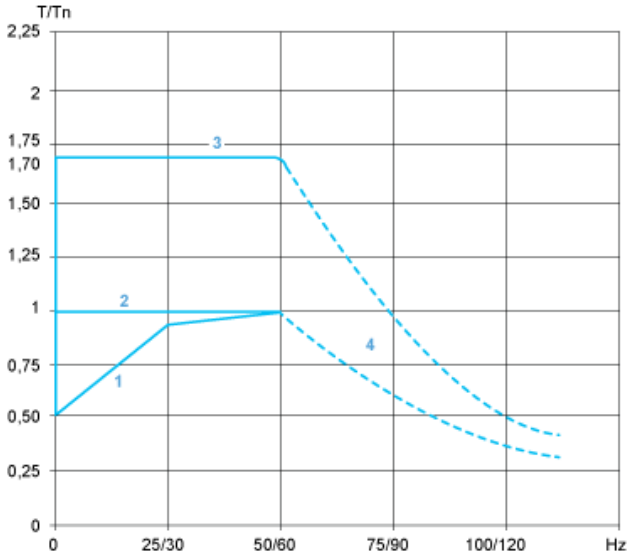
(1) Relay or valve

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
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