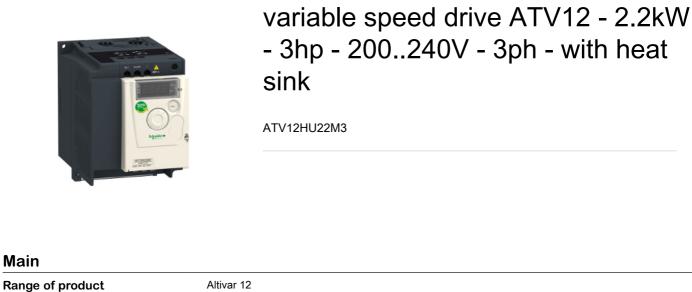
Main

Product or component type



Variable speed drive

Disclaimer: This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications

Product specific application	Simple machine	
Mounting mode	Cabinet mount	
Communication port protocol	Modbus	
Supply frequency	50/60 Hz +/- 5 %	
[Us] rated supply voltage	200240 V - 1510 %	
Nominal output current	10 A	
Motor power hp	3 hp	
Motor power kW	2.2 kW	
	3 hp	
EMC filter	Without EMC filter	
IP degree of protection	IP20	
Complementary		
Discrete input number	4	
Discrete output number	2	
Analogue input number	1	
Analogue output number	1	
Relay output number	1	
Physical interface	2-wire RS 485	
Connector type	1 RJ45	
Continuous output current	10 A at 4 kHz	
Method of access	Server Modbus serial	
Speed drive output frequency	0.5400 Hz	
Speed range	120	
Sampling duration	20 ms, tolerance +/- 1 ms for logic input 10 ms for analogue input	
Linearity error	+/- 0.3 % of maximum value for analogue input	
Frequency resolution	Analog input: converter A/D, 10 bits	

Transmission rate 20 ms 47 ms for reference change Transmission frame RTU Number of addresses 1247 Data format 8 bbs. configurable odd, even or no party Communication service Wate andire registers (03) 29 words Write andire registers (10) 29 words Write molifier registers (10) 20 words Write molifier registers (10) 20 words Regi		
Transmission frame RTU Number of addresses 1247 Data format 8 bis. configurable odd, even or no parity Communication service Reach foliating registers (33) 29 words Write single registers (13) 27 words Reach make the service of	Time constant	20 ms +/- 1 ms for reference change
Number of addresses 1247 Data format 5 bits, configurable odd, even or no parily Communication service Read halding registers (13) 29 words with simple registers (15) 29 words with simple registers (16) 21 words Read with simple registers (16) 21 words Read with simple registers (16) 21 words Read with simple registers (16) 24 words Read with simple registers (16) 25 words Read with simple regis	Transmission rate	19.2 kbit/s
Data format S bits, configurable odd, even or no parity	Transmission frame	RTU
Read holding registers (03) 29 words Wite single register (03) 29 words Wite multiple register (05) 29 words Wite multiple registers (05) 29 words Read device identification (43)	Number of addresses	1247
Write angle register (6) 27 words Read-write multiple registers (2) 44 words Read-write deliberation (4) False Asynchronous motor control profile Asynchronous motor control profile Asynchronous motor control profile Maximum output frequency 4 kHz Transient overtorque 450170 % of nominal motor torque depending on drive rating and type of motor Acceleration and deceleration ramps All linear from 0 to 999.9 s U Motor slip compensation All linear from 0 to 999.9 s U With safety function Safe Prose to fixed with derailing factor All state Linear from 0 to 999.9 s U All state Presset in factory Switching frequency 4 kHz Braking to standstill By DC injection Brake chopper integrated False Line current 44.9 A at 100 V (heavy duty) 12.5 A at 120 V (heavy duty) 12.5 A at 120 V (heavy duty) Maximum input current 15.0 A during 25 (heavy duty) Maximum transient current 15.0 A during 80 s (heavy duty) Maximum transient current 15.0 A during 80 s (heavy duty) Maximum transient current 15.0 A during 80 s (heavy duty) Maximum transient current 15.0 A during 80 s (heavy duty) Maximum transient current 15.0 A during 80 s (heavy duty) Maximum transient current 15.0 A during 80 s (heavy duty) Maximum transient current 15.0 A during 80 s (heavy duty) Maximum transient current 15.0 A during 80 s (heavy duty) Maximum transient current 15.0 A during 80 s (heavy duty) Maximum transient current 15.0 A during 80 s (heavy duty) Maximum transient current 15.0 A during 80 s (heavy duty) Mith safety function Safe Pospective line lac False Operating Style (SOS) With safety function Safe Pospective (Incl.) Safe False With safety function Safe Pospective (Incl.) Safe	Data format	8 bits, configurable odd, even or no parity
Asynchronous motor control profile Asynchronous depending on drive rating and type of motor Acceleration and deceleration can be asynchronous motor torque depending on drive rating and type of motor Acceleration and deceleration can be asynchronous can be asynchronou	Communication service	Write single register (06) 29 words Write multiple registers (16) 27 words Read/write multiple registers (23) 4/4 words
Asynchronous motor control profile Asynchronous motor control profile Maximum output frequency 150170 % of nominal motor torque depending on drive rating and type of motor Acceleration and deceleration ramps Motor slip compensation Adjustable Present in factory Switching frequency 216 kHz adjustable A-16 kHz with derating factor Nominal switching frequency 4 kHz Braking to standstill By DC injection Brake chopper integrated False Line current 14.9 A at 100 V (heavy duty) 12.5 A at 120 V (heavy duty) 12.5 A at 120 V (heavy duty) 12.5 A at 120 V (heavy duty) 15.5 A during 2 s (heavy duty) Maximum transient current 15.0 A during 2 s (heavy duty) 15.5 A during 2 s (heavy duty) Network frequency 5060 Hz Relative symmetric network frequency bolerance Prospective line Isc 5 % False Drover dassipation in W Forced cooling: 85.0 W With safety function Safe brake management (SBC/SBT) With safety function Safe Prake Coperating Stop (SOS) With safety function Safe Prake Position (SP) With safety function Safe Prake Prake Position (SP) With safety function Safe Prake Position (SP) With safety function Safe Prake Pr	Type of polarization	No impedance
Maximum output frequency Acceleration and deceleration ramps Linear from 0 to 999.9 s S U Motor slip compensation Agistable Preset in factory Switching frequency 4 kHz Acceleration assignment over the factory Switching frequency 4 kHz Braking to standstill By DC injection Brake chopper integrated Line current 14.9 A at 100 V (heavy duly) Maximum input current 12.5 A Maximum output voltage Apparent power 5.2 kVA at 240 V (heavy duly) 15.5 A during 80 s (heavy duly) 15.5 A during 2 s (heavy duly) Network frequency 8.4 A 8.5 Base load current at high overloads False Line durrent thigh overloads 5.4 A Base load current at high overloads False With safety function Safe Position (SP) With safety function Safe Position (SP) With safety function Safe Pialse False False With safety function Safe False With safety function Safe False False With safety function Safe Position (SP) With safety function Safe False False False False With safety function Safe False False False False With safety function Safe False False With safety function Safe False False With safety function Safe False False False False With safety function Safe False False False	4 quadrant operation possible	False
Transient overtorque 150170 % of nominal motor torque depending on drive rating and type of motor Acceleration and deceleration promotor amps Linear from 0 to 999.9 s S U Motor slip compensation Adjustable Preset in factory Switching frequency 216 kHz adjustable 416 kHz with deraiting factor Nominal switching frequency 4 kHz Braking to standstill By DC injection Brake chopper integrated False Line current 14.9 A at 100 V (heavy duty) 12.5 A at 120 V (heavy duty) 12.5 A at 120 V (heavy duty) Maximum input current 15.0 A during 60 s (heavy duty) Maximum transient current 15.0 A during 60 s (heavy duty) Maximum transient current 5.060 Hz Relative symmetric network frequency tolerance frequency tolerance frequency tolerance frequency tolerance frequency tolerance 10.0 A Prospective line Isc 5 kA Base load current at high overload Power dissipation in W Forced cooling: 85.0 W With safety function Safe brake management (SBC/SBT) False With safety function Safe Operating Stop (SOS) With safety function Safe Poste False With safety function Safe Description Safe Poste False With safety function Safe Poste False		Sensorless flux vector control
Acceleration and deceleration ramps Linear from 0 to 999.9 s S U U Motor slip compensation Adjustable Preset in factory 216 kHz adjustable 416 kHz with derating factor Nominal switching frequency 4 kHz Braking to standstill By DC injection Brake chopper integrated False Line current 14.9 A at 100 V (heavy duty) 12.5 A at 120 V (heavy duty) 15.0 A during 60 s (heavy duty) 15.0 A during 60 s (heavy duty) 15.0 A during 62 s (heavy duty) 15.0 A during 82 s (heavy duty) Network frequency 5060 Hz Relative symmetric network frequency tolerance Frospective line Isc 5 kA Base load current at high overload Power dissipation in W Forced cooling: 85.0 W With safety function Safey Limited Speed (SLS) With safety function Safe prake management (SBC/SBT) With safety function Safe Palse With safety function Safe Operating Stop (SOS) With safety function Safe Palse	Maximum output frequency	4 kHz
Rotor slip compensation Adjustable Preset in factory Switching frequency 216 kHz with derating factor Nominal switching frequency 4 kHz Braking to standstill By DC injection Brake chopper integrated False Line current 14.9 A at 100 V (heavy duty) 12.5 A at 120 V (heavy duty) 12.5 A at 120 V (heavy duty) Maximum input current 12.5 A Maximum output voltage 240 V Apparent power 5.2 kWA at 240 V (heavy duty) 16.5 A during 60 s (heavy duty) 16.5 A during 2 s (heavy duty) 17.5 A during 2 s (heavy duty) 18.5	Transient overtorque	150170 % of nominal motor torque depending on drive rating and type of motor
Preset in factory 216 kHz adjustable 416 kHz adjustable 416 kHz adjustable 416 kHz adjustable Braking to standstill By DC injection Brake chopper integrated False Line current 14.9 A at 100 V (heavy duty) 12.5 A at 120 V (heavy duty) 12.5 A at 120 V (heavy duty) Maximum input current 12.5 A Maximum output voltage 240 V Apparent power 52 kVA at 240 V (heavy duty) 16.5 A during 80 s (heavy duty) 16.5 A during 2 s (heavy duty) Network frequency 5060 Hz Relative symmetric network frequency tolerance Prospective line Isc 5 kA Base load current at high overload Power dissipation in W Forced cooling: 85.0 W With safety function Safely Limited Speed (SLS) With safety function Safe brake management (SBC/SBT) With safety function Safe Operating Stop (SOS) With safety function Safe Position (SP) With safety function Safe Position (SP) With safety function Safe Position (SP) With safety function Safe False		S
A16 kHz with derating factor Nominal switching frequency 4 kHz Braking to standstill By DC injection Brake chopper integrated False Line current 14.9 A at 100 V (heavy duty) 12.5 A at 120 V (heavy duty) Maximum input current 12.5 A Maximum output voltage 240 V Apparent power 5.2 kVA at 240 V (heavy duty) Maximum transient current 15.0 A during 60 s (heavy duty) Network frequency 5060 Hz Relative symmetric network frequency tolerance Prospective line Isc 5 kA Base load current at high overload Power dissipation in W Forced cooling: 85.0 W With safety function Safely Limited Speed (SLS) With safety function Safe Operating Stop (SOS) False With safety function Safe Position (SP) With safety function Safe False With safety function Safe False With safety function Safe False With safety function Safe False False With safety function Safe False False	Motor slip compensation	•
Brake chopper integrated False Line current 14.9 A at 100 V (heavy duty) 12.5 A at 120 V (heavy duty) Maximum input current 12.5 A Maximum output voltage 240 V Apparent power 5.2 kVA at 240 V (heavy duty) Maximum transient current 16.5 A during 60 s (heavy duty) Maximum transient current 16.5 A during 2 s (heavy duty) Network frequency 5060 Hz Relative symmetric network frequency tolerance Prospective line Isc 5 kA Base load current at high overload Power dissipation in W Forced cooling: 85.0 W With safety function Safe brake management (SBC/SBT) With safety function Safe Poske management (SBC/SBT) With safety function Safe Poske management (SBC/SBT) With safety function Safe Postion (SP) With safety function Safe Palse With safety function Safe Poske management (SBC/SBT) With safety function Safe Palse With safety function Safe Poske management (SBC/SBT) With safety function Safe Palse False With safety function Safe Palse With safety function Safe Palse	Switching frequency	
Brake chopper integrated Line current 14.9 A at 100 V (heavy duty) 12.5 A at 120 V (heavy duty) Maximum input current 12.5 A Maximum output voltage 240 V Apparent power 5.2 kVA at 240 V (heavy duty) Maximum transient current 15.0 A during 60 s (heavy duty) Network frequency 5060 Hz Relative symmetric network frequency tolerance Prospective line Isc 5 kA Base load current at high overload Power dissipation in W Forced cooling: 85.0 W With safety function Safely Limited Speed (SLS) With safety function Safe brake management (SBC/SBT) With safety function Safe Operating Stop (SOS) With safety function Safe Palse With safety function Safe Position (SP) With safety function Safe Palse False With safety function Safe Palse False With safety function Safe Palse	Nominal switching frequency	4 kHz
Line current 14.9 A at 100 V (heavy duty) 12.5 A at 120 V (heavy duty) Maximum input current 12.5 A Maximum output voltage 240 V Apparent power 5.2 kVA at 240 V (heavy duty) Maximum transient current 15.0 A during 60 s (heavy duty) 16.5 A during 2 s (heavy duty) 16.5 A during 2 s (heavy duty) Network frequency 5060 Hz Relative symmetric network frequency tolerance Prospective line Isc 5 kA Base load current at high overload Power dissipation in W Forced cooling: 85.0 W With safety function Safely Limited Speed (SLS) With safety function Safe brake management (SBC/SBT) With safety function Safe Operating Stop (SOS) With safety function Safe Position (SP) With safety function Safe Position (SP) With safety function Safe Palse	Braking to standstill	By DC injection
Maximum input current 12.5 A at 120 V (heavy duty) Maximum output voltage 240 V Apparent power 5.2 kVA at 240 V (heavy duty) Maximum transient current 15.0 A during 60 s (heavy duty) 16.5 A during 2 s (heavy duty) Network frequency 5060 Hz Relative symmetric network frequency tolerance Prospective line Isc 5 kA Base load current at high overload Power dissipation in W Forced cooling: 85.0 W With safety function Safely Limited Speed (SLS) With safety function Safe brake management (SBC/SBT) With safety function Safe Operating Stop (SOS) With safety function Safe Position (SP) With safety function Safe False With safety function Safe Folse False False With safety function Safe False False False	Brake chopper integrated	False
Maximum output voltage 240 V Apparent power 5.2 kVA at 240 V (heavy duty) Maximum transient current 15.0 A during 60 s (heavy duty) 16.5 A during 2 s (heavy duty) Network frequency 5060 Hz Relative symmetric network frequency tolerance Prospective line Isc 5 kA Base load current at high overload Power dissipation in W Forced cooling: 85.0 W With safety function Safely Limited Speed (SLS) With safety function Safe brake management (SBC/SBT) With safety function Safe Prake Palse With safety function Safe Posse Palse Palse With safety function Safe Posse Palse Palse Palse With safety function Safe Posse Palse Palse Palse Palse	Line current	
Apparent power 5.2 kVA at 240 V (heavy duty) Maximum transient current 15.0 A during 60 s (heavy duty) 16.5 A during 2 s (heavy duty) Network frequency 5060 Hz Relative symmetric network frequency tolerance Prospective line Isc 5 kA Base load current at high overload Power dissipation in W Forced cooling: 85.0 W With safety function Safely Limited Speed (SLS) With safety function Safe brake management (SBC/SBT) With safety function Safe Palse With safety function Safe Position (SP) With safety function Safe Palse False With safety function Safe Position (SP) With safety function Safe False	Maximum input current	12.5 A
Maximum transient current 15.0 A during 60 s (heavy duty) 16.5 A during 2 s (heavy duty) Network frequency 5060 Hz Relative symmetric network frequency tolerance Prospective line Isc 5 kA Base load current at high overload Power dissipation in W Forced cooling: 85.0 W With safety function Safely Limited Speed (SLS) With safety function Safe brake management (SBC/SBT) With safety function Safe Palse With safety function Safe Position (SP) With safety function Safe Palse False False False With safety function Safe False False False False False False False	Maximum output voltage	240 V
Network frequency 5060 Hz Relative symmetric network frequency tolerance Prospective line Isc 5 kA Base load current at high overload Power dissipation in W Forced cooling: 85.0 W With safety function Safely Limited Speed (SLS) With safety function Safe brake management (SBC/SBT) With safety function Safe Palse With safety function Safe Poperating Stop (SOS) With safety function Safe Position (SP) With safety function Safe False	Apparent power	5.2 kVA at 240 V (heavy duty)
Relative symmetric network frequency tolerance Prospective line Isc 5 kA Base load current at high overload Power dissipation in W Forced cooling: 85.0 W With safety function Safely Limited Speed (SLS) With safety function Safe brake management (SBC/SBT) With safety function Safe Palse Operating Stop (SOS) With safety function Safe Palse Position (SP) With safety function Safe False False False False False False	Maximum transient current	
frequency tolerance Prospective line Isc 5 kA Base load current at high overload Power dissipation in W Forced cooling: 85.0 W With safety function Safely Limited Speed (SLS) With safety function Safe brake management (SBC/SBT) With safety function Safe Palse Operating Stop (SOS) With safety function Safe Palse Operating Stop (SOS) With safety function Safe False Position (SP) With safety function Safe False	Network frequency	5060 Hz
Base load current at high overload Power dissipation in W Forced cooling: 85.0 W With safety function Safely Limited Speed (SLS) With safety function Safe brake management (SBC/SBT) With safety function Safe Operating Stop (SOS) With safety function Safe False Operating Stop (SOS) With safety function Safe False Position (SP) With safety function Safe False		5 %
overload Power dissipation in W Forced cooling: 85.0 W With safety function Safely Limited Speed (SLS) With safety function Safe brake management (SBC/SBT) With safety function Safe Operating Stop (SOS) With safety function Safe False Position (SP) With safety function Safe False	Prospective line Isc	5 kA
With safety function Safely Limited Speed (SLS) With safety function Safe brake management (SBC/SBT) With safety function Safe Palse Operating Stop (SOS) With safety function Safe False Position (SP) With safety function Safe False False		10.0 A
Limited Speed (SLS) With safety function Safe brake management (SBC/SBT) With safety function Safe Operating Stop (SOS) With safety function Safe Position (SP) With safety function Safe False	Power dissipation in W	Forced cooling: 85.0 W
management (SBC/SBT) With safety function Safe Operating Stop (SOS) With safety function Safe Position (SP) With safety function Safe False		False
Operating Stop (SOS) With safety function Safe Position (SP) With safety function Safe False		False
Position (SP) With safety function Safe False		False
		False
		False

With safety function Safe Speed Monitor (SSM)	False		
With safety function Safe Stop 1 (SS1)	False		
With sft fct Safe Stop 2 (SS2)	False		
With safety function Safe torque off (STO)	False		
With safety function Safely Limited Position (SLP)	False		
With safety function Safe Direction (SDI)	False		
Protection type	Line supply overvoltage Line supply undervoltage Overcurrent between output phases and earth Overheating protection Short-circuit between motor phases Against input phase loss in three-phase Thermal motor protection via the drive by continuous calculation of I²t		
Tightening torque	1.2 N.m		
Insulation	Electrical between power and control		
Quantity per set	Set of 1		
Width	105 mm		
Height	143 mm		
Depth	131.2 mm		
Net weight	1.2 kg		
Operating altitude	<= 1000 m without derating > 10003000 m with current derating 1 % per 100 m		
Operating position	Vertical +/- 10 degree		
Product certifications	NOM CSA C-Tick UL GOST RCM KC		
Marking	CE		
Standards	UL 508C UL 618000-5-1 EN/IEC 61800-5-1 EN/IEC 61800-3		
Assembly style	With heat sink		
Electromagnetic compatibility	Electrical fast transient/burst immunity test level 4 conforming to EN/IEC 61000-4-4 Electrostatic discharge immunity test level 3 conforming to EN/IEC 61000-4-2 Immunity to conducted disturbances level 3 conforming to EN/IEC 61000-4-6 Radiated radio-frequency electromagnetic field immunity test level 3 conforming to EN/IEC 61000-4-3 Surge immunity test level 3 conforming to EN/IEC 61000-4-5 Voltage dips and interruptions immunity test conforming to EN/IEC 61000-4-11		
Environmental class (during operation)	Class 3C3 according to IEC 60721-3-3 Class 3S2 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		
Volume of cooling air	14.8 m3/h		

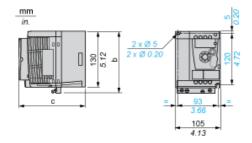
Overvoltage category	Class III		
Regulation loop	Adjustable PID regulator		
Electromagnetic emission	Radiated emissions environment 1 category C2 conforming to EN/IEC 61800-3 216 kHz shielded motor cable Conducted emissions with additional EMC filter environment 1 category C1 conforming to EN/IEC 61800-3 412 kHz shielded motor cable <5 m Conducted emissions with additional EMC filter environment 1 category C2 conforming to EN/IEC 61800-3 412 kHz shielded motor cable <20 m Conducted emissions with additional EMC filter environment 2 category C3 conforming to EN/IEC 61800-3 412 kHz shielded motor cable <20 m		
Vibration resistance	1 gn (f = 13200 Hz) conforming to EN/IEC 60068-2-6 1.5 mm peak to peak (f = 313 Hz) - drive unmounted on symmetrical DIN rail - conforming to EN/IEC 60068-2-6		
Shock resistance	15 gn conforming to EN/IEC 60068-2-27 for 11 ms		
Relative humidity	595 % without condensation conforming to IEC 60068-2-3 595 % without dripping water conforming to IEC 60068-2-3		
Noise level	50 dB		
Pollution degree	2		
Ambient air transport temperature	-2570 °C		
Ambient air temperature for operation	-1050 °C without derating 5060 °C with current derating 2.2 % per °C		
Ambient air temperature for storage	-2570 °C		
Packing Units			
Unit Type of Package 1	Db		
Number of Units in Package 1	1		
Package 1 Height	18.500 cm		
Package 1 Width	18.700 cm		
Package 1 Length	18.700 cm		
Package 1 Weight	1.508 kg		
Unit Type of Package 2	P06		
Number of Units in Package 2	30		
Package 2 Height	75.000 cm		
Package 2 Width	60.000 cm		
Package 2 Length	80.000 cm		
Package 2 Weight	59.350 kg		
Offer Sustainability			
REACh Regulation	REACh Declaration		
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope) EU RoHS Declaration		
Mercury free	Yes		
China RoHS Regulation	China RoHS declaration		
RoHS exemption information	Yes		
WEEE	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins		
Contractual warranty			
Warranty	18 months		

ATV12HU22M3

Dimensions Drawings

Dimensions

Drive without EMC Conformity Kit



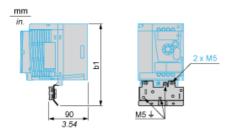
Dimensions in mm

b	С
143	131.2

Dimensions in in.

b	С
5.63	5.16

Drive with EMC Conformity Kit



Dimensions in mm

b1	
189.3	

Dimensions in in.

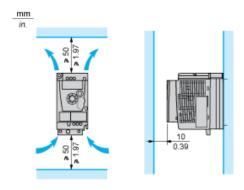
7.45	b1		
	7.45		

ATV12HU22M3

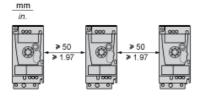
Mounting and Clearance

Mounting Recommendations

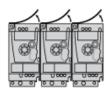
Clearance for Vertical Mounting



Mounting Type A

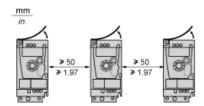


Mounting Type B



Remove the protective cover from the top of the drive.

Mounting Type C

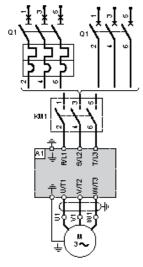


Remove the protective cover from the top of the drive.

ATV12HU22M3

Connections and Schema

Three-Phase Power Supply Wiring Diagram



A1 KM1 Contactor (only if a control circuit is needed) Circuit breaker

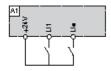
Q1

ATV12HU22M3

Connections and Schema

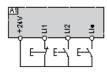
Recommended Schemes

2-Wire Control for Logic I/O with Internal Power Supply



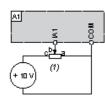
LI1: Forward LI•: Reverse A1: Drive

3-Wire Control for Logic I/O with Internal Power Supply



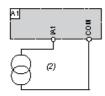
LI1: Stop LI2: Forward Reverse

Analog Input Configured for Voltage with Internal Power Supply



(1) A1 : 2.2 $k\Omega...10~k\Omega$ reference potentiometer

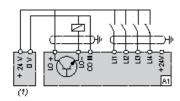
Analog Input Configured for Current with Internal Power Supply



0-20 mA 4-20 mA supply

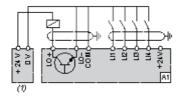
Drive

Connected as Positive Logic (Source) with External 24 vdc Supply



24 vdc supply

Connected as Negative Logic (Sink) with External 24 vdc supply

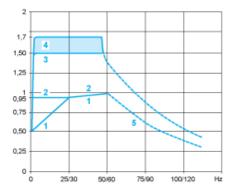


24 vdc supply

ATV12HU22M3

Performance Curves

Torque Curves



- 1: Self-cooled motor: continuous useful torque (1)
- 2: Force-cooled motor: continuous useful torque
- 3: Transient overtorque for 60 s
- 4: Transient overtorque for 2 s
- 5: Torque in overspeed at constant power (2)
- For power ratings ≤ 250 W, derating is 20% instead of 50% at very low frequencies.
- (1) (2) The nominal motor frequency and the maximum output frequency can be adjusted from 0.5 to 400 Hz. The mechanical overspeed capability of the

Recommended replacement(s)