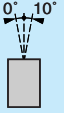
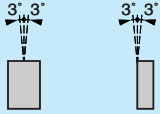


Environmental characteristics

Conformity to standards		Altivar 71 drives have been developed to conform to the strictest international standards and the recommendations relating to electrical industrial control devices (IEC, EN), in particular: low voltage, IEC/EN 61800-5-1, IEC/EN 61800-3 (conducted and radiated EMC immunity and emissions).
EMC immunity		IEC/EN 61800-3, environments 1 and 2 IEC/EN 61000-4-2 level 3 IEC/EN 61000-4-3 level 3 IEC/EN 61000-4-4 level 4 IEC/EN 61000-4-5 level 3 IEC/EN 61000-4-6 level 3 IEC/EN 61000-4-11 (1)
Conducted and radiated EMC emissions for drives		IEC/EN 61800-3, environments 1 and 2, categories C1, C2, C3
	ATV 71H037M3...HU22M3 ATV 71H075N4...HU40N4 ATV 71P075N4Z...PU40N4Z	EN 55011 class A group 1, IEC/EN 61800-3 category C2 With additional EMC filter (2): ■ EN 55011 class B group 1, IEC/EN 61800-3 category C1
	ATV 71HU30M3...HU75M3 ATV 71HU55N4...HC50N4 ATV 71PU55N4Z...PU75N4Z	EN 55011 class A group 2, IEC/EN 61800-3 category C3 With additional EMC filter (2): ■ EN 55011 class A group 1, IEC/EN 61800-3 category C2 ■ EN 55011 class B group 1, IEC/EN 61800-3 category C1
	ATV 71H●●●M3X	With additional EMC filter (2): ■ EN 55011 class A group 1, IEC/EN 61800-3 category C2 ■ EN 55011 class B group 1, IEC/EN 61800-3 category C1
	ATV 71W075N4...WU40N4	EN 55011 class A group 1, IEC/EN 61800-3 category C2
	ATV 71WU55N4...WD75N4	EN 55011 class A group 2, IEC/EN 61800-3 category C3 With additional EMC filter (2): EN 55011 class A group 1, IEC/EN 61800-3 category C2
CE marking		The drives have CE marking in accordance with the European directives on low voltage (73/23/EEC and 93/68/EEC) and EMC (89/336/EEC).
Product certifications	ATV 71H●●●M3, ATV 71H●●●M3X, ATV 71●●●N4 ATV 71P●●●N4Z	UL, CSA, DNV, C-Tick, NOM 117 and GOST UL, CSA, C-Tick, NOM 117
Degree of protection		IEC/EN 61800-5-1, IEC/EN 60529
	ATV 71H●●●M3 ATV 71HD11M3X...HD45M3X ATV 71H075N4...HD75N4	IP 21 and IP 41 on upper part IP 20 without blanking plate on upper part of cover IP 54 on the lower part (heatsink) IP 21 with accessory VW3 A9 1●●, UL Type 1 with accessory VW3 A9 2●●, see pages 60283/5 and 60283/6
	ATV 71HD55M3X, HD75M3X ATV 71HD90N4...HC50N4	IP 00, IP 41 on upper part and IP 30 on front panel and side parts. IP 54 on the lower part (heatsink) IP 31 with accessory VW3 A9 1●●, UL Type 1 with accessory VW3 A9 2●●, see pages 60283/5 and 60283/6
	ATV 71W●●●N4	UL Type 12/IP 54
Vibration resistance	ATV 71H●●●M3 ATV 71HD11M3X...HD45M3X ATV 71H075N4...HD75N4 ATV 71W●●●N4 ATV 71P●●●N4Z	1.5 mm peak to peak from 3...13 Hz, 1 gn from 13...200 Hz, conforming to IEC/EN 60068-2-6
	ATV 71HD55M3X, HD75M3X ATV 71HD90N4...HC50N4	1.5 mm peak to peak from 3...10 Hz, 0.6 gn from 10...200 Hz, conforming to IEC/EN 60068-2-6
Shock resistance	ATV 71H●●●M3 ATV 71HD11M3X...HD45M3X ATV 71H075N4...HD75N4 ATV 71W●●●N4 ATV 71P●●●N4Z	15 gn for 11 ms conforming to IEC/EN 60068-2-27
	ATV 71HD55M3X, HD75M3X ATV 71HD90N4...HC13N4	7 gn for 11 ms conforming to IEC/EN 60068-2-27
	ATV 71HC16N4...HC50N4	4 gn for 11 ms conforming to IEC/EN 60068-2-27

(1) Drive behaviour according to the drive configurations, see pages 60298/19, 60298/22, 60298/23, 60298/31 and 60298/32.

(2) See table on page 60290/2 to check permitted cable lengths.

Environmental characteristics (continued)			
Maximum ambient pollution	ATV 71H●●●M3 ATV 71HD11M3X, HD15M3X ATV 71H075N4...HD18N4 ATV 71P●●●N4Z		Degree 2 conforming to IEC/EN 61800-5-1
	ATV 71HD18M3X...HD75M3X ATV 71HD22N4...HC50N4 ATV 71W●●●N4		Degree 3 conforming to IEC/EN 61800-5-1
Environmental conditions	ATV 71H●●●M3, H●●●M3X ATV 71H075N4...HD75N4 ATV 71P●●●N4Z		IEC 60721-3-3 classes 3C1 and 3S2
	ATV 71H●●●M3S337 ATV 71H●●●M3X337 ATV 71H075N4S337... HD75N4S337 ATV 71HD90N4...HC50N4 ATV 71W●●●N4		IEC 60721-3-3 class 3C2
Relative humidity			5...95% without condensation or dripping water conforming to IEC 60068-2-3
Ambient temperature around the unit	Operation	°C	-10...+50 without derating. Up to +60°C with derating and with the control card fan kit VW3A9 4●● corresponding to the drive rating (see derating curves on pages 60297/3 and 60297/5 to 60297/7)
	Storage	°C	-25...+70
Maximum operating altitude		m	1000 without derating 1000...3000 derating the current by 1% per additional 100 m. Limited to 2000 m for the "Corner Grounded" distribution network
Operating position Maximum permanent angle in relation to the normal vertical mounting position	ATV 71H●●●M3 ATV 71H●●●M3X ATV 71H●●●N4 ATV 71W●●●N4Z		
	ATV 71P●●●N4Z		

Drive characteristics			
Output frequency range	ATV 71H●●●M3 ATV 71HD11M3X...HD37M3X ATV 71H075N4...HD37N4 ATV 71W075N4...WD37N4 ATV 71P●●●N4Z	Hz	0...1600
	ATV 71HD45M3X...HD75M3X ATV 71HD45N4...HC50N4 ATV 71WD45N4...WD75N4	Hz	0...500
Configurable switching frequency	ATV 71H●●●M3 ATV 71HD11M3X, HD15M3X ATV 71H075N4...HD30N4 ATV 71W075N4...WD30N4 ATV 71P075N4Z...PU75N4Z	kHz	Nominal switching frequency: 4 kHz without derating in continuous operation. Adjustable during operation from 1...16 kHz Above 4 kHz, see derating curves on pages 60297/3 and 60297/5 to 60297/7.
	ATV 71HD18M3X, HD45M3X ATV 71HD37N4...HD75N4 ATV 71WD37N4...WD75N4	kHz	Nominal switching frequency: 2.5 kHz without derating in continuous operation. Adjustable during operation from 1...16 kHz Above 2.5 kHz, see derating curves on pages 60297/3 and 60297/5 to 60297/7.
	ATV 71HD55M3X, HD75M3X ATV 71HD90N4...HC50N4	kHz	Nominal switching frequency: 2.5 kHz without derating in continuous operation. Adjustable during operation from 2.5...8 kHz Above 2.5 kHz, see derating curves on pages 60297/3 and 60297/5 to 60297/7.
Speed range			1...1000 in closed-loop mode with incremental encoder feedback 1...100 in open-loop mode without speed feedback
Speed accuracy	For a torque variation of 0.2 Tn to Tn		± 0.01% of nominal speed, in closed-loop mode with incremental encoder feedback ± 10% of nominal slip, without speed feedback
Torque accuracy			± 5% in closed-loop mode with incremental encoder feedback ± 15% in open-loop mode without speed feedback
Transient overtorque			170% of the nominal motor torque (typical value at ± 10%) for 60 s 220% of the nominal motor torque (typical value at ± 10%) for 2 s
Braking torque			30% of the rated motor torque without braking resistor (typical value) Up to 150% with braking or hoist resistor installed as an option, see pages 60288/5 and 60288/7
Maximum transient current			150% of the nominal drive current for 60 s (typical value) 165% of the nominal drive current for 2 s (typical value)
Permanent torque at 0 Hz	ATV 71H037M3...HD45M3X ATV 71H075N4...HD75N4 ATV 71W●●●N4 ATV 71P●●●N4Z		The Altivar 71 drive can continuously supply the peak value of the drive nominal current
	ATV 71HD55M3X, HD75M3X ATV 71HD90N4...HC50N4		The Altivar 71 drive can continuously supply 80% of the peak value of the drive nominal current
Motor control profile	Asynchronous motor		Flux Vector Control (FVC) with sensor (current vector) Sensorless Flux Vector Control (FVC) (voltage or current vector) Voltage/frequency ratio (2 or 5 points) ENA (ENergy Adaptation) System for unbalanced loads
	Synchronous motor		Vector control without speed feedback
Frequency loop			PI regulator with adjustable structure for a speed response adapted to the machine (accuracy, speed)
Slip compensation			Automatic whatever the load. Can be suppressed or adjusted Not available in voltage/frequency ratio

Electrical power characteristics			
Power supply	Voltage	V	200 - 15%...240 + 10% single phase for ATV 71H075M3...HU75M3 200 - 15%...240 + 10% 3-phase for ATV 71H●●●M3 and ATV 71H●●●M3X 380 - 15%...480 + 10% 3-phase for ATV 71H●●●N4
	Frequency	Hz	50 - 5%...60 + 5%
Signalling			1 red LED: LED lit indicates the presence of drive voltage
Output voltage			Maximum 3-phase voltage equal to line supply voltage
Drive noise level			Conforming to directive 86-188/EEC
	ATV 71H037M3...HU15M3 ATV 71H075N4...HU22N4 ATV 71W075N4...WU22N4	dBA	43
	ATV 71HU22M3...HU40M3 ATV 71H075N4...HU40N4 ATV 71WU30N4, WU40N4	dBA	54.5
	ATV 71HU55M3 ATV 71HU55N4, HU75N4 ATV 71WU55N4, WU75N4	dBA	55.6
	ATV 71HU75M3 ATV 71HD11N4 ATV 71WD11N4	dBA	57.4
	ATV 71HD11M3X, HD15M3X ATV 71HD15N4, HD18N4 ATV 71WD15N4, WD18N4	dBA	60.2
	ATV 71HD18M3X, HD22M3X ATV 71HD22N4 ATV 71WD22N4	dBA	59.9
	ATV 71HD30M3X...HD45M3X, ATV 71HD30N4, HD37N4 ATV 71WD30N4, WD37N4	dBA	64
	ATV 71HD45N4...HD75N4 ATV 71WD45N4...WD75N4	dBA	63.7
	ATV 71HD55M3X ATV 71HD90N4	dBA	60.5
	ATV 71HD75M3X ATV 71HC11N4	dBA	69.5
	ATV 71HC13N4, HC16N4	dBA	66
	ATV 71HC20N4...HC28N4	dBA	68
	ATV 71HC31N4, HC40N4	dBA	70
	ATV 71HC50N4	dBA	71
	ATV 71P075N4Z...PU22N4Z	dBA	0 With fan kit: 43
	ATV 71PU30N4Z, PU40N4Z	dBA	0 With fan kit: 54.5
	ATV 71PU55N4Z, PU75N4Z	dBA	0 With fan kit: 55.6
Electrical isolation			Between power and control (inputs, outputs, power supplies)

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Connection cable characteristics

Type of cable for	Mounting in an enclosure	Single-strand IEC cable, ambient temperature 45°C, copper 90°C XLPE/EPR or copper 70°C PVC
	Mounting in an enclosure with an IP 21 or IP 31 kit	3-strand IEC cable, ambient temperature 40°C, copper 70°C PVC
	Mounting in an enclosure with a NEMA Type 1 kit	3-strand UL 508 cable except for choke (2-strand UL 508 cable), ambient temperature 40°C, copper 75°C PVC

Connection characteristics (terminals for the power supply, the motor, the DC bus and the braking resistor)

Drive terminals	L1/R, L2/S, L3/T, U/T1, V/T2, W/T3	PC/-, PO, PA/+	PA, PB	
Maximum wire size and tightening torque	ATV 71H037M3...HU40M3 ATV 71H075N4...HU40N4 ATV 71W075N4...WU40N4 ATV 71P075N4Z...PU40N4Z	4 mm ² , AWG 10 1.4 Nm, 12.3 lb.in		
	ATV 71HU55M3 ATV 71HU55N4, HU75N4 ATV 71WU55N4, WU75N4 ATV 71PU55N4Z, PU75N4Z	6 mm ² , AWG 8 3 Nm, 26.5 lb.in		
	ATV 71HU75M3 ATV 71HD11N4 ATV 71WD11N4	16 mm ² , AWG 4 3 Nm, 26.5 lb.in		
	ATV 71HD11M3X, HD15M3X ATV 71HD15N4, HD18N4 ATV 71WD15N4, WD18N4	35 mm ² , AWG 2 5.4 Nm, 47.7 lb.in		
	ATV 71HD18M3X, HD22M3X ATV 71HD22N4...HD37N4 ATV 71WD22N4...WD37N4	50 mm ² , AWG 1/0 12 Nm, 102.2 lb.in		
	ATV 71HD30M3X...HD45M3X ATV 71HD45N4...HD75N4 ATV 71WD45N4...WD75N4	150 mm ² , 300 MCM 41 Nm, 360 lb.in		
	ATV 71HD55M3X ATV 71HD90N4	2 x 100 mm ² , 2 x 250 MCM M10, 24 Nm, 212 lb.in	2 x 100 mm ² , 2 x 250 MCM M12, 41 Nm, 360 lb.in	60 mm ² , 250 MCM M8, 12 Nm, 106 lb.in
	ATV 71HD75M3X, HC11N4	2 x 100 mm ² , 2 x 250 MCM M10, 24 Nm, 212 lb.in	2 x 150 mm ² , 2 x 250 MCM M12, 41 Nm, 360 lb.in	60 mm ² , 250 MCM M8, 12 Nm, 106 lb.in
	ATV 71HC13N4	2 x 120 mm ² , 2 x 250 MCM M10, 24 Nm, 212 lb.in	2 x 120 mm ² , 2 x 250 MCM M10, 24 Nm, 212 lb.in	120 mm ² , 250 MCM M10, 24 Nm, 212 lb.in
	ATV 71HC16N4	2 x 150 mm ² , 2 x 350 MCM M12, 41 Nm, 360 lb.in	2 x 150 mm ² , 2 x 350 MCM M12, 41 Nm, 360 lb.in	120 mm ² , 250 MCM M10, 24 Nm, 212 lb.in
	ATV 71HC20N4...HC28N4	4 x 185 mm ² , 3 x 350 MCM M12, 41 Nm, 360 lb.in	4 x 185 mm ² , 3 x 350 MCM M12, 41 Nm, 360 lb.in	–
	ATV 71HC31N4	4 x 185 mm ² , 4 x 500 MCM M12, 41 Nm, 360 lb.in	8 x 185 mm ² , 4 x 500 MCM M12, 41 Nm, 360 lb.in	–
	ATV 71HC40N4	R/L1.1, S/L2.1, T/L3.1, R/L1.2, S/L2.2, T/L3.2 2 x 2 x 185 mm ² , 4 x 500 MCM M12, 41 Nm, 360 lb.in U/T1, V/T2, W/T3 4 x 185 mm ² , 4 x 500 MCM M12, 41 Nm, 360 lb.in	8 x 185 mm ² , 4 x 500 MCM M12, 41 Nm, 360 lb.in	–
	ATV 71HC50N4	R/L1.1, S/L2.1, T/L3.1, R/L1.2, S/L2.2, T/L3.2 2 x 4 x 185 mm ² , 2 x 3 x 500 MCM M12, 41 Nm, 360 lb.in U/T1, V/T2, W/T3 6 x 185 mm ² , 5 x 500 MCM M12, 41 Nm, 360 lb.in	8 x 185 mm ² , 5 x 500 MCM M12, 41 Nm, 360 lb.in	–

Electrical control characteristics		
Internal supplies available		Short-circuit and overload protection: <ul style="list-style-type: none"> ■ 1 x 10.5 V \pm 5% supply for the reference potentiometer (1 to 10 kΩ), maximum current 10 mA ■ 1 x 24 V \pm supply (min. 21 V, max. 27 V), maximum current 200 mA.
External + 24 V power supply (1) (not supplied)		+24 V \pm (min. 19 V, max. 30 V) Power 30 W
Analog inputs	AI1-/AI1+	1 bipolar differential analog input \pm 10 V \pm (maximum safe voltage 24 V) Max. sampling time: 2 ms \pm 0.5 ms Resolution: 11 bits + 1 sign bit Accuracy: \pm 0.6% for a temperature variation of 60°C Linearity: \pm 0.15% of the maximum value
	AI2	1 software-configurable voltage or current analog input: <ul style="list-style-type: none"> ■ Voltage analog input 0...10 V \pm, impedance 30 kΩ (max. safe voltage 24 V) ■ Current analog input X-Y mA by programming X and Y from 0 to 20 mA, with impedance 242 Ω Max. sampling time: 2 ms \pm 0.5 ms Resolution: 11 bits Accuracy: \pm 0.6% for a temperature variation of 60°C Linearity: \pm 0.15% of the maximum value
	Other inputs	See option cards
Configurable voltage and current analog outputs	AO1	1 analog output configurable for voltage or current: <ul style="list-style-type: none"> ■ Voltage analog output 0...10 V \pm, minimum load impedance 470 Ω ■ Current analog output X-Y mA by programming X and Y from 0 to 20 mA, maximum load impedance 500 Ω Max. sampling time: 2 ms \pm 0.5 ms Resolution: 10 bits Accuracy: \pm 1% for a temperature variation of 60°C Linearity: \pm 0.2%
	Other outputs	See option cards
Configurable relay outputs	R1A, R1B, R1C	1 relay logic output, one "N/C" contact and one "N/O" contact with common point Minimum switching capacity: 3 mA for 24 V \pm Maximum switching capacity: <ul style="list-style-type: none"> ■ On resistive load ($\cos \varphi = 1$): 5 A for 250 V \sim or 30 V \pm ■ On inductive load ($\cos \varphi = 0.4$ and L/R = 7 ms): 2 A for 250 V \sim or 30 V \pm Max. response time: 7 ms \pm 0.5 ms Electrical service life: 100,000 operations
	R2A, R2B	1 relay logic output, one "N/O" contact Minimum switching capacity: 3 mA for 24 V \pm Maximum switching capacity: <ul style="list-style-type: none"> ■ On resistive load ($\cos \varphi = 1$): 5 A for 250 V \sim or 30 V \pm ■ On inductive load ($\cos \varphi = 0.4$ and L/R = 7 ms): 2 A for 250 V \sim or 30 V \pm Max. response time: 7 ms \pm 0.5 ms Electrical service life: 100,000 operations
	Other outputs	See option cards
Logic inputs LI	LI1...LI5	5 programmable logic inputs, 24 V \pm , compatible with level 1 PLC, IEC 65A-68 standard Impedance: 3.5 k Ω Maximum voltage: 30 V Max. sampling time: 2 ms \pm 0.5 ms Multiple assignment makes it possible to configure several functions on one input (example: LI1 assigned to forward and preset speed 2, LI3 assigned to reverse and preset speed 3)
	LI6	1 logic input, switch-configurable as a logic input or as an input for PTC probes Logic input, characteristics identical to inputs LI1...LI5 Input for a maximum of 6 PTC probes mounted in series: <ul style="list-style-type: none"> ■ nominal value < 1.5 kΩ ■ trip resistance 3 kΩ, reset value 1.8 kΩ ■ short-circuit protection < 50 Ω
	Positive logic (Source)	State 0 if \leq 5 V or logic input not wired, state 1 if \geq 11 V
	Negative logic (Sink)	State 0 if \geq 16 V or logic input not wired, state 1 if \leq 10 V
	Other inputs	See option cards
Safety input	PWR	1 input for the Power Removal safety function: <ul style="list-style-type: none"> ■ Power supply: 24 V \pm (max. 30 V) ■ Impedance: 1.5 kΩ ■ State 0 if < 2 V, state 1 if > 17 V
Maximum I/O wire size and tightening torque for inputs/outputs		2.5 mm ² (AWG 14) 0.6 Nm

(1) Please consult our specialist catalogue "Power supplies, splitter blocks and interfaces".

Electrical control characteristics (continued)			
Acceleration and deceleration ramps			Ramp profiles: <ul style="list-style-type: none"> ■ Linear, can be adjusted separately from 0.01 to 9999 s ■ S, U or customized Automatic adaptation of deceleration ramp time if braking capacities exceeded, possible inhibition of this adaptation (use of braking resistor).
Braking to a standstill			By DC injection: <ul style="list-style-type: none"> ■ By a command on a programmable logic input ■ Automatically as soon as the estimated output frequency drops to < 0.1 Hz, period adjustable from 0 to 60 s or continuous, current adjustable from 0 to 1.2 In (in open-loop mode only).
Main drive protection and safety features			Thermal protection: <ul style="list-style-type: none"> ■ Against overheating ■ Of the power stage Protection against: <ul style="list-style-type: none"> ■ Short-circuits between motor phases ■ Input phase breaks ■ Overcurrents between output phases and earth ■ Overvoltages on the DC bus ■ A break on the control circuit ■ Exceeding the limit speed Safety function for: <ul style="list-style-type: none"> ■ Line supply overvoltage and undervoltage ■ Input phase loss, in 3-phase
Motor protection (see page 60298/30)			Thermal protection integrated in drive via continuous calculation of I ² t taking speed into account: <ul style="list-style-type: none"> ■ The motor thermal state is saved when the drive is powered down. ■ Function can be modified via operator dialogue terminals, depending on the type of motor (force-cooled or self-cooled). Protection against motor phase breaks Protection with PTC probes
Dielectric strength	ATV 71H●●●M3 ATV 71H●●●M3X		Between earth and power terminals: 2830 V ~~~ Between control and power terminals: 4230 V ~~~
	ATV 71●●●N4 ATV 71P●●●N4Z		Between earth and power terminals: 3535 V ~~~ Between control and power terminals: 5092 V ~~~
Insulation resistance to earth			> 1 MΩ (electrical isolation) 500 V ~~~ for 1 minute
Frequency resolution	Display units	Hz	0.1
	Analog inputs	Hz	0.024/50 Hz (11 bits)
Operational safety characteristics			
Protection	Of the machine		Power Removal (PWR) safety function which forces stopping and/or prevents the motor from restarting unintentionally, conforming to EN 954-1 category 3 and draft standard IEC/EN 61800-5-2.
	Of the system process		Power Removal (PWR) safety function which forces stopping and/or prevents the motor from restarting unintentionally, conforming to IEC/EN 61508 level SIL2 and draft standard IEC/EN 61800-5-2.
Response time		ms	≤ 100 in STO (Safe Torque Off)

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Communication port characteristics			
Modbus protocol			
Type of connection		Modbus RJ45 connector port	Modbus RJ45 network port
Structure	Physical interface	2-wire RS 485	
	Transmission mode	RTU	
	Transmission speed	Configurable via the display terminal or the PowerSuite software workshop: 9600 bps or 19,200 bps	Configurable via the display terminal or the PowerSuite software workshop: 4800 bps, 9600 bps, 19,200 bps or 38.4 Kbps
	Format	Fixed = 8 bits, even parity, 1 stop	Configurable via the display terminal or the PowerSuite software workshop: - 8 bits, odd parity, 1 stop - 8 bits, even parity, 1 stop - 8 bits, no parity, 1 stop - 8 bits, no parity, 2 stop
	Polarization	No polarization impedances These should be provided by the wiring system (for example, in the master)	
	Address	1 to 247, configurable via the terminal or the PowerSuite software workshop. 3 addresses can be configured in order to access the drive data, the "Controller Inside" programmable card and the communication card respectively. These 3 addresses are identical for the connector and network ports.	
	Services	Functional profiles	CiA DSP 402: "Device Profile Drives and Motion Control". I/O profile
Messaging		Read Holding Registers (03) 63 words maximum Write Single Register (06) Write Multiple Registers (16) 61 words maximum Read/Write Multiple Registers (23) 63/59 words maximum Read Device Identification (43) Diagnostics (08)	
Communication monitoring		Can be inhibited. "Time out", which can be set between 0.1 s and 30 s	
Diagnostics	With LEDs on ATV 71H●●●M3Z, ATV 71HD11M3XZ, HD15M3XZ, ATV 71H075N4Z...HD75N4Z ATV 71P●●●N4Z	One activity LED on integrated 7-segment display terminal. One LED for each port.	
	With graphic display terminal	One activity LED Command word received Reference received For each port: ■ Number of frames received ■ Number of incorrect frames	
CANopen protocol			
Structure	Connector	9-way male SUB-D connector on CANopen adapter. This connects to the Modbus RJ45 network port.	
	Network management	Slave	
	Transmission speed	20 kbps, 50 kbps, 125 kbps, 250 kbps, 500 kbps or 1 Mbps	
	Address (Node ID)	1 to 127, configurable via the terminal or the PowerSuite software workshop.	
Services	Number of PDOs	3 receive and 3 transmit (PDO1, PDO2 and PDO3)	
	PDO modes	Event-triggered, Time-triggered, Remotely-requested, Sync (cyclic), Sync (acyclic)	
	PDO linking	Yes	
	PDO mapping	Configurable (PDO1 and PDO2)	
	Number of SDOs	1 server	
	Emergency	Yes	
	CANopen application layer	CiA DS 301, V 4.02	
	Profiles	CiA DSP 402: "Device Profile Drives and Motion Control" I/O profile	
Communication monitoring	Node Guarding, Heartbeat		
Diagnostics	With LEDs on ATV 71H●●●M3Z, ATV 71HD11M3XZ, HD15M3XZ, ATV 71H075N4Z...HD75N4Z ATV 71P●●●N4Z	2 LEDs: "RUN" and "ERROR" on integrated 7-segment display terminal	
	With graphic display terminal and PowerSuite software workshop	2 LEDs: "RUN" and "ERROR" Command word received Reference received Display of received PDOs Display of transmitted PDOs State of NMT chart Received PDOs counter Transmitted PDOs counter Reception error counter Transmission error counter	
Description file	A single eds file is supplied for the whole range on the CD-ROM containing the documentation or can be downloaded from the Internet at www.telemecanique.com . It contains the description of the drive parameters.		