

Variable speed drives

Altivar 71 and Altivar 71 Plus

for three-phase motors
from 0.37 kW/0.5 HP to 2000 kW





Hoisting application

Applications

With its different types of motor control and numerous integrated functions, the Altivar 71 range of variable speed drives meets stringent requirements.

It is suitable for demanding drive systems:

- Torque and speed accuracy at very low speed, high dynamic performance with Flux Vector Control with or without sensor
- Extended frequency range for high-speed motors
- Parallel connection of motors and special drives using the voltage/frequency ratio
- Static speed accuracy and energy saving for open-loop synchronous motors
- Smooth flexibility for unbalanced machines with the ENA (ENergy Adaptation) System.

In conjunction with the wide voltage range for a 690 V ~ line supply, the Altivar 71 drive's advanced functions boost performance levels and make machines more versatile so they can be used for a large number of applications.

Hoisting

- Brake control adapted for translational, hoisting and slewing movements
- Load measurement using weight sensor
- High-speed hoisting
- Brake feedback management
- Limit switch management
- Slack sling

Handling

- Very quick response times on transmission of a command: 2 ms (± 0.5 ms)
- Reference via pulse train or differential analog input
- Control via the principal communication networks
- Position control via limit switches with time optimization at low speed
- Multiple parameter settings via parameter set switching

Packaging

- Up to 50 Hz of the bandwidth
- Very quick response times on change of reference: 2 ms (± 0.5 ms)
- Control via integrated CANopen machine bus
- Position control via limit switches

Textile machines

- High resolution of the digital speed reference (1/32,000)
- Use of synchronous motor, irrespective of load, helps assure speed accuracy
- High bandwidth
- Spooling function
- Connection to common DC bus
- Control of both asynchronous and synchronous motors supported
- High-performance speed loop

Wood-working machines

- Fastest possible controlled stop on loss of line supply
- Control via integrated CANopen machine bus
- Protection of motor against overvoltages

Process machinery

- PID regulator
- High-resolution references
- Speed or torque control
- Connection to the principal communication networks
- Separate control section power supply
- Braking unit via re-injection to the line supply
- Connection to common DC bus

Packaging application

Wood-working machine application



An extensive range with a wide selection of options

An extensive and versatile offer

The Altivar 71 range of variable speed drives covers a wide range of motor power ratings from 0.37 kW/0.5 HP to 2000 kW with five types of power supply:

- 200...240 V single-phase, 0.37 kW/0.5 HP to 5.5 kW/7.5 HP, IP 20 (ATV71H●●●M3)
- 200...240 V three-phase, 0.37 kW/0.5 HP to 75 kW/100 HP, IP 20 (ATV71H●●●M3 and ATV71H●●●M3X)
- 380...415 V three-phase, 75 kW/100 HP to 500 kW/700 HP, IP 23 or IP 54 (ATV71EXC●●●●N4H)
- 380...415 V three-phase, 90 kW/125 HP to 500 kW/700 HP, IP 23 or IP 54 (ATV71ES5●●●N4, ATV71EXC●●●●N4 and ATV71EXS5●●●N4)
- 380...415 V three-phase, 500 kW to 1300 kW, IP 23 or IP 54 (ATV71EXA●●●●N4)
- 380...480 V three-phase, 0.75 kW/1 HP to 500 kW/700 HP, IP 20 (ATV71H●●●N4)
- 500 V three-phase, 90 kW/125 HP to 500 kW/700 HP, IP 23 or IP 54 (ATV71EXC●●●●N and ATV71EXS5●●●N)
- 500 V three-phase, 500 kW to 1500 kW, IP 23 or IP 54 (ATV71EXA●●●●N)
- 500...600 V three-phase, 1.5 kW/2 HP to 7.5 kW/10 HP, IP 20 (ATV71H●●●S6X)
- 500...690 V three-phase, 1.5 kW/2 HP to 630 kW/700 HP, IP 20 (ATV71H●●●Y)
- 690 V three-phase, 110 kW/125 HP to 630 kW/700 HP, IP 23 or IP 54 (ATV71EXC●●●●Y and ATV71EXS5●●●Y)
- 690 V three-phase, 630 kW to 2000 kW, IP 23 or IP 54 (ATV71EXA●●●●Y and ATV71EXA●●●YH)

This range can be used for controlling asynchronous motors in sensor/sensorless flux vector control mode.

At 200...240 V ~ and 380...480 V ~, there is a special version available that can be used for controlling synchronous motors with sinusoidal electromotive force when there is speed feedback. Control of asynchronous motors is still supported (see pages 1/20 and 1/44). The options supported by the Altivar 71 range of variable speed drives are also available with this version when an identical rating is used.

The Altivar 71 drive integrates the Modbus and CANopen protocols as standard, as well as numerous functions. These functions can be extended using communication option cards (see page 1/50), I/O extension cards, an encoder interface or a Controller Inside programmable card (see pages 1/44 to 1/49).

External options such as braking resistors, resistance braking units, chokes and filters complete the offer (see page 1/13).

Eco-friendly and energy-saving

The Altivar 71 drive has been designed to generate significant energy savings in industrial processes, by offering options that can reduce line interference (DC chokes, line chokes, passive filters, Active Front End (AFE), etc.). It has been designed as an eco-friendly product (using 90 % recyclable materials, compliant with environmental standard ISO 14040). It is RoHS-compliant.

Compliance with international standards and certifications

The entire range conforms to international standards IEC/EN 61800-5-1, IEC/EN 61800-2, IEC/EN 61800-3, is UL, CSA, DNV, C-Tick, NOM 117 and GOST certified, and has been developed to meet the requirements of directives regarding the protection of the environment (RoHS, WEEE, etc.) as well as those of European Directives (CE mark).

Functional safety and ATEX applications

The Altivar 71 drive features a Power Removal safety function that is designed to help ensure motor stopping and help prevent accidental restarts. This safety function means that the drive can be installed as part of the safety system for an Electrical/Electronic/Programmable Electronic control system relating to the safety of a machine or industrial process.

It meets the requirements of category 3 of the ISO 1384 machine safety standard, SIL 2 of IEC/EN 61508 and standard IEC/EN 61800-5-2 which covers the functional safety requirements of power drive products.

The Power Removal safety function also enables the Altivar 71 drive to offer protection for motors installed in explosive atmospheres (ATEX certification). Please refer to the ATEX guide which is available on our website www.schneider-electric.com.



ATV71PU40N4Z

DF120368

Appropriate solutions for each environment (continued)

Version for environments where no ventilation is permitted

The following product is available to meet the requirements of applications where the necessary degree of protection rules out the possibility of ventilation:

- A drive on base plate providing IP 20 degree of protection:
- at 380...480 V ~, 0.75/1 HP to 11 kW/15 HP (ATV71P●●●N4Z) (see page 1/16)

As the drive is not equipped with a fan as standard, a DC choke (see page 1/68) must be added in order to help prevent overheating during operation.

Variant for applications requiring a very low harmonic level

Altivar 71 Plus drive with harmonic filtering in "Ready to use" IP 23 or IP 54 floor-standing enclosure

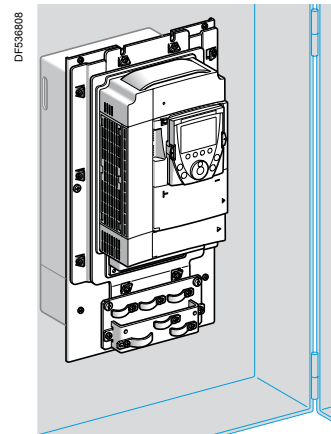
This enclosed product has been designed to offer, in a compact "ready-to-use" version, a range of drives designed to meet the requirements of applications requiring very low harmonic distortion factors (THDI ≤ 5 %).

This enclosed drive solution provides, depending on the model, degree of protection IP 23 (ATV71EXC2●●●N4H and ATV71EXA2●●YH) or IP 54 (ATV71EXC5●●●N4H and ATV71EXA5●●YH).

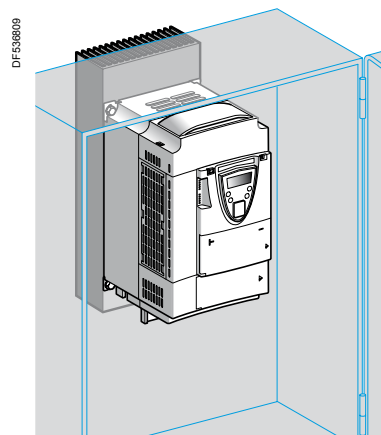
In addition to a standard version, a modular version is available with a choice of options to suit the requirements of your installation.

The offer covers a range of drives from 75 kW/100 HP to 2000 kW (see pages 2/6 and 2/7).

ATV71EXS5●●●●●



ATV71HU75N4 flush-mounted



ATV71PU75N4Z in dust and damp proof enclosure

Mounting options

The Altivar 71 drive can be mounted in a variety of ways for integration in various devices.

Mounting outside enclosure

The standard version of the Altivar 71 (on heatsink) or the base plate version can be mounted directly on a wall without having to be installed inside an enclosure.

UL Type 1 conformity can be achieved using kit **VW3A92●●**, or IP 21 or IP 31 conformity with kit **VW3A91●●** (see pages 1/24 and 1/25).

Flush-mounting in dust and damp proof enclosure

The Altivar 71 drive has been designed to optimize the size of enclosures (floor-standing, wall-mounted, etc.).

This type of flush-mounting can be used to reduce the size of enclosure required and to limit the temperature rise inside the enclosure:

- The power section, with IP 54 degree of protection, can be easily mounted outside the enclosure using kit **VW3A95●●** for flush-mounting in a dust and damp proof enclosure (see page 1/22).

This type of mounting can lead to ambient temperatures of up to 60°C inside the enclosure without derating.

It may be necessary to use a control card fan kit **VW3A94●●** appropriate for the drive rating in order to avoid hot spots (see page 1/21).

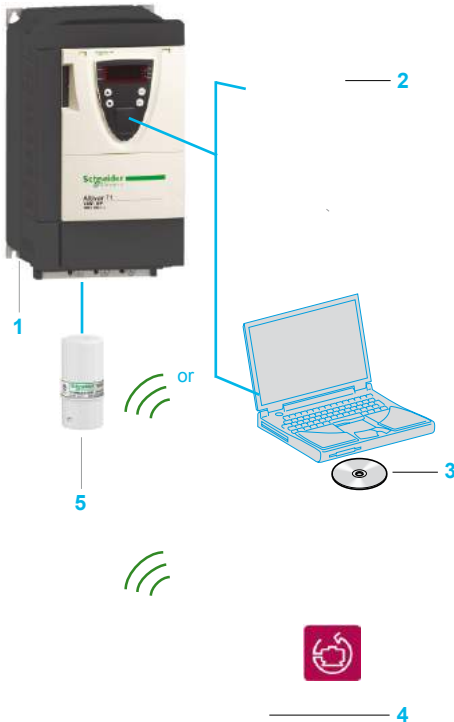
If the installation conditions require it, this version also allows side-by-side mounting (please consult our website www.schneider-electric.com).

Mounting in a dust and damp proof enclosure or on machine frame

The Altivar 71 drive on base plate supports two mounting options:

- In a dust and damp proof enclosure using kit **VW3A980●** for dust and damp proof mounting (see page 1/23) which has been designed to dissipate heat via a heatsink mounted outside the enclosure.
- On a machine frame, where the frame's earth allows the heat to be dissipated.

1



Application-specific dialogue and configuration tools

Remote graphic display terminal

The Altivar 71 drive 1, except for the version on a base plate ATV71P●●●N4Z, is supplied with a remote graphic display terminal 2. It is extremely user-friendly, offering quick and easy access to the drop-down menus and complex functions, online help screens, six languages installed as standard and others available via flash memory. Four configuration files can be stored. It is customizable for the customer or the machine. It can be mounted remotely on an enclosure door with IP 54 or IP 65 degree of protection on IP 20 drives, or built-in on IP 54 drives. The complex functions are easily accessible thanks to advanced functions on the display unit.

Up to 15 kW/20 HP at 200...240 V ~ and 75 kW/100 HP at 380...480 V ~, the Altivar 71 drive can be ordered without a remote graphic display terminal; it is then only equipped with the integrated terminal.

SoMove setup software 3

SoMove setup software for PC is used to configure, adjust and debug the Altivar 71 drive with the Oscilloscope function and also for maintenance of this drive, as for other Schneider Electric drives and starters. See page 1/30.

SoMove Mobile software 4

SoMove Mobile software is particularly suitable for maintenance operations. It can be used to edit the drive parameters from a mobile phone, save the configurations, import them from a PC or export them to a PC via a Bluetooth wireless connection 5. See page 1/30.

Simple Loader and Multi-Loader programming tools

The Simple Loader tool enables one powered-up drive's configuration to be duplicated on another powered-up drive.

The Multi-Loader tool enables a number of configurations from a PC or drive to be copied and duplicated on another drive; the Altivar 71 drives must be powered up. See page 1/31.

Quick programming tools

Macro-configuration

The Altivar 71 drive offers quick and easy programming using macro-configurations corresponding to different applications or uses: start-stop, handling, hoisting, general use, connection to communication networks, PID regulator, master/slave applications (for synchronous motors with speed feedback).

Each of these configurations is still fully modifiable.

Simply Start menu

The Simply start menu can be used to help ensure that the application is working correctly, maximize motor performance and help ensure motor protection.

The architecture, the hierarchical parameter structure and the direct access functions serve to make programming quick and easy, even for the more complex functions.

Built-in maintenance, monitoring and diagnostic functions

The Altivar 71 has numerous built-in maintenance, monitoring and diagnostic functions:

Examples of functions:

- Built-in drive test functions with diagnostic screen on the remote graphic display terminal
- I/O maps
- Communication maps for the different ports
- Oscilloscope function that can be viewed using the SoMove setup software
- Management of the drive installed base via microprocessors with flash memory
- Remote use of these functions by connecting the drive to a modem via the Modbus port
- Identification of the drive's component parts as well as the software versions
- Error logs with display of the value of up to 16 variables on occurrence of a fault
- Display terminal languages loaded in the flash memory
- A message of up to 5 lines of 24 characters can be stored in the drive

5348003

RUN	Term	+50.00Hz	5.4A
1.1 SIMPLY START			
Cde 2 fils/3 fils		Cde 2 fils	
Macro-configuration		Manutention	
Standard fréq. mot		50Hz IEC	
Puissance nom. mot		2.2kW	
Tension nom. mot		400V	
Code	<<	>>	Quick

Quick programming with the Simply Start menu

5348004

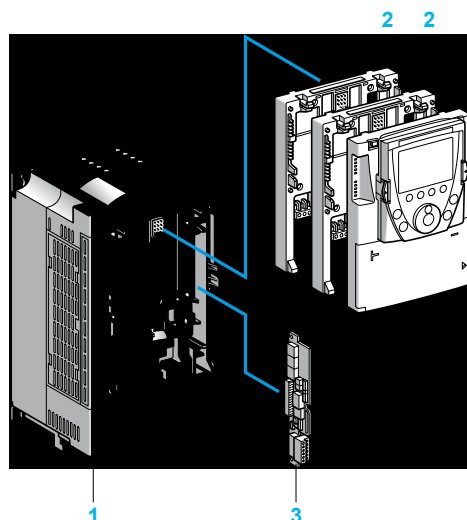
SCF1	Term	+50.00Hz	0.0A
HISTORIQUE DEFAULTS			
Court-circuit mot.			
Surintensité			
Déf. Externe LI			
Surtension réseau			
Soustension			
Help		Quick	

Built-in function:
Error log

5348005

SCF1	Term	+50.00Hz	0.0A
COURT-CIRCUIT MOTEUR			
Vérifier les câbles de liaison et l'isolement du moteur.			
Effectuer un test de diagnostic			
		Quick	

Built-in function:
Troubleshooting screen



A wide range of options

The numerous options designed for the Altivar 71 drive make it highly flexible and extremely easy to adapt to applications.

Option cards

The Altivar 71 drive **1** can integrate up to three different option cards simultaneously, including:

- Two of the following cards:
 - I/O extension cards **2** (see page 1/45)
 - Communication cards **2** (Modbus TCP Daisy Chain, Modbus/Uni-Telway, EtherNet/IP, DeviceNet, PROFIBUS DP, Profinet, POWERLINK etc.) (see page 1/50)
 - Controller Inside programmable card **2** to adapt the variable speed drive to specific applications (see page 1/46)
- One of the following encoder interface cards **3**: with RS 422-compatible differential outputs; with open collector outputs (NPN); with push-pull outputs; resolver; with SinCos, SinCos Hiperface®, EnDat®, or SSI universal outputs; with RS 422-compatible differential outputs plus encoder emulation (RS 422 ESIM) (see page 1/44)

Other options

Numerous other external options can be combined with the Altivar 71:

- Braking units and resistors (standard or hoist-specific) (see pages 1/56 to 1/61)
- Network braking units (see pages 1/62 to 1/63)
- Active Front End (AFE) to use the drive to return energy to the line supply or when the installation requires particularly low harmonic levels; in addition it operates on unstable line supplies (see pages 1/64 to 1/67)
- DC chokes, line chokes and passive filters to reduce harmonic currents (see pages 1/68 to 1/77)
- Additional EMC input filters to reduce conducted emissions on the line (see pages 1/78 and 1/79)
- Motor chokes and sinus filters for long cable runs or to remove the need for shielding (see pages 1/82 to 1/85)

Note: Please refer to the compatibility summary tables to determine which options are available for individual drives (see pages 1/32 to 1/43).

Integration into PLC architectures

The Altivar 71 drive has a built-in combined Modbus or CANopen port for quick, accurate motion control, adjustment, supervision and configuration. A second port is available for connecting a Magelis terminal for machine dialogue.

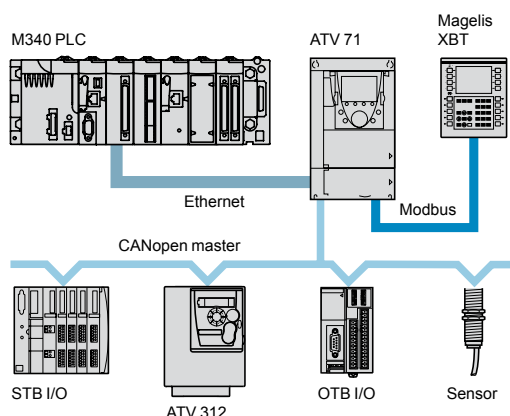
The Altivar 71 drive can be integrated into many networked industrial applications using the communication option cards.

The following protocols are available:
Modbus TCP Daisy Chain, Modbus/Uni-Telway, EtherNet/IP, DeviceNet, Profinet, PROFIBUS DP V0 and V1, INTERBUS, CC-LINK and Ethernet POWERLINK (see pages 1/50 to 1/55).

The option of powering the control section separately enables communication (monitoring, diagnostics) to be maintained even if there is no power supply to the control section.

The Controller Inside programmable card transforms the drive into an automation island. This is used to adapt the drive to specific applications quickly and progressively, by decentralizing the control system functions (pages 1/46 to 1/49):

- The card has its own I/O; it can also manage those of the drive and an I/O extension card.
- It contains onboard application programs developed in IEC/EN 61131-3 languages, which reduce the control system response time.
- Its CANopen master port enables control of other drives and dialogue with I/O modules and sensors.



Variable speed drives

Altivar 71

Supply voltage: 200...240 V 50/60 Hz

IP 20 drives

1

10/472



ATV71HU22M3Z

101001

ATV71H037M3

101010

ATV71HD37M3X

IP 20 drives

Motor		Line supply				Altivar 71					
Power indicated on rating plate ⁽¹⁾		Line current ⁽²⁾		Apparent power	Max. prospective line Isc	Maximum continuous current ⁽¹⁾	Max. transient current for		Reference ⁽³⁾	Weight	
kW	HP	200 V	240 V	240 V		230 V	60 s	2 s			
		A	A	kVA	kA	A	A	A		kg	
Single-phase supply voltage: 200...240 V 50/60 Hz											
0.37	0.5	6.9	5.8	1.4	5	3	4.5	4.9	ATV71H075M3	3.000	
0.75	1	12	9.9	2.4	5	4.8	7.2	7.9	ATV71HU15M3	3.000	
1.5	2	18.2	15.7	3.7	5	8	12	13.2	ATV71HU22M3	4.000	
2.2	3	25.9	22.1	5.3	5	11	16.5	18.1	ATV71HU30M3	4.000	
3	—	25.9	22	5.3	5	13.7	20.6	22.6	ATV71HU40M3 ⁽⁴⁾	4.000	
4	5	34.9	29.9	7	5	17.5	26.3	28.8	ATV71HU55M3 ⁽⁴⁾	5.500	
5.5	7.5	47.3	40.1	9.5	22	27.5	41.3	45.3	ATV71HU75M3 ⁽⁴⁾	7.000	

Three-phase supply voltage: 200...240 V 50/60 Hz

0.37	0.5	3.5	3.1	1.3	5	3	4.5	4.9	ATV71H037M3			3.000
0.75	1	6.1	5.3	2.2	5	4.8	7.2	7.9	ATV71H075M3			3.000
1.5	2	11.3	9.6	4	5	8	12	13.2	ATV71HU15M3			3.000
2.2	3	15	12.8	5.3	5	11	16.5	18.1	ATV71HU22M3			4.000
3	—	19.3	16.4	6.8	5	13.7	20.6	22.6	ATV71HU30M3			4.000
4	5	25.8	22.9	9.5	5	17.5	26.3	28.8	ATV71HU40M3			4.000
5.5	7.5	35	30.8	12.8	22	27.5	41.3	45.3	ATV71HU55M3			5.500
7.5	10	45	39.4	16.4	22	33	49.5	54.5	ATV71HU75M3			7.000
11	15	53.3	45.8	19	22	54	81	89.1	ATV71HD11M3X (5)			22.000
15	20	71.7	61.6	25.6	22	66	99	109	ATV71HD15M3X (5)			22.000
18.5	25	77	69	28.7	22	75	112	124	ATV71HD18M3X (5)			30.000
22	30	88	80	33.3	22	88	132	145	ATV71HD22M3X (5)			30.000
30	40	124	110	45.7	22	120	180	198	ATV71HD30M3X (5)			37.000
37	50	141	127	52.8	22	144	216	238	ATV71HD37M3X (5)			37.000
45	60	167	147	61.1	22	176	264	290	ATV71HD45M3X (5)			37.000
55	75	200	173	71.9	35	221	332	365	ATV71HD55M3X (5) (6)			100.000
75	100	271	232	96.4	35	285	428	470	ATV71HD75M3X (5) (6)			122.000

Dimensions (overall)

Drives	W x H x D mm
ATV71H037M3...HU15M3	130 x 230 x 175
ATV71HU22M3...HU40M3	155 x 260 x 187
ATV71HU55M3	175 x 295 x 187
ATV71HU75M3	210 x 295 x 213
ATV71HD11M3X, HD15M3X	230 x 400 x 213
ATV71HD18M3X, HD22M3X	240 x 420 x 236
ATV71HD30M3X...HD45M3X	320 x 550 x 266
ATV71HD55M3X	320 x 920 x 377
ATV71HD75M3X	360 x 1022 x 377

(1) These values are given for a nominal switching frequency of 4 kHz up to ATV71HD15M3X or 2.5 kHz for ATV71HD18M3X...HD75M3X drives for use in continuous operation.

The switching frequency is adjustable from 1...16 kHz up to ATV71HD45M3X and from 1...8 kHz for ATV71HD55M3X and ATV71HD75M3X drives. Above 2.5 or 4 kHz, depending on the rating, the drive will reduce the switching frequency automatically in the event of an excessive temperature rise. For continuous operation above the nominal switching frequency, derate the nominal drive current (see derating curves on our website www.schneider-electric.com).

(2) Typical value for the indicated motor power and for the maximum prospective line Isc.

(3) Variants available (see page 1/20).

(4) A line choke must be used (see page 1/70).

(5) Drive supplied without EMC filter. EMC filters are available as an option (see page 1/78).

(6) Drive supplied without plate for EMC mounting. This is included in the UL Type 1 or IP 31 conformity kit, which must be ordered separately (see pages 1/24 and 1/25).

Note: Consult the summary tables of possible drive, option and accessory combinations (see page 1/32).

Variable speed drives

Altivar 71

Supply voltage: 380...480 V 50/60 Hz

IP 20 drives



107478



ATV71HU40N4Z



IP 20 drives

Motor		Line supply				Altivar 71				Reference (3)	Weight
Power indicated on rating plate (1)		Line current(2)		Apparent power	Max. prospective line Isc	Maximum continuous current (1)		Max. transient current for			
		380 V 480 V				380 V	380 V (IEC)	460 V (NEC)	60 s		
kW	HP	A	A	kVA	kA	A	A	A	A		kg
Three-phase supply voltage: 380...480 V 50/60 Hz											
0.75	1	3.7	3	2.4	5	2.3	2.1	3.5	3.8	ATV71H075N4	3.000
1.5	2	5.8	5.3	3.8	5	4.1	3.4	6.2	6.8	ATV71HU15N4	3.000
2.2	3	8.2	7.1	5.4	5	5.8	4.8	8.7	9.6	ATV71HU22N4	3.000
3	—	10.7	9	7	5	7.8	6.2	11.7	12.9	ATV71HU30N4	4.000
4	5	14.1	11.5	9.3	5	10.5	7.6	15.8	17.3	ATV71HU40N4	4.000
5.5	7.5	20.3	17	13.4	22	14.3	11	21.5	23.6	ATV71HU55N4	5.500
7.5	10	27	22.2	17.8	22	17.6	14	26.4	29	ATV71HU75N4	5.500
11	15	36.6	30	24.1	22	27.7	21	41.6	45.7	ATV71HD11N4	7.000
15	20	48	39	31.6	22	33	27	49.5	54.5	ATV71HD15N4	22.000
18.5	25	45.5	37.5	29.9	22	41	34	61.5	67.7	ATV71HD18N4	22.000
22	30	50	42	32.9	22	48	40	72	79.2	ATV71HD22N4	30.000
30	40	66	56	43.4	22	66	52	99	109	ATV71HD30N4	37.000
37	50	84	69	55.3	22	79	65	118.5	130	ATV71HD37N4	37.000
45	60	104	85	68.5	22	94	77	141	155	ATV71HD45N4	44.000
55	75	120	101	79	22	116	96	174	191	ATV71HD55N4	44.000
75	100	167	137	109.9	22	160	124	240	264	ATV71HD75N4	44.000
90	125	166	134	109.3	35	179	179	269	295	ATV71HD90N4 (4)	100.000
110	150	202	163	133	35	215	215	323	355	ATV71HC11N4 (4)	122.000
132	200	239	192	157.3	35	259	259	388	427	ATV71HC13N4 (4)	116.000
160	250	289	233	190.2	50	314	314	471	518	ATV71HC16N4 (4)	163.000
200	300	357	286	235	50	387	387	580	638	ATV71HC20N4 (4)	207.000
220	350	396	320	260.6	50	427	427	640	704	ATV71HC25N4 (4)	207.000
250	400	444	357	292.2	50	481	481	721	793		
280	450	494	396	325.1	50	550	550	825	907	ATV71HC28N4 (4)	207.000
315	500	555	444	365.3	50	616	616	924	1016	ATV71HC31N4 (4)	320.000
355	—	637	512	419.3	50	671	671	1006	1107	ATV71HC40N4 (4)	330.000
400	600	709	568	466.6	50	759	759	1138	1252		
500	700	876	699	576.6	50	941	941	1411	1552	ATV71HC50N4 (4)	435.000

Dimensions (overall)

Drives	W x H x D mm
ATV71H075N4...HU22N4	130 x 230 x 175
ATV71HU30N4, HU40N4	155 x 260 x 187
ATV71HU55N4, HU75N4	175 x 295 x 187
ATV71HD11N4	210 x 295 x 213
ATV71HD15N4, HD18N4	230 x 400 x 213
ATV71HD22N4	240 x 420 x 236
ATV71HD30N4, HD37N4	240 x 550 x 266
ATV71HD45N4...HD75N4	320 x 630 x 290
ATV71HD90N4	320 x 920 x 377
ATV71HC11N4	360 x 1022 x 377
ATV71HC13N4	340 x 1190 x 377
ATV71HC16N4	440 x 1190 x 377
ATV71HC20N4...HC28N4	595 x 1190 x 377
ATV71HC31N4, HC40N4	890 x 1390 x 377
ATV71HC50N4	1120 x 1390 x 377

(1) These values are given for a nominal switching frequency of 4 kHz up to ATV71HD30N4 or 2.5 kHz for ATV71HD37N4...HC50N4 drives for use in continuous operation.

The switching frequency is adjustable from 1...16 kHz up to ATV71HD75N4 and from 2.5...8 kHz for ATV71HD90N4...ATV71HC50N4 drives.

Above 2.5 or 4 kHz, depending on the rating, the drive will reduce the switching frequency automatically in the event of an excessive temperature rise. For continuous operation above the nominal switching frequency, derate the nominal drive current (see derating curves on our website www.schneider-electric.com).

(2) Typical value for the indicated motor power and for the maximum prospective line Isc.

(3) Variants available (see page 1/20).

(4) Drive supplied without plate for EMC mounting. This is included in the UL Type 1 or IP 31 kit, which must be ordered separately (see pages 1/24 and 1/25).

Note: Consult the summary tables of possible drive, option and accessory combinations (see page 1/34).

Variable speed drives

Altivar 71

Supply voltage: 380...480 V 50/60 Hz

IP 20 drives

1

10/4/2



ATV71PU40N4Z

110502

IP 20 drives on base plate with integrated category C2 EMC filter

Motor		Line supply				Altivar 71				Reference (3) (4) (5)	Weight
Power indicated on rating plate (1)		Line current (2)		Apparent power	Max. prospective line Isc	Maximum continuous current (1)	Max. transient current for				
		380 V	480 V	380 V		380 V (IEC)	460 V (NEC)	60 s	2 s		
kW	HP	A	A	kVA	kA	A	A	A	A		kg
Three-phase supply voltage: 380...480 V 50/60 Hz											
0.75	1	3.7	3	2.4	5	2.3	2.1	3.5	3.8	ATV71P075N4Z	2.700
1.5	2	5.8	5.3	3.8	5	4.1	3.4	6.2	6.8	ATV71PU15N4Z	2.700
2.2	3	8.2	7.1	5.4	5	5.8	4.8	8.7	9.6	ATV71PU22N4Z	2.700
3	—	10.7	9	7	5	7.8	6.2	11.7	12.9	ATV71PU30N4Z	3.600
4	5	14.1	11.5	9.3	5	10.5	7.6	15.8	17.3	ATV71PU40N4Z	3.600
5.5	7.5	20.3	17	13.4	22	14.3	11	21.5	23.6	ATV71PU55N4Z	5.000
7.5	10	27	22.2	17.8	22	17.6	14	26.4	29	ATV71PU75N4Z	5.000
11	15	36.6	30	24.1	22	27.7	21	41.6	45.7	ATV71PD11N4Z	7.000

Water-cooled IP 20 drives

Motor		Line supply				Altivar 71				Reference (4)	Weight
Power indicated on rating plate (1)		Line current (2)		Apparent power	Max. prospective line Isc	Maximum continuous current (1)	Max. transient current for				
		380 V	480 V	380 V		380 V (IEC)	460 V (NEC)	60 s	2 s		
kW	HP	A	A	kVA	kA	A	A	A	A		kg
Three-phase supply voltage: 380...480 V 50/60 Hz											
90	125	166	134	109.3	35	179	179	269	295	ATV71QD90N4	80.000
110	150	202	163	133	35	215	215	323	355	ATV71QC11N4	80.000
132	200	239	192	157.3	35	259	259	388	427	ATV71QC13N4	80.000
160	250	289	233	190.2	50	314	314	471	518	ATV71QC16N4	140.000
200	300	357	286	235	50	387	387	580	638	ATV71QC20N4	140.000
220	350	396	320	260.6	50	427	427	640	704	ATV71QC25N4	140.000
250	400	444	357	292.2	50	481	481	721	793		
315	500	555	444	365.3	50	616	616	924	1016	ATV71QC31N4	300.000
355	—	637	512	419.3	50	671	671	1006	1107	ATV71QC40N4	300.000
400	600	709	568	466.6	50	759	759	1138	1252		
500	700	876	699	576.6	50	941	941	1411	1552	ATV71QC50N4	300.000

Dimensions (overall)

Drives	W x H x D mm	Drives	W x H x D mm
ATV71P075N4Z, PU22N4Z	130 x 230 x 149	ATV71QD90N4...QC13N4	330 x 950 x 377
ATV71PU30N4Z, PU40N4Z	155 x 260 x 161	ATV71QC16N4...QC25N4	585 x 950 x 377
ATV71PU55N4Z, PU75N4Z	175 x 295 x 161	ATV71QC31N4...QC50N4	1110 x 1150 x 377
ATV71PD11N4Z	210 x 295 x 187		

(1) These values are given for a nominal switching frequency in continuous operation:

- 4 kHz for ATV71P●●●N4Z

- 2.5 kHz for ATV71Q●●●N4

The switching frequency is adjustable from:

- 1...16 kHz for ATV71P●●●N4Z

- 2.5...8 kHz for ATV71Q●●●N4

Above 4 kHz, the drive will reduce the switching frequency automatically in the event of excessive temperature rise. For continuous operation above the nominal switching frequency, derate the nominal drive current (see derating curves on our website www.schneider-electric.com).

(2) Typical value for the indicated motor power and for the maximum prospective line Isc.

(3) Variants available (see page 1/20).

(4) A DC choke must be used (see page 1/68).

(5) ATV71P●●●N4Z drives supplied with a plate for EMC mounting and a thermal liner for mounting on the machine frame (see page 1/23).

Note: Consult the summary tables of possible drive, options and accessory combinations on pages 1/34 and 1/38.

107473



ATV71W075N4

107641



ATV71E5D11N4

IP 54 drives with integrated category C2 EMC filter

Motor		Line supply				Altivar 71					
Power indicated on rating plate ⁽¹⁾		Line current ⁽²⁾		Apparent power	Max. prospective line Isc	Maximum continuous current ⁽¹⁾		Max. transient current for		Reference ⁽³⁾ ⁽⁴⁾	Weight
		380 V	480 V	380 V		380 V (IEC)	460 V (NEC)	60 s	2 s		
kW	HP	A	A	kVA	kA	A		A			kg
Three-phase supply voltage: 380...480 V 50/60 Hz											
0.75	1	3.7	3	2.4	5	2.3	2.1	3.5	3.8	ATV71W075N4	12.000
1.5	2	5.8	5.3	3.8	5	4.1	3.4	6.2	6.8	ATV71WU15N4	12.000
2.2	3	8.2	7.1	5.4	5	5.8	4.8	8.7	9.6	ATV71WU22N4	12.000
3	—	10.7	9	7	5	7.8	6.2	11.7	12.9	ATV71WU30N4	13.000
4	5	14.1	11.5	9.3	5	10.5	7.6	15.8	17.3	ATV71WU40N4	13.000
5.5	7.5	20.3	17	13.4	22	14.3	11	21.5	23.6	ATV71WU55N4	16.000
7.5	10	27	22.2	17.8	22	17.6	14	26.4	29	ATV71WU75N4	16.000
11	15	36.6	30	24.1	22	27.7	21	41.6	45.7	ATV71WD11N4	21.000
15	20	48	39	31.6	22	33	27	49.5	54.5	ATV71WD15N4	31.000
18.5	25	45.5	37.5	29.9	22	41	34	61.5	67.7	ATV71WD18N4	31.000
22	30	50	42	32.9	22	48	40	72	79.2	ATV71WD22N4	30.500
30	40	66	56	43.4	22	66	52	99	109	ATV71WD30N4	38.500
37	50	84	69	55.3	22	79	65	118.5	130	ATV71WD37N4	38.500
45	60	104	85	68.5	22	94	77	141	155	ATV71WD45N4	61.500
55	75	120	101	79	22	116	96	174	191	ATV71WD55N4	61.500
75	100	167	137	109.9	22	160	124	240	264	ATV71WD75N4	61.500

IP 54 drives with Vario and integrated category C2 EMC filter

Three-phase supply voltage: 380...480 V 50/60 Hz											
0.75	1	3.7	3	2.4	5	2.3	2.1	3.5	3.8	ATV71E5075N4	14.400
1.5	2	5.8	5.3	3.8	5	4.1	3.4	6.2	6.8	ATV71E5U15N4	14.400
2.2	3	8.2	7.1	5.4	5	5.8	4.8	8.7	9.6	ATV71E5U22N4	14.400
3	—	10.7	9	7	5	7.8	6.2	11.7	12.9	ATV71E5U30N4	15.400
4	5	14.1	11.5	9.3	5	10.5	7.6	15.8	17.3	ATV71E5U40N4	15.400
5.5	7.5	20.3	17	13.4	22	14.3	11	21.5	23.6	ATV71E5U55N4	18.400
7.5	10	27	22.2	17.8	22	17.6	14	26.4	29	ATV71E5U75N4	18.400
11	15	36.6	30	24.1	22	27.7	21	41.6	45.7	ATV71E5D11N4	29.700
15	20	48	39	31.6	22	33	27	49.5	54.5	ATV71E5D15N4	40.400
18.5	25	45.5	37.5	29.9	22	41	34	61.5	67.7	ATV71E5D18N4	40.400
22	30	50	42	32.9	22	48	40	72	79.2	ATV71E5D22N4	46.700
30	40	66	56	43.4	22	66	52	99	109	ATV71E5D30N4	57.800
37	50	84	69	55.3	22	79	65	118.5	130	ATV71E5D37N4	57.800
45	60	104	85	68.5	22	94	77	141	155	ATV71E5D45N4	80.400
55	75	120	101	79	22	116	96	174	191	ATV71E5D55N4	80.400
75	100	167	137	109.9	22	160	124	240	264	ATV71E5D75N4	80.400

Dimensions (overall)

Drives	W x H x D mm	Drives	W x H x D mm
ATV71W075N4...WU22N4	240 x 490 x 272	ATV71E5075N4...E5U22N4	240 x 490 x 296
ATV71WU30N4, WU40N4	240 x 490 x 286	ATV71E5U30N4, E5U40N4	240 x 490 x 310
ATV71WU55N4, WU75N4	260 x 525 x 286	ATV71E5U55N4, E5U75N4	260 x 525 x 310
ATV71WD11N4	295 x 560 x 315	ATV71E5D11N4	295 x 560 x 339
ATV71WD15N4, WD18N4	315 x 665 x 315	ATV71E5D15N4, E5D18N4	315 x 665 x 340
ATV71WD22N4	285 x 720 x 315	ATV71E5D22N4	285 x 720 x 335
ATV71WD30N4, WD37N4	285 x 880 x 343	ATV71E5D30N4, E5D37N4	285 x 880 x 383
ATV71WD45N4...WD75N4	362 x 1000 x 364	ATV71E5D45N4...E5D75N4	362 x 1000 x 404

(1) These values are given for a nominal switching frequency of 4 kHz up to ATV71WD30N4 or ATV71E5D30N4, or 2.5 kHz for ATV71WD37N4...WD75N4 or ATV71E5D37N4...E5D75N4 used in continuous operation.

The switching frequency is adjustable from 1...16 kHz for all ratings.

Above 2.5 or 4 kHz, depending on the rating, the drive will reduce the switching frequency automatically in the event of an excessive temperature rise. For continuous operation above the nominal switching frequency, derate the nominal drive current (see derating curves on our website www.schneider-electric.com).

(2) Typical value for the indicated motor power and for the maximum prospective line Isc.

(3) Variants available (see page 1/20).

(4) Drives supplied with a plate for EMC mounting.

Note: Consult the summary tables of possible drive, option and accessory combinations (see page 1/36).

Variable speed drives

Altivar 71

Supply voltage: 500...690 V 50/60 Hz

IP 20 drives

1

107014



ATV71HU22Y

107530



ATV71HD37Y

107540



ATV71HC25Y

+

107532



VW3A4372 (line choke mandatory) (5)

IP 20 drives

Motor		Line supply			Altivar 71		
Power indicated on rating plate (1)		Line current (2)		Max. prospective line Isc	Maximum continuous current (1) (3)	Reference (4)	Weight
500 V	575 V	500 V	600 V		500 V	575 V	
kW	HP	A	A	kA	A	A	kg
Three-phase supply voltage: 500...600 V 50/60 Hz							
1.5	2	5.6	4.9	22	3.2	2.7	ATV71HU15S6X 7.500
2.2	3	7.6	6.7	22	4.5	3.9	ATV71HU22S6X 7.500
3	—	9.9	10	22	5.8	—	ATV71HU30S6X 7.500
4	5	12.5	10.9	22	7.5	6.1	ATV71HU40S6X 7.500
5.5	7.5	16.4	14.2	22	10	9	ATV71HU55S6X 7.500
7.5	10	21.4	18.4	22	13.5	11	ATV71HU75S6X 7.500

Motor			Line supply				Altivar 71				
Power indicated on rating plate (1)			Line current (2)		Max. prospective line Isc		Maximum continuous current (1) (3)		Reference (4)	Weight	
500 V	575 V	690 V	500 V	600 V	690 V		500 V	575 V	690 V		
kW	HP	kW	A	A	A	kA	A	A	A	kg	
Three-phase supply voltage: 500...690 V 50/60 Hz											
1.5	2	2.2	3.8	3.2	4	22	3.2	2.7	4	ATV71HU22Y 30.000	
2.2	3	3	5.2	4.4	5.2	22	4.5	3.9	4.5	ATV71HU30Y 30.000	
3	—	4	6.8	—	6.6	22	5.8	—	5.5	ATV71HU40Y 30.000	
4	5	5.5	8.6	7.2	8.6	22	7.5	6.1	7.5	ATV71HU55Y 30.000	
5.5	7.5	7.5	11.2	9.5	11.2	22	10	9	10	ATV71HU75Y 30.000	
7.5	10	11	14.6	12.3	15.5	22	13.5	11	13.5	ATV71HD11Y 30.000	
11	15	15	19.8	16.7	20.2	22	18.5	17	18.5	ATV71HD15Y 30.000	
15	20	18.5	24	21	24	22	24	22	24	ATV71HD18Y 30.000	
18.5	25	22	29	24	27	22	29	27	27	ATV71HD22Y 30.000	
22	30	30	33	28	34	22	35	32	35	ATV71HD30Y 30.000	
30	40	37	48	41	47	22	47	41	43	ATV71HD37Y 68.000	
37	50	45	62	51	55	22	59	52	54	ATV71HD45Y 68.000	
45	60	55	68	57	63	22	68	62	62	ATV71HD55Y 68.000	
55	75	75	84	70.5	88	22	85	77	84	ATV71HD75Y 68.000	
75	100	90	109	92	101	22	110	99	104	ATV71HD90Y 68.000	
90	125	110	128	113	117	28	136	125	125	ATV71HC11Y (5) (6) 102.000	
110	150	132	153	133	137	28	165	144	150	ATV71HC13Y (5) (6) 102.000	
132	—	160	182	—	163	35	200	—	180	ATV71HC16Y (5) (6) 102.000	
160	200	200	227	204	212	35	240	192	220	ATV71HC20Y (5) (6) 181.000	
200	250	250	277	249	256	35	312	242	290	ATV71HC25Y (5) (6) 181.000	
250	350	315	342	311	317	35	390	336	355	ATV71HC31Y (5) (6) 181.000	
315	450	400	439	401	409	35	462	412	420	ATV71HC40Y (5) (6) 383.000	
400	550	500	544	491	498	35	590	528	543	ATV71HC50Y (5) (6) 383.000	
500	700	630	673	613	616	42	740	672	675	ATV71HC63Y (5) (6) 383.000	

Dimensions (overall)

Drives	W x H x D mm
ATV71HU15S6X...HU75S6X	210 x 295 x 213
ATV71HU22Y...HD30Y	240 x 420 x 236
ATV71HD37Y...HD90Y	320 x 630 x 290
ATV71HC11Y...HC16Y	340 x 1190 x 377
ATV71HC20Y...HC31Y	595 x 1190 x 377
ATV71HC40Y...HC63Y	1120 x 1390 x 377

- (1) These values are given for a nominal switching frequency of 4 kHz for ATV71HU●●S6X and for ATV71HU22Y...HD30Y or 2.5 kHz for ATV71HD37Y...HC63Y drives for use in continuous operation. The switching frequency is adjustable from 2.5...6 kHz for ATV71HUpp S6X and for ATV71HU22Y...HD30Y, and from 2.5...4.9 kHz for ATV71HD37Y...ATV71HC63Y drives. Above 2.5 kHz or 4 kHz, depending on the rating, the drive will reduce the switching frequency automatically in the event of an excessive temperature rise. For continuous operation above the nominal switching frequency, derate the nominal drive current (see derating curves on our website www.schneider-electric.com).
- (2) Typical value for the indicated motor power and for the maximum prospective line Isc.
- (3) The maximum transient current for:
- 60 seconds is equal to 150% of the maximum continuous current
 - 2 seconds is equal to 165% of the maximum continuous current
- (4) Variants available (see page 1/20).
- (5) Line choke mandatory for ATV71HC11Y...HC63Y drives, unless a special transformer is used (12-pulse). The line choke must be ordered separately (see page 1/70).
- (6) Drive supplied without plate for EMC mounting. This is included in the UL Type 1 or IP 31 kit, which must be ordered separately (see pages 1/24 and 1/25).

Note: Consult the summary tables of possible drive, option and accessory combinations (see pages 1/38 and 1/40).

Variable speed drives

Altivar 71

Supply voltage: 500...690 V 50/60 Hz

IP 20 drives

110504



ATV71QC11Y

Water-cooled IP 20 drives

Motor			Line supply				Altivar 71				
Power indicated on rating plate (1)			Line current (2)		Max. prospective line Isc	Maximum continuous current (1) (3)	Reference			Weight	
500 V	575 V	690 V	500 V	600 V			690 V	500 V	575 V		690 V
kW	HP	kW	A	A	A	kA	A	A	A	kg	
Three-phase supply voltage: 500...690 V 50/60 Hz											
90	125	110	128	113	117	28	136	125	125	ATV71QC11Y 80.000	
110	150	132	153	133	137	28	165	144	150	ATV71QC13Y 80.000	
132	—	160	182	—	163	35	200	—	180	ATV71QC16Y 80.000	
160	200	200	227	204	212	35	240	192	220	ATV71QC20Y 140.000	
200	250	250	277	249	256	35	312	242	290	ATV71QC25Y 140.000	
250	350	315	342	311	317	35	390	336	355	ATV71QC31Y 140.000	
315	450	400	439	401	409	35	462	412	420	ATV71QC40Y 300.000	
400	550	500	544	491	498	35	590	528	543	ATV71QC50Y 300.000	
500	700	630	673	613	616	42	740	672	675	ATV71QC63Y 300.000	

Dimensions (overall)

Drives	W x H x D mm
ATV71QC11Y...QC16Y	330 x 950 x 377
ATV71QC20Y...QC31Y	585 x 950 x 377
ATV71QC40Y...QC63Y	1110 x 1150 x 377

(1) These values are given for a nominal switching frequency of 2.5 kHz, for use in continuous operation.

The switching frequency is adjustable from 2.5...4.9 kHz.

Above 2.5 kHz, depending on the rating, the drive will reduce the switching frequency automatically in the event of an excessive temperature rise. For continuous operation above the nominal switching frequency, derate the nominal drive current (see derating curves on our website www.schneider-electric.com).

(2) Typical value for the indicated motor power and for the maximum prospective line Isc.

(3) The maximum transient current for:

- 60 seconds is equal to 150% of the maximum continuous current
- 2 seconds is equal to 165% of the maximum continuous current

Note: Consult the summary tables of possible drive, option and accessory combinations (see page 1/40).