Motion and Drives

Altistart, Altivar *High-simplicity* soft starting and variable speed

Starters
Altistart 01
● 0,37 to 75 kW

Drives
Altivar 11
● 0,18 to 2,2 kW

Drives
Altivar 31
● 0,18 to 15 kW

Starters
Altistart 48
● 4 to 1 200 kW

Drives
Altivar 21
● 0,75 to 75 kW

Drives
Altivar 61
● 0,37 to 800 kW

Drives
Altivar 71
● 0,37 to 630 kW

Lexium Pac *High-performance* motion control

Motion Controller

Lexium Controller
Up to 8 synchronized real axes

Servodrives

Lexium 05
from 4 A to 25 A

Lexium 15
from 1,5 to 70 A

Servomotors

BSH from 0.5 to 90 Nm

BDH from 0.18 to 53 Nm

Contents

Soft starters and variable speed drives

Motion modules and servodrives

Wide variety of control architectures:

- Fieldbus: FIPIO, CanOpen (native), Modbus Plus, Profibus DP
- Motion Bus: synchronised CANopen dedicated Motion Bus, Sercos®.

Selection guide

Types of machine

Simple machines

⇨ *Applications:*
Compressors, pumps, fans, conveyors, automatic doors, washing gantries, advanced systems, decentralised architectures…

⇨ *Applications:*
Conveyors, garage and lift doors, automatic parking barriers, check out counters, grinders, saws, drills, exercise equipment, scrolling displays, retractable hoods, dough mixers…

⇨ *Applications:*
Pumps, fans, conveyors, material handling machines, packaging, conditioning machines, special machines, textile machines…

Starters/drives

Variable speed drives
Soft starters and soft start/soft stop units

Altistart 01

■ ***Compactness:***
side by side mounting
■ ***Simplicity:*** mounting, cabling and adjustments simplified
■ ***Efficiency:*** increase your productivity and maximize the life of your machines, reduction of mechanical shocks, limitation of current peaks on starting.

Altivar 11

■ ***Compactness:***
side by side mounting
■ ***Simplicity:*** settings simplified
■ EMC filters integrated class B

Altivar 31

■ ***Compactness:***
side by side mounting
■ EMC filters integrated class A
■ Simplified start up with "plug and drive" function
■ ***Openess:*** CANopen and modbus integrated

Supply voltage ranges for 50/60 Hz line supply		Single phase 110…480 V Three phase 110…690 V	Single phase 100…120 V Single phase 200…240 V Three phase 200…230 V	Single phase 200…240 V Three phase 200…240 V Three phase 380…500 V Three phase 525…600 V
Motor power		0.37…75 kW	0.18…2.2 kW	0.18…15 kW
Drive	Output frequency	–	0.5…200 Hz	0.5…500 Hz
	Type of control Asynchronous motor	–	Sensorless flux vector control	
	Synchronous motor	–	–	–
	Transient overtorque	–	150...170% of torque nominal motor	170...200% of the nominal motor torque
Functions				
Number of functions		1	26	50
Number of preset speeds		–	4	16
Number of I/O	Analog inputs	–	1	3
	Logic inputs	3	4	6
	Analog outputs	–	–	1
	Logic outputs	1	1	–
	Relay outputs	1	1	2
Communication	Integrated	–	–	Modbus and CANopen
	Available as an option	Combined with TeSys model U starter-controller	–	DeviceNet, Ethernet TCP/IP, Fipio, Profibus DP
Cards (available as an option)		–	–	–
Standards and certifications		IEC/EN 60947-4/2 C-TICK, CSA, UL, CE, CCC	EN 50178, EN 61800-3 EN 55011 - EN 55022 class B and class A gr.1 NOM 117, CSA, UL, C-TICK N998, CE	IEC 61800-5-1, IEC 61800-5-2, EN 61800-3, EN 55011 - EN 55022: class A, class B with option CSA, UL, C-TICK N998, CE

Other versions: **please consult your Schneider Electric agency.**

Pumping and ventilation machines

Complex, high-power machines

⇨ *Applications:*
Compressors, pumps,fans
and high inertia machines, conveyors.

Soft start/soft stop units

Altistart 48

■ ***Torque Control System:***
pressure surges suppression and temperature rise limitation
■ ***Simplicity:*** simplified start up
■ ***Protection of the motor***
and the machine: thermal protection, détection of phase failure, locked rotor detection

⇨ *Applications:*
Pumps and fans in HVAC (1)

Variable speed drives
Building (HVAC)(1)

Altivar 21

■ ***Compactness:*** side by side mounting
■ ***Simplicity:*** "plug and drive" function and "local remote" button
■ EMC filters integrated
■ Harmonics reduction THDI < 30%
■ ***Openess:*** communication buses cards for building

⇨ *Applications macro-configurations*
Pumps, Multipumps, fans, compressors

Variable speed drives
Industry

Altivar 61

■ Extended ranges
■ Quick start up and easy diagnostics thanks to the multilingual graphic keypad
■ ***Openess:*** to all communication buses
■ for industry and building

⇨ *Applications macro-configurations*
Hoisting, packaging, material handling, wood, textile, process machines…

Variable speed drives

Altivar 71

■ Extended ranges
■ Quick start up and easy diagnostics thanks to the multilingual graphic keypad
■ ***Openess:*** to all communication buses
■ for industry

Three phase 230…415 V Three phase 208…690 V	Three phase 200…240 V Three phase 380…480 V	Single phase 200…240 V Three phase 200…240 V Three phase 380…480 V	Single phase 200…240 V Three phase 200…240 V Three phase 380…480 V
4…1200 kW	0.75…75 kW	0.37…800 kW	0.37…630 kW
–	0.5…200 Hz	0.5…1600 Hz up to 37 kW 0.5…500 Hz from 45 to 800 kW	0.1…1600 Hz up to 37 kW 0.1…500 Hz from 45 to 630 kW
TCS (Torque Control System)	kn^2 quadratic ratio, sensorless flux vector control, voltage/frequency ratio (2 points), energy saving ratio	kn^2 quadratic ratio, flux vector control with or without sensor, voltage/frequency ratio (2 or 5 points), energy saving ratio	Flux vector control with or without sensor, voltage/frequency ratio (2 or 5 points), ENA System
–	–	–	Vector control with orwithout speed feedback
–	Transient overload: 110% of the nominal drive current for 60 seconds	Transient overload: 120…130% of the nominal drive current for 60 seconds	200% of the nominal motor torque for 2 s 170% for 60 seconds
36	50	> 150	> 150
–	8	16	16
1 PTC probe	2	2…4	2…4
4	3	6…20	6…20
1	1	1…3	1…3
2	–	0…8	0…8
3	2	2…4	2…4
Modbus	Modbus	Modbus and CANopen	Modbus and CANopen
DeviceNet, Ethernet TCP/IP, Fipio, Profibus DP	LonWorks, METASYS N2, APOGEE FLN, BACnet	Ethernet TCP/IP, Fipio, Modbus Plus, InterBus, Profibus DP, Modbus/Uni-Telway, DeviceNet, LonWorks, METASYS N2, APOGEE P1, BACnet	Ethernet TCP/IP, Modbus/Uni-Telway, Fipio, Modbus Plus, Profibus DP, DeviceNet, InterBus
–	–	I/O extension cards "Controller Inside" programmable card, multi-pump cards	Encoder interface card I/O extension cards "Controller Inside" programmable card
IEC/EN 60947-4-2 EMC class A and B DNV, C-TICK, GOST, CCIB, NOM, UL, CE, CCC, CSA	EN 50178, IEC/EN 61800-3 EN 55011, EN 55022: class A, class B with option CE, UL, C-TICK N998	IEC/EN 61800-5-1, IEC/EN 61800-3 (environments 1 and 2, C1 to C3) EN 55011, EN 55022, IEC/EN 61000-4-2/4-3/4-4/4-5/4-6/4-11 CE, UL, CSA, DNV, C-TICK, NOM 117, GOST	

(1) Heating Ventilation Air Conditioning

Dimensions (in mm)		width x height x depth
ATS01	N103FT/N106 FT	22,5 x 100 x 100,4
	N109FT/N112 FT/N125 FT	45 x 124 x 130,7
	N206●●/N209●● / N212●●	
	N222●●/N232●●	45 x 154 x 130,7

Type of starter Motor power						Soft starters 0.37 to 11 kW	Soft start/soft stop units 0.75 to 15 kW		
Degree of protection						IP20			
Peak current reduction						No (1 controlled phase)	Yes (2 controlled phases)		
Adjustable starting time						1…5 s	1…10 s		
Adjustable stopping time						No: freewheel stop	Yes: 1... 10 s.		
Adjustable starting torque						30…80% of DOL motor starting torque			
Logic inputs						–	3 logic inputs (start, stop and startup boost)		
Logic outputs						–	1 logic output		
Relay outputs						–	1 relay output		
Control supply voltage						110... 220 VAC ± 10%, 24 VDC ± 10%	Built into the starter		
Supply voltage						**Single phase 110…230 V**			
Motor power									
230 V					Nominal current				
kW					(IcL)				
0.37					3 A	**ATS01N103FT**			
0.75					6 A	**ATS01N106FT**			
1.1					9 A	**ATS01N109FT**			
1.5					12 A	**ATS01N112FT**			
2.2					25 A	**ATS01N125FT**			
Supply voltage						**Three phase 110…480 V**	**Three phase 200…240 V**	**Three phase 380…415 V**	**Three phase 440…480 V**
Motor power									
210 V	**230 V**		**400 V**	**460 V**	Nominal current				
HP	kW	HP	kW	HP	(IcL)				
–	0.37-0.55	0.5/–	1.1	0.5-1.5	3 A	**ATS01N103FT**	**–**	**–**	**–**
0.5	0.75-1.1	1-1.5	2.2-3	2-3	6 A	**ATS01N106FT**	**ATS01N206LU**	**ATS01N206QN**	**ATS01N206RT**
1	1.5	2	4	5	9 A	**ATS01N109FT**	**ATS01N209LU**	**ATS01N209QN**	**ATS01N209RT**
1.5	2.2	3	5.5	7.5	12 A	**ATS01N112FT**	**ATS01N212LU**	**ATS01N212QN**	**ATS01N212RT**
–	4-5.5	5-7.5	7.5-11	10-15	22 A	**–**	**ATS01N222LU**	**ATS01N222QN**	**ATS01N222RT**
2-3	3-4-5.5	5-7.5	7.5-9-11	10-15	25A	**ATS01N125FT**	**–**	**–**	**–**
–	7,5	10	15	20	32 A	**–**	**ATS01N232LU**	**ATS01N232QN**	**ATS01N232RT**

Starters

Dimensions (in mm)		width x height x depth
ATS01	N230●●/N244●●	180 x 146 x 126
	N272●●/N285●●	180 x 254.5 x 126

Type of starter Motor power							**Soft start/soft stop units** 15 to 75 kW	
Degree of protection							IP20 on front panel	
Peak current reduction							Yes	
Adjustable starting and stopping times							1... 25 s	
Adjustable starting torque							30.... 80% of DOL motor starting torque	
Logic inputs							2 logic inputs (run and stop)	
Relay outputs							1 relay output	
Control supply voltage							110 VDC ± 10%	Built into the starter
Supply voltage							**Three phase 230…690 V**	**Three phase 400 V**
Motor power								
230 V		**400 V**		**460 V**	**690 V**	Nominal current		
kW	HP	kW	HP	HP	kW	(IcL)		
7.5	10	15	15	20	30	32 A	**ATS01N230LY**	–
11	15	22	25	30	37	44 A	**ATS01N244LY**	**ATS01N244Q**
18.5	25	37	40	50	55	72 A	**ATS01N272LY**	**ATS01N272Q**
22	30	45	50	60	75	85 A	**ATS01N285LY**	**ATS01N285Q**

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Starters with TeSys model U

Dimensions (in mm)		width x height x depth
ATSU01	N206LT/N209LT/N212LT	45 x 124 x 130,7
	N222LT/N232LT	45 x 154 x 130,7

Type of starter Motor power					**Soft start/soft stop units** 0.75 to 15 kW			
Degree of protection					IP20			
Peak current reduction					Yes			
Adjustable starting and stopping times					1…10 s			
Adjustable starting torque					30.... 80% of DOL motor starting torque			
Logic inputs					3 logic inputs (start, stop and startup boost)			
Logic outputs					1 logic output			
Relay outputs					1 relay output			
Control supply voltage					⎓ 24 V, 100mA, ± 10 %			
References					**Soft start/soft stop units**	**TeSys model U starter-controller**		**Power connector**
						Power base	Control unit (1)	between ATSU and TeSys model U
Supply voltage					**Three phase 200…480 V**			
Motor power								
230 V		**400 V**	**460 V**	Nominal				
kW	HP	kW	HP	current (IcL)				
0,75	1	1,5	2	6 A	**ATSU01N206LT**	**LUB12**	**LUC●05BL**	**VW3G4104**
1,1	1,5	2,2/3	3	6 A	**ATSU01N206LT**	**LUB12**	**LUC●12BL**	
1,5	2	–	6	9 A	**ATSU01N209LT**	**LUB12**	**LUC●12BL**	**VW3G4104**
–	–	4	–	9 A	**ATSU01N209LT**	**LUB12**	**LUC●12BL**	
2,2	3	5,5	7,5	12 A	**ATSU01N212LT**	**LUB12**	**LUC●12BL**	**VW3G4104**
3	–	–	–	12 A	**ATSU01N212LT**	**LUB32**	**LUC●18BL**	
4	5	7,5	10	22 A	**ATSU01N222LT**	**LUB32**	**LUC●18BL**	**VW3G4104**
5,5	7,5	11	15	22 A	**ATSU01N222LT**	**LUB32**	**LUC●32BL**	
7,5	10	15	20	32 A	**ATSU01N232LT**	**LUB32**	**LUC●32BL**	**VW3G4104**

(1) To compose your reference, replace ● in the reference with: «**A**" for a standard control unit, "**M**" for a multifunction unit and "**B**" for an advanced unit.

Dimensions (in mm)		width x height x depth
ATS48 D17Q to D47Q	**Size A:**	160 x 275 x 190
D62Q to C11Q	**Size B:**	190 x 290 x 235
C14Q to C17Q	**Size C:**	200 x 340 x 265
C21Q to C32Q	**Size D:**	320 x 380 x 265
C41Q to C66Q	**Size E:**	400 x 670 x 300
C79Q to M12Q	**Size F:**	770 x 890 x 315

Supply voltage			**Three phase 230…415 V** (1)			
Type of application			Standard		Severe (2)	
Starter control supply voltage			**220…415 V**			
Protection		Degree of protection	IP20: ATS48D17● to ATS48C11● starters IP00: ATS48C14● to ATS48M12● starters			
		Motor thermal protection	Class 10		Class 20	
EMC		Class A	On all starters			
		Class B	On all starters up to 170 A			
Starting mode			Torque control (patented TCS: Torque Control System)			
I/O		Analog inputs	1 PTC probe			
		Logic inputs	4 logic inputs, 2 of which are configurable			
		Logic outputs	2 configurable logic outputs			
		Analog outputs	1 analog output			
		Relay outputs	3 relay outputs, 2 of which are configurable			
Dialogue			Integrated or remote display terminal, or PowerSuite software workshop (3)			
Communication (4)		Integrated	Modbus			
		Available as an option	DeviceNet, Ethernet TCP/IP, Fipio, Profibus DP			
Motor power						
230 V kW	**400 V** kW	Nominal current (IcL)				
3	5.5	12 A	–		**ATS48D17Q**	Size A
4	7.5	17 A	**ATS48D17Q**	Size A	**ATS48D22Q**	Size A
5.5	11	22 A	**ATS48D22Q**	Size A	**ATS48D32Q**	Size A
7.5	15	32 A	**ATS48D32Q**	Size A	**ATS48D38Q**	Size A
9	18.5	38 A	**ATS48D38Q**	Size A	**ATS48D47Q**	Size A
11	22	47 A	**ATS48D47Q**	Size A	**ATS48D62Q**	Size B
15	30	62 A	**ATS48D62Q**	Size B	**ATS48D75Q**	Size B
18.5	37	75 A	**ATS48D75Q**	Size B	**ATS48D88Q**	Size B
22	45	88 A	**ATS48D88Q**	Size B	**ATS48C11Q**	Size B
30	55	110 A	**ATS48C11Q**	Size B	**ATS48C14Q**	Size C
37	75	140 A	**ATS48C14Q**	Size C	**ATS48C17Q**	Size C
45	90	170 A	**ATS48C17Q**	Size C	**ATS48C21Q**	Size D
55	110	210 A	**ATS48C21Q**	Size D	**ATS48C25Q**	Size D
75	132	250 A	**ATS48C25Q**	Size D	**ATS48C32Q**	Size D
90	160	320 A	**ATS48C32Q**	Size D	**ATS48C41Q**	Size E
110	220	410 A	**ATS48C41Q**	Size E	**ATS48C48Q**	Size E
132	250	480 A	**ATS48C48Q**	Size E	**ATS48C59Q**	Size E
160	315	590 A	**ATS48C59Q**	Size E	**ATS48C66Q**	Size E
–	355	660 A	**ATS48C66Q**	Size E	**ATS48C79Q**	Size F
220	400	790 A	**ATS48C79Q**	Size F	**ATS48M10Q**	Size F
250	500	1000 A	**ATS48M10Q**	Size F	**ATS48M12Q**	Size F
355	630	1200 A	**ATS48M12Q**	Size F	–	

(1) Possible to connect the starter in the motor delta connection

(2) Starting time greater than 30 seconds (fans, high inertia machines and compressors)

(3) (4) PowerSuite software and communication protocols, see page 4/30

Accessory

Accessory	**Remote display terminal**
Reference	**VW3G48101**

Soft start/soft stop units

Dimensions (in mm)			width x height x depth
ATS48	D17Y to D47Y	**Size A:**	160 x 275 x 190
	D62Y to C11Y	**Size B:**	190 x 290 x 235
	C14Y to C17Y	**Size C:**	200 x 340 x 265
	C21Y to C32Y	**Size D:**	320 x 380 x 265
	C41Y to C66Y	**Size E:**	400 x 670 x 300
	C79Y to M12Y	**Size F:**	770 x 890 x 315

Supply voltage												**Three phase 208…690 V** (1)			
Type of application												Standard		Severe (2)	
Starter control supply voltage												**110…230 V**			
Characteristics												Identical to 230…415 V starters			
Motor power											Nominal				
208 V	**230 V**	**460 V**	**575 V**	**230 V**	**400 V**	**440 V**	**500 V**	**525 V**	**660 V**	**690 V**	current				
HP				kW							(IcL)				
2	3	7.5	10	3	5.5	5.5	7.5	7.5	9	11	12 A	–		**ATS48D17Y**	Size A
3	5	10	15	4	7.5	7.5	9	9	11	15	17 A	**ATS48D17Y**	Size A	**ATS48D22Y**	Size A
5	7.5	15	20	5.5	11	11	11	11	15	18.5	22 A	**ATS48D22Y**	Size A	**ATS48D32Y**	Size A
7.5	10	20	25	7.5	15	15	18.5	18.5	22	22	32 A	**ATS48D32Y**	Size A	**ATS48D38Y**	Size A
10	–	25	30	9	18.5	18.5	22	22	30	30	38 A	**ATS48D38Y**	Size A	**ATS48D47Y**	Size A
–	15	30	40	11	22	22	30	30	37	37	47 A	**ATS48D47Y**	Size A	**ATS48D62Y**	Size B
15	20	40	50	15	30	30	37	37	45	45	62 A	**ATS48D62Y**	Size B	**ATS48D75Y**	Size B
20	25	50	60	18.5	37	37	45	45	55	55	75 A	**ATS48D75Y**	Size B	**ATS48D88Y**	Size B
25	30	60	75	22	45	45	55	55	75	75	88 A	**ATS48D88Y**	Size B	**ATS48C11Y**	Size B
30	40	75	100	30	55	55	75	75	90	90	110 A	**ATS48C11Y**	Size B	**ATS48C14Y**	Size C
40	50	100	125	37	75	75	90	90	110	110	140 A	**ATS48C14Y**	Size C	**ATS48C17Y**	Size C
50	60	125	150	45	90	90	110	110	132	160	170 A	**ATS48C17Y**	Size C	**ATS48C21Y**	Size D
60	75	150	200	55	110	110	132	132	160	200	210 A	**ATS48C21Y**	Size D	**ATS48C25Y**	Size D
75	100	200	250	75	132	132	160	160	220	250	250 A	**ATS48C25Y**	Size D	**ATS48C32Y**	Size D
100	125	250	300	90	160	160	220	220	250	315	320 A	**ATS48C32Y**	Size D	**ATS48C41Y**	Size E
125	150	300	350	110	220	220	250	250	355	400	410 A	**ATS48C41Y**	Size E	**ATS48C48Y**	Size E
150	–	350	400	132	250	250	315	315	400	500	480 A	**ATS48C48Y**	Size E	**ATS48C59Y**	Size E
–	200	400	500	160	315	355	400	400	560	560	590 A	**ATS48C59Y**	Size E	**ATS48C66Y**	Size E
200	250	500	600	–	355	400	–	–	630	630	660 A	**ATS48C66Y**	Size E	**ATS48C79Y**	Size F
250	300	600	800	220	400	500	500	500	710	710	790 A	**ATS48C79Y**	Size F	**ATS48M10Y**	Size F
350	350	800	1000	250	500	630	630	630	900	900	1000 A	**ATS48M10Y**	Size F	**ATS48M12Y**	Size F
400	455	1000	1200	355	630	710	800	800	–	–	1200 A	**ATS48M12Y**	Size F	**–**	

(1) Starter connection in the motor delta connection: add "**S316**" at the end of the reference

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Kits DNV for starters

Type of starters	**ATS 48D62●…48C17●**	**ATS 48C21●…48C32●**	**ATS 48C41●…48C66**	**ATS 48C79●…48M12●**
Weight (kg)	0.6	0.68	3.4	4.4
References	**VW3G48106**	**VW3G48107**	**VW3G48108**	**VW3G48109**

Line chokes

Degree of protection			**IP20**	**IP00**	
References	Starter	ATS48	D17●	D75● to C14●	C41● to C48●
	Choke		**VZ1L015UM17T**	**VZ1L150U170T**	**VZ1L530U045T**
	Type of starter	ATS48	D22●	C17● to C25●	C59● to M10●
	Choke		**VZ1L030U800T**	**VZ1L0250U100T**	**VZ1LM10U024T**
	Type of starter	ATS48	D32● and D38●	AC32●	M12●
	Choke		**VZ1L040U600T**	**VZ1L325U075T**	**VZ1LM14U016T**
	Type of starter	ATS48	D47● and D62●	–	
	Choke		**VZ1L070U350T**		

Simple machines

Drives on heatsinks



Dimensions (in mm)	width x height x depth (1)
Size 1	: 72 x 142 x 101/**Size 2**: 72 x 142 x 125
Size 3	: 72 x 142 x 138/**Size 4**: 117 x 142 x 156

Range			Europe	America	Asia
Output frequency			0.5...200 Hz		
Type of control			Sensorless flux vector control		
Speed range			1 to 20		
Degree of protection			IP20		
I/O	Analog inputs		1 configurable analog input		
	Logic inputs		4 assignable logic inputs		
	Outputs		1 PWM open collector output or assignable as logic output		
	Relay outputs		1 protected relay logic output		
Dialogue			Integrated display terminal or PowerSuite software workshop (2)		
EMC			Integrated class B filter	External filter available as an option	External filter available as an option
Local controls (3)/**Negative logic**			No	No	Yes
Standard NEC 208 V 1999			No	Yes	No
Supply voltage			**Single phase 100…120 V**		
Motor power	kW/HP	0.18 / 0.25	–	**ATV11HU05F1U** Size 1	**ATV11HU05F1A** Size 1
		0.37 / 0.5	–	**ATV11HU09F1U** Size 2	**ATV11HU09F1A** Size 2
		0.75 / 1	–	**ATV11HU18F1U** Size 4	**ATV11HU18F1A** Size 4
Supply voltage			**Single phase 200…240 V**		
Motor power	kW/HP	0.18 / 0.25	**ATV11HU05M2E** Size 1	**ATV11HU05M2U** Size 1	**ATV11HU05M2A** Size 1
		0.37 / 0.5	**ATV11HU09M2E** Size 2	**ATV11HU09M2U** Size 2	**ATV11HU09M2A** Size 2
		0.55	**ATV11HU12M2E** Size 3	–	–
		0.75 / 1	**ATV11HU18M2E** Size 3	**ATV11HU18M2U** Size 3	**ATV11HU18M2A** Size 3
		1.5 / 2	**ATV11HU29M2E** Size 4	**ATV11HU29M2U** Size 4	**ATV11HU29M2A** Size 4
		2.2 / 3	**ATV11HU41M2E** Size 4	**ATV11HU41M2U** Size 4	**ATV11HU41M2A** Size 4
Supply voltage			**Three phase 200…230 V**		
Motor power	kW/HP	0.18 / 0.25	–	**ATV11HU05M3U** Size 1	**ATV11HU05M3A** Size 1
		0.37 / 0.5	–	**ATV11HU09M3U** Size 2	**ATV11HU09M3A** Size 2
		0.75 / 1	–	**ATV11HU18M3U** Size 3	**ATV11HU18M3A** Size 3
		1.5 / 2	–	**ATV11HU29M3U** Size 4	**ATV11HU29M3A** Size 4
		2.2 / 3	–	**ATV11HU41M3U** Size 4	**ATV11HU41M3A** Size 4

(1) Asia range: Add 7 mm to depth (height of the potentiometer)

(2) PowerSuite software, see page 4/30

(3) Local controls: Run/Stop keys and potentiometer

Drives on base plate



Dimensions (in mm)	width x height x depth (1)
1 size: 72 x 142 x 101	

Range			Europe	America	Asia
Supply voltage			**Single phase 100…120 V**		
Motor power	kW/HP	0.37 / 0.5	–	**ATV11PU09F1U**	**ATV11PU09F1A**
Supply voltage			**Single phase 200…240 V**		
Motor power	kW/HP	0.37 / 0.5	**ATV11PU09M2E**	**ATV11PU09M2U**	**ATV11PU09M2A**
		0.55	**ATV11PU12M2E**	–	–
		0.75 / 1	**ATV11PU18M2E**	**ATV11PU18M2U**	**ATV11PU18M2A**
Supply voltage			**Three phase 200…230 V**		
Motor power	kW/HP	0.37 / 0.5	–	**ATV11PU09M3U**	**ATV11PU09M3A**
		0.75 / 1	–	**ATV11PU18M3U**	**ATV11PU18M3A**

(1) Asia range: Add 7 mm to depth (height of the potentiometer)

Other versions: **please consult your Schneider Electric agency.**

Additional EMC input filters

Supply voltage			Single phase 100…120 V		Single phase 200…240 V	Three phase 200…230 V
Europe range	Drive	ATV11	–		HU05M2E to HU41M2E	–
	References	**Filters**	–		**Integrated**	–
America range	Drive	ATV11	HU05F1U, HU09F1U		HU05M2U to HU18M2U	HU05M3U to HU18M3U
	References	**Filters**	**VW3A11401**		**VW3A11403**	**VW3A11401**
	Drive	ATV11	HU18F1U		HU29M2U à HU41M2U	HU29M3U to HU41M3U
	References	**Filters**	**VW3A11402**		**VW3A11404**	**VW3A11402**
Asia range	Drive	ATV11	HU05F1A - HU09F1A		HU05M2A to HU18M2A	HU05M3A to HU18M3A
	References	**Filters**	**VW3A11401**		**VW3A11403**	**VW3A11401**
	Drive	ATV11	HU18F1A - HU18F1A		HU29M2A - HU41M2A	HU29M3A to HU41M3A
	References	**Filters**	**VW3A11402**		**VW3A11402**	**VW3A11404**

Accessories

Accessory			Mounting plates for Omega rail		Substitution plate	Speed reference potentiometer	Plate for EMC mounting
Description			Width 35 mm		For replacing ATV08	2.2 kΩ	
References	Drive	ATV11	HU05●●● HU09●●● HU12M2● HU18●●	HU18F1● HU29●●● HU41●●● –	HU05M2● ●HU09M2●● ●U12M2E ●U18M2●	All ATV11 models	All ATV11 models
	Accessories		**VW3A11851**	**VW3A11852**	**VW3A11811**	**SZ1RV1202**	**VW3A11831**

Braking resistors and modules...other accessories: Please consult www.Schneider-electric.com.

4

Altivar 21
0.75…75 kW

Building (HVAC)(1)
UL Type 1/IP20 and IP54 drives

Dimensions (in mm)	width x height x depth
IP20	**IP54**
S1A : 107 x 143 x 150	**S1** : 215 x 297 x 192
S2A : 142 x 184 x 150	**S2** : 230 x 340 x 208
S3A : 180 x 232 x 170	**S3** : 290 x 560 x 315
S4A : 245 x 329,5 x 190	**S4** : 310 x 665 x 315
S5A : 240 x 420 x 210	**S5** : 284 x 720 x 315
S6A : 320 x 630 x 290	**S5** : 284 x 880 x 343
S7A : 240 x 550 x 266	**S5** : 362 x 1000 x 364
S8A : 320 x 630 x 290	

Drive			**IP20**		**IP54**	
Supply voltage	**Three phase**		**200…240 V**	**380…480 V**	**380…480 V**	
Degree of protection			**IP21** and IP41 on the upper part		**IP54** drive available in two manufacturing variants, ATV21W…N4 class A or ATV21W…N4C class B	
Output frequency			0.5…200 Hz			
Type of control			kn² quadratic ratio, sensorless flux vector control, voltage/frequency ratio (2 points), energy saving ratio			
Speed range			1 to 10			
I/O	Analog inputs		1 switch-configurable current or voltage analog input, and 1 voltage analog input configurable as a PTC probe input			
	Logic inputs		3 programmable logic inputs			
	Analog outputs		1 switch-configurable current or voltage analog output			
	Relay outputs		2 relay logic outputs			
Dialogue			Integrated display terminal with local controls (2) or remote display terminal or PC software (see page 4/11)			
Communication	Integrated		Modbus RTU			
(see page 4/11)	Available as an option		HVAC protocols: LonWorks, METASYS N2, APOGEE FLN, BACnet			
EMC	Class A		External filter in option	Integrated class A filter	Integrated class A filter	–
	Class B		External filter in option	External filter in option	–	Integrated class B filter
Motor power	kW/HP	0,75 / 1	**ATV21H075M3X** S1A	**ATV21H075N4** S1A	**ATV21W075N4** S1	**ATV21W075N4C** S1
		1,5 / 2	**ATV21HU15M3X** S1A	**ATV21HU15N4** S1A	**ATV21WU15N4** S1	**ATV21WU15N4C** S1
		2,2 / 3	**ATV21HU22M3X** S1A	**ATV21HU22N4** S1A	**ATV21WU22N4** S1	**ATV21WU22N4C** S1
		3 / –	**ATV21HU30M3X** S2A	**ATV21HU30N4** S2A	**ATV21WU30N4** S2	**ATV21WU30N4C** S2
		4 / 5	**ATV21HU40M3X** S2A	**ATV21HU40N4** S2A	**ATV21WU40N4** S2	**ATV21WU40N4C** S2
		5,5 / 7,5	**ATV21HU55M3X** S3A	**ATV21HU55N4** S2A	**ATV21WU55N4** S2	**ATV21WU55N4C** S2
		7,5 / 10	**ATV21HU75M3X** S3A	**ATV21HU75N4** S3A	**ATV21WU75N4** S2	**ATV21WU75N4C** S2
		11 / 15	**ATV21HD11M3X** S4A	**ATV21HD11N4** S3A	**ATV21WD11N4** S3	**ATV21WD11N4C** S3
		15 / 20	**ATV21HD15M3X** S4A	**ATV21HD15N4** S4A	**ATV21WD15N4** S3	**ATV21WD15N4C** S3
		18,5 / 25	**ATV21HD18M3X** S4A	**ATV21HD18N4** S4A	**ATV21WD18N4** S4	**ATV21WD18N4C** S4
		22 / 30	**ATV21HD22M3X** S5A	**ATV21HD22N4** S5A	**ATV21WD22N4** S5	**ATV21WD22N4C** S5
		30 / 40	**ATV21HD30M3X** S6A	**ATV21HD30N4** S5A	**ATV21WD30N4** S5	**ATV21WD30N4C** S5
		37 / 50	–	**ATV21HD37N4** S7A	**ATV21WD37N4** S6	**ATV21WD37N4C** S6
		45 / 60	–	**ATV21HD45N4** S7A	**ATV21WD45N4** S6	**ATV21WD45N4C** S6
		55 / 75	–	**ATV21HD55N4** S8A	**ATV21WD55N4** S7	**ATV21WD55N4C** S7
		75 / 100	–	**ATV21HD75N4** S8A	**ATV21WD75N4** S7	**ATV21WD75N4C** S7

(1) Heating Ventilation Air Conditioning

(2) Drive with local controls, Run/Stop, Loc/Rem. keys

Remote display terminal

Description	The Altivar 21 drive can be connected to a remote display terminal. The display terminal can be mounted on the door of an enclosure with IP54 protection on the front panel. Max. operating temperature: 40°C Supplied with: – 1 cable with 2 RJ45 connectors, length 3.6 m – Seal and screws for IP54 mounting on an enclosure door
Reference	**VW3A21101**

Other versions: **please consult your Schneider Electric agency.**

Additional EMC input filters

Supply voltage			Three phase 200…240 V			380…480 V		
Maximum length of shielded cable m (1)				Class A	Class B		Class A	Class B
References	Type of drive	ATV21	H075M3X to HU22M3X	20 m	20 m	H075N4 to HU22N4	20 m	20 m
	Filters		**VW3A31404**			**VW3A31404**		
	Type of drive	ATV21	HU30M3X and HU40M3X	20 m	20 m	HU30N4 to HU55N4	20 m	20 m
	Filters		**VW3A31406**			**VW3A31406**		
	Type of drive	ATV21	HU55M3X and HU75M3X	20 m	–	HU75N4 and HD11N4	20 m	20 m
	Filters		**VW3A31407**			**VW3A31407**		
	Type of drive	ATV21	HD11M3X to HD18M3X	20 m	–	HD15N4 and HD18N4	20 m	20 m
	Filters		**VW3A31408**			**VW3A31409**		
	Type of drive	ATV21	HD22M3X	100 m	–	HD22N4 and HD30N4	100 m	–
	Filters		**VW3A4406**			**VW3A4406**		
	Type of drive	ATV21	HD30M3X	20 m	–	HD37N4 à HD45N4	100 m	100 m
	Filters		**VW3A4408**			**VW3A4407**		
	Type of drive	ATV21	–			HD55N4 à HD75N4	100 m	100 m
	Filters					**VW3A4408**		

(1) Maximum lengths for shielded cables connecting motors to drives for a switching frequency of 6 to 16 kHz

4

Communication cards

Type		LonWorks	METASYS N2	APOGEE FLN	BACnet
Structure	Connector				
	Topology	TP/FT-10 (free topology)	–	–	–
	Transmission speed	78 Kbps	–	–	–
Diagnostics	With LEDs	1 LED on the card: “Service”	1 LED on the card: “COM” (network traffic)		
	Using the graphic display terminal	Command word received/reference received			
Description file		xif file supplied on CD-ROM	–	–	–
Reference		**VW3A21312**	**VW3A21313**	**VW3A21314**	**VW3A21315**

Connection accessories

Modbus bus	Splitter box	Cables (L = 1 m)	T-junction boxes (L = 1 m)	Line terminator
Description	10 RJ45 connectors and 1 screw terminal	Equipped with 2 RJ45 connectors	T-junction boxes (with integrated cable)	Adaptation for RJ45 connector
Reference	**LU9GC3**	**VW3A8306R10**	**VW3A8306TF10**	**VW3A8306RC**

PC software for Altivar 21 drives

	Free software available on www.schneider-electric.com
Description	It includes various functions such as: Preparing configurations, setup and maintenance (oscilloscope). It can operate in the following PC environments and configurations: Microsoft Windows® 98, Microsoft Windows® 2000, Microsoft Windows® XP, Pentium® 233 MHz or more, hard disk with 10 Mb available, 32 Mb RAM, 256 colour 640 x 480 pixels or higher definition monitor.
Connection kit reference	**VW3A8106**

Simple machines
Drives on heatsinks

Dimensions (in mm)	width x height x depth
Size 1: 72 x 145 x 120 /	**Size 2**: 72 x 145 x 130
Size 3: 72 x 145 x 140 /	**Size 4**: 72 x 145 x 145
Size 5: 105 x 143 x 130 /	**Size 6**: 107 x 143 x 150
Size 7: 142 x 184 x 150 /	**Size 8**: 180 x 232 x 170
Size 9: 245 x 330 x 190	



Supply voltage			Single phase 200…240 V		Three phase 200…240 V		380…500 V	
Output frequency			0.5…500 Hz					
Type of control			Sensorless flux vector control					
Speed range			1 to 50					
Degree of protection			IP31 and IP41 on upper part and IP21 on connection terminals					
I/O	Analog inputs		3 configurable analog inputs					
	Logic inputs		6 programmable logic inputs					
	Analog outputs		1 current analog output (assignable as logic output) and 1 voltage analog output					
	Relay outputs		2 relay logic outputs					
Dialogue			Integrated display terminal with or without local controls (1) or PowerSuite software workshop (see page 4/30)					
Communication	Integrated		Modbus and CANopen					
(see page 4/30)	Available as an option		DeviceNet, Ethernet TCP/IP, Fipio, Profibus DP					
EMC	Class A		Integrated class A filter		External filter available as an option		Integrated class A filter	
	Class B		External filter available as an option					
Motor power	kW/HP	0.18/0.25	**ATV31H018M2**	Size 3	**ATV31H018M3X**	Size 1	–	
		0.37/0.5	**ATV31H037M2**	Size 3	**ATV31H037M3X**	Size 1	**ATV31H037N4**	Size 5
		0.55/0.75	**ATV31H055M2**	Size 4	**ATV31H055M3X**	Size 2	**ATV31H055N4**	Size 5
		0.75/1	**ATV31H075M2**	Size 4	**ATV31H075M3X**	Size 2	**ATV31H075N4**	Size 6
		1.1/1.5	**ATV31HU11M2**	Size 6	**ATV31HU11M3X**	Size 5	**ATV31HU11N4**	Size 6
		1.5/2	**ATV31HU15M2**	Size 6	**ATV31HU15M3X**	Size 5	**ATV31HU15N4**	Size 6
		2.2/3	**ATV31HU22M2**	Size 7	**ATV31HU22M3X**	Size 6	**ATV31HU22N4**	Size 7
		3/–	–		**ATV31HU30M3X**	Size 7	**ATV31HU30N4**	Size 7
		4/5	–		**ATV31HU40M3X**	Size 7	**ATV31HU40N4**	Size 7
		5.5/7.5	–		**ATV31HU55M3X**	Size 8	**ATV31HU55N4**	Size 8
		7.5/10	–		**ATV31HU75M3X**	Size 8	**ATV31HU75N4**	Size 8
		11/15	–		**ATV31HD11M3X**	Size 9	**ATV31HD11N4**	Size 9
		15/20	–		**ATV31HD15M3X**	Size 9	**ATV31HD15N4**	Size 9

(1) For drive with local controls (Run/Stop keys and potentiometer) add an "**A**" at the end of the reference.

To order a drive intended for spooling applications, add a «**T**» at the end of the reference.

Enclosed drives


Dimensions (in mm)	width x height x depth
Size 1: 210 x 240 x 163 /	**Size 2**: 215 x 297 x 192
Size 3: 230 x 340 x 208 /	**Size 4**: 320 x 512 x 2782
Size 5: 440 x 625 x 282 /	

Supply voltage			Single phase 200…240 V		Three phase 380…500 V	
Degree of protection			IP55			
Description			Enclosure equipped with an ATV31 drive with external heatsink. Removable covers for adding 1 switch-disconnector or 1 circuit-breaker, 3 buttons and/or LEDs, 1 potentiometer			
Motor power	kW/HP	0.18/0.25	**ATV31C018M2**	Size 1	–	
		0.37/0.5	**ATV31C037M2**	Size 1	**ATV31C037N4**	Size 2
		0.55/0.75	**ATV31C055M2**	Size 1	**ATV31C055N4**	Size 2
		0.75/1	**ATV31C075M2**	Size 1	**ATV31C075N4**	Size 2
		1.1/1.5	**ATV31CU11M2**	Size 2	**ATV31CU11N4**	Size 2
		1.5/2	**ATV31CU15M2**	Size 2	**ATV31CU15N4**	Size 2
		2.2/3	**ATV31CU22M2**	Size 3	**ATV31CU22N4**	Size 3
		3/–	–		**ATV31CU30N4**	Size 3
		4/5	–		**ATV31CU40N4**	Size 3
		5.5/7.5	–		**ATV31CU55N4** (2)	Size 4
		7.5/10	–		**ATV31CU75N4** (2)	Size 4
		11/15	–		**ATV31CD11N4** (2)	Size 5
		15/20	–		**ATV31CD15N4** (2)	Size 5

Drive kit (Altivar 31 drive on metal support plate with EMC filter): Please consult your Schneider Electric sales office. (2) Drive in metal enclosure without cover.

Additional EMC input filters

Supply voltage			Single phase 200…240 V		Three phase 200…240 V	380…500 V	
Maximum length of shielded cable (1)		Class A	5 m	50 m	5 m	5 m	50 m
		Class B	–	20 m	–	–	20 m
References	**Drive**	**ATV31**	**H018M2 to H075M2**		**H018M3X to H075M3X**	**H037N4 to HU15N4**	
	Filter		**Integrated**	**VW3A31401**	**VW3A31402**	**Integrated**	**VW3A31404**
	Drive	ATV31	HU11M2 to HU15M2		HU11M3X to HU22M3X	HU22N4 to HU40N4	
	Filters		**Integrated**	**VW3A31403**	**VW3A31404**	**Integrated**	**VW3A31406**
	Drive	ATV31	HU22M2		HU30M3X - HU40M3X	HU55N4 - HU75 N4	
	Filters		**Integrated**	**VW3A31405**	**VW3A31406**	**Integrated**	**VW3A31407**
	Drive	ATV31	–		HU55M3X - HU75M3X	HD11N4 - HD15N4	
	Filters				**VW3A31407**	**Integrated**	**VW3A31409**
	Drive	ATV31	–		HD11M3X - HD15M3X	–	
	Filters				**VW3A31408**		

(1) Maximum lengths for shielded cables connecting motors to drives for a switching frequency of 2 to 16 kHz

4

Line chokes

Supply voltage			Single phase 200…240 V	Three phase 200…240 V	380…500 V
References	**Drive**	ATV31	H018M2 to H037M2	H018M3X to H075M3X	H037N4 to HU15N4
	Choke		**VZ1 L004M010**	**VW3A4551**	**VW3A4551**
	Drive	ATV31	H055M2 to H075M2	HU11M3X and HU15M3X	HU22N4 to HU40N4
	Choke		**VZ1 L007UM50**	**VW3A4552**	**VW3A4552**
	Drive	ATV31	HU11M2 to HU22M2	HU22M3X and HU30M3X	HU55N4 and HU75N4
	Choke		**VZ1 L018UM20**	**VW3A4553**	**VW3A4553**
	Drive	ATV31	–	HU40M3X to HU75M3X	HD11N4 and HD15N4
	Choke		**VW3A4554**	**VW3A4554**	
	Drive	ATV31	–	HD11M3X and HD15M3X	–
	Choke		**VW3A4555**		

Braking resistors... accessories: Please consult your Schneider Electric sales office.

Altivar 61
0.37…800 kW

Pumping and ventilation machines
IP20 drives

Dimensions (in mm) width x height x depth	
S2 : 130 x 230 x 175	**S3** : 155 x 260 x 187
S4 : 175 x 295 x 187	**S5A** : 210 x 295 x 213
S5B : 230 x 400 x 213	**S6** : 240 x 420 x 236
S7A : 240 x 550 x 266	**S7B** : 320 x 550 x 266
S8 : 320 x 630 x 290	**S9** : 320 x 920 x 377
S10 : 360 x 1022 x 377	**S11** : 340 x 1190 x 377
S12 : 440 x 1190 x 377	**S13** : 595 x 1190 x 377
S14 : 890 x 1390 x 377	**S15** : 1120 x 1390 x 377



Type of drive Supply voltage			**Single phase** 200…240 V (3)	**Three phase** 200…240 V (3)	**Three phase** 380…800 V
Degree of protection			**IP20** for unprotected drives and IP41 on the upper part		
Drive	Output frequency		0.5…1600 Hz up to 37 kW; 0.5…500 Hz from 45 to 800 kW		
	Type of control	Asynchronous motor	kn² quadratic ratio, flux vector control with or without sensor, voltage/frequency ratio (2 or 5 points), energy saving ratio		
		Synchronous motor	Vector control without speed feedback		
	Transient overtorque		120…130% of the nominal drive current for 60 seconds		
Speed range			1…100 in open loop mode		
Functions	Number of functions		> 150		
	Number of preset speeds		16		
	Number of I/O		Analog inputs 2…4/Logic inputs 6…20		
			Analog outputs 1…3/Logic outputs 0…8		
			Relay outputs 2…4		
			Safety input 1		
Dialogue			Remote graphic display terminal or PowerSuite software workshop (see pages 4/17 and 4/30)		
Communication (see page 4/30)	Integrated		Modbus and CANopen		
	Available as an option		HVAC protocols: LonWorks, BACnet, METASYS N2, APOGEE FLN		
			Industrial: Ethernet TCP/IP, Modbus/Uni-Telway, Fipio, Modbus Plus, Profibus DP, DeviceNet, InterBus		
Cards (available as an option)			Multi-pump cards, I/O extension cards, “Controller Inside” programmable card		
Reduction of current harmonics			DC choke integrated or supplied with the product (optional chokes and passive filters, see page 4/18)		
EMC	Class A		Integrated filter		
	Class B		External filter available as an option		
Motor power	kW / HP	0,37 / 0,5	**ATV61H075M3** S2	–	–
		0,75 / 1	**ATV61HU15M3** S2	**ATV61H075M3** S2	**ATV61H075N4** (3) S2
		1,5 / 2	**ATV61HU22M3** S3	**ATV61HU15M3** S2	**ATV61HU15N4** (3) S2
		2,2 / 3	**ATV61HU30M3** S3	**ATV61HU22M3** S3	**ATV61HU22N4** (3) S2
		3 / –	**ATV61HU40M3** (1) S3	**ATV61HU30M3** S3	**ATV61HU30●●** (3) (4) S3/S6 (5)
		4 / 5	**ATV61HU55M3** (1) S4	**ATV61HU40M3** S3	**ATV61HU40●●** (3) (4) S3/S6 (5)
		5,5 / 7,5	**ATV61HU75M3** (1) S5A	**ATV61HU55M3** S4	**ATV61HU55●●** (3) (4) S4/S6 (5)
		7,5 / 10	–	**ATV61HU75M3** S5A	**ATV61HU75●●** (3) (4) S4/S6 (5)
		11 / 15	–	**ATV61HD11M3X**(2) S5B	**ATV61HD11●●** (3) (4) S5A/ S6 (5)
		15 / 20	–	**ATV61HD15M3X**(2) S5B	**ATV61HD15●●** (3) (4) S5B/ S6 (5)
		18,5 / 25	–	**ATV61HD18M3X**(2) S6	**ATV61HD18●●** (3) (4) S5A/ S6 (5)
		22 / 30	–	**ATV61HD22M3X**(2) S6	**ATV61HD22●●** (3) (4) S6/S6 (5)
		30 / 40	–	**ATV61HD30M3X**(2) S7B	**ATV61HD30●●** (3) (4) S7A/S6 (5)
		37 / 50	–	**ATV61HD37M3X**(2) S7B	**ATV61HD37●●** (3) (4) S7A/S8 (5)
		45 / 60	–	**ATV61HD45M3X**(2) S7B	**ATV61HD45●●** (3) (4) S8/S8 (5)
		55 / 75	–	**ATV61HD55M3X**(2) S9	**ATV61HD55●●** (3) (4) S8/S8 (5)
		75 / 100	–	**ATV61HD75M3X**(2) S9	**ATV61HD75●●** (3) (4) S8/S8 (5)
		90 / 125	–	**ATV61HD90M3X**(2) S10	**ATV61HD90●●** (4) S9/S8 (5)
		110 / 150	–	–	**ATV61HC11●●** (4) S9/S11 (5)
		132 / 200	–	–	**ATV61HC13●●** (4) S10/S11 (5)
		160 / 250	–	–	**ATV61HC16●●** (4) S11/S11 (5)
		200 / 300	–	–	**ATV61HC20●●** (4) S12/S11 (5)
		220 / 350	–	–	**ATV61HC22N4** (4) S12
		250 / 400	–	–	**ATV61HC25●●** (4) S13/S13 (5)
		280 / 450	–	–	**ATV61HC28N4** (4) S13/S13 (5)
		315 / 500	–	–	**ATV61HC31●●** (4) S13/S13 (5)
		400 / 600	–	–	**ATV61HC40●●** (4) S14/S13 (5)
		500 / 700	–	–	**ATV61HC50●●** (4) S14/S15 (5)
		630 / 900	–	–	**ATV61HC63●●** (4) S15/S15 (5)
		800 / 900	–	–	**ATV61HC80●●** (4) S15/S15 (5)

(1) Must be used with a line choke, see page 4/18
(2) Drive supplied without EMC filter
(3) To order a reinforced version of the drive for specific environmental conditions, conforming to IEC 60721-3-3 class 3c2, add **S337** at the end of the reference.
E.g. ATV61H075N4**S337.** To order drive supplied without EMC filter, add **337** at the end of the reference. E.g. ATV61HD11M3X**337**
(4) In the reference replace the points with: **N4** for 480 V - **Y** for 690 V
(5) The code of dimensions located on the left of the slash is for 480 V drives, the code located on the right is for 690 V

IP54 drives

Dimensions (in mm) width x height x depth	
ATV61W…	**ATV61E5C…** in enclosure
SA2 : 235 x 490 x 272	**A1** : 616 x 2000 x 600
SA3 : 235 x 490 x 286	**A2** : 816 x 2000 x 600
SB : 255 x 525 x 286	**A3** : 1016 x 2000 x 600
SC : 290 x 560 x 315	**A3** : 1220 x 2000 x 600
SD : 310 x 665 x 315	**A3** : 2024 x 2000 x 600
SE : 284 x 720 x 315	**A4** : 1216 x 2000 x 600
SF : 284 x 880 x 343	**A4** : 1820 x 2000 x 600
SG : 362 x 1000 x 364	**A4** : 2224 x 2000 x 600

Type of drive			**Three phase 380…480 V** (3)			
Degree of protection			**UL Type 12/IP54**			
Drive	Output frequency		0.5…1600 Hz up to 37 kW; 0.5…500 Hz from 45 to 800 kW			
	Type of control	Asynchronous motor	kn^2 quadratic ratio, flux vector control with or without sensor, voltage/frequency ratio (2 or 5 points), energy saving ratio			
		Synchronous motor	Vector control without speed feedback			
	Transient overtorque		120…130% of the nominal drive current for 60 seconds			
Speed range			1…100 in open loop mode			
Functions	Number of functions		> 150			
	Number of preset speeds		16			
	Number of I/O		Analog inputs 2…4 / Logic inputs 6…20			
			Analog outputs 1…3 / Logic outputs 0…8			
			Relay outputs 2…4			
			Safety input 1			
Dialogue			Remote graphic display terminal or PowerSuite software workshop (see page 4/30)			
Communication (see page 4/30)	Integrated		Modbus and CANopen			
	Available as an option		HVAC protocols: LonWorks, BACnet, METASYS N2, APOGEE P1			
			Industrial: Ethernet TCP/IP, Modbus/Uni-Telway, Fipio, Modbus Plus, Profibus DP, DeviceNet, InterBus			
Cards (available as an option)			Multi-pump cards, I/O extension cards, “Controller Inside” programmable card			
Reduction of current harmonics			Integrated DC choke (optional chokes and passive filters, see page 4/18)			
EMC	Class A		Integrated filter			
	Class B				Integrated filter	
Motor power	kW / HP	0,75 / 1	**ATV61W075N4** (6)	TA2	**ATV61W075N4C**	TA2
		1,5 / 2	**ATV61WU15N4** (6)	TA2	**ATV61WU15N4C**	TA2
		2,2 / 3	**ATV61WU22N4** (6)	TA2	**ATV61WU22N4C**	TA2
		3 / –	**ATV61WU30N4** (6)	TA3	**ATV61WU30N4C**	TA3
		4 / 5	**ATV61WU40N4** (6)	TA3	**ATV61WU40N4C**	TA3
		5,5 / 7,5	**ATV61WU55N4** (6)	TB	**ATV61WU55N4C**	TB
		7,5 / 10	**ATV61WU75N4** (6)	TB	**ATV61WU75N4C**	TB
		11 / 15	**ATV61WD11N4** (6)	TC	**ATV61WD11N4C**	TC
		15 / 20	**ATV61WD15N4** (6)	TD	**ATV61WD15N4C**	TD
		18,5 / 25	**ATV61WD18N4** (6)	TD	**ATV61WD18N4C**	TD
		22 / 30	**ATV61WD22N4** (6)	TE	**ATV61WD22N4C**	TE
		30 / 40	**ATV61WD30N4** (6)	TF	**ATV61WD30N4C**	TF
		37 / 50	**ATV61WD37N4** (6)	TF	**ATV61WD37N4C**	TF
		45 / 60	**ATV61WD45N4** (6)	TG	**ATV61WD45N4C**	TG
		55 / 75	**ATV61WD55N4** (6)	TG	**ATV61WD55N4C**	TG
		75 / 100	**ATV61WD75N4** (6)	TG	**ATV61WD75N4C**	TG
		90 / 125	**ATV61WD90N4** (6)	TG	**ATV61WD90N4C**	TG

(6) For products with switch: replace **W** par **E5** in the reference : Example ATV61**W**075N4 becomes ATV61**E5**075N4.

Altivar 61
0,37…800 kW

Pumping and ventilation machines
Solution in IP 23 / IP 54 ready-assembled enclosure

Dimensions (in mm) width x height x depth **ATV61EXC2C…**	
A1 : 616 x 2000 x 600	**A4** : 1216 x 2000 x 600
A2 : 816 x 2000 x 600	**A4** : 1820 x 2000 x 600
A3 : 1016 x 2000 x 600	**A4** : 2224 x 2000 x 600
A3 : 1220 x 2000 x 600	
A3 : 2024 x 2000 x 600	

Type of enclosure			**Three phase 380…690 V** (3)
Degree of protection			
Drive	Output frequency		0.5…1600 Hz up to 37 kW; 0.5…500 Hz from 45 to 800 kW
	Type of control	Asynchronous motor	kn^2 quadratic ratio, flux vector control with or without sensor, voltage/frequency ratio (2 or 5 points), energy saving ratio
		Synchronous motor	Vector control without speed feedback
	Transient overtorque		120…130% of the nominal drive current for 60 seconds
Speed range			1…100 in open loop mode
Functions	Number of functions		> 150
	Number of preset speeds		16
	Number of I/O		Analog inputs 2…4 / Logic inputs 6…20
			Analog outputs 1…3 / Logic outputs 0…8
			Relay outputs 2…4
			Safety input 1
Dialogue			Remote graphic display t erminal or PowerSuite software workshop (see page 4/30)
Communication (see page 4/30)	Integrated		Modbus and CANopen
	Available as an option		HVAC protocols: LonWorks, BACnet, METASYS N2, APOGEE P1 Industrial: Ethernet TCP/IP, Modbus/Uni-Telway, Fipio, Modbus Plus, Profibus DP, DeviceNet, InterBus
Cards (available as an option)			Multi-pump cards, I/O extension cards, “Controller Inside” programmable card
Reduction of current harmonics			Integrated DC choke (optional chokes and passive filters, see page 4/18)
CEM	Class A		Integrated filter
Equipment			A wide range of catalog options can be added to the standard offer according to specific requirements. In addition to the range of add-on options, equipment can be customized to your exact specifications just speak to our specialist teams. - Water-cooled solution. - Integration of specific options

IP23				
Compact enclosure - Three-Phase 380...690 V				
	kW / HP	110 / 150	ATV61EXC2C11●●	E1
		132 / 200	ATV61EXC2C13●●	E1
		160 / 250	ATV61EXC2C16●●	E1
		220 / 350	ATV61EXC2C22●● (1)	E1
		250 / 400	ATV61EXC2C25●●	E2
		315 / 500	ATV61EXC2C31●●	E2
		400 / 600	ATV61EXC2C40●●	E3
		500 / 700	ATV61EXC2C50●●	E3
		630 / 900	ATV61EXC2C63●●	E4
		800 / 900	ATV61EXC2C80●● (2)	E4

At the end of the reference, add:
- N4 for 415 V
- N for 500 V
- Y for 690 V

(1) For Y and N ranges, replace C22 with C20.
(2) No reference for N4
(3) The standard offer Altivar 61 in ready-assembled enclosure comprises:
– An Altivar 61 ATV61H speed drive
– A switch and fast-acting fuses
– An IP65 remote graphic display terminal kit

Other versions: **please consult your Schneider Electric agency.**

Dimensions (in mm) width x height x depth		
ATV61E5C…	**ATV61EX…**	
A1 : 616 x 2000 x 600	**E1**	: 600 X 2155 X 600
A2 : 816 x 2000 x 600	**E2**	: 800 X 2155 X 600
A3 : 1016 x 2000 x 600	**E3**	: 1000 X 2155 X 600
A3 : 1220 x 2000 x 600	**E4**	: 1200 X 2155 X 600
A3 : 2024 x 2000 x 600	**E5**	: 600 X 2260 X 600
A4 : 1216 x 2000 x 600	**E6**	: 800 X 2260 X 600
A4 : 1820 x 2000 x 600	**E7**	: 1000 X 2260 X 600
A4 : 2224 x 2000 x 600	**E8**	: 1200 X 2260 X 600
	E9	: 600 X 2355 X 600
	E10	: 800 X 2355 X 600
	E11	: 1400 X 2355 X 600
	E12	: 1600 X 2355 X 600

Solution in IP 23 / IP 54 ready-assembled enclosure

IP54

Compact enclosure - Three-Phase 380...690 V

kW / HP	110 / 150	ATV61EXC5C11••	E5
	132 / 200	ATV61EXC5C13••	E5
	160 / 250	ATV61EXC5C16••	E5
	220 / 350	ATV61EXC5C22•• (1)	E5
	250 / 400	ATV61EXC5C25••	E6
	315 / 500	ATV61EXC5C31••	E6
	400 / 600	ATV61EXC5C40••	E7
	500 / 700	ATV61EXC5C50••	E7
	630 / 900	ATV61EXC5C63••	E8
	800 / 900	ATV61EXC5C80 (2)	E8

IP54

Separate air cooling circuit - Three-Phase 380...690 V

kW / HP	110 / 150	ATV61EXS5C11..	E9
	132 / 200	ATV61EXS5C13••	E9
	160 / 250	ATV61EXS5C16••	E9
	220 / 350	ATV61EXS5C22•• (1)	E9
	250 / 400	ATV61EXS5C25••	E10
	315 / 500	ATV61EXS5C31••	E10
	400 / 600	ATV61EXS5C40••	E11
	500 / 700	ATV61EXS5C50••	E11
	630 / 900	ATV61EXS5C63••	E12
	800 / 900	ATV61EXS5C80 (2)	E12

IP54

Ready-assembled enclosure with braking transistor included in the drive

kW / HP	110 / 150	**ATV61E5C11N4**	A1
	132 / 200	**ATV61E5C13N4**	A1
	160 / 250	**ATV61E5C16N4**	A1
	220 / 350	**ATV61E5C22N4**	A1

IP54

Ready-assembled enclosure with braking unit included in the cabinet

kW / HP	250 / 400	**ATV61E5C25N4F**	A2
	315 / 500	**ATV61E5C31N4F**	A2

IP54

Ready-assembled enclosure without braking unit

kW / HP	250 / 400	**ATV61E5C25N4**	A2
	315 / 500	**ATV61E5C31N4**	A2
	400 / 600	**ATV61E5C40N4**	A3
	500 / 700	**ATV61E5C50N4**	A3
	630 / 900	**ATV61E5C63N4**	A4

At the end of the reference, add:
- N4 for 415 V
- N for 500 V
- Y for 690 V

(1) For Y and N ranges, replace C22 with C20.

(2) No reference for N4

Type of card	I/O extension	
	Logic	Extended
Description	1 relay logic output (“C/O” contact) 4 x 24 VDC positive or negative logic inputs 2 x 24 VDC open collector positive or negative logic outputs 1 input for PTC probes	1 x 0…20 mA differential current analog input 1 software-configurable voltage (0…10 VDC) or current (0…20 mA) analog input 2 software-configurable voltage (±10V, 0…10 VDC) or current (0…20 mA) analog outputs 1 relay logic output (“C/O” contact) 4 x 24 VDC positive or negative logic inputs 2 x 24 VDC open collector positive or negative logic outputs 1 input for PTC probes 1 frequency control input
Reference	**VW3A3201**	**VW3A3202**

“Controller Inside” programmable card

Type of card	Programmable “Controller Inside”
Description	10 logic inputs, 2 of which can be used for 2 counters or 4 of which can be used for 2 incremental encoders 2 analog inputs, 6 logic outputs, 2 analog outputs, a master port for the CANopen bus, a PC port for programming with the PS 1131 software workshop.
Reference	**VW3A3501**

Multi-pump cards

Type of card		Multi-pump
Description	Ensure the compatibility with Altivar 61 of the applications developed for Altivar 38.	The card’s 9 operating modes are: ■ OFF: no function is activated. This mode is used in particular during maintenance of the installation. ■ Single variable. ■ Multiple variable. ■ Single variable with changeover of auxiliary pumps. ■ Multiple variable with changeover of auxiliary pumps. ■ Single variable with limited operating time. ■ Multiple variable with limited operating time. ■ Single variable with changeover of auxiliary pumps and limited operating time. ■ Multiple variable with changeover of auxiliary pumps and limited operating time.
Reference		**VW3A3502**
Description	Can be used to support multi-pump applications. It is called also Water Solution	In addition to the existing operating modes, it is possible to develop new applications: booster station, irrigation, etc.
Reference		**VW3A3503**

Dialogue accessories

Accessory	Remote graphic display terminal	Remote mounting kit (1)
Description	This display terminal is attached to the front of the drive. It includes the integrated 7-segment display terminal for drives supplied without a graphic display terminal.	A remote mounting kit for mounting on an enclosure door with IP54 degree of protection. It includes: ■ All the mechanical fittings ■ Fixing accessories
References	**VW3A1101**	**VW3A1102**

(1) Use a VW3A1104R●● remote-mounting connection cable, to be ordered separately (please consult the “Soft starters and variable speed drives” catalogue)

4

Additional EMC input filters

The additional EMC input filters can be used to meet the requirements of the EMC “products” standard IEC/EN 61800-3, edition 2, category C2 or C3 in environment 1 or 2.

Type of drive	Three phase 200…240 V 50/60 Hz			380…480 V 50/60 Hz		
Maximum length of shielded cable		Class A	Class B		Class A	Class B
ATV61H075M3, HU15M3	**VW3A4401**	100 m	50 m	–		
ATV61HU22M3…HU40M3	**VW3A4402**	100 m	50 m	–		
ATV61HU55M3	**VW3A4403**	100 m	50 m	–		
ATV61HU75M3	**VW3A4404**	100 m	50 m	–		
ATV61HD11M3X, HD15M3X	**VW3A4405**	200 m	50 m	–		
ATV61HD18M3X, HD22M3X	**VW3A4406**	200 m	50 m	–		
ATV61HD30M3X...HD45M3X	**VW3A4408**	200 m	50 m	–		
ATV61HD55M3X, HD75M3X	**VW3A4410**	100 m	50 m	–		
ATV61HD90M3X	**VW3A4411**	100 m	50 m	–		
ATV61●075N4(C)…●U22N4(C)	–			**VW3A4401**	100 m	50 m
ATV61●U30N4(C), ●U40N4(C)	–			**VW3A4402**	100 m	50 m
ATV61●U55N4(C), ●U75N4(C)	–			**VW3A4403**	100 m	50 m
ATV61●D11N4(C)	–			**VW3A4404**	100 m	50 m
ATV61●D15N4(C), ●D18N4(C)	–			**VW3A4405**	300 m	100 m
ATV61●D22N4(C)	–			**VW3A4406**	300 m	100 m
ATV61●D30N4(C), ●D37N4(C)	–			**VW3A4407**	300 m	100 m
ATV61●D45N4(C)...●D75N4(C)	–			**VW3A4408**	300 m	100 m
ATV61●D90N4(C)...HC16N4, ATV61E5C11N4…E5C16N4	–			**VW3A4410**	300 m	50 m
ATV61HC22N4…HC31N4, ATV61E5C22N4…E5C31N4	–			**VW3A4411**	300 m	50 m
ATV61HC40N4, HC50N4, ATV61E5C40N4, E5C50N4	–			**VW3A4412**	300 m	50 m
ATV61HC63N4, ATV61E5C63N4	–			**VW3A4413**	300 m	50 m

● Applies to the following drives: ATV61**H**…N4, ATV61**H**…N4**C**, ATV61**W**…N4, ATV61**W**…N4**C**

Reduction of current harmonics
AC line chokes

A line choke can be used to provide improved protection against overvoltages on the line supply and to reduce harmonic distortion of the current produced by the drive.

Type of drive Supply voltage	Single phase 200…240 V 50/60 Hz	Three phase 200…240 V 50/60 Hz	 380…480 V 50/60 Hz
ATV61HU40M3	**VW3A58501**	–	–
ATV61HU55M3, HU75M3	**VW3A58502**	–	–
ATV61H075M3	–	**VW3A4551**	–
ATV61HU15M3, HU22M3	–	**VW3A4552**	–
ATV61HU30M3	–	**VW3A4553**	–
ATV61HU40M3, HU55M3	–	**VW3A4554**	–
ATV61HU75M3, HD11M3X	–	**VW3A4555**	–
ATV61HD15M3X	–	**VW3A4556**	–
ATV61HD18M3X…HD45M3X	–	**VW3A4557**	–
ATV61HD55M3XD, ATV61HD75M3XD	–	**VW3A4561**	–
ATV61HD90M3XD	–	**VW3A4564**	–
ATV61●075N4(C), ●U15N4(C)	–	–	**VW3A4551**
ATV61●U22N4(C)...●U40N4(C)	–	–	**VW3A4552**
ATV61●U55N4(C), ●U75N4(C)	–	–	**VW3A4553**
ATV61●D11N4(C), ●D15N4(C)	–	–	**VW3A4554**
ATV61●D18N4(C), ●D22N4(C)	–	–	**VW3A4555**
ATV61●D30N4(C)...●D55N4(C)	–	–	**VW3A4556**
ATV61●D75N4(C)	–	–	**VW3A4557**
ATV61HD90N4D	–	–	**VW3A4558**
ATV61HC11N4D, ATV61E5C11N4	–	–	**VW3A4559**
ATV61HC13N4D, ATV61E5C13N4	–	–	**VW3A4560**
ATV61HC16N4D, ATV61E5C16N4	–	–	**VW3A4568**
ATV61HC22N4D, ATV61E5C22N4 Motor P 200 kW	–	–	**VW3A4561**
Motor P 220 kW	–	–	**VW3A4569**
ATV61HC25N4D, HC50N4D, ATV61E5C25N4, E5C50N4	–	–	**VW3A4569**
ATV61HC31N4D, HC63N4D, ATV61E5C31N4, E5C63N4	–	–	**VW3A4564**
ATV61HC40N4D, ATV61E5C40N4	–	–	**VW3A4565**

Reduction of current harmonics
Optional DC chokes (1)

DC chokes are used to reduce current harmonics in order to comply with standard 61000-3-2 for drives in which the line current is more than 16 A and less than 75 A.

Type of drive Supply voltage	Three phase 200…240 V 50/60 Hz	 380…480 V 50/60 Hz
ATV61H075M3	**VW3A4503**	–
ATV61HU15M3	**VW3A4505**	–
ATV61HU22M3	**VW3A4506**	–
ATV61HU30M3	**VW3A4507**	–
ATV61HU40M3, HU55M3	**VW3A4508**	–
ATV61HU75M3	**VW3A4509**	–
ATV61HD11M3X, HD15M3X	**VW3A4510**	–
ATV61HD18M3X, HD22M3X	**VW3A4511**	–
ATV61HD30M3X...HD45M3X	**VW3A4512**	–
ATV61●075N4(C)	–	**VW3A4501**
ATV61●U15N4(C)	–	**VW3A4502**
ATV61●U22N4(C), ●U30N4(C)	–	**VW3A4503**
ATV61●U40N4(C)	–	**VW3A4504**
ATV61●U55N4(C)	–	**VW3A4505**
ATV61●U75N4(C)	–	**VW3A4506**
ATV61●D11N4(C)	–	**VW3A4507**
ATV61●D15N4(C), ●D18N4(C)	–	**VW3A4508**
ATV61●D22N4(C)...●D37N4(C)	–	**VW3A4510**
ATV61●D45N4(C)...●D75N4(C)	–	**VW3A4 511**

● Applies to the following drives: ATV61**H**…N4, ATV61**H**…N4**C**, ATV61**W**…N4, ATV61**W**…N4**C**

(1) For ATV61HD55M3X, HD75M3X and ATV61HD90N4… HC50N4 drives, the choke is supplied as standard with the drive.

Passive filters

A passive filter is used to reduce current harmonics with total harmonic distortion factors of less than 16% or 10%. These factors may be less than 10%, or 5% if used with a DC choke.

Type of drive	**Three phase** 400 V 50/60 Hz		**Three phase** 460 V 50/60 Hz	
	THDI 16% (1)	THDI 10% (2)	THDI 16% (1)	THDI 10% (2)
ATV61●075N4(C), ●U15N4(C), ●U22N4(C), ●U30N4(C)	**VW3A4601**	**VW3A4621**	**VW3A4641**	**VW3A4661**
ATV61●U40N4(C), ●U55N4(C)	**VW3A4602**	**VW3A4622**	**VW3A4642**	**VW3A4662**
ATV61●U75N4(C), ●D11N4(C)	**VW3A4603**	**VW3A4623**	**VW3A4643**	**VW3A4663**
ATV61●D15N4(C)	**VW3A4604**	**VW3A4624**	**VW3A4644**	**VW3A4664**
ATV61●D18N4(C)	**VW3A4605**	**VW3A4625**	**VW3A4645**	**VW3A4665**
ATV61●D22N4(C)	**VW3A4606**	**VW3A4626**	**VW3A4645**	**VW3A4665**
ATV61●D30N4(C)	**VW3A4607**	**VW3A4627**	**VW3A4646**	**VW3A4666**
ATV61●D37N4(C)	**VW3A4607**	**VW3A4627**	**VW3A4647**	**VW3A4667**
ATV61●D45N4(C)	**VW3A4608**	**VW3A4628**	**VW3A4647**	**VW3A4667**
ATV61●D55N4(C)	**VW3A4608**	**VW3A4628**	**VW3A4648**	**VW3A4668**
ATV61●D75N4(C)	**VW3A4609**	**VW3A4629**	**VW3A4648**	**VW3A4668**
ATV61●D90N4(C)	**VW3A4609**	**VW3A4629**	**VW3A4649**	**VW3A4669**
ATV61HC11N4, ATV61E5C11N4	**VW3A4610**	**VW3A4630**	**VW3A4649**	**VW3A4669**
ATV61HC13N4, ATV61E5C13N4	**VW3A4611**	**VW3A4631**	**VW3A4656**	**VW3A4676**
ATV61HC16N4, ATV61E5C16N4	**VW3A4612**	**VW3A4632**	**VW3A4650**	**VW3A4670**
ATV61HC22N4, ATV61E5C22N4	**VW3A4613**	**VW3A4633**	**VW3A4651**	**VW3A4671**
ATV61HC25N4, ATV61E5C25N4	**VW3A4611**	**VW3A4631**	**VW3A4656**	**VW3A4676**
ATV61HC31N4, HC40N4, ATV61E5C31N4, E5C63N4	**VW3A4612**	**VW3A4632**	**VW3A4650**	**VW3A4670**
ATV61HC40N4, ATV61E5C40N4	**VW3A4619**	**VW3A4639**	**VW3A4657**	**VW3A4677**
ATV61HC50N4, ATV61E5C50N4	**VW3A4612**	**VW3A4632**	**VW3A4651**	**VW3A4671**
ATV61HC63N4, ATV61E5C63N4	**VW3A4613**	**VW3A4633**	**VW3A4657**	**VW3A4677**

● Applies to the following drives: ATV61**H**…N4, ATV61**H**…N4**C**, ATV61**W**…N4, ATV61**W**…N4**C**

(1) By adding a DC choke, we get: THD ≤ 10%

(2) By adding a DC choke, we get: THD ≤ 15%

These reduced current harmonics are obtained on condition that the THDu is < 20% and the RSCE > 66%.

Sinusoidal filters

Sinusoidal filters allow Altivar 61 drives to operate with longer motor cables (up to 1000 m).

Type of drive		**Three phase**	
Supply voltage		200…240 V 50/60 Hz	380…480 V 50/60 Hz
ATV61H075M3, HU15M3 (2)		**VW3A5201**	–
ATV61HU22M3, HU30M3		**VW3A5202**	–
ATV61HU40M3...HU75M3		**VW3A5203**	–
ATV61HD11M3X, HD15M3X		**VW3A5204**	–
ATV61HD18M3X, HD22M3X		**VW3A5205**	–
ATV61HD30M3X...HD45M3X		**VW3A5206**	–
ATV61HD55M3X, HD75M3X		**VW3A5208**	–
ATV61HD90M3X		**VW3A5209**	–
ATV61●U15N4(C)...HU40N4(C) (2)		–	**VW3A5201**
ATV61●U55N4(C)		–	**VW3A5202**
ATV61●U75N4(C)...●D15N4(C)		–	**VW3A5203**
ATV61●D18N4(C)...●D30N4(C)		–	**VW3A5204**
ATV61●D37N4(C), ●D45N4(C)		–	**VW3A5205**
ATV61●D55N4(C), ●D75N4(C)		–	**VW3A5206**
ATV61●D90N4(C), HC11N4, ATV61E5C11N4		–	**VW3A5207**
ATV61HC13N4, HC16N4, ATV61E5C13N4, E5C16N4		–	**VW3A5208**
ATV61HC22N4, ATV61E5C22N4		–	**VW3A5209**
ATV61HC25N4, HC31N4, ATV61E5C25N4, E5C31N4		–	**VW3A5210**
ATV61HC40N4, ATV61E5C40N4	Motor P 355 kW	–	**VW3A5210**
	Motor P 400 kW	–	**VW3A5211**
ATV61HC50N4, HC63N4, ATV61E5C50N4, E5C63N4		–	**VW3A5211**

● Applies to the following drives: ATV61**H**…N4, ATV61**H**…N4**C**, ATV61**W**…N4, ATV61**W**…N4**C**

(2) For ATV61H075M3, HU15M3 abd ATV61HU15N4 drives, it is advisable to use a lower power motor with a sinusoidal filter

Pumping and ventilation machines

Output filter options

Motor chokes

Above a certain motor cable length, it is advisable to insert a motor choke between the drive and the motor. This maximum length depends on the drive rating and the type of motor cable.

Type of drive	Max. motor cable length		Three phase	
	Shielded	Unshielded	200…240 V 50/60Hz	380…480 V 50/60 Hz
ATV61H075M3…HU22M3	150 m	300 m	**VW3A5101**	–
ATV61HU30M3…HU75M3	200 m	260 m	**VW3A5102**	–
	300 m	300 m	**VW3A5103**	–
ATV61HD11M3X…HD22M3X	150 m	300 m	**VW3A5103**	–
ATV61HD30M3X…HD45M3X	150 m	300 m	**VW3A5104**	–
ATV61HD55M3X, HD75M3X	150 m	300 m	**VW3A5105**	–
ATV61HD90M3X	250 m	300 m	**VW3A5106**	–
ATV61●075N4(C)…●U40N4(C)	75 m	90 m	–	**VW3A5101**
	85 m	95 m	–	**VW3A5102**
	160 m	200 m	–	**VW3A5103**
ATV61●U55N4(C)…●D18N4(C)	85 m	95 m	–	**VW3A5102**
	160 m	200 m	–	**VW3A5103**
	200 m	300 m	–	**VW3A5104** (1)
ATV61●D22N4(C)…●D30N4(C)	140 m	170 m	–	**VW3A5103**
	150 m	300 m	–	**VW3A5104** (1)
ATV61●D37N4(C)	97 m	166 m	–	**VW3A5103**
	200 m	300 m	–	**VW3A5104** (1)
ATV61●D45N4(C)…●D75N4(C)	150 m	300 m	–	**VW3A5104** (1)
ATV61●D90N4(C)	200 m	300 m	–	**VW3A5104** (1)
ATV61HC11N4, HC13N4, ATV61E5C11N4,E5C13N4	150 m	250 m	–	**VW3A5105** (1)
ATV61HC16N4, ATV61E5C16N4	250 m	300 m	–	**VW3A5106** (1)
ATV61HC22N4, ATV61E5C22N4	250 m	300 m	–	**VW3A5106** (1)
ATV61HC25N4, ATV61E5C25N4	200 m	250 m	–	**VW3A5107** (1)
ATV61HC31N4, ATV61E5C31N4	200 m	250 m	–	**VW3A5107** (1)
ATV61HC40N4, ATV61E5C40N4 Motor P 355 kW	200 m	250 m	–	**VW3A5107** (1)
Motor P 400 kW	250 m	300 m	–	**VW3A5108** (1)
ATV61HC50N4, ATV61E5C50N4	250 m	300 m	–	**VW3A5108** (1)
ATV61HC63N4, ATV61E5C63N4	250 m	300 m	–	**VW3A5108** (1)

● Applies to the following drives: ATV61**H**…N4, ATV61**H**…N4**C**, ATV61**W**…N4, ATV61**W**…N4**C**

(1) 3 single phase chokes are included with the drive.

KIT Altivar 61 IP54 enclosure pre-assembled

Type of drives		Kit
ATV61HC11N4		**VW3A9541**
ATV61HC13N4		**VW3A9542**
ATV61HC16N4		**VW3A9543**
ATV61HC22N4		**VW3A9544**
ATV61HC25N4		**VW3A9545**
ATV61HC31N4		
ATV61HC25N4	With braking unit VW3A7101	**VW3A9546**
ATV61HC31N4	With braking unit VW3A7101	
ATV61HC40N4	Without braking unit	**VW3A9547**
ATV61HC50N4		
ATV61HC63N4		**VW3A9548**
	Braking unit VW3A7102	**VW3A9549**
	Additional empty enclosed 600 mm	**VW3A9550**
	Additional empty enclosed 800 mm	**VW3A9551**

Resistance braking units (integrated in ATV61 drives up to 220 kW)

ATV61H●●●M3, ATV61H●●●M3X and ATV61H075N4…HC22N4, ATV61W●●●N4 and ATV61W●●●N4C drives have a built-in braking transistor.
The braking resistor enables the Altivar 61 drive to operate while braking to a standstill or during slowdown braking, by dissipating the braking energy.

Supply voltage	**Three phase** 380…480 V 50/60 Hz	
Type of drive	ATV61HC25N4, HC31N4	ATV61HC40N4, HC50N4, HC63N4
Continuous power/Max (kW)	200/420	400/750
Reference	**VW3A7101**	**VW3A7102**

Braking resistors

The network braking unit can be used to restore the following to the line supply:
- The energy from the motor
- The energy from the motors controlled by several drives connected on the same DC bus

Type of drive Supply voltage	**Three phase** 200…240 V 50/60 Hz	380…480 V 50/60 Hz
ATV61H075M3	**VW3A7701**	–
ATV61HU15M3, HU22M3	**VW3A7702**	–
ATV61HU30M3, HU40M3	**VW3A7703**	–
ATV61HU55M3, HU75M3	**VW3A7704**	–
ATV61HD11M3X	**VW3A7705**	–
ATV61HD15M3X	**VW3A7706**	–
ATV61HD18M3X, HD22M3X	**VW3A7707**	–
ATV61HD30M3X	**VW3A7708**	–
ATV61HD37M3X, HD45M3X	**VW3A7709**	–
ATV61HD55M3X, HD75M3X	**VW3A7713**	–
ATV61HD90M3X	**VW3A7714**	–
ATV61H075N4…HU40N4, ATV61W075N4…WU55N4, ATV61W075N4C…WU55N4C	–	**VW3A7701**
ATV61HU55N4, HU75N4, ATV61WU75N4, WD11N4, ATV61WU75N4C, WD11N4C	–	**VW3A7702**
ATV61HD11N4, HD15N4, ATV61WD15N4, WD18N4, ATV61WD15N4C, WD18N4C	–	**VW3A7703**
ATV61HD18N4…HD30N4, ATV61WD22N4…WD37N4, ATV61WD22N4C…WD37N4C	–	**VW3A7704**
ATV61HD37N4, ATV61WD45N4, WD45N4C	–	**VW3A7705**
ATV61WD55N4…WD90N4, ATV61WD55N4C…WD90N4C	–	**VW3A7706**
ATV61HD45N4…HD75N4	–	**VW3A7707**
ATV61HD90N4, HC11N4, ATV61E5C11N4	–	**VW3A7710**
ATV61HC13N4, HC16N4, ATV61E5C13N4, E5C16N4	–	**VW3A7711**
ATV61HC22N4, ATV61E5C22N4	–	**VW3A7712**
ATV61HC25N4, ATV61E5C25N4	–	**VW3A7715**
ATV61HC31N4, ATV61E5C31N4	–	**VW3A7716**
ATV61HC40N4, HC50N4, ATV61E5C40N4, E5C50N4	–	**VW3A7717**
ATV61HC63N4, ATV61E5C63N4	–	**VW3A7718**

Altivar 71
0,37…630 kW

Complex, high-power machines
IP20 drives

Dimensions (in mm) width x height x depth	
S2 : 130 x 230 x 175	**S3** : 155 x 260 x 187
S4 : 175 x 295 x 187	**S5A** : 210 x 295 x 213
S5B : 230 x 400 x 213	**S6** : 240 x 420 x 236
S7A : 240 x 550 x 266	**S7B** : 320 x 550 x 266
S8 : 320 x 630 x 290	**S9** : 320 x 920 x 377
S10 : 360 x 1022 x 377	**S11** : 340 x 1190 x 377
S12 : 440 x 1190 x 377	**S13** : 595 x 1190 x 377
S14 : 890 x 1390 x 377	**S15** : 1120 x 1390 x 377

Type of drive Supply voltage			**Single phase** 200…240 V (3) (4)	**Three phase** 200…240 V (3) (4)	**Three phase** 380…480 V	**Three phase on base plate** 380…480 V (3)
Degree of protection			**IP20** for unprotected drives and IP41 on the upper part			
Drive	Output frequency		0.1…1600 Hz up to 37 kW, 0.1…500 Hz from 45 to 500 kW			
	Type of control	Asynchronous motor	Flux vector control with or without sensor, voltage/frequency ratio (2 or 5 points), ENA System			
		Synchronous motor	Vector control without speed feedback and with speed feedback (…383)			
	Transient overtorque		220% of nominal motor torque for 2 seconds, and 170% for 60 seconds			
Speed range			1…1000 in closed loop mode with encoder feedback, 1…100 in open loop mode			
Functions	Number of functions		> 150			
	Number of preset speeds		16			
	Number of I/O	Analog inputs	2…4			
		Logic inputs	6…20			
		Analog outputs	1…3			
		Logic outputs	0…8			
		Relay outputs	2…4			
		Safety input	1			
Dialogue			Remote graphic display terminal or PowerSuite software workshop (see pages 4/25 and 4/30)			
Communication (see page 4/30)	Integrated		Modbus and CANopen			
	Available as an option		Ethernet TCP/IP, Modbus/Uni-Telway, Fipio, Modbus Plus, Profibus DP, DeviceNet, InterBus			
Cards (available as an option)			Encoder interface cards, I/O extension cards, “Controller Inside” programmable card			
Reduction of current harmonics			DC choke integrated or supplied with the product, (optional chokes and passive filters, see page 4/26)			
EMC	Class A		Integrated filter			
	Class B		External filter available as an option			
Motor Power	kW / HP	0,37 / 0,5	**ATV71H075M3** T2	**ATV71H037M3** T2	–	–
		0,75 / 1	**ATV71HU15M3** T2	**ATV71H075M3** T2	**ATV71H075N4** (3) (4) T2	**ATV71P075N4Z** T2
		1,5 / 2	**ATV71HU22M3** T3	**ATV71HU15M3** T2	**ATV71HU15N4** (3) (4) T2	**ATV71PU15N4Z** T2
		2,2 / 3	**ATV71HU30M3** T3	**ATV71HU22M3** T3	**ATV71HU22••** (3) (4) (5) T2/T6	**ATV71PU22N4Z** T2
		3 / –	**ATV71HU40M3** (1) T3	**ATV71HU30M3** T3	**ATV71HU30••** (3) (4) (5) T3/T6	**ATV71PU30N4Z** T3
		4 / 5	**ATV71HU55M3** (1) T4	**ATV71HU40M3** T3	**ATV71HU40••** (3) (4) (5) T3/T6	**ATV71PU40N4Z** T3
		5,5 / 7,5	**ATV71HU75M3** (1) T5A	**ATV71HU55M3** T4	**ATV71HU55••** (3) (4) (5) T4/T6	**ATV71PU55N4Z** T4
		7,5 / 10	–	**ATV71HU75M3** T5A	**ATV71HU75••** (3) (4) (5) T4/T6	**ATV71PU75N4Z** T4
		11 / 15	–	**ATV71HD11M3X** (2) T5B	**ATV71HD11••** (3) (4) (5) T5A/T6	–
		15 / 20	–	**ATV71HD15M3X** (2) T5B	**ATV71HD15••** (3) (4) (5) T5B/T6	–
		18,5 / 25	–	**ATV71HD18M3X** (2) T6	**ATV71HD18••** (3) (4) (5) T5B/T6	–
		22 / 30	–	**ATV71HD22M3X** (2) T6	**ATV71HD22••** (3) (4) (5) T6/T6	–
		30 / 40	–	**ATV71HD30M3X** (2) T7B	**ATV71HD30••** (3) (4) (5) T7A/T6	–
		37 / 50	–	**ATV71HD37M3X** (2) T7B	**ATV71HD37••** (3) (4) (5) T7A/T8	–
		45 / 60	–	**ATV71HD45M3X** (2) T7B	**ATV71HD45••** (3) (4) (5) T8/T8	–
		55 / 75	–	**ATV71HD55M3X** (2) T9	**ATV71HD55••** (3) (4) (5) T8/T8	–
		75 / 100	–	**ATV71HD75M3X** (2) T10	**ATV71HD75••** (3) (4) (5) T8/T8	–
		90 / 125	–	–	**ATV71HD90••** T9/T8	–
		110 / 150	–	–	**ATV71HC11••** T10/T11	–
		132 / 200	–	–	**ATV71HC13••** T11/T11	–
		160 / 250	–	–	**ATV71HC16••** T12/T11	–
		200 / 300	–	–	**ATV71HC20••** T13/T13	–
		220 / 350	–	–	**ATV71HC25••** T13/T13	–
		280 / 450	–	–	**ATV71HC28N4** T13	–
		315 / 500	–	–	**ATV71HC31••** T14/T13	–
		355 / –	–	–	**ATV71HC40••** T14/T15	–
		500 / 700	–	–	**ATV71HC50••** T15/T15	–
		630 / 900	–	–	**ATV71HC63Y** T15	–

(1) Must be used with a line choke, see page 4/26.
(2) Drive supplied without EMC filter.
(3) To order a reinforced version of the drive for specific environmental conditions, conforming to IEC 60721-3-3 class 3c2, add **S337** at the end of the reference.
E.g. ATV71H075N4**S337.** To order drive supplied without EMC filter, add **337** at the end of the reference. E.g. ATV71HD11M3X**337.**
(4) To order a drive for synchronous motor with speed feedback, add **383** at the end of the reference. E.g. ATV71HO75N4**383.**
(5) In the reference replace the points with: **N4** for 480 V - **Y** for 690 V.
NB : The first code of dimensions located before the slash is for 480 V speed drives. The code located after the slash is for 690 V speed drives.

Other versions: **please consult your Schneider Electric agency.**

Dimensions (in mm) width x height x depth	
ATV71W…, ATV71E5… to 75 kW	**ATV71E5C…** in enclosure
SA2 : 235 x 490 x 272	**A1** : 616 x 2000 x 600
SA3 : 235 x 490 x 286	**A2** : 816 x 2000 x 600
SB : 255 x 525 x 286	**A3** : 1016 x 2000 x 600
SC : 290 x 560 x 315	**A3** : 1220 x 2000 x 600
SD : 310 x 665 x 315	**A3** : 2024 x 2000 x 600
SE : 284 x 720 x 315	**A4** : 1216 x 2000 x 600
SF : 284 x 880 x 343	**A4** : 1820 x 2000 x 600
SG : 362 x 1000 x 364	**A4** : 2224 x 2000 x 600

IP54 drives

Type of drive			**Three phase** 380…480 V (3)		**with switch**	
Degree of protection			**UL Type 12/IP54**			
Drive	Output frequency		0.1…1600 Hz up to 37 kW, 0.1…500 Hz from 45 to 500 kW			
	Type of control	Asynchronous motor	Flux vector control with or without sensor, voltage/frequency ratio (2 or 5 points), ENA System			
		Synchronous motor	Vector control without speed feedback			
	Transient overtorque		220% of nominal motor torque for 2 seconds, and 170% for 60 seconds			
Speed range			1…1000 in closed loop mode with encoder feedback, 1…100 in open loop mode			
Functions	Number of functions		> 150			
	Number of preset speeds		16			
	Number of I/O	Analog inputs	2…4			
		Logic inputs	6…20			
		Analog outputs	1…3			
		Logic outputs	0…8			
		Relay outputs	2…4			
		Safety input	1			
Dialogue			Remote graphic display terminal or PowerSuite software workshop (see page 4/30)			
Communication (see page 4/30)	Integrated		Modbus and CANopen			
	Available as an option		Ethernet TCP/IP, Modbus/Uni-Telway, Fipio, Modbus Plus, Profibus DP, DeviceNet, INTERBUS			
Cards (available as an option)			Encoder interface cards, I/O extension cards, “Controller Inside” programmable card			
Reduction of current harmonics			Optional chokes and passive filters (see page 4/26)			
EMC	Class A		Integrated filter			
	Class B		External filter available as an option			
Motor power	kW/HP	0,75 / 1	**ATV71W075N4**	SA2	**ATV71E5075N4**	SA2
		1,5 / 2	**ATV71WU15N4**	SA2	**ATV71E5U15N4**	SA2
		2,2 / 3	**ATV71WU22N4**	SA2	**ATV71E5U22N4**	SA2
		3 / –	**ATV71WU30N4**	SA3	**ATV71E5U30N4**	SA3
		4 / 5	**ATV71WU40N4**	SA3	**ATV71E5U40N4**	SA3
		5,5 / 7,5	**ATV71WU55N4**	SB	**ATV71E5U55N4**	SB
		7,5 / 10	**ATV71WU75N4**	SB	**ATV71E5U75N4**	SB
		11 / 15	**ATV71WD11N4**	SC	**ATV71E5D11N4**	SC
		15 / 20	**ATV71WD15N4**	SD	**ATV71E5D15N4**	SD
		18,5 / 25	**ATV71WD18N4**	SD	**ATV71E5D18N4**	SD
		22 / 30	**ATV71WD22N4**	SD	**ATV71E5D22N4**	SD
		30 / 40	**ATV71WD30N4**	SF	**ATV71E5D30N4**	SF
		37 / 50	**ATV71WD37N4**	SF	**ATV71E5D37N4**	SF
		45 / 60	**ATV71WD45N4**	SG	**ATV71E5D45N4**	SG
		55 / 75	**ATV71WD55N4**	SG	**ATV71E5D55N4**	SG
		75 / 100	**ATV71WD75N4**	SG	**ATV71E5D75N4**	SG

Altivar 71
0,37…630 kW

Complex, high-power machines
Solution in IP 23 / IP 54 ready-assembled enclosure

Dimensions (in mm) width x height x depth **ATV71EXC2C…**			
E1	: 600 X 2155 X 600	**E3**	: 1000 X 2155 X 600
E2	: 800 X 2155 X 600	**E4**	: 1200 X 2155 X 600

Type of enclosure			**Three phase 380…480 V** (2)
Degree of protection			
Drive	Output frequency		0.1…1600 Hz up to 37 kW, 0.1…500 Hz from 45 to 500 kW
	Type of control	Asynchronous motor	Flux vector control with or without sensor, voltage/frequency ratio (2 or 5 points), ENA System
		Synchronous motor	Vector control without speed feedback
	Transient overtorque		220% of nominal motor torque for 2 seconds, and 170% for 60 seconds
Speed range			1…1000 in closed loop mode with encoder feedback, 1…100 in open loop mode
Functions	Number of functions		> 150
	Number of preset speeds		16
	Number of I/O	Analog inputs	2…4
		Logic inputs	6…20
		Analog outputs	1…3
		Logic outputs	0…8
		Relay outputs	2…4
		Safety input	1
Dialogue			Remote graphic display terminal or PowerSuite software workshop (see page 4/30)
Communication (see page 4/30)	Integrated		Modbus and CANopen
	Available as an option		Ethernet TCP/IP, Modbus/Uni-Telway, Fipio, Modbus Plus, Profibus DP, DeviceNet, InterBus
Cards (available as an option)			Encoder interface cards, I/O extension cards, “Controller Inside” programmable card
Reduction of current harmonics			Optional chokes and passive filters (see page 4/26)
EMC	Class A		Integrated filter
	Class B		External filter available as an option
Equipment			A wide range of catalog options can be added to the standard offer according to specific requirements. In addition to the range of add-on options, equipment can be customized to your exact specifications just speak to our specialist teams. - Water-cooled solution. - Integration of specific options.

IP23				
Compact enclosure - Three-Phase 380…690 V				
	kW / HP	110 / 150	ATV71EXC2C11●●	E1
		132 / 200	ATV71EXC2C13●●	E1
		160 / 250	ATV71EXC2C16●●	E1
		220 / 350	ATV71EXC2C22●● (1)	E1
		250 / 400	ATV71EXC2C25●●	E2
		315 / 500	ATV71EXC2C31●●	E2
		400 / 600	ATV71EXC2C40●●	E3
		500 / 700	ATV71EXC2C50●●	E3
		630 / 900	ATV71EXC2C63●●	E4

At the end of the reference, add:
- N4 for 415 V
- N for 500 V
- Y for 690 V

(1) For Y and N ranges, replace C22 with C20.
(2) The standard offer Altivar 71 in ready-assembled enclosure comprises:
– An Altivar 71 ATV71H speed drive
– A switch and fast-acting fuses
– An IP65 remote graphic display terminal kit.

Solution in IP 23 / IP 54 ready-assembled enclosure

Dimensions (in mm) width x height x depth		
ATV71E5C…	**ATV71EX…**	
A1 : 616 x 2000 x 600	**E5**	: 600 X 2260 X 600
A2 : 816 x 2000 x 600	**E6**	: 800 X 2260 X 600
A3 : 1016 x 2000 x 600	**E7**	: 1000 X 2260 X 600
A3 : 1220 x 2000 x 600	**E8**	: 1200 X 2260 X 600
A3 : 2024 x 2000 x 600	**E9**	: 600 X 2355 X 600
A4 : 1216 x 2000 x 600	**E10**	: 800 X 2355 X 600
A4 : 1820 x 2000 x 600	**E11**	: 1400 X 2355 X 600
A4 : 2224 x 2000 x 600	**E12**	: 1600 X 2355 X 600

IP54

Compact enclosures 3-Phase 380…690 V

kW / HP	110 / 150	ATV71EXC5C11••	E5
	132 / 200	ATV71EXC5C13••	E5
	160 / 250	ATV71EXC5C16••	E5
	220 / 350	ATV71EXC5C22•• (1)	E5
	250 / 400	ATV71EXC5C25••	E6
	315 / 500	ATV71EXC5C31••	E6
	400 / 600	ATV71EXC5C40••	E7
	500 / 700	ATV71EXC5C50••	E7
	630 / 900	ATV71EXC5C63••	E8

IP54

Separate air cooling circuit - Three-Phase 380…690 V

kW / HP	110 / 150	ATV71EXS5C11..	E9
	132 / 200	ATV71EXS5C13••	E9
	160 / 250	ATV71EXS5C16••	E9
	220 / 350	ATV71EXS5C22•• (1)	E9
	250 / 400	ATV71EXS5C25••	E10
	315 / 500	ATV71EXS5C31••	E10
	400 / 600	ATV71EXS5C40••	E11
	500 / 700	ATV71EXS5C50••	E11
	630 / 900	ATV71EXS5C63••	E12

IP54

Ready-assembled enclosure with braking transistor included in the drive

kW / HP	110 / 150	**ATV71E5C11N4**	A1
	132 / 200	**ATV71E5C13N4**	A1
	160 / 250	**ATV71E5C16N4**	A1
	220 / 350	**ATV71E5C22N4**	A1

IP54

Ready-assembled enclosure with braking unit included in the cabinet

kW / HP	250 / 400	**ATV71E5C25N4F**	A2
	315 / 500	**ATV71E5C31N4F**	A2

IP54

Ready-assembled enclosure without braking unit

kW / HP	250 / 400	**ATV71E5C25N4**	A2
	315 / 500	**ATV71E5C31N4**	A2
	400 / 600	**ATV71E5C40N4**	A3
	500 / 700	**ATV71E5C50N4**	A3
	630 / 900	**ATV71E5C63N4**	A4

At the end of the reference, add:

- N4 for 415 V
- N for 500 V
- Y for 690 V

(1) For Y and N ranges, replace C22 with C20.

Type of card	I/O extension	
	Logic	Extended
Description	1 relay logic output (“C/O” contact) 4 x 24 VDC positive or negative logic inputs 2 x 24 VDC open collector positive or negative logic outputs 1 input for PTC probes	1 0…20 mA differential current analog input, 1 software-configurable voltage (0…10 VDC) or current (0…20 mA) analog input, 2 software-configurable voltage (±10V, 0…10 VDC) or current (0…20 mA) analog outputs, 1 relay logic output (“C/O” contact), 4 x 24 VDC positive or negative logic inputs, 2 x 24 VDC open collector positive or negative logic outputs, 1 input for PTC probes, 1 frequency control input.
Reference	**VW3A3201**	**VW3A3202**

4

“Controller Inside” programmable card

Type of card	Programmable “Controller Inside”
Description	10 logic inputs, 2 of which can be used for 2 counters or 4 of which can be used for 2 incremental encoders. 2 analog inputs, 6 logic outputs, 2 analog outputs, a master port for the CANopen bus, a PC port for programming with the PS 1131 software workshop
Reference	**VW3A3501**

Encoder interface cards

Type of card		Encoder interface with		
		Differential outputs (RS422)	Open collector outputs (NPN)	Push-pull outputs
Operating frequency		300 kHz		
References	5 V	**VW3A3401**	–	–
	12 V	–	**VW3A3403**	**VW3A3405**
	15 V	**VW3A3402**	**VW3A3404**	**VW3A3406**
	24 V	–	–	**VW3A3407**

Type of card	Resolver	Universal	Incremental with emulation
Speed feedback resolution	12 bits	13 bits	10 000
Supported encoder	2, 4, 6 or 8 poles resolver	«SinCos, SinCosHiperface Endat, SSI»	«Incremental RS 422 - 5 V ou 15 V»
References	**VW3A3408**	**VW3A3409**	**VW3A3411**

Dialogue accessories

Accessory	Remote graphic display terminal	Remote mounting kit (1)
Description	This display terminal is attached to the front of the drive. It includes the integrated 7-segment display terminal for drives supplied without a graphic display terminal.	A remote mounting kit for mounting on an enclosure door with IP54 degree of protection. It includes: ■ All the mechanical fittings ■ Fixing accessories
References	**VW3A1101**	**VW3A1102**

(1) Use a VW3A1104R●● remote-mounting connection cable, to be ordered separately (please consult the “Soft starters and variable speed drives” catalogue)

4

Additional EMC input filters

The additional EMC input filters can be used to meet the requirements of the EMC “products” standard IEC/EN 61800-3, edition 2, category C2 or C3 in environment 1 or 2.

Type of drive	Three phase					
	200…240 V 50/60 Hz			380…480 V 50/60 Hz		
Maximum length of shielded cable		Class A	Class B		Class A	Class B
ATV71H037M3…HU15M3	**VW3A4401**	100 m	50 m	–		
ATV71HU22M3…HU40M3	**VW3A4402**	100 m	50 m	–		
ATV71HU55M3	**VW3A4403**	100 m	50 m	–		
ATV71HU75M3	**VW3A4404**	100 m	50 m	–		
ATV71HD11M3X, HD15M3X	**VW3A4405**	100 m	50 m	–		
ATV71HD18M3X, HD22M3X	**VW3A4406**	100 m	50 m	–		
ATV71HD30M3X...HD45M3X	**VW3A4408**	100 m	50 m	–		
ATV71HD55M3X, HD75M3X	**VW3A4410**	100 m	50 m	–		
ATV71●075N4…●U22N4, ATV71P075N4Z…PU22N4Z	–			**VW3A4401**	100 m	50 m
ATV71●U30N4, ●U40N4, ATV71PU30N4Z, PU40N4Z	–			**VW3A4402**	100 m	50 m
ATV71●U55N4, ●U75N4, ATV71PU55N4Z, PU75N4Z	–			**VW3A4403**	100 m	50 m
ATV71●D11N4	–			**VW3A4404**	100 m	50 m
ATV71●D15N4, ●D18N4	–			**VW3A4405**	300 m	100 m
ATV71●D22N4	–			**VW3A4406**	300 m	100 m
ATV71●D30N4, ●D37N4	–			**VW3A4407**	300 m	100 m
ATV71●D45N4…●D75N4	–			**VW3A4408**	300 m	100 m
ATV71HD90N4…HC13N4, ATV71E5D90N4…E5C13N4	–			**VW3A4410**	300 m	50 m
ATV71HC16N4…HC28N4, ATV71E5C16N4…E5C28N4	–			**VW3A4411**	300 m	50 m
ATV71HC31N4, HC40N4, ATV71E5C31N4, E5C40N4	–			**VW3A4412**	300 m	50 m
ATV71HC50N4, ATV71E5C50N4	–			**VW3A4413**	300 m	50 m

● Applies to the following drives: ATV71**H**…N4, ATV71**W**…N4

Complex, high-power machines

Reduction of current harmonics
AC line chokes

A line choke can be used to provide improved protection against overvoltages on the line supply and to reduce harmonic distortion of the current produced by the drive.

Type of drive	Three phase	
Supply voltage	200…240 V 50/60 Hz	380…480 V 50/60 Hz
ATV71H037M3...H075M3	**VW3A4551**	–
ATV71HU15M3...HU22M3	**VW3A4552**	–
ATV71HU30M3	**VW3A4553**	–
ATV71HU40M3	**VW3A4554**	–
ATV71HU75M3, HD11M3X	**VW3A4555**	–
ATV71HD15M3X	**VW3A4556**	–
ATV71HD18M3X…HD45M3X	**VW3A4557**	–
ATV71HD55M3X	**VW3A4562**	–
ATV71HD75M3X	**VW3A4563**	–
ATV71●075N4, ●U15N4, ATV71P075N4Z, PU15N4Z	–	**VW3A4551**
ATV71●U22N4…●U40N4, ATV71PU22N4Z…PU40N4Z	–	**VW3A4552**
ATV71●U55N4, ●U75N4, ATV71PU55N4Z, PU75N4Z	–	**VW3A4553**
ATV71●D11N4, ●D15N4	–	**VW3A4554**
ATV71●D18N4, ●D22N4	–	**VW3A4555**
ATV71●D30N4…●D55N4	–	**VW3A4556**
ATV71●D75N4	–	**VW3A4557**
ATV71HD90N4, ATV71E5D90N4	–	**VW3A4558**
ATV71HC11N4, ATV71E5C11N4	–	**VW3A4559**
ATV71HC13N4, ATV71E5C13N4	–	**VW3A4560**
ATV71HC16N4, ATV71E5C16N4	–	**VW3A4561**
ATV71HC20N4, ATV71E5C20N4	–	**VW3A4562**
ATV71HC25N4, ATV71E5C25N4 Motor P 220 kW	–	**VW3A4562**
Motor P 250 kW	–	**VW3A4563**
ATV71HC28N4, HC31N4, ATV71E5C28N4, E5C31N4	–	**VW3A4564**
ATV71HC40N4, ATV71E5C40N4 Motor P 355 kW	–	**VW3A4565**
Motor P 400 kW	–	**VW3A4566**
ATV71HC50N4, ATV71E5C50N4	–	**VW3A4567**

● Applies to the following drives: ATV71**H**…N4, ATV71**W**…N4

Reduction of current harmonics
Optional DC chokes (1)

DC chokes are used to reduce current harmonics in order to comply with standard 61000-3-2 for drives in which the line current is more than 16 A and less than 75 A.

Type of drive	Three phase	
Supply voltage	200…240 V 50/60 Hz	380…480 V 50/60 Hz
ATV71H037M3	**VW3A4501**	–
ATV71H075M3	**VW3A4503**	–
ATV71HU15M3	**VW3A4505**	–
ATV71HU22M3	**VW3A4506**	–
ATV71HU30M3	**VW3A4507**	–
ATV71HU40M3, HU55M3	**VW3A4508**	–
ATV71HU75M3	**VW3A4509**	–
ATV71HD11M3X, HD15M3X	**VW3A4510**	–
ATV71HD18M3X, HD22M3X	**VW3A4511**	–
ATV71HD30M3X… HD45M3X	**VW3A4512**	–
ATV71●075N4, ATV71P075N4Z	–	**VW3A4501**
ATV71●U15N4, ATV71PU15N4Z	–	**VW3A4502**
ATV71●U22N4, ●U30N4, ATV71PU22N4Z,, PU30N4Z	–	**VW3A4503**
ATV71●U40N4 , ATV71PU40N4Z	–	**VW3A4504**
ATV71●U55N4, ATV71PU55N4Z	–	**VW3A4505**
ATV71●U75N4, ATV71PU75N4Z	–	**VW3A4506**
ATV71●D11N4	–	**VW3A4507**
ATV71●D15N4, ●D18N4	–	**VW3A4508**
ATV71●D22N4…●D37N4	–	**VW3A4510**
ATV71●D45N4…●D75N4	–	**VW3A4511**

(1) For ATV 71HD55M3X, HD75M3X and ATV 71HD90N4… HC50N4 drives, the choke is supplied as standard with the drive.

Schneider Electric

Other versions: **please consult your Schneider Electric agency.**

Passive filters

A passive filter is used to reduce current harmonics with total harmonic distortion factors of less than 16% or 10%. These factors may be less than 10% or 5% if used with a DC choke.

Type of drive	Three phase 400 V 50/60 Hz		Three phase 460 V 50/60 Hz	
	THDI 16% (1)	THDI 10% (2)	THDI 16% (1)	THDI 10% (2)
ATV71●075N4…●U30N4, ATV71P075N4Z…PU30N4Z	**VW3A4601**	**VW3A4621**	**VW3A4 641**	**VW3A4 661**
ATV71●U40N4,●U55N4, ATV71PU40N4Z, PU55N4Z	**VW3A4602**	**VW3A4622**	**VW3A4 642**	**VW3A4 662**
ATV71●U75N4,●D11N4, ATV71PU75N4Z	**VW3A4603**	**VW3A4623**	**VW3A4 643**	**VW3A4 663**
ATV71●D15N4	**VW3A4604**	**VW3A4624**	**VW3A4 644**	**VW3A4 664**
ATV71●D18N4, ●D22N4	**VW3A4606**	**VW3A4626**	**VW3A4 645**	**VW3A4 665**
ATV71●D30N4	**VW3A4607**	**VW3A4627**	**VW3A4 646**	**VW3A4 666**
ATV71●D37N4	**VW3A4607**	**VW3A4627**	**VW3A4 647**	**VW3A4 667**
ATV71●D45N4	**VW3A4608**	**VW3A4628**	**VW3A4 647**	**VW3A4 668**
ATV71●D55N4	**VW3A4608**	**VW3A4628**	**VW3A4 648**	**VW3A4 668**
ATV71●D75N4	**VW3A4609**	**VW3A4629**	**VW3A4 648**	**VW3A4 668**
ATV71HD90N4, ATV71E5D90N4	**VW3A4609**	**VW3A4629**	**VW3A4 649**	**VW3A4 669**
ATV71HC11N4, ATV71E5C11N4	**VW3A4610**	**VW3A4630**	**VW3A4 649**	**VW3A4 669**
ATV71HC13N4, ATV71E5C13N4	**VW3A4611**	**VW3A4631**	**VW3A4 656**	**VW3A4 676**
ATV71HC16N4, ATV71E5C16N4	**VW3A4612**	**VW3A4632**	**VW3A4 650**	**VW3A4 670**
ATV71HC20N4, HC25N4, ATV71E5C20N4, E5C25N4	**VW3A4613**	**VW3A4633**	**VW3A4 651**	**VW3A4 671**
ATV71HC25N4, ATV71E5C25N4	**VW3A4611**	**VW3A4631**	**VW3A4 656**	**VW3A4 676**
ATV71HC28N4, HC31N4, HC40N4, ATV71E5C28N4, E5C31N4, E5C40N4	**VW3A4612**	**VW3A4632**	**VW3A4 650**	**VW3A4 670**
ATV71HC40N4, ATV71E5C40N4	**VW3A4619**	**VW3A4639**	**VW3A4 657**	**VW3A4 677**
ATV71HC50N4, ATV71E5C50N4	**VW3A4612**	**VW3A4632**	**VW3A4 651**	**VW3A4 671**

● Applies to the following drives: ATV71**H**…N4, ATV71**W**…N4

(1) By adding a DC choke, we get: THD ≤ 10%

(2) By adding a DC choke, we get: THD ≤ 15%
These reduced current harmonics are obtained on condition that the THDu is < 20% and the RSCE > 66%.

Sinusoidal filters

Sinusoidal filters allow Altivar 71 drives to operate with longer motor cables (up to 1000 m).

Type of drive		Three phase	
Supply voltage		200…240 V 50/60 Hz	380…480 V 50/60 Hz
ATV71H037M3...HU15M3 (2)		**VW3A5201**	–
ATV71HU22M3, HU30M3		**VW3A5202**	–
ATV71HU40M3... HU75M3		**VW3A5203**	–
ATV71HD11M3X, HD15M3X		**VW3A5204**	–
ATV71HD18M3X, HD22M3X		**VW3A5205**	–
ATV71HD30M3X... HD45M3X		**VW3A5206**	–
ATV71HD55M3X, HD75M3X		**VW3A5208**	–
ATV71●075N4...●U40N4, ATV71P075N4Z…PU40N4Z (2)		–	**VW3A5201**
ATV71●U55N4, ATV71PU55N4Z		–	**VW3A5202**
ATV71●U75N4...●D15N4, ATV71PU75N4Z		–	**VW3A5203**
ATV71●D18N4...●D30N4		–	**VW3A5204**
ATV71●D37N4, ●D45N4		–	**VW3A5205**
ATV71●D55N4, ●D75N4		–	**VW3A5206**
ATV71 HD90N4, HC11N4, ATV71E5D90N4, E5C11N4		–	**VW3A5207**
ATV71 HC13N4, HC16N4, ATV71E5C13N4, E5C16N4		–	**VW3A5208**
ATV71 HC20N4, ATV71E5C20N4		–	**VW3A5209**
ATV71 HC25N4, ATV71E5C25N4	Motor P 220 kW	–	**VW3A5209**
	Motor P 250 kW	–	**VW3A5210**
ATV71 HC28N4, HC31N4, ATV71E5C28N4, E5C31N4		–	**VW3A5210**
ATV71 HC40N4, ATV71E5C40N4	Motor P 355 kW	–	**VW3A5210**
	Motor P 400 kW	–	**VW3A5211**
ATV71 HC50N4, ATV71E5C50N4		–	**VW3A5211**

● Applies to the following drives: ATV71**H**…N4, ATV71**W**…N4

(2) For these drive references, it is advisable to use a lower category motor with a sinusoidal filter

Complex, high-power machines

Output filter options

Motor chokes

Above a certain motor cable length, it is advisable to insert a motor choke between the drive and the motor. This maximum length depends on the drive rating and the type of motor cable.

Type of drive		Max. motor cable length		Three phase	
		Shielded	Unshielded	200…240 V 50/60 Hz	380…480 V 50/60 Hz
ATV71H037M3…HU22M3		150 m	300 m	**VW3A5101**	–
ATV71HU30M3…HU75M3		200 m	260 m	**VW3A5102**	–
		300 m	300 m	**VW3A5103**	–
ATV71HD11M3X…HD22M3X		150 m	300 m	**VW3A5103**	–
ATV71HD30M3X… HD45M3X		150 m	300 m	**VW3A5 04**	–
ATV71HD55M3X, HD75M3X		150 m	300 m	**VW3A5105**	–
ATV71●075N4…●U40N4, ATV71P075N4Z…PU40N4Z		75 m	90 m	–	**VW3A5101**
		85 m	95 m	–	**VW3A5102**
		160 m	200 m	–	**VW3A5103**
ATV71●U55N4…●D18N4, ATV71PU55N4Z…PU75N4Z		85 m	95 m	–	**VW3A5102**
		160 m	200 m	–	**VW3A5103**
		200 m	300 m	–	**VW3A5104**
ATV71●D22N4…●D30N4		140 m	170 m	–	**VW3A5103**
		150 m	300 m	–	**VW3A5104** (1)
ATV71●D37N4		97 m	166 m	–	**VW3A5103**
		200 m	300 m	–	**VW3A5104** (1)
ATV71H●45N4…●D75N4		150 m	300 m	–	**VW3A5104** (1)
ATV71HD90N4, ATV71E5D90N4		200 m	300 m	–	**VW3A5104** (1)
ATV71HC11N4, HC13N4, ATV71E5C11N4, E5C13N4		150 m	250 m	–	**VW3A5105** (1)
ATV71HC16N4…HC20N4, ATV71E5C16N4…E5C20N4		250 m	300 m	–	**VW3A5106** (1)
ATV71HC25N4, ATV71E5C25N4	Motor P 220 kW	250 m	300 m	–	**VW3A5106** (1)
	Motor P 250 kW	200 m	250 m	–	**VW3A5107** (1)
ATV71HC28N4, HC31N4, ATV71E5C28N4, E5C31N4		200 m	250 m	–	**VW3A5107** (1)
ATV71HC40N4, ATV71E5C40N4	Motor P 355 kW	200 m	250 m	–	**VW3A5107** (1)
	Motor P 400 kW	250 m	300 m	–	**VW3A5108** (1)
ATV71HC50N4, ATV71E5C50N4		250 m	300 m	–	**VW3A5108** (1)

● Applies to the following drives: ATV71**H**…N4, ATV71**W**…N4

(1) 3 single phase chokes are included with the drive

KIT Altivar 71 IP54 enclosure pre-assembled

Type of drives		Kit
ATV71HD90N4		**VW3A9541**
ATV71HC11N4		**VW3A9542**
ATV71HC13N4		**VW3A9543**
ATV71HC16N4		**VW3A9544**
ATV71HC20N4		**VW3A9545**
ATV71HC25N4		
ATV71HC28N4		
ATV71HC20N4	With braking unit VW3A7101	**VW3A9546**
ATV71HC25N4	With braking unit VW3A7101	
ATV71HC28N4	With braking unit VW3A7101	
ATV71HC31N4	Without braking unit	**VW3A9547**
ATV71HC40N4		
ATV71HC50N4		**VW3A9548**
	Braking unit VW3A7102	**VW3A9549**
	Additional empty enclosed 600 mm	**VW3A9550**
	Additional empty enclosed 800 mm	**VW3A9551**

Resistance braking units (integrated in ATV71 drives up to 160 kW)

ATV 71H●●●M3, ATV71H●●●M3X and ATV71H075N4…HC16N4 drives have a built-in braking transistor.
The braking resistor enables the Altivar 71 drive to operate while braking to a standstill or during slowdown braking, by dissipating the braking energy.

Supply voltage	**Three phase** 380…480 V	
Type of drive	ATV71HC20N4…HC28N4	ATV71HC31N4…HC50N4
Continuous power/Max (kW)	200/420	400/750
Reference	**VW3A7101**	**VW3A7102**

Braking resistors

Type of drive	**Braking resistor** 40 s cycle		**Hoisting resistor** 40 s cycle	
Supply voltage	200…240 V 50/60 Hz	380…480 V 50/60 Hz	200…240 V 50/60 Hz	380…480 V 50/60 Hz
ATV71H037M3, H075M3	**VW3A7701**	–	**VW3A7801**	–
ATV71HU15M3, HU22M3	**VW3A7702**	–	**VW3A7802**	–
ATV71HU30M3, HU40M3	**VW3A7703**	–	**VW3A7803**	–
ATV71HU55M3, HU75M3	**VW3A7704**	–	**VW3A7804**	–
ATV71HD11M3X	**VW3A7705**	–	**VW3A7805**	–
ATV71HD15M3X	**VW3A7706**	–	**VW3A7806**	–
ATV71HD18M3X, HD22M3X	**VW3A7707**	–	**VW3A7807**	–
ATV71HD30M3X	**VW3A7708**	–	**VW3A7808**	–
ATV71HD37M3X, HD45M3X	**VW3A7709**	–	**VW3A7809**	–
ATV71HD55M3X	**VW3A7713**	–	**VW3A7810**	–
ATV71HD75M3X	**VW3A7714**	–	–	–
ATV71●075N4…●U40N4, ATV71P075N4Z…PU40N4Z	–	**VW3A7701**	–	**VW3A7801**
ATV71●U55N4, ●U75N4, ATV71PU55N4Z, PU75N4Z	–	**VW3A7702**	–	**VW3A7802**
ATV71●D11N4, ●D15N4	–	**VW3A7703**	–	**VW3A7803**
ATV71●D18N4…●D30N4	–	**VW3A7704**	–	**VW3A7804**
ATV71●D37N4	–	**VW3A7705**	–	**VW3A7805**
ATV71●D45N4…●D75N4	–	**VW3A7707**	–	**VW3A7806**
ATV71HD90N4, ATV71E5D90N4	–	**VW3A7710**	–	**VW3A7811**
ATV71HC11N4, HC13N4, ATV71E5C11N4, E5C13N4	–	**VW3A7711**	–	**VW3A7812**
ATV71HC16N4, ATV71E5C16N4	–	**VW3A7712**	–	**VW3A7813**
ATV71HC20N4, ATV71E5C20N4	–	**VW3A7715**	–	**VW3A7814**
ATV71HC25N4, HC28N4, ATV71E5C25N4, E5C28N4	–	**VW3A7716**	–	**VW3A7815**
ATV71HC31N4, HC40N4, ATV71E5C31N4, E5C40N4	–	**VW3A7717**	–	**VW3A7816**
ATV71HC50N4, ATV71E5C50N4	–	**VW3A7718**	–	**VW3A7817**

● Applies to the following drives: ATV71**H**…N4, ATV71**W**…N4

The network braking unit can be used to restore the following to the line supply:
– The energy from the motor
– The energy from the motors controlled by several drives connected on the same DC bus.

Network braking units

Line voltage		**400 VAC**	**460 VAC**
Braking power continuous (kW)	7	**VW3A7201**	–
	13	**VW3A7202**	–
	11	**VW3A7203**	–
	–	–	**VW3A7231**
	21,5	**VW3A7204**	**VW3A7232**
	26	**VW3A7205**	**VW3A7233**
	32	**VW3A7206**	**VW3A7234**
	38	**VW3A7207/VW3A7208**	**VW3A7235/VW3A7236/VW3A7237/VW3A7238**
	86	**VW3A7209**	**VW3A7239**
	120	**VW3A7210**	**VW3A7240**
	135	**VW3A7211**	–
	200	**VW3A7212**	–
	240	–	**VW3A7241**

Dialogue and communication

PowerSuite software workshop

Multilingual configuration software		For PC
Configuration of drives and starters		**Altistart 48, Altivar** (except Altivar 21) and **TeSys model U**
Environment		Microsoft Windows ®
Languages		English - French - German - Italian - Spanish
References	PowerSuite CD-ROM	**VW3A8104**
	PowerSuite update CD-ROM	**VW3A8105**
	Connection kit for serial port	**VW3A8106**

Accessories

Multilingual configuration software	Bluetooth® adaptor	
Description	Modbus - Bluetooth®	USB - Bluetooth® for PC
References	**VW3A8114** (1)	**VW3A8115**

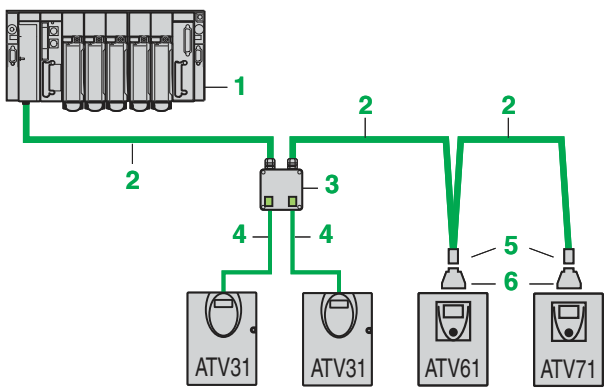
(1) Can also be used to communicate between a Twido PLC and the TwidoSoft software workshop

CANopen communication bus: connection accessories

Drives	Tap junction VW3CANTAP2		CANopen adaptor	CANopen connector
	0.3 m cable	1 m cable		
ATV31	2 RJ45 connectors		–	–
ATV61 and ATV71	–		RJ 45 to 9-way male SUB-D	9-way female SUB-D output for 2 cables at 180°
References	**VW3CANCARR03**	**VW3CANCARR1**	**VW3CANA71**	**VW3CANKCDF180T**

CANopen cables

		CANopen LSZH	CANopen UL/IEC332-2	LSZH HD flexible CANopen
References	L = 50 m	**TSXCANCA50**	**TSXCANCB50**	**TSXCANCD50**
	L = 100 m	**TSXCANCA100**	**TSXCANCB100**	**TSXCANCD100**
	L = 300 m	**TSXCANCA300**	**TSXCANCB300**	**TSXCANCD300**



1 PLC
2 CANopen trunk cable TSXCANC●●
3 CANopen tap junction VW3CANTAP2
4 CANopen drop cable VW3CANCARR●●
5 CANopen connector VW3CANKCDF180T
6 CANopen adaptor VW3CANA71

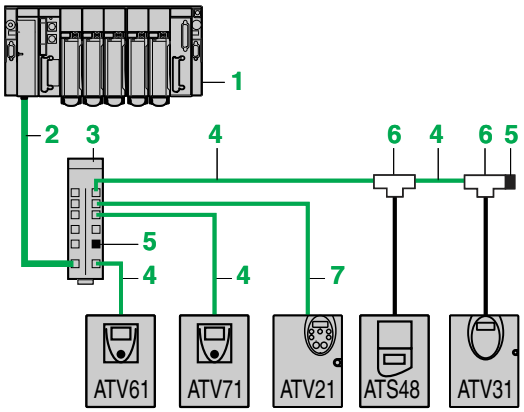
Other versions: **please consult your Schneider Electric agency.**

Modbus communication bus: connection accessories

Starters/drives Altistart 48, Altivar 21, 31, 61, 71	Splitter box	Tap junction	Subscriber socket	Line terminators	
Description	10 connectors RJ45 and 1 screw terminal	3 screw terminals line terminator RC	2 SUB-D connectors 15-way female and and 2 screw terminals RC line terminator	For connector RJ 45 R = 120 Ω, C = 1 nF	For screw terminals R = 120 Ω, C = 1 nF
References	**LU9GC3**	**TSXSCA50**	**TSXSCA62**	**VW3A8306RC**	**VW3A8306DRC**

Modbus connection

Starters/drives Altistart 48, Altivar 21, 31, 61, 71		Cables	Double shielded twisted pair cables RS 485		T-junction boxes
Description		2 connectors RJ 45	1 connector RJ45 and one stripped end	Supplied without connector	With integrated cable
References	L = 0.3 m	**VW3A8306R03**	–	–	**VW3A8306TF03**
	L = 1 m	**VW3A8306R10**	–	–	**VW3A8306TF10**
	L = 3 m	**VW3A8306R30**	**VW3A8306D30**	–	–
	L = 100 m	–	–	**TSXCSA100**	–
	L = 200 m	–	–	**TSXCSA200**	–
	L = 500 m	–	–	**TSXCSA500**	–



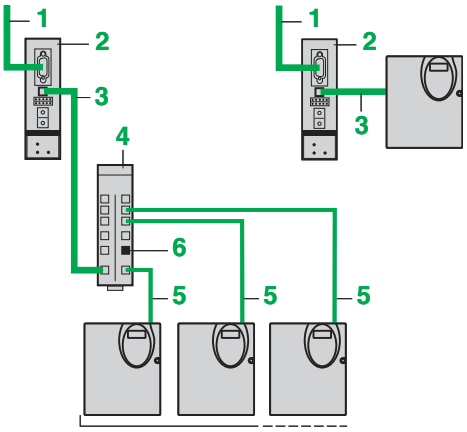
Connection via splitter boxes and RJ 45 connectors

1 PLC
2 Modbus cable depending on the type of PLC
3 Modbus splitter box LU9GC3
4 Modbus drop cables VW3A8306R●●
5 Line terminators VW3A8306RC
6 Modbus T-junction boxes VW3A8306TF●● (with cable)
7 Modbus drop cable VW3A58306R●●

Dialogue and communication

Communication modules

Starters/drives Altistart 48/Altivar 31		Ethernet/Modbus	DeviceNet/Modbus	Fipio/Modbus	ProfibusDP/Modbus	
Parameter setting		–	–	–	Standard configurator	ABC configurator program
References	Bridge	**TSXETG100**	–	–	–	–
	Gateway	–	**LUFP9**	**LUFP1**	**LA9P307**	**LUFP7**
Cable references	L = 0.3 m	–	VW3A8306R03	VW3A8306R03	–	VW3A8306R03
	L = 1 m	–	VW3A8306R10	VW3A8306R10	VW3P07306R10	VW3A8306R10
	L = 3 m	VW3A8306D30	VW3A8306R30	VW3A8306R30	–	VW3A8306R30



1 To network
2 Communication modules
3 PLC cables VW3A8 306 Rpp, VW3 P07 306 R10
4 Modbus splitter box LU9 GC3
5 Modbus drop cables VW3A8 306 Rpp
6 Line terminator VW3A8 306 RC

Other versions: **please consult your Schneider Electric agency.**

Communication cards and modules

Drives Altivar 61, Altivar 71	Modbus TCP	Modbus TCP Daisy Chain	Modbus/Uni-Telway	Fipio
Maximum number of drives controlled	–	–	–	–
Transmission speed	10/100 Mbit/s	10/100 Mbit/s	10/100 Mbit/s	1 Mbit/s
References	**VW3A3310**	**VW3A3316**	**VW3A3310d**	**VW3A3311**

Drives Altivar 61, Altivar 71	Modbus Plus	Profibus DP	Profibus DPv1	InterBus
Maximum number of drives controlled	64	126	126	64
Transmission speed	1 Mbit/s	9600 bit/s...12 Mbit/s	9600 bit/s...12 Mbit/s	1 Mbit/s
References	**VW3A3302**	**VW3A3307**	**VW3A3307S371**	**VW3A3304**

4

Drives Altivar 61, Altivar 71	CC-Link	Ethernet/IP	DeviceNet
Maximum number of drives controlled	64	–	63
Transmission speed	…10 Mbit/s	10/100 Mbit/s	125/250/500 Kbit/s
References	**VW3A3317**	**VW3A3316**	**VW3A3309**

Drives Altivar 61	LonWorks	METASYS N2	APOGEE FLN	BACnet
Connector	1 removable 3-way screw terminal	1 removable 4-way screw terminal	1 removable 4-way screw terminal	1 removable 4-way screw terminal
Transmission speed	78 Kbps	–	–	–
References	**VW3A3312**	**VW3A3313**	**VW3A3314**	**VW3A3315**

For other connection accessories, please consult the “Soft starters and variable speed drives” catalogue.

Selection guide

Motion control

4

LMC

Compact machines

■ Handling, assembly, inspection, on-the-fly-processes, etc.

Solutions	Motion controller-based solutions Standalone solutions
Standalone solution	Yes
Maximum number of axes	8
Control mode	Synchronized CANopen dedicated to Motion
Coordinated axes	Yes (PLCopen single-axis library)
Synchronized axes:	PLCopen multi-axis library
* Slave axis (velocity)/Gearing	Yes
* Slave axis (position)/Phasing	Yes
* Cam profiles	Yes
* Interpolation	Yes
* Application function block	Rotary knife, Flying shear, Clamping, Grouping/Ungrouping
Configuration and programming software	Easy Motion, Motion Pro (Codesys)
Graphic display terminal	Yes
Standards	IEC 61131 PLCopen

CFY / CAY
Compact machines
■ Handling, assembly, etc.

CSY
Special machines
■ Handling, on-the-fly processes, etc.

Twido
Compact machines
■ Handling, etc.

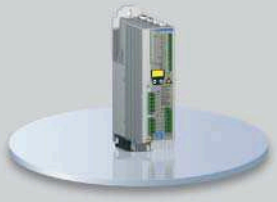
M340
Compact and special machines
■ Assembly, handling, etc.

	PLC-based solutions		PLC-based solutions	
	PLC modules		Standalone solutions	
	No		Yes	
	1 to 4	16	16	63
	Analog/Pulse	SERCOS	CANopen	CANopen
	Yes	Yes	Yes	Yes (PLCopen, MFB library)
	Yes	Yes	No	No
	Yes	Yes	No	Yes (with Lexium 15)
	No	Yes	No	Yes (with Lexium 15)
	No	Yes	No	No
	Yes (with TSXCAY 33)	Yes	No	No
	No	No	No	No
	Unity/PL7	Unity/PL7	Twido Soft	Unity
	No	No	No	No
	IEC 61131	IEC 61131	IEC 61131	IEC 61131 PLCopen

Selection guide

Servodrives

4

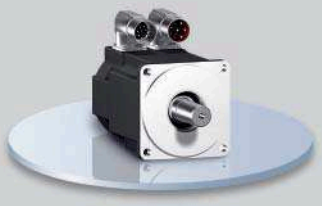
		Lexium 05	Lexium 15
		⇨ *Applications:* Motion Bus, single axis, simple master/slave, materials handling, automatic assembly, automated inspection, coil winding, cutting to length, packaging.	⇨ *Applications:* Motion Bus, single axis, simple master/slave, advance master/slave, coordinated axes, materials handling, automatic assembly, coil winding, cutting to length, tension control.
			
		■ ***Compactness:*** side by side mounting, integrated EMC class A filters. ■ ***Simplicity:*** simple setting-up, “Simply start” menu ■ ***Safety:*** “Power removal” function ■ ***Openness:*** CANopen or Profibus DP integrated ■ ***Intelligence:*** 4 operating modes, including integrated point to point positioning.	■ ***Compactness:*** integrated EMC filters and braking resistors ■ ***Simplicity:*** simple setting-up, “Simply start” menu ■ ***Safety:*** “Power removal” function ■ ***Openness:*** CANopen integrated ■ Absolute positioning control ■ ***Intelligence:*** Up to 200 programmable motiont tasks, 8 operating modes, including integrated point to point positioning.
Supply voltage ranges, 50/60 Hz		Single-phase 100/120 V Single-phase 200/240 V 3-phase 200/240 V 3-phase 380/480 V	Single-phase 200/240 V 3-phase 200/240 V 3-phase 208/480 V
Input voltage		24 V, < to 1 A	24…28 or 20…30 V, 1 or 2.5 A
Output voltage		Maximum 3-phase voltage equal to line supply voltage	
Electrical isolation		Between power and control sections (inputs, outputs)	power supplies)
Protection		“Power Removal” safety function	
Number of inputs/outputs:			
	Analog inputs/outputs	2/ –	2/2 MP/HP only
	Logic inputs/outputs	4/2	5/2
	Safety inputs	2	1
	Relay outputs	–	1
Drive characteristics:			
	Switching frequency	4 or 8 kHz	8 kHz
Control loop characteristics:			
	Torque, Speed, Position	62.5µs, 250µs, 250µs	62.5µs, 250µs, 250µs
Control signals			
	Resolver feedback	–	1
	Motor encoder feedback signals	1	1
	Pulse/direction, A/B encoder signals	1	1
	Simulated encoder output signals	1	1
Communication			
	integrated	Motion Bus, CANopen, Profibus DP ou Modbus	Motion Bus, CANopen
	option	–	Profibus DP, Modbus Plus, FIPIO, Sercos, Ethernet
Option cards		–	Input/output extension card
Standards and certifications		IEC/EN 61800-5-1, IEC/EN 50178, IEC/EN 61800-3 environments 1 and 2 catégories C2 and C3 EN 55011 class A group 1 and 2, (73/23/CEE and 93/68/CEE) and CEM (89/336/CEE) UL, cUL, IEC 60721-3-3 class 3C1	EN 50178, EN 61800-3, environments 1 and 2, categories C2 and C3, (73/23/CEE) and CEM (89/336/CEE) UL, cUL (Canada) IEC 60721-3-3 class 3C1 IEC 60721-3-3, class 3K3

Schneider Electric

Other versions: **please consult your Schneider Electric agency.**

BSH motors

- ***Wide range***
- High dynamics
- ***Compactness:*** new salient pole based winding technology.
- Automatic motor identification and high precision positioning provided by SinCos Hiperface encoder



BDH motors

- ***Wide range:*** more than 68 types of motor.
- Excellent adaptability:
  - Degree of protection IP54 or IP67
  - With or without brake
  - Straight or right-angled connectors
  - Smooth shaft or with key
- ***Compactness:*** new salient pole based winding technology.
- Absolute positioning control provided by SinCos Hiperface encoder

Flange size (mm)	55, 70, 100, 140, 205	40, 58, 70, 84, 108, 138, 188
Nominal speed (rpm)	500 to 8000	500 to 8000
Nominal torque (Nm)	0.41 to 80	0.17 to 48
Maximum rotational speed (rpm)	3800 to 8000	6000 to 8000
Continuous stall torque (Nm)	0.5 to 90	0.18 to 53
Peak stall torque (Nm)	1.4 to 300	0.61 to 108
Type of mounting	IEC	IEC, NEMA
IP protection	IP40, IP65	IP54, IP67
Shaft end	Smooth With closed shaft key (IEC standard)	Smooth With closed shaft key (IEC standard) With open shaft key (NEMA standard)
Holding brake	Option Option	
Integrated sensor	Single turn SinCos Hiperface encoder Multiturn SinCos Hiperface encoder	Resolver Single turn SinCos Hiperface encoder Multiturn SinCos Hiperface encoder
Connector type	IP65 Straight Elbowed	IP65 Elbowed
Magnet type	Neodymium Iron Boron (NdFeB)	Neodymium Iron Boron (NdFeB)
Standards	Operating characteristics, robustness, safety, …, cor forming to IEC/EN 60034-1	
Certifications	European directives UL1004	European directives UL1004
Altitude	Altitude: 1000 m without derating, 2 000 m with k = 0.86 (1), 3000 m with k = 0.8	1000 m without derating, 2000 m with k = 0.94 (1), 3000 m with k = 0.83
Operational temperature	Ambient operating temperature: - 20...40 °C conforming to DIN 50019R14. Maximum 55 °C with derating above 40 °C by 1% per additional °C	5...40 °C conforming to EN 50178 Climatic class 3K3. Maximum 50 °C with derating above 40 °C by 1% per additional °C
Relative humidity	Class F conforming to DIN 400 Climatic class 3K3	95% without condensation conforming to EN 50178
Nominal life of bearings	L_{10h} = 20 000 hours	L_{10h}=20000 hours

(1) k: Derating factor

Module type		For translators (amplifier for stepper motor)		For analog control servomotors (for asynchronous and brushless motors)				
Control outputs		RS 422		+/- 10 V				
Compatible with servodrives		Lexium 05		Lexium 05/15				
Functions	Linear axes	–		Limited		Limited or infinite		Limited or infinite (1)
	Slave axes	–		With static ratio		With dynamic ratio		–
Frequency for each axis		187 kHz		500 kHz with incremental encoder, 200 kHz with absolute encoder (SSI serial or parallel output)				
Number of axes		1	2	2	4	2	4	3
Reference		**TSXCFY11**	**TSXCFY21**	**TSXCAY21**	**TSXCAY41**	**TSXCAY22**	**TSXCAY42**	**TSXCAY33**

(1) With linear interpolation on 2 or 3 axes

4

Module type	Servomotors with SERCOS® digital ring (for brushless motors)		
Control outputs	SERCOS® network ring		
Compatible with servodrives	Lexium 15		
Functions	Linear or infinite independent axes, slave axes with cam profile or ratio		
Processing	4 sets of axes with linear interpolation from 2 to 8 axes	4 sets of axes with linear and circular interpolation from 2 to 3 axes (2)	4 sets of axes with linear interpolation from 2 to 8 axes
Frequency for each axis	4 Mb SERCOS® network ring		
Number of axes	8 (3)	8 (3)	16 (4)
Reference	**TSXCSY84**	**TSXCSY85**	**TSXCSY164**

(2) TSXCSY85 module supplied with TJE trajectory editor: linear trajectories with links between segments according to polynomial or circular interpolation and circular trajectories.

(3) 8 real axes, 4 imaginary axes and 4 remote axes

(4) 16 axes (real axes, imaginary and remote axes)

Connection accessories for Modicon Premium modules

Type		Fiber optic cables For Lexium 15 MDHA1...N00/A00 drives
Connection		Pre-equipped cable with SMA connectors
Reference	L = 0.3 m	**990MCO00001**
	L = 0.9 m	**990MCO00003**
	L = 1.5 m	**990MCO00005**
	L = 4.5 m	**990MCO00015**
	L = 16.5 m	**990MCO00055**
	L = 22.5 m	**990MCO00075**
	L = 37.5 m	**990MCO00125**

Motion controller




Controller type		Optimized	Standard	Extended	
Drives synchronisation	Up to 4 axes	2 ms			
Motion bus	Up to 8 axes	4 ms			
Drives interpolated position loop		250 µs			
Internal memory	RAM	2 Mbytes			
	Flash Eeprom	2 Mbytes			
	Non volatile RAM	64 kbytes			
Application expertise	Application functions (AFB)	yes			
	PLCopen single axis control	yes			
	PLCopen multi axis control	yes			
	2D interpolation	yes			
Number of logical inputs		8	8	8	8
Number of logical outputs		4	8	8	8
Communication	Modbus	yes	yes	yes	yes
	CANopen automation	–	yes	yes	yes
	Ethernet TCP/IP	–	yes	yes	yes
	Profibus DP V1	–	–	yes	–
	Device Net	–	–	–	yes
Reference		**LMC10**	**LMC20**	**LMC20A1307**	**LMC20A1309**

4

Graphic terminal

A remote graphic terminal *combined* with the Lexium Controller is offered as an option with Lexium PAC :	
	■ Backup and recovery of application data ■ Manual mode wiring test ■ Adjustment and diagnostics of Lexium Controller and servodrive ■ Maintenance
Reference	**VW3M1701**

Remote graphic display terminal accessories

Remote cables		**Equipped with 2 RJ45 connectors**
Reference	L = 1 m	**VW3 A1 104 R10**
	L = 3 m	**VW3 A1 104 R30**
	L = 5 m	**VW3 A1 104 R50**

Female/female RJ45 adapter	
Reference	**VW3 A1 105**

Sofware solution included in Lexium Controller

EasyMotion

Easy Motion… for configuring the motioncontrol functions

- Configuration of the axis
- Servodrive and Lexium Controller adjustment and diagnostics
- Creation of a position register by teaching
- Axis operating modes and manual control management
- Edit positioning tasks
- Edit cam profiles
- Application backup and recovery

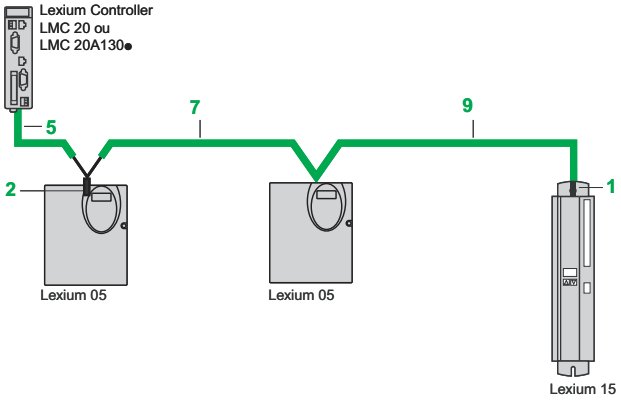
MotionPro

PLCopen motion control

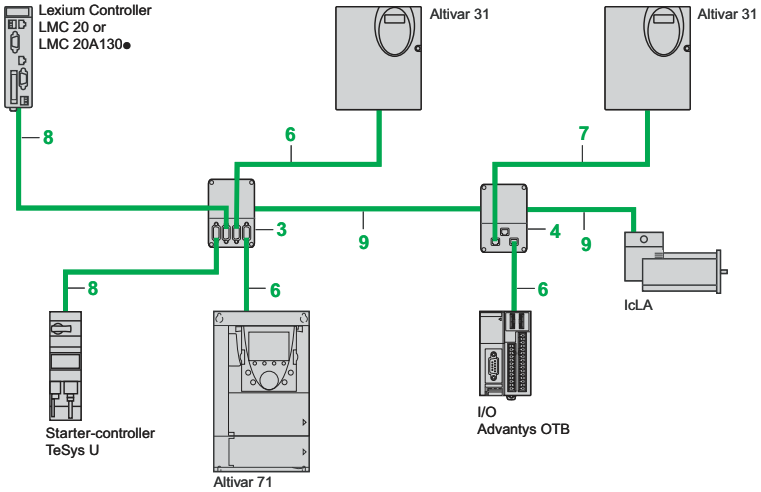
Motion Pro… for configuring and *programming* the motion control functions

- Retains the benefits of Easy Motion for motion control
- The entire application, automation functions and motion control are realized using a programming editor IEC 61131 compliant
- Machine signature recording
- Program code protection

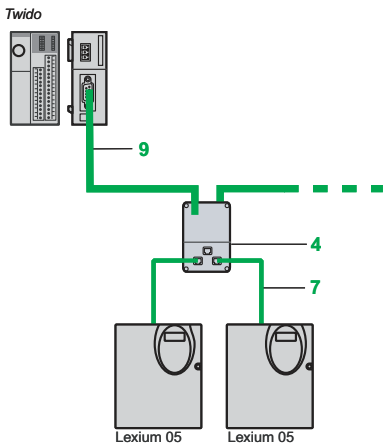
Examples of connection to the CANopen bus dedicated to Motion with the Lexium Controller



Example of connection to the CANopen bus dedicated to Automation with the Lexium Controller



Example of connection to the CANopen bus with Twido and Lexium 05



Motion control

CANopen dedicated to Automation and CANopen dedicated to Motion - Connection accessories

TSX CAN TDM4

VW3 CAN TAP2

Connectors and junction boxes

Designation	No.	Reference
9-way female SUB-D connector/screw terminals	1	VW3 M3 802
Daisy chain tap with 3 RJ45 connectors and 0.3 m cable	2	TCS CTN023F13M03
IP 20 CANopen junction boxes 4 SUB-D and line terminator	3	TSX CAN TDM4
IP 20 CANopen junction boxes 2 RJ45 and line terminator	4	VW3 CAN TAP2

(1) Product not to be used on Motion bus

4

Cordsets

Designation	No.	Length (m)	Reference
9-way female SUB-D with line terminator/RJ45 cordset	5	1	VW3 M3 805R010
9-way female SUB-D/RJ45 cordsets	6	0.5	TCS CCN4F3M05T
		1	TCS CCN4F3M1T
		3	TCS CCN4F3M3T
RJ45/RJ45 cordsets	7	0.3	VW3 CAN CARR 03
		1	VW3 CAN CARR 1
9-way female SUB-D/9-way female SUB-D cordsets	8	0.3	TSX CAN CADD 03
		1	TSX CAN CADD 1
		3	TSX CAN CADD 3
		5	TSX CAN CADD 5

Connection cables

Designation		No.	Length (m)	Reference
IP 20 CANopen cables	Halogen-free	9	50	TSX CAN CA 50
			100	TSX CAN CA 100
			300	TSX CAN CA 300
	UL Certified		50	TSX CAN CB 50
			100	TSX CAN CB 100
			300	TSX CAN CB 300
	Harsh environment		50	TSX CAN CD 50
			100	TSX CAN CD 100
			300	TSX CAN CD 300

Schneider Electric

Other versions: **please consult your Schneider Electric agency.**

Servodrives for BSH servomotors

Control and connectivity	
+ or - 10 V. Pulse / direction Motion Bus / CANopen	Profibus DP
Torque control, speed control, point to point, gearing, homing	



Servodrive type		Digital for servomotors		
		Size 1	Size 2	Size 3
Supply voltage		110…120 VAC single phase		
Output current (A)	Continuous (RMS)	4	8	15
	Maximum (RMS)	7	12	20
Power (kW)		0.4	0.65	0.85
Safety function		Integrated “Power Removal”		
Braking resistor		Integrated		
EMC filter		Integrated		
Reference (1)		**LXM05●D10F1**	**LXM05●D17F1**	**LXM05●D28F1**


Servodrive type		Digital for servomotors					
		Size 1	Size 2	Size 3	Size 1	Size 2	Size 3
Supply voltage		200…240 VAC single phase			200…240 VAC 3-phase		
Output current (A)	Continuous (RMS)	4	8	15	4	8	17
	Maximum (RMS)	7	12	20	7	12	30
Power (kW)		0.75	1.2	2.5	0.75	1.4	3.2
Safety function		Integrated “Power Removal”					
Braking resistor		Integrated					
EMC filter		Integrated			Not integrated		
Reference (1)		**LXM05●D10M2**	**LXM05●D17M2**	**LXM05●D28M2**	**LXM05●D10M3X**	**LXM05●D17M3X**	**LXM05●D42M3X**


Servodrive type		Digital for servomotors			
		Size 2	Size 2	Size 3	Size 4
Supply voltage		380…480 VAC 3-phase		380…480 VAC 3-phase	
Output current (A)	Continuous (RMS)	6	9	15	25
	Maximum (RMS)	10	16	24	40
Power (kW)		1.4	2	3	6
Safety function		Integrated “Power Removal”			
Braking resistor		Integrated			
EMC filter		Integrated			
Reference (1)		**LXM05●D14N4**	**LXM05●D22N4**	**LXM05●D34N4**	**LXM05●D57N4**

(1) To order a Lexium 05 servodrive with CANopen bus integrated, replace “●” by “A”. Example LXM05●D14N4 become LXM05**A**D14N4.
To order a Lexium 05 servodrive with PROFIBUS DP bus integrated, replace “●” by “B”. Example LXM05●D14N4 become LXM05**B**D14N4.

PowerSuite software workshop

Multilingual configuration software		For PC
Configuration of drives and softstarters		Lexium 05 / Altivar / Altistart
Environment		Microsoft Windows ®
Languages		English - French - German - Italian - Spanish
Reference	PowerSuite CD-ROM	
	Connection kit	**VW3A8106**

Additional EMC input filters

Supply voltage			Single phase	3-phase
Maximum cable length		Category C3	40 m (100 m with a switching frequency of 8 kHz)	40 m (100 m with a switching frequency of 8 kHz)
		Category C2	20 m	20 m
Reference	Drives	Size 1	LXM05AD10F1, LXM05AD10M2	LXM05AD10M3X
	Filters		**VW3A31401**	**VW3A31402**
	Drives	Size 2	LXM05AD17F1, LXM05AD17M2	LXM05AD17M3X, LXM05AD14N4
	Filters		**VW3A31403**	**VW3A31404**
	Drives	Size 3	LXM05AD28F1, LXM05AD28M2	LXM05AD42M3X, LXM05AD22N4, LXM05AD34N4
	Filters		**VW3A31405**	**VW3A31406**
	Drives	Size 4		LXM05AD57N4
	Filters		–	**VW3A31407**

Line inductances

Supply voltage			Single phase		3-phase	
			110…120 V	200…240 V	200…240 V	380…480 V
References	Drives	Size 1	LXM05AD10F1	LXM05AD10M2	LXM05AD10M3X	
	Inductances		**VZ1L007UM50**	**VZ1L007UM50**	**VW3A4551**	–
	Drives	Size 2	LXM05AD17F1	LXM05AD17M2	LXM05AD17M3X	LXM05AD10N4, LXM05AD22N4
	Inductances		**VZ1L018UM20**	**VZ1L018UM20**	**VW3A4552**	**VW3A4551**
	Drives	Size 3	LXM05AD28F1	LXM05AD28M2	LXM05AD42M3X	LXM05AD34N4
	Inductances		**VZ1L018UM20**	**VZ1L018UM20**	**VW3A4553**	**VW3A4552**
	Drives	Size 4				LXM05AD57N4
	Inductances		–	–	–	**VW3A4552**

Other versions: **please consult your Schneider Electric agency.**

Holding brake controller

Controller type	Holding brake
Power supply	24 VDC
Maximum current	1.6 A
Maximum power	50 W
Degree of protection	IP20
Reference	**VW3M3103**

External braking resistors

Resistor type				External braking for Lexium 05 drives						
Resistance				10 Ω	27 Ω			72 Ω		
Power				400 W	100 W	200 W	400 W	100 W	200 W	400 W
Reference (1)	cable lenght	L = 0.75 m	**VW3**	**A7601R07**	**A7602R07**	**A7603R07**	**A7604R07**	**A7605R07**	**A7606R07**	**A7607R07**
		L = 2 m	**VW3**	**A7601R20**	**A7602R20**	**A7603R20**	**A7604R20**	**A7605R20**	**A7606R20**	**A7607R20**
		L = 3 m	**VW3**	**A7601R30**	**A7602R30**	**A7603R30**	**A7604R30**	**A7605R30**	**A7606R30**	**A7607R30**

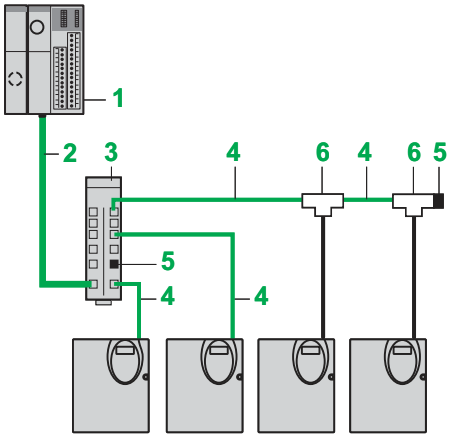
(1) In order to select the braking resistor, you need to calculate the continuous and peak power to be dissipated in it. Please consult our Lexium 05 catalog

Modbus serial link connection accessories

Drives			Lexium 05		
Connection type	Description		Splitter box with 10 RJ45 connectors and 1 screw terminal block	Junction box for drop cable VW3A8306D30	Subscriber socket for drop cable VW3A8306
	Reference		**LU9GC3**	**TSXSCA50**	**TSXSCA62**
Line terminators	For RJ 45 connector		R = 120 Ω, C = 1 nf	R = 150 Ω, C = 1 nf	
	Reference		**VW3A8306RC**	**VW3A8306R**	
	For screw terminals		R = 120 Ω, C = 1 nf	R = 150 Ω, C = 1 nf	
	Reference		**VW3A8306DRC**	**VW3A8306DR**	
T-junction boxes	With integrated cable	0.3 m	**VW3A8306TF03**		
	With integrated cable	1 m	**VW3A8306TF10**		
Cables	Description		2 RJ 45 connectors		
	Reference	0.3 m	**VW3A8306R03**		
		1 m	**VW3A8306R10**		
		3 m	**VW3A8306R30**		
RS 485 shielded twisted double pair cables	Description		1 RJ45 connector and one stripped end		
	Reference	3 m	**VW3A8306D30**		
	Description		Supplied without connector		
	Reference	100 m	**TSXCSA100**		
		200 m	**TSXCSA200**		
		500 m	**TSXCSA500**		

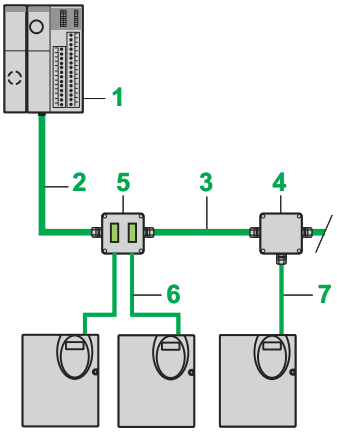
4

Connection with RJ45 splitter box and screw terminals



1 Controller Twido
2 Cable for controller Twido serial link
3 Modbus splitter box LU9 GC3
4 Modbus drop cables VW3 A8 306R●●
5 Line terminators VW3 A8 306RC
6 Modbus T-junction boxes VW3 A8 306TF●● (with cable)

Connection with junction box or subscriber sockets



1 Controller Twido
2 Cable for controller Twido serial link
3 Modbus cables TSX CSA●00
4 T-junction box TSX SCA 50
5 Subscriber socket TSX SCA 62
6 Modbus drop cables VW3 A8 306
7 Modbus drop cables VW3 A8 306 D30

Connection via screw terminals
In this case, a Modbus drop cable (VW3 A8 306D30) and line terminators (VW3 A8 306DRC) are used.

BSH servomotors for Lexium 05

BSH servomotors		Lexium 05 servodrives								
			110/120 V single phase, with integrated EMC filter				200/240 V single phase, with integrated EMC filter			
			LXM 05●				LXM 05●			
Reference	Torque at standstill	Nominale speed	D10F1 0.4 kW	D17F1 0.65 kW	D28F1 1.4 kW		Nominale speed	D10M2 0.75 kW	D17M2 1.2 kW	D28M2 2.5 kW	
BSH 0551T	0.5 Nm	3000 min-1	1.4 Nm				6000 min-1	1.4 Nm			
BSH 0552M	0.9 Nm						1500 min-1	2.3 Nm			
BSH 0552P	0.9 Nm						4000 min-1	2.7 Nm			
BSH 0552T	0.9 Nm	3000 min-1	1.77 Nm	2.7 Nm			6000 min-1	1.77 Nm			
BSH 0553M	1.3 Nm						1500 min-1	4.2 Nm			
BSH 0553P	1.3 Nm						4000 min-1	3.18 Nm			
BSH 0553T	1.3 Nm	3000 min-1		3.31 Nm			6000 min-1		3.31 Nm		
BSH 0701P	1.4 Nm						3000 min-1	3.2 Nm			
BSH 0701T	1.4 Nm	2500 min-1	2.42 Nm				5000 min-1		3.19 Nm		
BSH 0702M	2.1 Nm						1500 min-1	6.8 Nm			
BSH 0702P	2.2 Nm						3000 min-1	5.37 Nm	7.55 Nm		
BSH 0702T	2.12 Nm	2500 min-1		4.14 Nm			6000 min-1		4.14 Nm	6.8 Nm	
BSH 0703M	2.8 Nm						1500 min-1	10 Nm			
BSH 0703P	3.1 Nm						3000 min-1		7.28 Nm	10.3 Nm	
BSH 0703T	2.8 Nm	2500 min-1			7.38 Nm		6000 min-1			7.38 Nm	
BSH 1001T	3.4 Nm	2500 min-1			8.5 Nm		4000 min-1			8.5 Nm	
BSH 1002P	5.8 Nm						2000 min-1			18.3 Nm	
BSH 1003P	7.8 Nm						2000 min-1			22.79 Nm	

			200/240 V three phase, without integrated EMC filter				380/480 V three phase, with integrated EMC filter				
			LXM 05●				LXM 05●				
Reference	Torque at standstill	Nominale speed	D10M3X 0.75 kW	D17M3X 1.4 kW	D42M3X 3.2 kW		Nominale speed	D14N4 1.4 kW	D22N4 2 kW	D34N4 3 kW	D57N4 6 kW
BSH 0551T	0.5 Nm	6000 min-1	1.4 Nm								
BSH 0552M	0.9 Nm	1500 min-1	2.3 Nm								
BSH 0552P	0.9 Nm	4000 min-1	2.7 Nm				6000 min-1	2.7 Nm			
BSH 0552T	0.9 Nm	6000 min-1	1.77 Nm								
BSH 0553M	1.3 Nm	1500 min-1	4.2 Nm								
BSH 0553P	1.3 Nm	4000 min-1	3.18 Nm				6000 min-1	3.87 Nm			
BSH 0553T	1.3 Nm	6000 min-1		3.31 Nm							
BSH 0701M	1.4 Nm	1500 min-1	3.2 Nm								
BSH 0701P	1.4 Nm	3000 min-1	3.2 Nm								
BSH 0701T	1.4 Nm	6000 min-1	2.41 Nm	3.19 Nm							
BSH 0702M	2.1 Nm	1500 min-1	6.8 Nm								
BSH 0702P	2.2 Nm	3000 min-1	5.37 Nm	7.55 Nm			6000 min-1	7.55 Nm			
BSH 0702T	2.12 Nm	4500 min-1			6.8 Nm						
BSH 0703M	2.8 Nm	1500 min-1	10 Nm				3000 min-1	10.3 Nm			
BSH 0703P	3.1 Nm	3000 min-1		7.28 Nm			6000 min-1		8.92 Nm		
BSH 0703T	2.8 Nm	6000 min-1			10.25 Nm						
BSH 1001M	3.4 Nm						2000 min-1	8.5 Nm			
BSH 1001P	3.3 Nm	2000 min-1		9.45 Nm			4000 min-1		9.45 Nm		
BSH 1001T	3.4 Nm	4000 min-1			8.5 Nm						
BSH 1002M	5.5 Nm						2000 min-1	16 Nm			
BSH 1002P	5.8 Nm	2000 min-1		12.35 Nm			4000 min-1		15.43 Nm		
BSH 1002T	5.52 Nm	4000 min-1			16 Nm						
BSH 1003M	7.8 Nm						2000 min-1		27.8 Nm		
BSH 1003P	8 Nm	2000 min-1			28.3 Nm		4000 min-1			26.97 Nm	
BSH 1004P	10 Nm	1500 min-1			35.7 Nm		3000 min-1			22.53 Nm	30.41 Nm
BSH 1401P	11.1 Nm				30.41 Nm		2500 min-1			26.2 Nm	
BSH 1401T	11.1 Nm	2500 min-1			27.1 Nm						
BSH 1402M	19.5 Nm						1250 min-1			57.1 Nm	
BSH 1402P	19.5 Nm	1500 min-1			46.42 Nm		3000 min-1			38.6 Nm	57.42 Nm
BSH 1402T	14.73 Nm	2000 min-1			25.04 Nm						
BSH 1403M	27.8 Nm						1500 min-1			76.66 Nm	88.17 Nm
BSH 1403P	27.8 Nm						3000 min-1				57.24 Nm
BSH 1404M	33.4 Nm						1500 min-1				126.45 Nm
BSH 1404P	33.4 Nm						3000 min-1				60.04 Nm

1.4 Nm This value corresponds to the peak torque at standstill that can be provided by the Lexium 05 servodrive/ BSH servomotor combination.

● replaced by A for the CANopen/analog inputs version, replaced by B for the Profibus DP version.

4

Servodrives Lexium 15 for BSH and BDH servomotors

Servodrive type		Lexium 15 LP					
Supply voltage		3-phase 200...240 V, 50/60 Hz Available in 1-phase with derating			3-phase 208...480 V, 50/60 Hz		
Output current (A)	Continuous	3 A	6 A	10 A	1,5 A	3 A	6 A
	Maximum (discontinuous, 2 s)	13 A	21 A	28 A	6 A	10 A	17 A
Powers (kW)		1	2.1	3.4	1.1	2.1	4.3
Sécurity function		Power removal integrated					
Braking resistor		Integrated					
EMC filters class A		Integrated					
Line reactors		Integrated					
References		LXM15LD13M3	LXM15LD21M3	LXM15LD28M3	LXM15LU60N4	LXM15LD10N4	LXM15LD17N4

4

Servodrive type		Lexium 15 MP		
Supply voltage		3-phase 208...480 V, 50/60 Hz 200-240 V, 50/60 Hz		
Output current (A)	Continuous	10 A	14 A	20 A
	Maximum (discontinuous, 5 s)	28 A	40 A	56 A
Powers (kW)		5.7	7.9	11.4
Sécurity function		Power removal integrated		
Braking resistor		Integrated		
EMC filters class A		Integrated		
Line reactors		Integrated		
References		LXM15MD28N4	LXM15MD40N4	LXMMD56N4

Servodrive type		Lexium 15 HP	
Supply voltage		3-phase 208...480 V, 50/60 Hz	
Output current (A)	Continuous	40 A	70 A
	Maximum (discontinuous, 5 s)	80 A	140 A
Powers (kW)		22.3	42.5
Sécurity function		Power removal integrated	
Braking resistor		Option, requires in neutral mode TT and TN	
EMC filters class A		Option	
Line reactors		Option, requires in neutral mode TT and TN	
References		LXM15HC11N4X	LXM15HC20N4X

Schneider Electric

Other versions: **please consult your Schneider Electric agency.**

External braking resistor

Resistor type		External braking for Lexium 15 servodrives			
Continuous power PPr (W)		100	200	400	1000
Reference	5 Ω	–	–	–	**VW3A7707**
	10 Ω	–	–	**VW3A7601R●** (1)	**VW3A7705**
	27 Ω	**VW3A7602R●** (1)	**VW3A7603R●** (1)	**VW3A7604R●** (1)	–
	72 Ω	**VW3A7605R●** (1)	**VW3A7606R●** (1)	**VW3A7607R●** (1)	–
	100 Ω	**VW3A7608R●** (1)	–	–	–

(1) For a length of connection cable of 0,75 m replace ● by 07
2 m replace ● by 20
3 m replace ● by 30

Additional EMC input filters

Supply voltage	3-phase 208…480 VAC	
Type of Lexium 15 HP servodrive	LXM15HC11N4X	LXM15HC20N4X
Input rms current (A)	42	75
Maximum motor cable length	100 m	100 m
References	VW3M4101	VW3M4102

Line reactors

Supply voltage	3-phase 208…480 VAC	
Type of Lexium 15 HP servodrive	LXM15HC11N4X	LXM15HC20N4X
Input current (A)	60	75
References (1)	VW3M4301	VW3M4302

(1) Must be ordered with the drive, unless an isolation transformer is being used with IT connection

Motor reactor

Supply voltage	3-phase 208…480 VAC			
Type of Lexium 15 HP servodrive	LXM15LD13M3 LXM15LD21M3 LXM15L...N4	LXM15LD28M3 LXM15MD28N4	LXM15MD40N4	LXM15MD56N4
Input nominal current (A)	6	10	14	20
References	VW3M5301	VW3M5302	VW3M5303	VW3M5304

Control and connectivity	
+ or -10 V. Pulse / direction Motion Bus / CANopen	Profibus DP / FIPIO Modbus Plus / Ethernet Sercos
Torque control loop, speed control loop, position control loop, motion tasks, point to point, gearing, position registers, homing	

Accessories type	Backup key
Use	Saves the servodrive operating parameters and instantly reinitiates settings (without PC)
References	**VW3 M8 701**

Accessories type		Master / Slave cable	Cable for PC serial port
Connector type		2 SUB-D connectors female 9 pins	
References	L = 0.5 m	VW3 M8 501 R05	
	L = 2 m	VW3 M8 501 R20	
	L = 3 m	–	VW3 M8 501 R03
	L = 6 m	VW3 M8 501 R60	

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Inputs/outputs extension card

Card type	Card AM0 INE 001V000
Number of logic inputs	10
Number of logic outputs	8

Communication bus connection CANopen

Connection type		Integrated Connector	Card AM02CA001V000 Connector	Cable		
Connector type		1 SUB-D male 9 pins	2 SUB-D male 9 pins 1 SUB-D female 9 pins	–	–	–
Cable type		–	–	Halogen-free	UL certification	Harsh environments
References	L = 50 m	–	–	TSXCANCA50	TSXCANCB50	TSXCANCD50
	L = 100 m	–	–	TSXCANCA100	TSXCANCB100	TSXCANCD100
	L = 300 m	–	–	TSXCANCA300	TSXCANCB300	TSXCANCD300

FIPIO card

Connection type		Card AM0 FIP 001V000 Connector	Cable	
Connector type		SUB-D male 9 pins	–	–
Cable type		–	Standard environment	Harsh environments
References	L = 100 m	–	TSX FP CA 100	TSX FP CR 100
	L = 200 m	–	TSX FP CA 200	TSX FP CR 200
	L = 500 m	–	TSX FP CA 500	TSX FP CR 500

Modbus Plus card

Connection type		Card AM0 MBP 001V000	
		Connector	Cable
Connector type		SUB-D female 9 pins	–
References	L = 30.5 m	–	490 NAA 271 01
	L = 152.5 m	–	490 NAA 271 02
	L = 305 m	–	490 NAA 271 03
	L = 457 m	–	490 NAA 271 04
	L = 1525 m	–	490 NAA 271 06

Profibus DP card

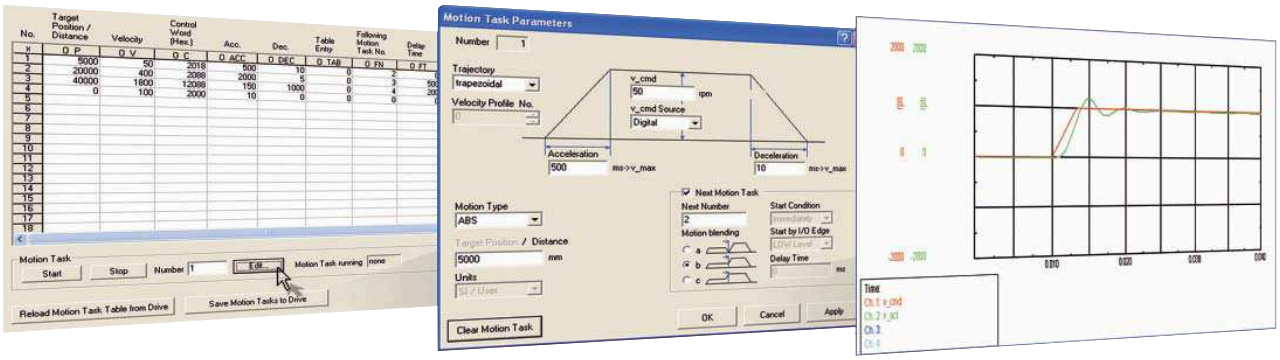
Connection type		Card DP VW3 M3 306	
		Connector	Cable
Connector type		2 SUB-D female 9 pins	–
References	L = 100 m	–	TSX PBS CA 100
	L = 400 m	–	TSX PBS CA 400

Ethernet card

Connection type		Card AM0 ETH 001V000		
		Connector	Cable	
Connector type		2 RJ45 connectors	–	
Cable type		–	Straight twisted pair	Crossed twisted pair
References	L = 2 m	–	490 NTW 000 02	–
	L = 5 m	–	490 NTW 000 05	490 NTW 000 05
	L = 12 m	–	490 NTW 000 12	–
	L = 15 m	–	–	490 NTW 000 15
	L = 40 m	–	490 NTW 000 40	490 NTW 000 40
	L = 80 m	–	490 NTW 000 80	490 NTW 000 80

Sercos card

Connection type		Card AM0 SER 001V000	
		Connector	Cable
Connector type		SMA	–
Fiber optic references	L = 0.3 m	–	990 MCO 000 01
	L = 0.9 m	–	990 MCO 000 03
	L = 1.5 m	–	990 MCO 000 05
	L = 4.5 m	–	991 MCO 000 15
	L = 16.5 m	–	991 MCO 000 55
	L = 22.5 m	–	991 MCO 000 75
	L = 37.5 m	–	992 MCO 001 25



Unilink software for PC is a tool for configuring Lexium 15 servodrive operating parameters.
Its simple, easy-to-follow graphic interface helps to reduce setup costs.
It incorporates various functions for the setup phases, such as:

- Parameter setting
- Advanced adjustment of the various control loops
- Programming motion tasks
- Supervision

This software is available in two versions, for configuring Lexium 15 LP servodrives (Unilink L) and Lexium 15 MP/15 HP servodrives (Unilink MH).
It is supplied with the servodrive as standard.

Configuration and adjustment software	«Unilink» for PC
Drives configuration	Lexium 15
Environment	Microsoft Windows R
Language	English, French, German, Italian and Spanish
Contents	CD- Rom deliver with the product : Unilink software + documentation (1)

(1) All the documentation on www.schneider-electric.com

BSH servomotors for Lexium 15

Servodrive type			Lexium 15 LP						Lexium 15 HP			Lexium 15 HP	
			With EMC filters integrated										
			200…240V/1-phase and 3-phase			208…480 V 3-phase			208…480 V 3-phase			208…480V/3-phase	
			LXM15L						LXM15M			LXM15H	
BSH…	**Mo** (1)	**Nmax** (2)	D13M3	D21M3	D28M3	U60N4	D10N4	D17N4	D28N4	D40N4	D56N4	C11N4X	C20N4X
0551 P	0.5	3000	1.4			1.4							
0551 T	0.5	7000	1.4										
0552 M	0.9	4000				2.25							
0552 P	0.9	4000	2.54										
0552 T	0.9	7000	2.7			2.26							
0553 M	1.3	4000				3.5							
0553 P	1.3	7500	4.2				3.87						
0701 P	1.41	3000	2.66	3.19		2.66							
0701 T	1.36	6000	3.19				2.91						
0702 M	2.12	3000				5.63							
0702 P	2.12	7000	5.63				4.85						
0702 T	2.12	6000		5.45				4.47					
0703 P	2.83	6500		9.28				7.71					
0703 T	2.83	5500			7.38								
1001 P	3.39	2500		7.68			6.19						
1001 T	3.39	4000			8.5								
1002 P	5.52	5000		14.79				12.13					
1002 T	5.52	4000			11.59								
1003 M	7.76	2000					23	22.95					
1003 P	7.76	4500			19.69				19.7	23.17			
1004 M	9.31	2000					29.9	29.87		33.83			
1004 P	9.31	4000							23.6	33.83			
1004 T	9.31	3500								21.04			
1401 M	11.4	1500							26				
1401 P	11.4	3000							23.3	23.33			
1401 T	11.4	2520								22.27	23.33		
1402 M	19.2	1500								47.5			
1402 P	19.2	3500								39.33	47.5		
1403 M	25.4	1500								71.67			
1403 P	25.4	3500									57.2		
1404 M	32.1	1500								82.32	95		
2051 M	36	1500								68.33	68.33	68.33	
2051 P	36	3000										82	
2052 M	65	1500										200	200
2052 P	65	2000										118.54	193.45
2053 M	90	1500										227.18	300
2053 P	90	2000											202.96

(1) Mo = Nominal torque in Nm

(2) N max = Maximum speed in rpm

1.4 = Value in Nm corresponding to the peak stall torque of servodrive-motor combination

BDH servomotors for Lexium 15

Servodrive type			Lexium 15 LP						Lexium 15 MP		
			With EMC filters integrated								
			200…240V/1-phase and 3-phase			208…480V/3-phase			208…480V/3-phase		
			LXM15L						LXM15M		
BDH…	Mo (1)	Nmax (2)	D13M3	D21M3	D28M3	U60N4	D10N4	D17N4	D28N4	D40N4	D56N4
0401 B	0.18	8000	0.61								
0402 C	0.31	8000	1.08								
0403 C	0.41	8000	1.46								
0582 C	0.84	7500				2.34					
0582 E	0.87	7000	2.42								
0583 C	1.13	6000				3.2					
0583 D	1.16	8000	3.84				3.42				
0583 F	1.18	8000		3.52							
0584 C	1.38	5000				3.94					
0584 D	1.41	8000	4.76				4.22				
0584 F	1.42	6500		4.68							
0701 C	1.15	5500				3.34					
0701 E	1.2	5500	3.24								
0702 C	2	3500				5.74					
0702 D	2.04	5500	7.05				6.18				
0702 H	2.1	6500		5.36							
0703 C	2.71	2500				7.83					
0703 E	2.79	4500	8.95				7.7				
0703 H	2.88	5000		7.35							
0841 C	1.95	3000				5.12					
0841 E	2.02	5500	5.33				4.64				
0841 H	2.06	6000		4.78							
0842 C	3.35	3500				9.37					
0842 E	3.42	6000	9.72				8.41				
0842 G	3.53	5500		9.56				7.99			
0842 J	3.56	5500			7.75				7.75		
0843 E	4.7	3000					11.7				
0843 G	4.8	5000		13.2				10.9			
0843 K	4.9	5000			9.66				9.66		
0844 E	5.76	2500					14.1				
0844 G	5.88	4500		16.1				13.3			
0844 J	6	3500			12.9				12.9		
1081 E	4.7	3000					10.9				
1081 G	4.75	5000		11.7				10.2			
1081 K	4.9	5000			9.22				9.22		
1082 E	8.34	2000					18.5				
1082 G	8.43	3000		21.5				18.9			
1082 K	8.6	6000			16.9				16.9		
1082 M	8.6	4000								16.7	
1083 G	11.4	2500						25.8			
1083 K	11.6	4500			22.9				22.9		
1083 M	11.4	3000								22.1	
1083 P	11.4	5000									22.2
1084 G	14.3	2000						31.7			
1084 K	14.4	2000			28.1				28.1		
1084 L	14.1	4500								29.5	
1084 N	14.1	4000									29.6
1382 G	11,9	2000						25.6			
1382 K	12,2	4500			30.1				30.1		

Other versions: **please consult your Schneider Electric agency.**

BDH servomotors for Lexium 15

Servodrive type			Lexium 15 LP						Lexium 15 MP		
			With EMC filters integrated								
			200…240V/1-phase and 3-phase			208…480V/3-phase			208…480V/3-phase		
			LXM15L						LXM15M		
BDH…	Mo (1)	Nmax (2)	D13M3	D21M3	D28M3	U60N4	D10N4	D17N4	D28N4	D40N4	D56N4
	1382 M	12.2	6000							22.8	
1382 P	12.3	4000									23.2
1383 G	16.5	1500						38.4			
1383 K	16.8	3500			31				31		
1383 M	17	4500								31.4	
1383 N	17	5500									34.8
1384 K	20.8	2500							41.2		
1384 L	21	3500								41.9	
1384 P	20.4	5000									40.2
1385 K	24.8	2000							46.8		
1385 M	25	3000								47.6	
1385 N	24.3	4000									50.2
1882 K	29.7	1500							59.4		
1882 M	30	2000								59.8	
1882 P	29.4	3000									58.4
1883 M	42	1500								80.7	
1883 P	41.6	2500									79.4
1884 L	53	1500								108	
1884 P	52.5	2000									106

(1) Mo = Nominal torque in Nm

(2) N max = Maximum speed in rpm

0.61 = Value in Nm corresponding to the peak stall torque of servodrive-motor combination

To order a BSH motor, please use these references

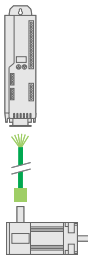
Reference to be completed:		BSH	●●●	●	●	●	●	●	●	A
Flange size	55 mm		055							
	70 mm		070							
	100 mm		100							
	140 mm		140							
	205 mm		205							
Length (Number of magnet stacks)	1			1						
	2			2						
	3			3						
	4			4						
Winding type	Lowest speed				M					
	Medium speed				P					
	Highest speed				T					
Shaft (1)	w/o key (smooth) : IP40 (IP65)					0				
	with key : IP40 (IP65)					1				
	w/o key : IP65					2				
	with key IP65					3				
Encoder	Absolute SinCos, single turn (128 periods per revolution)						1			
	Absolute SinCos multi turn (4096 revolutions)						2			
Brake	w/o brake							A		
	with brake							F		
Connection System	Straight connector								1	
	right angle turnable connector								2	
Mounting	International standard mounting									A

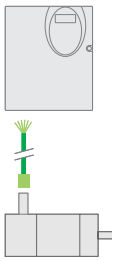
BDH servomotors

To order a BDH motor, please use these references

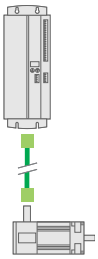
Reference to be completed:			BDH	●●●	●	●	●	●	●	●	●
Flange size		40 mm		040							
		58 mm		058							
		70 mm		070							
		84 mm		084							
		108 mm		108							
		138 mm		138							
		188 mm		188							
Length (Number of magnet stacks)		1			1						
		2			2						
		3			3						
		4			4						
		5			5						
Winding type						AàZ					
Shaft end	IP 54	Untapped					0				
		Keyed					1				
	IP 67	Untapped					2				
		Keyed					3				
Integrated sensor		Single turn, SinCos Hiperface® 4096 points/turn						1			
		Multiturn, SinCos Hiperface® 4096 points/turn, 4096 turns						2			
		2-pole resolver						5			
Holding brake		None							A		
		With							F		
Connection		Angled connectors that can be rotated through 90°									
Flange		International IEC standard								2	A
		NEMA									B

(1) Other possibilities to be detailed: see www.schneider-electric.com



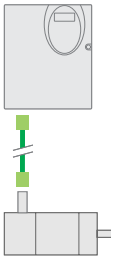


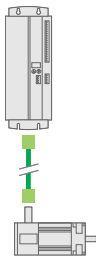
Cable type			Power cable fitted with 1 connector (servomotor side)				
Servomotor type		BSH	055●● / 070●● / 100●● 1401P / 1402M / 1402P / 1403M / 1404M		1401T / 1403P / 1404P	2051M 1402T	2051P
		BDH		040●●/058●●/070●●/ 084●●/108●E/108●G/ 108●K/138●G/138●K			
Servodrive type			LXM05 All type	LXM15 L…..	LXM05 D42M3X / D57N4	LXM05 D57N4	LXM15 HC..N4X
Composition			4x1.5 mm² + 2x1 mm²		4x2.5 mm² + 2x1 mm²	4x4 mm² + 2x1 mm²	
Reference	L = 3		VW3M5101R30	VW3M5101R30	VW3M5102R30	VW3M5103R30	
	L = 5		VW3M5101R50	VW3M5101R50	VW3M5102R50	VW3M5103R50	
	L = 10		VW3M5101R100	VW3M5101R100	VW3M5102R100	VW3M5103R100	
	L = 15		VW3M5101R150	VW3M5101R150	VW3M5102R150	VW3M5103R150	
	L = 20		VW3M5101R200	VW3M5101R200	VW3M5102R200	VW3M5103R200	
	L = 25		VW3M5101R250	VW3M5101R250	VW3M5102R250	VW3M5103R250	
	L = 50		VW3M5101R500	VW3M5101R500	VW3M5102R500	VW3M5103R500	
	L = 75		VW3M5101R750	–	VW3M5102R750	VW3M5103R750	



Cable type			Power cable fitted with 2 connectors				
Servomotor type		BSH	1003P / 1004● / 1401M / 1401P / 1402M / 1402P / 1403M / 1404M	1401T / 1403P / 1404P	1402T / 2051M / 2051P		2052M / 2052P / 2053M / 2053P
		BDH	084●● / 108●K / 138●K / 188●K ;	108●L / 108●M / 138●L / 138●M / 188●L / 188●M		108●N / 108●P / 138●N / 138●P / 188●P	
Servodrive type			LXM15 MD..N4				LXM15 HC..N4X
Composition			4x1.5 mm² + 2x1 mm²	4x2.5 mm² + 2x1 mm²	4x4 mm² + 2x1 mm²	4x4 mm² + 2x1 mm²	4x10 mm² + 2x1 mm²
Reference	L = 3		VW3M5201R30	VW3M5202R30	VW3M5203R30	VW3M5213R30	–
	L = 5		VW3M5201R50	VW3M5202R50	VW3M5203R50	VW3M5213R50	–
	L = 10		VW3M5201R100	VW3M5202R100	VW3M5203R100	VW3M5213R100	VW3M5304R100
	L = 15		VW3M5201R150	VW3M5202R150	VW3M5203R150	VW3M5213R150	–
	L = 20		VW3M5201R200	VW3M5202R200	VW3M5203R200	VW3M5213R200	VW3M5304R200
	L = 25		VW3M5201R250	VW3M5202R250	VW3M5203R250	VW3M5213R250	–
	L = 50		VW3M5201R500	VW3M5202R500	VW3M5203R500	VW3M5213R500	VW3M5304R500
	L = 75		VW3M5201R750	VW3M5202R750	VW3M5203R750	VW3M5213R750	–
	L = 100		–	–	–	–	VW3M5304R1000

Connecting cables





Cable type			Encoder cable SinCos Hiperface fitted with 2 connectors		Resolver cable fitted with 2 connectors
Servomotor type		BSH	All type	All type	All type
		BDH	–	All type	All type
Servodrive type			LXM05	LXM15	LXM15
			All type	All type	All type
Composition			5x(2x2.5 mm²) + 2x0.5 mm²	5x(2x0.25 mm²) + 2x0.5 mm²²	5x(2x0.25 mm²) + 2x0.5 mm²
Reference	L = 3		VW3M8101R30	VW3M8301R30	VW3M8401R30
	L = 5		VW3M8101R50	VW3M8301R50	VW3M8401R50
	L = 10		VW3M8101R100	VW3M8301R100	VW3M8401R100
	L = 15		VW3M8101R150	VW3M8301R150	VW3M8401R150
	L = 20		VW3M8101R200	VW3M8301R200	VW3M8401R200
	L = 25		VW3M8101R250	VW3M8301R250	VW3M8401R250
	L = 50		VW3M8101R500	VW3M8301R500	VW3M8401R500
	L = 75		VW3M8101R750	VW3M8301R750	VW3M8401R750

4

Connection elements

Connection type			Power cable			Control cable SinCos Hiperface
Servomotor type		BSH	All type			
Servodrive type			LXM05 All type			
Composition			4x1.5 mm² + 2x1 mm²	4x2.5 mm² + 2x1 mm²	4x4 mm² + 2x1 mm²	
Reference	L = 25		VW3 M5 301 R250	VW3 M5 302 R250	VW3 M5 303 R250	VW3 M8 221 R250
	L = 50		VW3 M5 301 R500	VW3 M5 302 R500	VW3 M5 303 R500	VW3 M8 221 R500
	L = 100		VW3 M5 301 R1000	VW3 M5 302 R1000	VW3 M5 303 R1000	VW3 M8 221 R1000

Connection type			Connector BSH end	LXM 05 end
Power connection	cross-section	1.5 mm²	VW3 M8 215	–
		2.5 mm²	VW3 M8 216	–
		4 mm²	VW3 M8 217	–
Control connection			VW3 M8 213	VW3 M8 214

Schneider Electric has selected GBX gearboxes made by Neugart to be used in association with the BSH and BDH servomotor ranges.
As their association with BSH or BDH servomotors has been fully qualified and they are very easy to mount, the gearboxes are simple to put into operation and risk free.
Available in 5 sizes (GBX 40... GBX 160), the planetary gearboxes are offered in 12 gear ratios (3:1...40:1).

To order a GBX planetary gearbox, complete each reference with

Reference to be completed:				**GBX**	●●●		●●●		●●●		●		●
Size (Junction box diameter)			40 mm		040								
			60 mm		060								
			80 mm		080								
			115 mm		120								
			160 mm		160								
Speed reduction ratio			3:1		003								
			4:1				004						
			5:1				005						
			8:1				008						
			9:1				009						
			12:1				012						
			15:1				015						
			16:1				016						
			20:1				020						
			25:1				025						
			32:1				032						
			40:1				040						
Servomotor	**Associated BDH**	**Type**	BDH 040						040				
			BDH 058						058				
			BDH 070						070				
			BDH 084						084				
			BDH 108						108				
			BDH 138						138				
	Associated BSH	**Type**	BSH 055						055				
			BSH 070						070				
			BSH 100						100				
			BSH 140						140				
			BSH 205						(1)				
		Model	BSH ou BDH ●●●1								1		
			BSH ou BDH ●●●2								2		
			BSH ou BDH ●●●3								3		
			BSH ou BDH ●●●4								4		
			BDH ●●●5								5		
Servomotor adaptation			BDH										D
			BSH										F

(1) Consult your Schneider Electric agency