

Soft starters and variable speed drives

The essential guide



The *simplicity* of a complete offer

Welcome to the Simply Smart* world compliments of Telemecanique

Altistart starters and **Altivar** variable speed drives open the doors to this world by offering you more *simplicity*, *compactness*, *open access* and *flexibility*:

- Ready to use versions,
- PowerSuite software workshop,
- Large choice of communication networks...

... so many evolutions and new items to aid your productivity.

* **Simply Smart** : more ingenuity and intelligence for continually improving ease of use



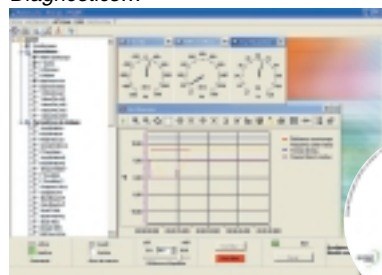
PowerSuite : a unique software for all Altistart and Altivar

Customise your settings with
the *minimum of effort!*

- Simplified definition of the parameters,
- Preparation and printing out for the configurations,
- Comparison of files,
- Quickly reproduction on all similar applications,
- Remote monitoring...



*Graphic display of settings,
Current status,
Diagnostics...*



*Additional ergonomics
with the pocket PC*

The essential guide Soft starters and variable speed drives **Altistart / Altivar**

*A simplified selection guide
enabling you to quickly
select the starter or the drive
suitable for your application.*

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a solution in
soft starting and
variable speed*

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Simple machines



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Pumping and
ventilation machines



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■ 0,37 to 55 kW
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Selection guide

Type of machine		Simple machines		
Starters/drives				
		Altistart 01	Altivar 11	Altivar 31
				
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 Type of control	0.5...200 Hz Sensorless flux vector control	0.5...500 Hz
Transient overtorque		-	150...170% of the nominal motor torque	170...200% of the nominal motor torque
Functions		Number of functions	1	26
Number of preset speeds		-	4	50
Number of I/O		Analog inputs	-	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 controller-starter	-	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 - C-TICK - CSA UL - N998 - CE	EN 50178, EN 61800-3 EN 55011 - EN 55022: class A, class B with option C-TICK - UL - N998 - CE
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Pumping and ventilation machines



Complex, high power machines



Soft start/soft stop units

Variable speed drives

Altistart 48



Altivar 38



Altivar 58



Altivar 68



Three phase 230...415 V
Three phase 208...690 V

Three phase 380...460 V

Single phase 200...240 V
Three phase 200...240 V
Three phase 525...600 V

Three phase 380...500 V

4...1 200 kW

0.75...315 kW

0.37...55 kW

75...630 kW

0.1...500 Hz

0.1...500 Hz

0...300 Hz

TCS
(Torque Control System)

Sensorless flux vector
control

Sensor/sensorless flux vector control

–

110% of the nominal motor torque
for 60 sec.

200% of the nominal motor torque
for 2 sec. 170% for 60 sec.

180% of the nominal motor torque
in high torque configuration

36

44

> 60

> 60

–

8

8

8

1 PTC probe

2 to 3

2 to 3

2 to 4

4

4 to 6

4 to 6

4 to 8

1

1 to 2

1 to 2

1 to 2

2

0 to 1

0 to 1

0 to 1

3

2

2

1 to 5

Modbus

Modbus

Modbus

–

DeviceNet, Ethernet TCP/IP,
Fipio, Profibus DP

AS-Interface, CANopen,
DeviceNet, Ethernet TCP/IP,
Fipio, INTERBUS, Lonworks,
Modbus Plus, METASYS N2,
Profibus DP, Uni-Telway

AS-Interface, CANopen,
DeviceNet, Ethernet TCP/IP,
Fipio, INTERBUS, Modbus Plus,
Profibus DP, Uni-Telway

Fipio, Modbus, Modbus Plus,
Profibus DP

–

Pump switching
"Controller Inside" programmable card
I/O extension card

Multi-motor
Multi-parameter
Simple positioning
"Controller Inside" programmable card
I/O extension card

I/O extension card

IEC/EN 60947-4-2
EMC class A and B
DNV - C-TICK - GOST
CCIB - NOM - UL - CE
CCC - CSA

EN 50178 - IEC 1800-3
EN 55011 class A
EN 55022 class B
UL - N998 - CE

EN 50178 - EN 55011
EN 55022 class A,
class B with option
IEC 61000-4/2/4-3/4-4/4-5
IEC 61800-3 - DNV - GOST
UL - CE - CSA - N998 - NOM 117

EN 50178 - IEC 61800-3
CSA - UL - CE

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Altistart 01

0.37 to 75 kW

Simple machines Starters

Dimensions (in mm)		width x height x depth
ATS01	N103FT / N106 FT	22.5 x 100 x 100
	N109FT / N112 FT	45 x 124 x 113
	N206●● / N209●● / N212●●	
	N222●● / N232●●	45 x 154 x 113



Type of starter		Soft starter		Soft start/soft stop units					
Motor power		0.37 to 5.5 kW		0.75 to 15 kW					
Degree of protection		IP 20							
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...240 VAC ± 10%, 24 VDC ± 10%		Built into the starter					
Supply voltage		Single phase 110...480 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					
Supply voltage		3-phase 110...480 V		3-phase 200...240 V		3-phase 380...415 V		3-phase 440...480 V	
Motor power									
210 V		230 V		400 V		460 V		Nominal current	
HP		kW		HP		HP		(IcL)	
-		0.37-0.55		0.5/-		1.1		0.5-1.5	
-		0.75-1.1		1-1.5		2.2		2-3	
-		1.5		2		4		5	
-		2.2		3		5.5		7.5	
-		4-5.5		5-7.5		7.5-11		10-15	
-		7.5		10		15		20	
-								32 A	
-								ATS01N103FT	
-								ATS01N106FT	
-								ATS01N206LU	
-								ATS01N206QN	
-								ATS01N206RT	
-								ATS01N109FT	
-								ATS01N209LU	
-								ATS01N209QN	
-								ATS01N209RT	
-								ATS01N112FT	
-								ATS01N212LU	
-								ATS01N212QN	
-								ATS01N212RT	
-								ATS01N222LU	
-								ATS01N222QN	
-								ATS01N222RT	
-								ATS01N232LU	
-								ATS01N232QN	
-								ATS01N232RT	



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		Soft start/soft stop units	
Motor power		15 to 75 kW	
Degree of protection		IP 20 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 (start and stop)	
Relay outputs		1 relay output	
Control supply voltage		110 VDC ± 10%	
Supply voltage		3-phase 230...690 V	
Motor power		3-phase 400 V	
230 V		400 V	
kW		HP	
7.5		15	
11		22	
18.5		37	
22		45	
-		15	
-		25	
-		40	
-		50	
-		60	
-		75	
-		20	
-		30	
-		37	
-		55	
-		75	
-		32 A	
-		44 A	
-		72 A	
-		85 A	
-		ATS01N230LY	
-		ATS01N244LY	
-		ATS01N272LY	
-		ATS01N285LY	
-		-	
-		ATS01N244Q	
-		ATS01N272Q	
-		ATS01N285Q	

Starters with TeSys model U



Dimensions (in mm)		width x height x depth
ATSU01	N206LT / N209LT/N212LT	45 x 124 x 113
	N222LT / N232LT	45 x 154 x 113

Type of starter		Soft start/soft stop units						
Motor power		0.75 to 15 kW						
Degree of protection		IP 20						
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		Built into the starter						
References		Soft start/ soft stop units	TeSys model U controller-starter	Control unit (1)	Power connector between ATSU and TeSys model U			
Supply voltage		3-phase 200...480 V						
Motor power								
230 V		400 V	460 V	Nominal current (IcL)				
kW	HP	kW	HP					
0.75	1	1.5	2	6 A	ATSU01N206LT	LUB12	LUC●05BL	VW3G4104
1.1	1.5	2.2	3	6 A	ATSU01N206LT	LUB12	LUC●12BL	
1.5	2	3	–	9 A	ATSU01N209LT	LUB12	LUC●12BL	VW3G4104
–	–	4	5	9 A	ATSU01N209LT	LUB12	LUC●12BL	
2.2	3	–	–	12 A	ATSU01N212LT	LUB12	LUC●12BL	VW3G4104
3	–	5.5	7.5	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 expandable unit.

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



Supply voltage			3-phase 230...415 V (1)	
Type of application			Standard	Severe (2)
Starter control supply voltage			220...415 V	
Protection	Degree of protection		IP 20: ATS48D17● to ATS48C11● starters IP 00: 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	
Dialog			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	400 V	Nominal current		
kW	kW	(IcL)		
3	5.5	12 A	–	ATS48D17Q
4	7.5	17 A	ATS48D17Q	ATS48D22Q
5.5	11	22 A	ATS48D22Q	ATS48D32Q
7.5	15	32 A	ATS48D32Q	ATS48D38Q
9	18.5	38 A	ATS48D38Q	ATS48D47Q
11	22	47 A	ATS48D47Q	ATS48D62Q
15	30	62 A	ATS48D62Q	ATS48D75Q
18.5	37	75 A	ATS48D75Q	ATS48D88Q
22	45	88 A	ATS48D88Q	ATS48C11Q
30	55	110 A	ATS48C11Q	ATS48C14Q
37	75	140 A	ATS48C14Q	ATS48C17Q
45	90	170 A	ATS48C17Q	ATS48C21Q
55	110	210 A	ATS48C21Q	ATS48C25Q
75	132	250 A	ATS48C25Q	ATS48C32Q
90	160	320 A	ATS48C32Q	ATS48C41Q
110	220	410 A	ATS48C41Q	ATS48C48Q
132	250	480 A	ATS48C48Q	ATS48C59Q
160	315	590 A	ATS48C59Q	ATS48C66Q
–	355	660 A	ATS48C66Q	ATS48C79Q
220	400	790 A	ATS48C79Q	ATS48M10Q
250	500	1000 A	ATS48M10Q	ATS48M12Q
355	630	1200 A	ATS48M12Q	–

(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 20

Accessory



Type of accessory	Remote display terminal
Reference	VW3G48101

Soft start/soft stop units

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



Supply voltage												3-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 current (IcL)			
208 V	230 V	460 V	575 V	230 V	400 V	440 V	500 V	525 V	660 V	690 V					
HP				kW											
2	3	7.5	10	3	5.5	5.5	7.5	7.5	9	11	12 A	–	ATS48D17Y		
3	5	10	15	4	7.5	7.5	9	9	11	15	17 A	ATS48D17Y	ATS48D22Y		
5	7.5	15	20	5.5	11	11	11	11	15	18.5	22 A	ATS48D22Y	ATS48D32Y		
7.5	10	20	25	7.5	15	15	18.5	18.5	22	22	32 A	ATS48D32Y	ATS48D38Y		
10	–	25	30	9	18.5	18.5	22	22	30	30	38 A	ATS48D38Y	ATS48D47Y		
–	15	30	40	11	22	22	30	30	37	37	47 A	ATS48D47Y	ATS48D62Y		
15	20	40	50	15	30	30	37	37	45	45	62 A	ATS48D62Y	ATS48D75Y		
20	25	50	60	18.5	37	37	45	45	55	55	75 A	ATS48D75Y	ATS48D88Y		
25	30	60	75	22	45	45	55	55	75	75	88 A	ATS48D88Y	ATS48C11Y		
30	40	75	100	30	55	55	75	75	90	90	110 A	ATS48C11Y	ATS48C14Y		
40	50	100	125	37	75	75	90	90	110	110	140 A	ATS48C14Y	ATS48C17Y		
50	60	125	150	45	90	90	110	110	132	160	170 A	ATS48C17Y	ATS48C21Y		
60	75	150	200	55	110	110	132	132	160	200	210 A	ATS48C21Y	ATS48C25Y		
75	100	200	250	75	132	132	160	160	220	250	250 A	ATS48C25Y	ATS48C32Y		
100	125	250	300	90	160	160	220	220	250	315	320 A	ATS48C32Y	ATS48C41Y		
125	150	300	350	110	220	220	250	250	355	400	410 A	ATS48C41Y	ATS48C48Y		
150	–	350	400	132	250	250	315	315	400	500	480 A	ATS48C48Y	ATS48C59Y		
–	200	400	500	160	315	355	400	400	560	560	590 A	ATS48C59Y	ATS48C66Y		
200	250	500	600	–	355	400	–	–	630	630	660 A	ATS48C66Y	ATS48C79Y		
250	300	600	800	220	400	500	500	500	710	710	790 A	ATS48C79Y	ATS48M10Y		
350	350	800	1000	250	500	630	630	630	900	900	1000 A	ATS48M10Y	ATS48M12Y		
400	455	1000	1200	355	630	710	800	800	–	–	1200 A	ATS48M12Y	–		

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

Line chokes



Degree of protection			IP 20	IP 00
Reference	Type of starter	ATS48	D17● VZ1L015UM17T	D75● to C14● VZ1L150U170T
	Chokes			C41● to C48● VZ1L530U045T
	Type of starter	ATS48	D22● VZ1L030U800T	C17● to C25● VZ1L0250U100T
	Chokes			C59● to M10● VZ1LM10U024T
Type of starter	ATS48	D32● and D38● VZ1L040U600T	AC32● VZ1L325U075T	M12● VZ1LM14U016T
Type of starter	ATS48	D47● and D62● VZ1L070U350T		

Altivar 11

0.18 to 2.2 kW

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			IP 20		
I/O	Analog inputs	1 configurable analog input			
	Logic inputs	4 assignable logic inputs			
	Outputs	1 PWM open collector output 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 20

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

Drives on base plates



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)

Additional EMC input filters



Supply voltage			Single phase		Three phase
			100...120 V	200...240 V	200...230 V
Europe range	Drive type	ATV11	–	HU05M2E to HU41M2E	–
	References	Filters	–	Integrated	–
America range	Drive type	ATV11	HU05F1U, HU09F1U	HU05M2U to HU18M2U	HU05M3U to HU18M3U
	References	Filters	VW3A11401	VW3A11401	VW3A11403
	Drive type	ATV11	HU18F1U	HU29M2U - HU41M2U	HU29M3U to HU41M3U
	References	Filters	VW3A11402	VW3A11402	VW3A11404
Asia range	Drive type	ATV11	HU05F1A - HU09F1A	HU05M2A to HU18M2A	HU05M3A to HU18M3A
	References	Filters	VW3A11401	VW3A11401	VW3A11403
	Drive type	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	Grounding plate for EMC mounting
Description			Width 35 mm		For replacing ATV08	2.2 kΩ	
References	Drive type	ATV11	HU05●●●	HU18F1●	HU05M2●	All ATV11 models	All ATV11 models
			HU09●●●	HU29●●●	●HU09M2●●		
			HU12M2●	HU41●●●	●U12M2E		
			HU18●●	–	●U18M2●		
Accessories			VW3A11851	VW3A11852	VW3A11811	SZ1RV1202	VW3A11831

Braking resistors and modules...other accessories: Please consult the "Variable speed drives and soft starters" catalog

Altivar 31

0.18 to 15 kW

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: 105 x 143 x 130	
Size 5: 105 x 143 x 150 / Size 6: 140 x 184 x 150	
Size 7: 180 x 232 x 170 / Size 8: 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		IP 31 and IP 41 on upper part and IP 21 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 (2)			
Communication (3)	Integrated	Modbus and CANopen			
	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 2	ATV31H018M3X Size 1	–
		0.37/0.5	ATV31H037M2 Size 2	ATV31H037M3X Size 1	ATV31H037N4 Size 5
		0.55/0.75	ATV31H055M2 Size 3	ATV31H055M3X Size 2	ATV31H055N4 Size 5
		0.75/1	ATV31H075M2 Size 3	ATV31H075M3X Size 2	ATV31H075N4 Size 5
		1.1/1.5	ATV31HU11M2 Size 5	ATV31HU11M3X Size 4	ATV31HU11N4 Size 5
		1.5/2	ATV31HU15M2 Size 5	ATV31HU15M3X Size 4	ATV31HU15N4 Size 5
		2.2/3	ATV31HU22M2 Size 6	ATV31HU22M3X Size 5	ATV31HU22N4 Size 6
		3/–	–	ATV31HU30M3X Size 6	ATV31HU30N4 Size 6
		4/5	–	ATV31HU40M3X Size 6	ATV31HU40N4 Size 6
		5.5/7.5	–	ATV31HU55M3X Size 7	ATV31HU55N4 Size 7
7.5/10	–	ATV31HU75M3X Size 7	ATV31HU75N4 Size 7		
11/15	–	ATV31HD11M3X Size 8	ATV31HD11N4 Size 8		
15/20	–	ATV31HD15M3X Size 8	ATV31HD15N4 Size 8		

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

(2) (3) PowerSuite software and communication protocols, see page 20.

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	

Supply voltage		Single phase 200...240 V	Three phase 380...500 V	
Degree of protection		IP 55		
Description		Wall-fixing 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 (1)		
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		

(1) Please consult our "Power Control and Protection components" and "Human-Machine Interface components" catalogs.

Drive kit (Altivar 31 drive on metal support plate with EMC filter): Please consult your Schneider Electric sales office.

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 type	ATV31	H018M2 to H075M2		H018M3X to H075M3X		H037N4 to HU15N4	
	Filters		Integrated	VW3A31401	VW3A31402		Integrated	VW3A31404
	Drive type	ATV31	HU11M2 to HU15M2		HU11M3X to HU22M3X		HU22N4 to HU40N4	
	Filters		Integrated	VW3A31403	VW3A31404		Integrated	VW3A31406
	Drive type	ATV31	HU22M2		HU30M3X - HU40M3X		HU55N4 - HU75 N4	
	Filters		Integrated	VW3A31405	VW3A31406		Integrated	VW3A31407
Drive type	ATV31	–		HU55M3X - HU75M3X		HD11N4 - HD15N4		
Filters		–		VW3A31407		Integrated	VW3A31409	
Drive type	ATV31	–		HD11M3X - HD15M3X		–		
Filters		–		VW3A31408		–		

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

Line chokes



Supply voltage			Single phase 200...240 V		Three phase 200...240 V		380...500 V	
References	Drive type	ATV31	H018M2 to H037M2		H018M3X to H075M3X		H037N4 to HU15N4	
	Chokes		VZ1 L004M010		VW3A66501		VW3A66501	
	Drive type	ATV31	H055M2 to H075M2		HU11M3X and HU15M3X		HU22N4 to HU40N4	
	Chokes		VZ1 L007UM50		VW3A66502		VW3A66502	
	Drive type	ATV31	HU11M2 to HU22M2		HU22M3X and HU30M3X		HU55N4 and HU75N4	
	Chokes		VZ1 L018UM20		VW3A66503		VW3A66503	
Drive type	ATV31	–		HU40M3X to HU75M3X		HD11N4 and HD15N4		
Chokes		–		VW3A66504		VW3A66504		
Drive type	ATV31	–		HD11M3X and HD15M3X		–		
Chokes		–		VW3A66505		–		

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

Dimensions (in mm)	width x height x depth
Size 1: 150 x 230 x 184	/ Size 2: 175 x 286 x 184
Size 3: 230 x 325 x 210	/ Size 4: 230 x 415 x 210
Size 5: 240 x 550 x 283	/ Size 6: 350 x 650 x 304
Size 7: 370 x 630 x 360	/ Size 8: 480 x 680 x 400
Size 9: 660 x 950 x 440	/ Size 10: 500 x 700 x 300.5
Size 11: 460 x 850 x 365.5	/ Size 12: 570 x 1050 x 405.5



Drive type		Drives on heatsinks		"Energy" ready-assembled enclosures		
Supply voltage		Three phase 380...460 V		Three phase 380...460 V		
Description		Altivar 38 on heatsink		Ready-assembled wall-fixing enclosure with an Altivar 38 drive, a line choke, an EMC filter, a Vario switch disconnecter, a potentiometer, a switch for selecting the direction of operation and an operator terminal		
Output frequency		0.1...500 Hz				
Type of flux vector control		Sensorless flux vector control				
Speed range		1 to 10				
Degree of protection		IP 21 and IP 41 on upper part for drives up to 75 kW. IP 00 on lower part and IP 20 on other sides for drives above 75 kW.		IP 55		
I/O	Analog inputs	1 voltage analog input and 1 current analog input				
	Logic inputs	4 assignable logic inputs				
	Analog outputs	1 assignable analog output				
	Logic outputs	2 relay logic outputs				
Dialogue		Integrated or remote display terminal, or PowerSuite software workshop (1)				
Communication (2)	Integrated	Modbus				
	Available as an option	AS-Interface, CANopen, DeviceNet, Ethernet TCP/IP, Fipio, INTERBUS, Lonworks, Modbus Plus, METASYS N2, Profibus DP, Uni-Telway				
EMC	Class A	Integrated class A filter up to 75 kW		Integrated class A filter		
	Class B	External filter available as an option				
Motor power	kW/HP	0.75/1	ATV38HU18N4	Size 1	--	
		1.5/2	ATV38HU29N4	Size 1	--	
		2.2/3	ATV38HU41N4	Size 1	--	
		3/-	ATV38HU54N4	Size 2	ATV38ED05N4	Size 10
		4/5	ATV38HU72N4	Size 2	ATV38ED07N4	Size 10
		5.5/7.5	ATV38HU90N4	Size 2	ATV38ED09N4	Size 10
		7.5/10	ATV38HD12N4	Size 3	ATV38ED12N4	Size 10
		11/15	ATV38HD16N4	Size 3	ATV38ED16N4	Size 10
		15/20	ATV38HD23N4	Size 4	ATV38ED23N4	Size 10
		18.5/25	ATV38HD25N4 (3)	Size 5	ATV38ED25N4	Size 11
		22/30	ATV38HD28N4 (3)	Size 5	ATV38ED28N4	Size 11
		30/40	ATV38HD33N4 (3)	Size 5	ATV38ED33N4	Size 11
		37/50	ATV38HD46N4 (3)	Size 5	ATV38ED46N4	Size 11
		45/60	ATV38HD54N4 (3)	Size 6	ATV38ED54N4	Size 12
		55/75	ATV38HD64N4 (3)	Size 6	ATV38ED64N4	Size 12
		75/100	ATV38HD79N4 (3)	Size 6	ATV38ED79N4	Size 12
		90/125	ATV38HC10N4X	Size 7	--	--
		110/150	ATV38HC13N4X	Size 8	--	--
		132/200	ATV38HC15N4X	Size 8	--	--
		160/250	ATV38HC19N4X	Size 8	--	--
200/300	ATV38HC23N4X	Size 9	--	--		
220/350	ATV38HC25N4X	Size 9	--	--		
250/400	ATV38HC28N4X	Size 9	--	--		
280/450	ATV38HC31N4X	Size 9	--	--		
315/500	ATV38HC33N4X	Size 9	--	--		

(1) (2) PowerSuite software and communication protocols, see page 20

(3) For simultaneous use with the operator terminal, choose the Modbus communication card, see page 23

(4) Without EMC filter, add an "X" at the end of the reference

Additional EMC input filters



Supply voltage		Three phase 380...460 V	
Maximum length of shielded cable (1)	Class A	50 m	200 m
	Class B	20 m	100 m
References (2)	Drive type	ATV38	HU18N4, HU29N4, HU41N4
	Filters		VW3A58402
	Drive type	ATV38	HU54N4, HU72N4, HU90N4
	Filters		VW3A58403
	Drive type	ATV38	HD12N4, HD16N4
	Filters		VW3A58404
	Drive type	ATV38	HD23N4
	Filters		VW3A58405
Drive type	ATV38	HD25N4X, HD28N4X	HD25N4, HD28N4
Filters		VW3A58406	VW3A58406
Drive type	ATV38	HD33N4X, HD46N4X	HD33N4, HD46N4
Filters		VW3A58407	VW3A58407
Drive type	ATV38	HD54N4, HD64N4, HD79N4	HD54N4, HD64N4, HD79N4
Filters		VW3A58408	VW3A58408

(1) Maximum lengths for shielded cables connecting motors to drives for a switching frequency of 0.5 to 12 kHz

(2) Above 75 kW, please consult our "Variable speed drives and soft starters" catalog

Line chokes



Supply voltage		Three phase 380...460 V		
Motor power		0.75 to 75 kW		90 to 315 kW (1)
References	Drive type	ATV38	HU18N4, HU29N4	HC10N4X
	Chokes		VW3A66501	VW3A68501
	Drive type	ATV38	HU41N4, HU54N4, HU72N4	HC15N4X
	Chokes		VW3A66502	VW3A68503
	Drive type	ATV38	HU90N4, HD12N4	HC23N4X
	Chokes		VW3A66503	VW3A68505
Drive type	ATV38	HD16N4, HD23N4	HC25N4X, HC28N4X	
Chokes		VW3A66504	VW3A68506	
Drive type	ATV38	HD25N4● to HD79N4●	HC31N4X, HC33N4X	
Chokes		Integrated	VW3A68507	

(1) The addition of a line choke is highly recommended

I/O extension and specific cards



Type of card (1)	I/O extension	Pump switching
Description	2 logic inputs 24 VDC 1 open collector logic output 24 VDC 1 analog output 0/20 mA 1 bipolar analog input ± 10 V	Control of an entire pumping or compression station
Reference	VW3A58201	VW3A58210

(1) "Controller Inside" **programmable card**: Please consult your Schneider Electric sales office.

Altivar 58

0.37 to 55 kW

Complex, high-power machines Drives on heatsinks



Dimensions (in mm)	width x height x depth
Size 1: 113 x 206 x 167 / Size 2: 150 x 230 x 184	
Size 3: 175 x 286 x 184 / Size 4: 230 x 325 x 210	
Size 5: 230 x 415 x 210 / Size 6: 240 x 550 x 283	
Size 7: 350 x 650 x 304	

Drive type		Altivar 58				Altivar 58F				
Supply voltage		Single phase 200...240 V	Three phase 200...240 V		Three phase 380...500 V	Three phase 380...500 V				
Output frequency		0.1... 500 Hz				0.1... 450 Hz				
Type of flux vector control		Sensorless				Sensor/Sensorless				
Speed range		1 to 100				1 to 1000 with encoder feedback				
Degree of protection		IP 21 for unprotected drives and IP 41 on the upper part								
I/O	Analog inputs	1 voltage analog input and 1 current analog input								
	Logic inputs	4 assignable logic inputs								
	Logic outputs	2 relay logic outputs								
Dialogue		Integrated display terminal or PowerSuite software workshop (1)								
Communication (2)	Integrated	Modbus								
	Available as an option	AS-Interface, CANopen, DeviceNet, Ethernet TCP/IP, Fipio, INTERBUS, Lonworks, Modbus Plus, METASYS N2, Profibus DP, Uni-Telway								
EMC	Class A	Integrated filter	1.5 to 7.5 kW filter		Integrated filter	Integrated filter				
	Class B	External filter available as an option								
Motor power	kW/HP	0.37/0.5	ATV58HU09M2	S1	–	–	–			
		0.75/1	ATV58HU18M2	S1	–	ATV58HU18N4	S2	ATV58FHU18N4	S2	
		1.5/2	ATV58HU29M2	S2	ATV58HU29M2	S2	ATV58HU29N4	S2	ATV58FHU29N4	S2
		2.2/3	ATV58HU41M2	S2	ATV58HU41M2	S2	ATV58HU41N4	S2	ATV58FHU41N4	S2
		3/–	ATV58HU72M2 (3)	S3	ATV58HU54M2	S3	ATV58HU54N4	S3	ATV58FHU54N4	S3
		4/5	ATV58HU90M2 (3)	T4	ATV58HU72M2	S3	ATV58HU72N4	S3	ATV58FHU72N4	S3
		5.5/7.5	ATV58HD12M2 (3)	S4	ATV58HU90M2	S4	ATV58HU90N4	S3	ATV58FHU90N4	S3
		7.5/10	–	–	ATV58HD12M2	S4	ATV58HD12N4	S4	ATV58FHD12N4	S4
		11/15	–	–	ATV58HD16M2X	S6	ATV58HD16N4	S4	ATV58FHD16N4	S4
		15/20	–	–	ATV58HD23M2X	S6	ATV58HD23N4	S5	ATV58FHD23N4	S5
		18.5/25	–	–	ATV58HD28M2X	S7	ATV58HD28N4 (4)	S6	ATV58FHD28N4	S6
		22/30	–	–	ATV58HD33M2X	S7	ATV58HD33N4 (4)	S6	ATV58FHD33N4	S6
		30/40	–	–	ATV58HD46M2X	S7	ATV58HD46N4 (4)	S6	ATV58FHD46N4	S6
		37/50	–	–	–	–	ATV58HD54N4 (4)	S7	ATV58FHD54N4	S7
45/60	–	–	–	–	ATV58HD64N4 (4)	S7	ATV58FHD64N4	S7		
55/75	–	–	–	–	ATV58HD79N4 (4)	S7	ATV58FHD79N4	S7		

(1) (2) PowerSuite software and communication protocols, see page 20

(3) For simultaneous use with the operator terminal, choose the Modbus communication card, see page 23

(4) Must be used with a line choke

(5) Without EMC filter, add an "X" at the end of the reference

"Compact" ready-assembled enclosed drives



Dimensions (in mm)	width x height x depth
Size 1: 230 x 316 x 215 / Size 2: 270 x 337 x 250	
Size 3: 300 x 406 x 281	

Supply voltage		Single phase 200...240 V		Three phase 200...240 V		380...500 V		
Description		Wall-fixing enclosure equipped with an Altivar 58 drive on base plate, a circuit-breaker and a downstream contactor.						
Degree of protection		IP 55						
Motor power	kW/HP	0.37/0.5	ATV58EU09M2	S1	–	–	–	
		0.75/1	ATV58EU18M2	S1	–	ATV58EU18N4	S2	
		1.5/2	ATV58EU29M2	S2	ATV58EU29M2	S2	ATV58EU29N4	S2
		2.2/3	ATV58EU41M2	S3	ATV58EU41M2	S3	ATV58EU41N4	S2
		3/–	–	–	–	ATV58EU54N4	S3	–
		4/5	–	–	–	ATV58EU72N4	S3	–
		5.5/7.5	–	–	–	ATV58EU90N4	S3	–

“Energy” ready-assembled enclosed drives



Dimensions (in mm)	width x height x depth
Size 1: 500 x 700 x 300.5 / Size 2: 460 x 850 x 365.5	
Size 3: 570 x 1050 x 405.5	

Supply voltage			Three phase 380...500 V	
Description			Ready-assembled wall-fixing enclosure equipped with an Altivar 58 drive and a Vario switch disconnecter	
Degree of protection			IP 55	
Motor power	kW/HP		ATV58ED	Size
	3/-		ATV58ED05N4	Size 1
	4/5		ATV58ED07N4	Size 1
	5.5/7.5		ATV58ED09N4	Size 1
	7.5/10		ATV58ED12N4	Size 1
	11/15		ATV58ED16N4	Size 1
	15/20		ATV58ED23N4	Size 1
	18.5/25		ATV58ED28N4	Size 2
	22/30		ATV58ED33N4	Size 2
	30/40		ATV58ED46N4	Size 2
	37/50		ATV58ED54N4	Size 3
	45/60		ATV58ED64N4	Size 3
	55/75		ATV58ED79N4	Size 3

I/O extension and specific cards



Type of card (1)	I/O extension	Multi-motor	Multi-parameter	Simple positioning
Description	2 logic inputs 24 VDC 1 open collector logic output 24 VDC 1 analog output 0/20 mA 1 bipolar analog input ± 10 V	2 non reassignable logic inputs 24 VDC 1 open collector logic output 24 VDC 1 analog output 0/20 mA 1 bipolar analog input ± 10 V	Switching: automatic or by logic input up to 18 sets of 13 parameters, 6 of which are predefined	6 logic inputs 24 VDC 1 open collector logic output 24 VDC 1 analog output 0/20 mA 1 analog input
References	VW3A58201	VW3A58211	VW3A58212	VW3A58213

(1) “Controller Inside” programmable card: Please consult your Schneider Electric sales office.



Supply voltage			Single phase 200...240 V	Three phase 200...240 V	380...500 V		
Maximum length of shielded cable (1)			Class A	50 m	50 m	50 m	200 m
			Class B	20 m	20 m	20 m	100 m
References	Drive type	ATV58	HU09M2, HU18M2	HU29M2, HU41M2	HU18N4, HU29N4, HU41N4		–
	Filters		VW3A58401	VW3A58402	VW3A58402		
	Drive type	ATV58	HU29M2, HU41M2,	HU54M2, HU72M2	HU54N4, HU72N4, HU90N4		–
	Filters		VW3A58402	VW3A58403	VW3A58403		
	Drive type	ATV58	HU72M2	HU90M2, HD12M2,	HD12N4, HD16N4		–
	Filters		VW3A58403	VW3A58404	VW3A58404		
	Drive type	ATV58	HU90M2, HD12M2	HD16M2X, HD23M2X	HD23N4		–
	Filters		VW3A58404	VW3A58407	VW3A58405		
	Drive type	ATV58	HD28M2X, HD33M2X	HD46M2X	HD28N4X		HD28N4
	Filters			VW3A58408	VW3A58406		
Drive type	ATV58			HD33N4X, HD46N4X		HD33N4, HD46N4	
Filters				VW3A58407			
Drive type	ATV58			HD54N4X, HD64N4X		HD54N4, HD64N4	
Filters				HD79N4X		HD79N4	
				VW3A58408			

(1) Maximum lengths for shielded cables connecting motors to drives for a switching frequency of 0.5 to 12 kHz. These limits are given as examples only as they vary depending on the stray capacitance of the motors and the cables used.

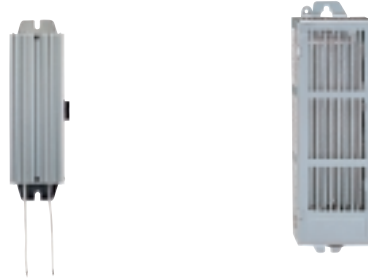
Line chokes



Supply voltage			Single phase 200...240 V	Three phase 200...240 V	380...500 V	
References	Drive type	ATV58	HU09M2	HU29M2	HU18N4, HU29N4	
	Chokes		VZ1L004M010	VW3A66502	VW3A66501	
	Drive type	ATV58	HU18M2	HU41M2, HU54M2	HU41N4, HU54N4, HU72N4	
	Chokes		VZ1L007UM50	VW3A66503	VW3A66502	
	Drive type	ATV58	HU29M2, HU41M2	HU72M2, HU90M2, HD12M2	HU90N4, HD12N4	
	Chokes		VZ1L018UM20	VW3A66504	VW3A66503	
Drive type	ATV58	HU72M2 (1)	–	HD16N4, HD23N4		
Chokes		VW3A58501		VW3A66504		
Drive type	ATV58	HU90M2 (1), HD12M2 (1)	–	HD28N4 to HD79N4		
Chokes		VW3A58502		Integrated		

(1) Line choke compulsory

Braking resistors



Supply voltage			Single phase 200...240 V	Three phase 200...240 V	380...500 V
References (1)	Drive type	ATV58	HU09M2 (1), HU18M2 (1), HU29M2	HU29M2	HU18N4, HU29N4, HU41N4
	Resistors	non prot./protected	VW3A58702 / VW3A58732		
	Drive type	ATV58	HU41M2	HU41M2, HU54M2	HU54N4, HU72N4
	Resistors	non prot./protected	VW3A58704 / VW3A58733		
	Drive type	ATV58	HU72M2	–	HU90N4, HD12N4
	Resistors	protected	VW3A58736		VW3A58735
	Drive type	ATV58	HU90M2, D12M2	–	HD16N4, HD23N4
	Resistors	protected	VW3A58737		VW3A58736
Drive type	ATV58	–	HD16M2X, HD23M2X, HD28M2X HD33M2X, HD46M2X	HD28N4, HD33N4, HD46N4 HD28N4X, HD33N4X, HD46N4X	
Resistors	protected		VW3A66704	VW3A58737	
Drive type	ATV58	–	–	HD54N4, HD64N4, HD79N4 HD54N4X, HD64N4X, HD79N4X	
Resistors	protected			VW3A66704	

(1) To be used with a braking module - reference: **VW3A58701**

Accessories



Type of accessory	Control card ventilation	Operator terminal	Remote terminal option		
Description	Fan subassembly and mounting accessories	Supplied with the drive. Can be ordered separately.	1 x 3 m cable with connectors, with seals and screws for IP 65 mounting on door of enclosure.		
References	Drive type	ATV58	HU09M2, HU18M2	All Altivar 58 drives	All Altivar 58 drives
	Accessories		VW3A58821	VW3A58101	VW3A58103
	Drive type	ATV58	HU29M2, HU41M2, HU18N4 HU29N4, HU41N4	–	–
	Accessories		VW3A58822		
	Drive type	ATV58	HU54M2, HU72M2, HU54N4 HU72N4, HU90N4	–	–
	Accessories		VW3A58823		
	Drive type	ATV58	HU90M2, D12M2, D12N4 D16N4, D23N4	–	–
Accessories		VW3A58824			
Drive type	ATV58	HD16M2X, HD23M2X, HD28N4 HD33N4, HD46N4, HD28N4X HD33N4X, HD46N4X	–	–	
Accessories		VW3A58825			
Drive type	ATV58	HD28M2X, HD33M2X, HD46M2X HD54N4, HD64N4, HD79N4, HD54N4X, HD64N4X, HD79N4X	–	–	
Accessories		VW3A58826			

Altivar 68

75 to 630 kW

Complex, high-power machines Standard drives



Dimensions (in mm)	width x height x depth
Size 2: 346 x 600 x 355/Size 3: 396 x 1200 x 425	
Size 4: 705 x 1300 x 425/Size 5: 2 x (705 x 1500 x 425)	

Drive type		Altivar 68	Altivar 68F			
Supply voltage		Three phase 400...500 V				
Type of application		High torque applications (150% Tn) and standard torque applications (120% Tn) (1)				
Output frequency		0...300 Hz				
Type of flux vector control		Sensorless	With sensor			
Speed range		1 to 100 (in high torque configuration)				
Degree of protection		IP 00 (with protection on front panel)				
I/O	Analog inputs	1 current analog input + 1 voltage analog input				
	Analog outputs	1 current analog output				
	Logic inputs	4 bipolar inputs				
	Relay outputs	2 relay outputs				
Dialogue		Integrated display terminal or PowerSuite software workshop (2)				
Communication (3)	Available as an option	Fipio, Modbus, Modbus Plus, Profibus DP				
Motor power	kW/HP	75/100	ATV68C10N4	Size 2	ATV68FC10N4	Size 2
		90/125	ATV68C13N4	Size 3	ATV68FC13N4	Size 3
		110/150	ATV68C15N4	Size 3	ATV68FC15N4	Size 3
		132/200	ATV68C19N4	Size 3	ATV68FC19N4	Size 3
		160/250	ATV68C23N4	Size 4	ATV68FC23N4	Size 4
		200/300	ATV68C28N4	Size 4	ATV68FC28N4	Size 4
		250/350	ATV68C33N4	Size 4	ATV68FC33N4	Size 4
		315/500	ATV68C43N4	Size 5	ATV68FC43N4	Size 5
		400/600	ATV68C53N4	Size 5	ATV68FC53N4	Size 5
		500/700	ATV68C63N4	Size 5	ATV68FC63N4	Size 5

(1) For standard torque applications, choose the next rating down - Eg: 132 kW = ATV68C15N4. At 460 V, only high torque is available

(2) (3) PowerSuite software and communication protocols, see page 20

Ready-assembled enclosed drives



Supply voltage		Three phase 400 V			
Description		Wired ready-assembled floor-standing enclosure, Altivar 68 drive, switch and fast-acting fuses and line chokes			
Type of application		High torque applications (150% Tn) and standard torque applications (120% Tn) (1)			
Specifications		Same specifications as standard drives			
Degree of protection		IP 23		IP 54	
Motor power	kW/HP	75/100	ATV68E2C10N4	ATV68E5C10N4	
		90/125	ATV68E2C13N4	ATV68E5C13N4	
		110/150	ATV68E2C15N4	ATV68E5C15N4	
		132/200	ATV68E2C19N4	ATV68E5C19N4	
		160/250	ATV68E2C23N4	ATV68E5C23N4	
		200/300	ATV68E2C28N4	ATV68E5C28N4	
		250/350	ATV68E2C33N4	ATV68E5C33N4	
		315/500	ATV68E2C43N4	ATV68E5C43N4	
		400/600	ATV68E2C53N4	ATV68E5C53N4	
		500/700	ATV68E2C63N4	ATV68E5C63N4	

(1) For standard torque applications, choose the next rating down - Eg: IP 54 protection, 132 kW = ATV68E5C15N4.

Additional EMC input filters



Supply voltage			Three phase 400 V			Three phase 440...500 V	
Maximum cable length (1)	with choke		100 m	120 m	150 m	100 m	120 m
	without choke		40 m	40 m	40 m	25 m	25 m
References	Drive type	ATV68(F) C10N4	–	VW3A68401	–	VW3A68415	–
		ATV68(F) C13N4	–	–	VW3A68402	–	VW3A68435
		ATV68(F) C15N4	–	–	–	–	–
		ATV68(F) C19N4	VW3A68402	–	–	–	VW3A68435
		ATV68(F) C23N4	–	VW3A68403	–	VW3A68465	–
		ATV68(F) C28N4	–	–	–	–	–
		ATV68(F) C33N4	–	–	–	–	–
		ATV68(F) C43N4	VW3A68404	–	–	–	VW3A68465 (2)
ATV68(F) C53N4	–	–	–	–	–		
ATV68(F) C63N4	–	–	–	–	–		

(1) Motor cable lengths given for a modulation frequency of 2.5 kHz. For a 5 kHz frequency, multiply these values by 0.6, and for 10 kHz multiply by 0.3.

(2) Provide 2 filters per drive.

Line chokes (compulsory)



Supply voltage			Three phase 400 V			
References	Drive type	ATV68(F)	C10N4	C13N4	C15N4	C19N4
	Chokes		VW3A68501	VW3A68502	VW3A68503	VW3A68504
	Drive type	ATV68(F)	C23N4	C28N4	C33N4	–
Chokes		VW3A68505	VW3A68506	VW3A68507	–	
Drive type	ATV68(F)	C43N4	C53N4	C63N4	–	
Chokes		VW3A68505 (1)	VW3A68506 (1)	VW3A68507 (1)	–	

(1) Provide 2 chokes per drive.

I/O extension card



Type of card	I/O extension
Description	1 current analog input: 0(4)... 20 mA 1 current analog output: 0(4)... 20 mA with programmable limit and use 4 bipolar inputs DI5 to DI8: positive or negative logic 2 relay outputs RL2 and RL3
Reference	VW3A68201

Motor chokes, braking modules and resistors, accessories, etc: Please consult the "Variable speed drives and soft starters" catalog



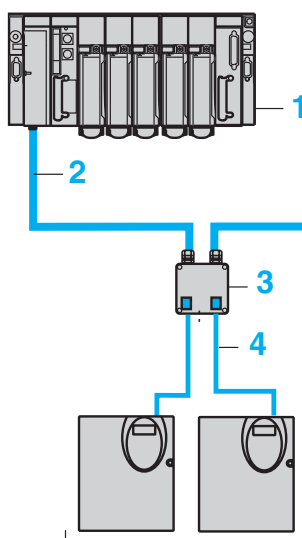
Multilingual configuration software		For PC	For Pocket PC
Configuration of drives and starters		Altistart 48, Altivar and TeSys model U	
Environment		Microsoft Windows ®	
Languages		English - French - German - Italian - Spanish	
References	PowerSuite CD-ROM (1)	VW3A8104	
	PowerSuite update CD-ROM	VW3A8105	
	Connection kit	VW3A8106	VW3A8111

(1) Contents: Software, technical documentation and the ABC configurator program

CANopen communication bus: connection accessories



Drives		Altivar 31	
Tap junction		VW3CANTAP2	
Cables	Description	2 RJ45 connectors	
	Cable length	0.3 m	1 m
	References	VW3CANCARR03	VW3CANCARR1

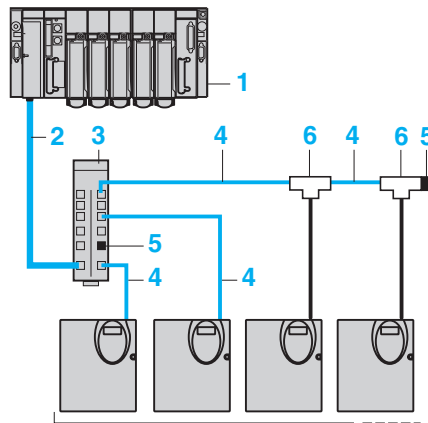


- 1 PLC
- 2 CANopen trunk cable
- 3 CANopen tap junction VW3 CAN TAP2
- 4 CANopen drop cable VW3 CAN CA RR●●

Modbus communication bus: connection accessories



Starters/drives		Altistart 48	Altivar 31	Altivar 38	Altivar 58	
Splitter box	Description	10 RJ45 connectors and 1 screw terminal block				
	Reference	LU9GC3				
Line terminators	For RJ 45 connector	R = 120 Ω, C = 1 nF				
	Reference	VW3A8306RC				
T-junction boxes	For screw terminals	R = 120 W, C = 1 nF				
	Reference	VW3A8306DRC				
T-junction boxes	With integrated cable	0.3 m	VW3A8306TF03			
	With integrated cable	1 m	VW3A8306TF10			
Cables	Description	2 RJ45 connectors				
	References	0.3 m	VW3A8306R03	-		
		1 m	VW3A8306R10	VW3A58306R10		
		3 m	VW3A8306R30	VW3A58306R30		
Shielded twisted double pair cables RS 485	Description	1 RJ45 connector and one stripped end				
	Reference	3 m	VW3A8306D30			
Shielded twisted double pair cables RS 485	Description	Supplied without connector				
		References	100 m	TSXCSA100		
		200 m	TSXCSA200			
		500 m	TSXCSA500			

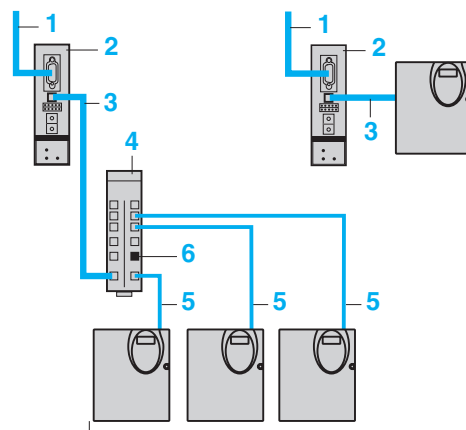


Connection via splitter boxes and RJ 45 connectors

- 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)



Starters/drives			Altistart 48/Altivar 31
Ethernet/Modbus	References	Bridge	174CEV30020
		Cable	VW3A8306D30
DeviceNet/Modbus	References	Gateway	LUFPP9
		0.3 m cable	VW3A8306R03
		1 m cable	VW3A8306R10
		3 m cable	VW3A8306R30
Fipio/Modbus	References	Gateway	LUFPP1
		0.3 m cable	VW3A8306R03
		1 m cable	VW3A8306R10
		3 m cable	VW3A8306R30
ProfibusDP/Modbus	Parameter setting		Standard configurator
	References	Gateway	LA9P307
		1 m cable	VW3P07306R10
	Parameter setting		ABC configurator program
	References	Gateway	LUFPP7
		0.3 m cable	VW3A8306R03
		1 m cable	VW3A8306R10
		3 m cable	VW3A8306R30



- 1 To network
- 2 Communication modules
- 3 VW3 A8 306 R●●
- 4 Modbus splitter box LU9 GC3
- 5 Modbus drop cables
- 6 Line terminator
- VW3 A8 306 RC

Communication cards and modules



Drives		Altivar 38/Altivar 58	Altivar 68
AS-Interface	Max. no. of drives controlled	31	
	Transmission speed	166 kbps	
	Reference	VW3A58305	
CANopen	Max. no. of drives controlled	63	
	Transmission speed	125/250/500/1000 kbps	
	Reference	VW3A58308	
DeviceNet	Max. no. of drives controlled	63	
	Transmission speed	125/250/500 kbps	
	Reference	VW3A58309	
Ethernet	Max. no. of drives controlled	–	
	Transmission speed	10/100 Mbps	
	Reference	VW3A58310	
Fipio	Max. no. of drives controlled	62	62
	Transmission speed	1 Mbps	1 Mbps
	Reference	VW3A58311	VW3A68301
INTERBUS	Max. no. of drives controlled	64	
	Transmission speed	1 Mbps	
	Reference	VW3A58304E	
METASYS N2	Max. no. of drives controlled	255	
	Transmission speed	–	
	Reference	VW3A58354U	
Modbus	Max. no. of drives controlled	31	31
	Transmission speed	4800... 19,200 bps	4800... 19,200 bps
	Reference	VW3A58303	VW3A68303
Modbus Plus	Max. no. of drives controlled	64	64
	Transmission speed	1 Mbps	1 Mbps
	Reference	VW3A58302	VW3A68302
Profibus DP	Max. no. of drives controlled	126	126
	Transmission speed	9600 bps... 12 Mbps	9600 bps... 12 Mbps
	Reference	VW3A58307	VW3A68307
Uni-Telway	Max. no. of drives controlled	28	
	Transmission speed	4800... 19,200 bps	
	Reference	VW3A58303	

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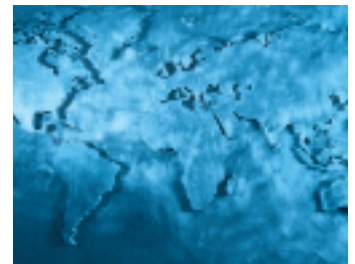


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