

# Variable speed drives

## Altivar 12

Drives with heatsink, drives on a base plate



ATV 12H018M2



ATV 12H075M2



ATV 12HU40M3



ATV 12PU22M3



ATV 12HU15M2TQ (8)

### Drives with heatsink

Motor Power indicated on rating plate (1)	Line supply				Altivar 12				Reference	Weight (2)
	Max. line current (3)	Apparent power		Max. prospective line Isc	Maximum continuous output current (In) (1)	Maximum transient current for 60 s	Dissipated power at maximum output current (In) (1)			
		at U1	at U2					at U2		
kW	HP	A	A	kVA	kA	A	A	W	kg	
Single-phase supply voltage: 100...120 V 50/60 Hz (4)										
0.18	0.25	6	5	1	1	1.4	2.1	18	ATV 12H018F1 (5)	0.700
0.37	0.5	11.4	9.3	1.9	1	2.4	3.6	29	ATV 12H037F1	0.800
0.75	1	18.9	15.7	3.3	1	4.2	6.3	48	ATV 12H075F1	1.300

Single-phase supply voltage: 200...240 V 50/60 Hz (4) (6)										
0.18	0.25	3.4	2.8	1.2	1	1.4	2.1	18	ATV 12H018M2 (5) (7)	0.700
0.37	0.55	5.9	4.9	2	1	2.4	3.6	27	ATV 12H037M2 (7)	0.700
0.55	0.75	8	6.7	2.8	1	3.5	5.3	34	ATV 12H055M2 (7)	0.800
0.75	1	10.2	8.5	3.5	1	4.2	6.3	44	ATV 12H075M2 (7)	0.800
1.5	2	17.8	14.9	6.2	1	7.5	11.2	72	ATV 12HU15M2 (8)	1.400
2.2	3	24	20.2	8.4	1	10	15	93	ATV 12HU22M2 (8)	1.400

Three-phase supply voltage: 200...240 V 50/60 Hz (4)										
0.18	0.25	2	1.7	0.7	5	1.4	2.1	16	ATV 12H018M3 (5)	0.700
0.37	0.55	3.6	3	1.2	5	2.4	3.6	24	ATV 12H037M3	0.800
0.75	1	6.3	5.3	2.2	5	4.2	6.3	41	ATV 12H075M3	0.800
1.5	2	11.1	9.3	3.9	5	7.5	11.2	73	ATV 12HU15M3	1.200
2.2	3	14.9	12.5	5	5	10	15	85	ATV 12HU22M3	1.200
3	-	19	15.9	6.6	5	12.2	18.3	94	ATV 12HU30M3	2.000
4	5	23.8	19.9	8.3	5	16.7	25	128	ATV 12HU40M3	2.000

### Drives on a base plate

Single-phase supply voltage: 100...120 V 50/60 Hz (4)										
0.18	0.25	6	5	1	1	1.4	2.1	18	ATV 12H018F1 (5)	0.700
-	-	11.4	9.3	1.9	1	2.4	3.6	29	ATV 12P037F1 (9)	0.700

Single-phase supply voltage: 200...240 V 50/60 Hz (4) (6)										
0.18	0.25	3.4	2.8	1.2	1	1.4	2.1	18	ATV 12H018M2 (5) (7)	0.700
-	-	5.9	4.9	2	1	2.4	3.6	27	ATV 12P037M2 (9)	0.700
-	-	8	6.7	2.8	1	3.5	5.3	34	ATV 12P055M2 (9)	0.700
-	-	10.2	8.5	3.5	1	4.2	6.3	44	ATV 12P075M2 (9)	0.700

Three-phase supply voltage: 200...240 V 50/60 Hz (4)										
0.18	0.25	2	1.7	0.7	5	1.4	2.1	16	ATV 12H018M3 (5)	0.700
-	-	3.6	3	1.2	5	2.4	3.6	24	ATV 12P037M3 (9)	0.700
-	-	6.3	5.3	2.2	5	4.2	6.3	41	ATV 12P075M3 (9)	0.700
-	-	11.1	9.3	3.9	5	7.5	11.2	73	ATV 12PU15M3 (9)	1.000
-	-	14.9	12.5	5	5	10	15	85	ATV 12PU22M3 (9)	1.000
-	-	19	15.9	6.6	5	12.2	18.3	94	ATV 12PU30M3 (9)	1.600
-	-	23.8	19.9	8.3	5	16.7	25	128	ATV 12PU40M3 (9)	1.600

(1) These values are given for a nominal switching frequency of 4 kHz, for use in continuous operation. If operation above 4 kHz needs to be continuous, the nominal drive current should be derated by 10% for 8 kHz, 20% for 12 kHz and 30% for 16 kHz.

The switching frequency can be set between 2 and 16 kHz for all ratings.

Above 4 kHz, the drive will reduce the switching frequency automatically in the event of an excessive temperature rise.

See the derating curves in the User Manual, available on our website at "www.schneider-electric.com".

(2) Weight of product without packaging.

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

(4) Min. (U1) and max. (U2) nominal supply voltage: 100 (U1)...120 V (U2), 200 (U1)...240 V (U2).

(5) Due to the poor heat dissipation, the ATV 12H018●● drive is only supplied as a base plate version.

(6) Drive supplied with category C1 integrated EMC filter. This filter can be disconnected.

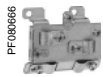
(7) Available in lots of 14: add **TQ** at the end of the reference. For example, ATV 12H018M2 becomes **ATV 12H018M2TQ**.

(8) Available in lots of 7: add **TQ** at the end of the reference. ATV 12HU22M2 becomes **ATV 12HU22M2TQ**.

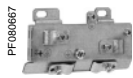
(9) To size the ATV 12P●●●● drive correctly, see the specific manual for the Altivar 12 base plate version, available on our website at "www.schneider-electric.com".



VW3 A9 804



VW3 A9 523



VW3 A9 524



VW3 A8 114



Configuring the drive in its packaging with the Multi-Loader tool  
VW3 A8 121+ cordset  
VW3 A8 126

## Accessories

Description	For drives	Reference	Weight kg
Mounting plates for mounting on 35 mm wide rail	ATV 12H018F1, H037F1	VW3 A9 804	0.290
	ATV 12H018M2...H075M2		
	ATV 12H018M3...H075M3	VW3 A9 805	0.385
	ATV 12H075F1		
	ATV 12HU15M2, HU22M2	VW3 A9 806	0.410
	ATV 12HU15M3, HU22M3		
	ATV 12HU30M3, HU40M3		
<b>EMC conformity kits</b> These provide a connection compliant with EMC standards (see page 60404/3) The kit consists of: ■ The EMC plate ■ Clamps ■ Fixing accessories	ATV 12H018F1, H037F1	VW3 A9 523	0.170
	ATV 12H018M2...H075M2		
	ATV 12H018M3...H075M3	VW3 A9 524	0.190
	ATV 12P037F1		
	ATV 12P037M2...P075M2	VW3 A9 524	0.190
	ATV 12P037M3...P075M3		
ATV 12H075F1			
	ATV 12HU15M2, HU22M2	VW3 A9 317	-
	ATV 12HU15M3, HU22M3		
	ATV 12PU15M3, PU22M3		
	ATV 12		
<b>+15 V/+24 V voltage converter</b> Connects directly to the control terminals	ATV 12	VW3 A9 317	-

## Configuration tools

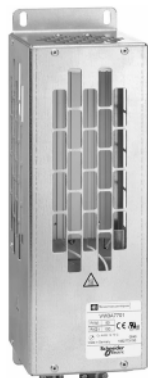
Description	For drives	Reference	Weight kg
<b>SoMove lite setup software and associated accessories</b>			
<b>SoMove lite setup software</b> For configuring, adjusting and debugging the Altivar 12 drive. Downloadable from our website "www.schneider-electric.com" or available on the "Description of the Motion & Drives Offer" DVD ROM VW3 A8 200.	ATV 12	-	-
<b>USB/RJ45 cable</b> equipped with a USB connector and an RJ45 connector. For connecting a PC to the Altivar 12 drive. Length: 2.5 m	ATV 12	TCSMCNAM3M002P	-
<b>Modbus - Bluetooth® adaptor</b> For establishing a Bluetooth® wireless connection between the Altivar 12 drive and a PC equipped with a Bluetooth® wireless link. Pack contents: ■ 1 Bluetooth® adaptor (range 10 m, class 2) with an RJ45 connector ■ 1 x 0.1 m cordset with 2 RJ 45 connectors, ... (1)	ATV 12	VW3 A8 114	0.155
<b>USB - Bluetooth® adaptor for PC</b> Required for a PC which is not equipped with Bluetooth® technology. Connects to a USB port on the PC. Range of 10 m (class 2).	-	VW3 A8 115	0.200
<b>Simple Loader, Multi-Loader configuration tools and associated cable</b>			
<b>Simple Loader tool</b> For duplicating one drive configuration on another drive. The drives must be powered-up. The tool is supplied with a cordset equipped with 2 RJ45 connectors.	ATV 12	VW3 A8 120	-
<b>Multi-Loader tool 1</b> For copying a configuration on a PC or drive and duplicating it on another drive. The drives do not need to be powered-up. Supplied with the tool: ■ 1 cordset equipped with 2 RJ45 connectors ■ 1 cordset equipped with a USB type A connector and a USB Mini-B type connector ■ 1 x 2 GB SD memory card ■ 1 female/female RJ45 adaptor ■ 4 AA/LR6 1.5 V batteries	ATV 12	VW3 A8 121	-
<b>Cordset for Multi-Loader tool 2</b> For connecting the Multi-Loader tool to the Altivar 12 drive in its packaging. Equipped with a non-locking RJ45 connector with special mechanical catch on the drive end and an RJ45 connector on the Multi-Loader end.	ATV 12 in its packaging	VW3 A8 126	-
(1) Also includes other components for connecting compatible Schneider Electric devices.			

PF080659



VW3 A1 006 with cover open:  
RUN, FWD/REV and STOP  
buttons accessible

PF080623



VW3 A7 701

PF080669



VW3 A4 416

PF080672



ATV 12H075M2 with EMC kit  
VW3 A9 523 mounted on  
EMC filter VW3 A4 416

### Configuration tools (continued)

Description	For drives	Reference	Weight kg
<b>SoMove Mobile software for mobile phone (1)</b>			
SoMove Mobile software allows you to edit drive parameters from a mobile phone using a Bluetooth® wireless connection. Requires the Modbus - Bluetooth® adaptor VW3 A8 114 (see page 60402/3). It can also be used to back up configurations, which can be imported or exported from a PC. SoMove Mobile software can be downloaded from our website "www.schneider-electric.com".	ATV 12●●●●●●	–	–

### Remote display terminals and associated cordsets

Remote display terminals	IP 54 degree of protection	ATV 12●●●●●●	VW3 A1 006	0.250
For mounting the Human-Machine interface on an enclosure door with IP 54 or IP 65 degree of protection. A remote-mounting cordset VW3 A1 104 R●● is also required.	IP 65 degree of protection	ATV 12●●●●●●	VW3 A1 007	0.275
<b>Remote-mounting cordsets</b>	Length: 1 m	ATV 12●●●●●●	VW3 A1 104 R10	0.050
equipped with 2 RJ45 connectors. For connecting the VW3 A1 006 or VW3 A1 007 remote display terminal to the Altivar 12 drive.	Length: 3 m	ATV 12●●●●●●	VW3 A1 104 R30	0.150

### Braking unit and resistors

Description	Ohmic value at 20°C	Average power available at 40°C	For drives	Reference	Weight kg
	Ω	W			
<b>Resistance braking unit</b> To be connected to the DC bus. Needs at least one braking resistor. For mounting on a 35 mm AM1 ED rail, to be ordered separately (2).	–	–	ATV 12●●●●F1 ATV 12●●●●M2 ATV 12H018M3...HU22M3 ATV 12P037M3...PU22M3	VW3 A7 005	0.285
<b>Braking resistors</b> Protected (IP 20) If a resistor other than those specified is being used, add a thermal protection device.	100	58	ATV 12●●●●F1 (3) ATV 12H018M2...HU15M2 (3) ATV 12H018M3...HU15M3 (3) ATV 12P037M2...P075M2 (3) ATV 12P037M3...PU15M3 (3)	VW3 A7 701	1.580
	60	115	ATV 12HU22M2 (4) ATV 12HU22M3 (4) ATV 12PU22M3 (4)	VW3 A7 702	1.660
<b>Braking resistors</b> Unprotected (IP 00) If a resistor other than those specified is being used, add a thermal protection device.	100	32	ATV 12●●●●F1 (3) ATV 12H018M2...HU15M2 (3) ATV 12H018M3...HU15M3 (3) ATV 12P037M2...P075M2 (3) ATV 12P037M3...PU15M3 (3)	VW3 A7 723	0.605
	68	32	ATV 12HU22M2 (4) ATV 12HU22M3 (4) ATV 12PU22M3 (4)	VW3 A7 724	0.620

### Additional EMC input filters

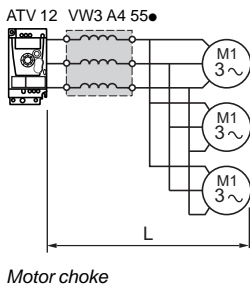
Description	For drives	Reference	Weight kg
<b>Additional EMC input filters</b> For compliance with the requirements of standard IEC/EN 61800-3, category C1, C2 or C3, in Environment 1 (public network) or 2 (industrial network), depending on the drive rating. See the "Conducted and radiated EMC emissions" characteristics on page 60401/2 to check the permitted shielded motor cable lengths depending on the category and the environment according to standard IEC/EN 61800-3.	ATV 12H018F1...H037F1 ATV 12H018M2...H075M2 ATV 12P037F1 ATV 12P037M2...P075M2	VW3 A4 416	1.120
	ATV 12H075F1 ATV 12HU15M2, HU22M2	VW3 A4 417	1.455
	ATV 12H018M3...H075M3 ATV 12P037M3...P075M3	VW3 A4 418	1.210
	ATV 12HU15M3, HU22M3 ATV 12PU15M3, PU22M3	VW3 A4 419	1.440

(1) The SoMove Mobile software requires a basic mobile phone; please consult our website "www.schneider-electric.com".

(2) Please consult our website "www.schneider-electric.com".

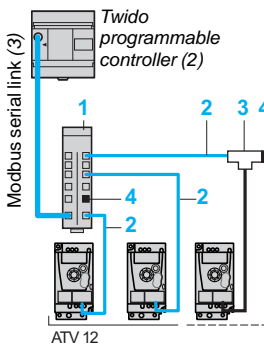
(3) Minimum value of the resistor to be used: 75 ohms.

(4) Minimum value of the resistor to be used: 51 ohms.



Motor choke

Motor chokes				
Description	Nominal current A	For drives	Reference	Weight kg
<b>Motor chokes</b> Required: <ul style="list-style-type: none"> <li>When connecting more than 2 motors in parallel</li> <li>When the motor cable length (L), including tap-offs, is:                             <ul style="list-style-type: none"> <li>50...100 m for a shielded motor cable (1),</li> <li>100...200 m for an unshielded motor cable (1).</li> </ul> </li> </ul>	4	ATV 12H018F1, H037F1 ATV 12H018M2...H055M2 ATV 12H018M3, H037M3 ATV 12P037F1 ATV 12P037M2, P055M2 ATV 12P037M3	VW3 A4 551	1.880
	10	ATV 12H075F1 ATV 12H075M2, HU15M2 ATV 12H075M3, HU15M3 ATV 12P075M2 ATV 12P075M3, PU15M3	VW3 A4 552	3.700
	16	ATV 12HU22M2 ATV 12HU22M3, HU30M3 ATV 12PU22M3, PU30M3	VW3 A4 553	4.100
	30	ATV 12HU40M3 ATV 12PU40M3	VW3 A4 554	6.150



Example of Modbus diagram with connection via splitter box and RJ45 connectors

Modbus serial link					
Description	Item no.	Length m	Unit reference	Weight kg	
<b>Connection via splitter box and RJ45 connectors</b>					
<b>Modbus splitter box</b> 10 RJ45 connectors and 1 screw terminal	1	–	LU9 GC3	0.500	
<b>Cordsets for Modbus serial link</b> equipped with 2 RJ45 connectors	2	0.3	VW3 A8 306 R03	0.025	
		1	VW3 A8 306 R10	0.060	
		3	VW3 A8 306 R30	0.130	
<b>Modbus T-junction boxes</b> (with integrated cable)	3	0.3	VW3 A8 306 TF03	0.190	
		1	VW3 A8 306 TF10	0.210	
<b>Line terminators</b>	R = 120 Ω	4	–	VW3 A8 306 RC	0.010
(4) (5) For RJ45 connector	C = 1 nF	4	–	VW3 A8 306 R	0.010
	R = 150 Ω	4	–	VW3 A8 306 R	0.010

Documentation			
Description	For drives	Reference	Weight kg
<b>“Description of the Motion &amp; Drives Offer” DVD ROM</b> Contents (6): <ul style="list-style-type: none"> <li>Technical documentation (programming manuals, installation manuals, quick reference guides)</li> <li>SoMove lite setup software, catalogues</li> <li>Brochures</li> </ul>	ATV 12●●●●●●	VW3 A8 200	0.100



VZ3 V1 302

Replacement parts			
Description	For drives	Reference	Weight kg
<b>Fans</b>	ATV 12H075F1	VZ3 V1 301	0.160
	ATV 12HU15M2, HU22M2		
	ATV 12HU15M3...HU40M3	VZ3 V1 302	0.150

(1) Motor cable length given for a switching frequency of 4 kHz.  
 (2) Please refer to the Twido programmable controller catalogue.  
 (3) Cable depends on the type of controller or PLC.  
 (4) Order in multiples of 2.  
 (5) Depends on the bus architecture.  
 (6) The content of this DVD ROM is also available on our website at "www.schneider-electric.com".