

Variable speed drives

Altivar Machine ATV320

Drives with compact control block, IP20



ATV320U02M2C...U07M2C

ATV320U11M2C...U22M2C
ATV320U04N4C...U15N4CATV320U22N4C...
ATV320U40N4C

ATV320U55M3C

Drives with compact control block										
Motor		Line supply				Altivar Machine ATV320				
Power indicated on rating plate (1)	Max. line current (2) (3)	Apparent power		Max. prospective line Isc (4)	Max. continuous output current (In) (1)	Max. transient current for 60s	Power dissipated at maximum output current (Pn) (1)	Reference (1)	Weight	
		at U1	at U2							
kW	HP	A	A	kVA	kA	A	A	W		kg/lb
Single-phase supply voltage: 200...240 V 50/60 Hz, with integrated EMC filter (6)										
0.18	0.25	3.4	2.8	0.7	1	1.5	2.3	17	ATV320U02M2C	0.800/1.278
0.37	0.5	5.9	4.9	1.2	1	3.3	5	30	ATV320U04M2C	1.000/2.204
0.55	0.75	7.8	6.6	1.6	1	3.7	5.6	33	ATV320U06M2C	1.100/2.425
0.75	1	10.0	8.4	2	1	4.8	7.2	45	ATV320U07M2C	
1.1	1.5	13.7	11.5	2.8	1	6.9	10.4	61	ATV320U11M2C	1.600/3.527
1.5	2	17.8	14.9	3.6	1	8	12	76	ATV320U15M2C	
2.2	3	24.0	20.2	4.8	1	11	16.5	99	ATV320U22M2C	
Three-phase supply voltage: 200...240 V 50/60 Hz, without integrated EMC filter										
0.18	0.25	2.0	1.7	0.7	5	1.5	2.3	15	ATV320U02M3C	0.800/1.278
0.37	0.5	3.6	3.0	1.2	5	3.3	5	27	ATV320U04M3C	0.900/1.984
0.55	0.75	4.9	4.2	1.7	5	3.7	5.6	31	ATV320U06M3C	1.000/2.204
0.75	1.0	6.3	5.3	2.2	5	4.8	7.2	42	ATV320U07M3C	
1.1	1.5	8.6	7.2	3.0	5	6.9	10.4	58	ATV320U11M3C	1.400/3.086
1.5	2.0	11.1	9.3	3.9	5	8	12	72	ATV320U15M3C	
2.2	3.0	14.9	12.5	5.2	5	11	16.5	91	ATV320U22M3C	
3.0	3.0	18.7	15.7	6.5	5	13.7	20.6	105	ATV320U30M3C	2.200/4.850
4.0	5.0	23.8	19.9	8.3	5	17.5	26.3	140	ATV320U40M3C	
5.5	7.5	35.4	29.8	12.4	22	27.5	41.3	242	ATV320U55M3C	3.500/7.716
7.5	10.0	45.3	38.2	15.9	22	33	49.5	293	ATV320U75M3C	3.600/7.937
11.0	15.0	60.9	51.4	21.4	22	54	81	468	ATV320D11M3C	6.800/14.991
15.0	20.0	79.7	67.1	27.9	22	66	99	551	ATV320D15M3C	6.900/15.212

(1) These values are given for a nominal switching frequency of 4 kHz, for use in continuous operation. The switching frequency is adjustable from 2 to 16 kHz. Above 4 kHz, derate the nominal drive current. The nominal motor current should not exceed this value (see derating curves in the [Installation Manual](#)).

(2) Typical value for a 4-pole motor and a maximum switching frequency of 4 kHz, with no line choke for max.

(3) Nominal supply voltage, min. U1, max. U2: 200 (U1)...240 V (U2), 380 (U1)...500 V (U2), 525 (U1)...600 (U2).

(4) If line Isc is greater than the values in the table, add line chokes.

Variable speed drives

Altivar Machine ATV320

Motor starters (circuit breaker + drive)

Supply voltage 200...240 V

Applications

Two types of combination are possible:

- Circuit breaker + variable speed drive: minimum combination. The circuit breaker can be mounted directly on **ATV320 book type less than 4kW** drives using the bracket for GV2/ATV320 direct mounting (**VW3A9921**) and the adapter plate (**GV2AF5**) (see page 18).
- Circuit breaker + contactor + variable speed drive combination. The circuit breaker provides protection against accidental short circuits, disconnection and isolation.

For ATV320●●●●WS, circuit breaker can't be integrated inside.

For ATV320●●●●W, the combination table of Circuit breaker, Rotary handle kit (GVAPB65S or GV2APN03), and Base plate (VW3A9922) is indicated in the installation manual.

Example:

ATV320U07N4W + GV2L08 + GVAPB65S +VW3A9922

ATV320U55N4W + GV2L22 + GV2APN03

GVAPB65S used below 4 kW, GV2APN03 used for 5.5 kW and 7.5 kW motor power.

A contactor can be used downstream of the drive to help ensure the motor is isolated on stopping. In this case, the contactor size should be category AC-3 depending on the associated motor, only for operation between 25 Hz and 500 Hz.

The Altivar Machine ATV320 drive is protected electronically against short circuits between phases and between phase and ground. It therefore provides continuity of service and thermal monitoring of the motor.



GV2 / ATV320 direct mounting:

GV2L08
+
(**VW3A9921** + **GV2AF5**)
(5) (6)
+
ATV320U07N4B

Motor starters: Circuit breaker + Drive

Standard power ratings of three-phase 4-pole 50/60 Hz motors (2)		Variable speed drive Reference (3)	Circuit breaker (1) Reference	Circuit breaker mounted directly on ATV320 (4)
kW	HP			
Single-phase supply voltage: 200...240 V 50/60 Hz				
0.18	0.25	ATV320U02M2●	GV2L08 (5)	With accessories VW3A9921 + GV2AF5 (6)
0.37	0.5	ATV320U04M2●	GV2L10 (5)	
0.55	0.75	ATV320U06M2●	GV2L14 (5)	
0.75	1	ATV320U07M2●	GV2L16 (5)	
1.1	1.5	ATV320U11M2●	GV2L16 (5)	
1.5	2	ATV320U15M2●	GV2L20 (5)	
2.2	3	ATV320U22M2●	GV2L22 (5)	
Three-phase supply voltage: 200...240 V 50/60 Hz				
0.18	0.25	ATV320U02M3C	GV2L07 (5)	—
0.37	0.5	ATV320U04M3C	GV2L08 (5)	
0.55	0.75	ATV320U06M3C	GV2L10 (5)	
0.75	1	ATV320U07M3C	GV2L14 (5)	
1.1	1.5	ATV320U11M3C	GV2L14 (5)	
1.5	2	ATV320U15M3C	GV2L16 (5)	
2.2	3	ATV320U22M3C	GV2L20 (5)	
3	4	ATV320U30M3C	GV2L22 (5)	
4	5	ATV320U40M3C	GV2L22 (5)	
5.5	7.5	ATV320U55M3C	GV3L40 (5)	
7.5	10	ATV320U75M3C	GV3L50 (5)	
11	15	ATV320D11M3C	GV3L65 (5)	
15	20	ATV320D15M3C	GV3L80	

(1) GV2L, GV3L: TeSys magnetic motor circuit breakers; accessories (see page 55).

(2) The HP values given are NEC-compliant (National Electrical Code).

(3) For the complete reference, replace ● with B, C, W, WS version.

(4) The circuit breaker can be mounted directly only on the book format drive **ATV320U●●M2B** and **ATV320U04N4B...U40N4B**.

(5) GV●L●● circuit breaker reference are not UL compliant. To achieve UL Type E compliance GV●P●● thermal magnetic circuit breaker must be used.

(6) To be ordered separately (see page 17), see note (4) for compatibility.