

Complementary characteristics (continued)**Analog input AI1**

- Voltage analog input: 0...5 V $\overline{\text{---}}$ (internal power supply only) or 0...10 V $\overline{\text{---}}$, impedance 30 k Ω
 - Analog current input: X-Y mA by programming X and Y from 0...20 mA, impedance 250 Ω
- Sampling time: < 10 ms
Resolution: 10 bits
Accuracy: $\pm 1\%$ at 25°C
Linearity: $\pm 0.3\%$ of the maximum scale value
Factory setting: Input configured as voltage type

Analog output AO1

- 1 software-configurable voltage or current analog output:
- Analog voltage output: 0...10 V $\overline{\text{---}}$, minimum load impedance 470 Ω
 - Analog current output: 0 to 20 mA, maximum load impedance 800 Ω
- Update time: < 10 ms
Resolution: 8 bits
Accuracy: $\pm 1\%$ at 25°C

Relay outputs R1A, R1B, R1C

- 1 protected relay output, 1 N/O contact and 1 N/C contact with common point
Response time: 30 ms maximum
Minimum switching capacity: 5 mA for 24 V $\overline{\text{---}}$
Maximum switching capacity:
- On resistive load ($\cos \varphi = 1$ and L/R = 0 ms): 3 A at 250 V \sim or 4 A at 30 V $\overline{\text{---}}$
 - On inductive load ($\cos \varphi = 0.4$ and L/R = 7 ms): 2 A at 250 V \sim or 30 V $\overline{\text{---}}$

Logic inputs LI1...LI4

- 4 programmable logic inputs, compatible with PLC level 1, standard IEC/EN 61131-2
24 V $\overline{\text{---}}$ internal power supply or 24 V $\overline{\text{---}}$ external power supply (min. 18 V, max. 30 V)
Sampling time: < 20 ms
Sampling time tolerance: ± 1 ms
Factory-set with 2-wire control in "transition" mode for machine safety reasons:
- LI1: forward
 - LI2...LI4: not assigned
- Multiple assignment makes it possible to configure several functions on one input (for example: LI1 assigned to forward and preset speed 2, LI3 assigned to reverse and preset speed 3)
Impedance 3.5 k Ω

Logic outputs LO+, LO-

- One 24 V $\overline{\text{---}}$ logic output assignable as positive logic (Source) or negative logic (Sink) open collector type, compatible with level 1 PLC, standard IEC/EN 61131-2
Maximum voltage: 30 V
Linearity: $\pm 1\%$
Maximum current: 10 mA (100 mA with external power supply)
Impedance: 1 k Ω
Update time: < 20 ms

Variable speed drives

Altivar 12

Drives with heatsink



ATV12H018M2



ATV12H075M2



ATV12HU40M3



ATV12HU15M2TQ (8)

| Drives with heatsink | | | | | | | | | | |
|--|-----------------------|-------|----------------|---------------------------|--|------------------------------------|---|-----------|----------------------------|-------|
| Motor | Line supply | | | Altivar 12 | | | | | | |
| Power indicated on rating plate (1) | Max. line current (2) | | Apparent power | Max. prospective line lsc | Maximum continuous output current (In) (1) | Maximum transient current for 60 s | Dissipated power at maximum output current (In) (1) | Reference | Weight (3) | |
| | at U1 | at U2 | 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 | 0.6 | 1 | 1.4 | 2.1 | 18 | ATV12H018F1 (5) | 0.700 |
| 0.37 | 0.5 | 11.4 | 9.3 | 1.1 | 1 | 2.4 | 3.6 | 29 | ATV12H037F1 | 0.800 |
| 0.75 | 1 | 18.9 | 15.7 | 1.9 | 1 | 4.2 | 6.3 | 48 | ATV12H075F1 | 1.300 |
| Single-phase supply voltage: 200...240 V 50/60 Hz (4) (6) | | | | | | | | | | |
| 0.18 | 0.25 | 3.4 | 2.8 | 0.7 | 1 | 1.4 | 2.1 | 18 | ATV12H018M2 (5) (7) (10) | 0.700 |
| 0.37 | 0.55 | 5.9 | 4.9 | 1.2 | 1 | 2.4 | 3.6 | 27 | ATV12H037M2 (7) (10) | 0.700 |
| 0.55 | 0.75 | 8 | 6.7 | 1.6 | 1 | 3.5 | 5.3 | 34 | ATV12H055M2 (7) (10) | 0.800 |
| 0.75 | 1 | 10.2 | 8.5 | 2 | 1 | 4.2 | 6.3 | 44 | ATV12H075M2 (7) (10) | 0.800 |
| 1.5 | 2 | 17.8 | 14.9 | 3.6 | 1 | 7.5 | 11.2 | 72 | ATV12HU15M2 (8) (9) | 1.400 |
| 2.2 | 3 | 24 | 20.2 | 4.8 | 1 | 10 | 15 | 93 | ATV12HU22M2 (8) (9) | 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 | ATV12H018M3 (5) | 0.700 |
| 0.37 | 0.55 | 3.6 | 3 | 1.2 | 5 | 2.4 | 3.6 | 24 | ATV12H037M3 | 0.800 |
| 0.75 | 1 | 6.3 | 5.3 | 2.2 | 5 | 4.2 | 6.3 | 41 | ATV12H075M3 | 0.800 |
| 1.5 | 2 | 11.1 | 9.3 | 3.9 | 5 | 7.5 | 11.2 | 73 | ATV12HU15M3 | 1.200 |
| 2.2 | 3 | 14.9 | 12.5 | 5 | 5 | 10 | 15 | 85 | ATV12HU22M3 | 1.200 |
| 3 | – | 19 | 15.9 | 6.6 | 5 | 12.2 | 18.3 | 94 | ATV12HU30M3 | 2.000 |
| 4 | 5 | 23.8 | 19.9 | 8.3 | 5 | 16.7 | 25 | 128 | ATV12HU40M3 | 2.000 |
| Dimensions (overall) | | | | | | | | | | |
| Drives with heatsinks | | | | | | W x H x D | | | | |
| | | | | | | EMC plate fixed | | | EMC plate not fixed | |
| | | | | | | mm | | | mm | |
| ATV12H018F1, H018M2, H018M3 | | | | | | 72 x 189.5 x 102.2 | | | 72 x 143 x 102.2 | |
| ATV12H037F1, H037M2, H037M3 | | | | | | 72 x 189.5 x 121.2 | | | 72 x 143 x 121.2 | |
| ATV12H055M2, H075M2, H075M3 | | | | | | 72 x 189.5 x 131.2 | | | 72 x 143 x 131.2 | |
| ATV12H075F1, HU15M2, HU22M2 | | | | | | 105 x 188.2 x 156.2 | | | 105 x 142 x 156.2 | |
| ATV12HU15M3, HU22M3 | | | | | | 105 x 189.3 x 131.2 | | | 105 x 143 x 131.2 | |
| ATV12HU30M3, HU40M3 | | | | | | 140 x 230.6 x 141.2 | | | 140 x 184 x 141.2 | |

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

(3) Weight of product without packaging.

(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 ATV12H018●● drive is only supplied as a base plate version.

(6) This drive is delivered with a disconnectable category C1 EMC filter. This drive complies with the IEC/EN 61800-3 standard, Environment 1 (public network), category C1, at 2, 4, 8, 12 and 16 kHz for a shielded motor cable length inferior or equal to 5 m.

(7) Complies with the IEC/EN 61800-3 standard, Environment 1 (public network), category C2, from 2 to 12 kHz for a shielded motor cable length inferior or equal to 5 m; and at 2, 4, 8, 12 and 16 kHz for a shielded motor cable length inferior or equal to 10 m.

(8) Complies with the IEC/EN 61800-3 standard, Environment 1 (public network), category C2, from 4 to 16 kHz for a shielded motor cable length inferior or equal to 5 m; and at 2, 4 and 16 kHz for a shielded motor cable length inferior or equal to 10 m.

(9) Available in lots of 7: add **TQ** at the end of the reference. ATV12HU22M2 becomes **ATV12HU22M2TQ**.

(10) Available in lots of 14: add **TQ** at the end of the reference. For example, ATV12H018M2 becomes **ATV12H018M2TQ**.