

# Lembar data produk

Spesifikasi



variable speed drive ATV312 -  
2.2kW - 4.4kVA - 123W - 200..240  
V- 1-phase supply

ATV312HU22M2412

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Telah dihentikan pada: 27 Agu 2020
- !

Berakhirnya layanan pada: 1 Jan 2023

! Dihentikan

## Main

|                              |                                          |
|------------------------------|------------------------------------------|
| Range Of Product             | Altivar 312 Solar                        |
| Product Or Component Type    | Variable speed drive                     |
| Product Destination          | Asynchronous motors                      |
| Product Specific Application | Pumping station with photovoltaic arrays |
| Assembly Style               | With heat sink                           |
| Device Short Name            | ATV312                                   |

## Complementary

|                                  |                                                                                                                          |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Motor Power Kw                   | 2.2 kW                                                                                                                   |
| Motor Power Hp                   | 3 hp                                                                                                                     |
| [Us] Rated Supply Voltage        | 200...240 V - 5...5 %                                                                                                    |
| Supply Voltage Limits            | 170...264 V                                                                                                              |
| Supply Frequency                 | 50...60 Hz - 5...5 %                                                                                                     |
| Network Frequency                | 47.5...63 Hz                                                                                                             |
| Network Number Of Phases         | Single phase                                                                                                             |
| Line Current                     | 18.4 A at 240 V<br>21.9 A at 200 V, I <sub>sc</sub> = 1 kA                                                               |
| Emc Filter                       | Integrated                                                                                                               |
| Apparent Power                   | 4.4 kVA                                                                                                                  |
| Prospective Line I <sub>sc</sub> | 1 kA                                                                                                                     |
| Continuous Output Current        | 11 A at 4 kHz                                                                                                            |
| Maximum Transient Current        | 16.5 A for 60 s                                                                                                          |
| Power Dissipation In W           | 123 W at nominal load                                                                                                    |
| Speed Drive Output Frequency     | 0.5...500 Hz                                                                                                             |
| Nominal Switching Frequency      | 4 kHz                                                                                                                    |
| Switching Frequency              | 2...16 kHz adjustable                                                                                                    |
| Speed Range                      | 1...50                                                                                                                   |
| Transient Overtorque             | 150...170 % of nominal motor torque                                                                                      |
| Braking Torque                   | <= 150 % during 60 s with braking resistor<br>100 % with braking resistor continuously<br>150 % without braking resistor |

Disklaimer: Dokumentasi ini tidak ditujukan sebagai pengganti dan tidak untuk digunakan untuk menentukan kesesuaian atau keandalan produk ini untuk aplikasi pengguna

|                                            |                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Asynchronous Motor Control Profile</b>  | Factory set: energy saving mode                                                                                                                                                                                                                                                                                                                                                         |
| <b>Regulation Loop</b>                     | Frequency PI regulator                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Motor Slip Compensation</b>             | Automatic whatever the load<br>Adjustable<br>Suppressable                                                                                                                                                                                                                                                                                                                               |
| <b>Output Voltage</b>                      | <= power supply voltage                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Electrical Connection</b>               | AI1, AI2, AI3, AOV, AOC, R1A, R1B, R1C, R2A, R2B, LI1...LI6 terminal 2.5 mm² AWG 14<br>L1, L2, L3, U, V, W, PA, PB, PA/+, PC/- terminal 2.5 mm² AWG 14                                                                                                                                                                                                                                  |
| <b>Tightening Torque</b>                   | AI1, AI2, AI3, AOV, AOC, R1A, R1B, R1C, R2A, R2B, LI1...LI6: 0.6 N.m<br>L1, L2, L3, U, V, W, PA, PB, PA/+, PC/-: 0.8 N.m                                                                                                                                                                                                                                                                |
| <b>Insulation</b>                          | Electrical between power and control                                                                                                                                                                                                                                                                                                                                                    |
| <b>Supply</b>                              | Internal supply for logic inputs at 19...30 V, <100 A, protection type: overload and short-circuit protection<br>Internal supply for reference potentiometer (2.2 to 10 kOhm) at 10...10.8 V, <10 A, protection type: overload and short-circuit protection                                                                                                                             |
| <b>Analogue Input Number</b>               | 3                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Analogue Input Type</b>                 | AI1 configurable voltage 0...10 V, input voltage 30 V max, impedance: 30000 Ohm<br>AI2 configurable voltage +/- 10 V, input voltage 30 V max, impedance: 30000 Ohm<br>AI3 configurable current 0...20 mA, impedance: 250 Ohm                                                                                                                                                            |
| <b>Sampling Duration</b>                   | AI1, AI2, AI3: 8 ms analog<br>LI1...LI6: 4 ms discrete                                                                                                                                                                                                                                                                                                                                  |
| <b>Response Time</b>                       | AOV, AOC 8 ms for analog<br>R1A, R1B, R1C, R2A, R2B 8 ms for discrete                                                                                                                                                                                                                                                                                                                   |
| <b>Linearity Error</b>                     | +/- 0.2 % for output                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Analogue Output Number</b>              | 2                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Analogue Output Type</b>                | AOC configurable current: 0...20 mA, impedance: 800 Ohm, resolution: 8 bits<br>AOV configurable voltage: 0...10 V, impedance: 470 Ohm, resolution: 8 bits                                                                                                                                                                                                                               |
| <b>Discrete Input Logic</b>                | Logic input not wired (LI1...LI4), < 13 V (state 1)<br>Negative logic (source) (LI1...LI6), > 19 V (state 0)<br>Positive logic (source) (LI1...LI6), < 5 V (state 0), > 11 V (state 1)                                                                                                                                                                                                  |
| <b>Discrete Output Number</b>              | 2                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Discrete Output Type</b>                | Configurable relay logic: (R1A, R1B, R1C) 1 NO + 1 NC - 100000 cycles<br>Configurable relay logic: (R2A, R2B) NC - 100000 cycles                                                                                                                                                                                                                                                        |
| <b>Minimum Switching Current</b>           | R1-R2 10 mA at 5 V DC                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Maximum Switching Current</b>           | 2 A at 250 V AC on inductive load - cos phi = 0.4 - L/R = 7 ms (R1-R2)<br>2 A at 30 V DC on inductive load - cos phi = 0.4 - L/R = 7 ms (R1-R2)<br>5 A at 250 V AC on resistive load - cos phi = 1 - L/R = 0 ms (R1-R2)<br>5 A at 30 V DC on resistive load - cos phi = 1 - L/R = 0 ms (R1-R2)                                                                                          |
| <b>Discrete Input Number</b>               | 6                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Discrete Input Type</b>                 | (LI1...LI6) programmable at 24 V, 0...100 mA for PLC, impedance: 3500 Ohm                                                                                                                                                                                                                                                                                                               |
| <b>Acceleration And Deceleration Ramps</b> | S, U or customized<br>Linear adjustable separately from 0.1 to 999.9 s                                                                                                                                                                                                                                                                                                                  |
| <b>Braking To Standstill</b>               | By DC injection                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Protection Type</b>                     | Input phase breaks: drive<br>Line supply overvoltage and undervoltage safety circuits: drive<br>Line supply phase loss safety function, for three phases supply: drive<br>Motor phase breaks: drive<br>Overcurrent between output phases and earth (on power up only): drive<br>Overheating protection: drive<br>Short-circuit between motor phases: drive<br>Thermal protection: motor |
| <b>Dielectric Strength</b>                 | 2040 V DC between earth and power terminals<br>2880 V AC between control and power terminals                                                                                                                                                                                                                                                                                            |

|                               |                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Insulation Resistance         | >= 500 mOhm 500 V DC for 1 minute                                                                                                                                                                                                                                                                                                                 |
| Local Signalling              | 1 LED (red) for drive voltage<br>Four 7-segment display units for CANopen bus status                                                                                                                                                                                                                                                              |
| Time Constant                 | 5 ms for reference change                                                                                                                                                                                                                                                                                                                         |
| Frequency Resolution          | Analog input: 0.1...100 Hz<br>Display unit: 0.1 Hz                                                                                                                                                                                                                                                                                                |
| Communication Port Protocol   | CANopen<br>Modbus                                                                                                                                                                                                                                                                                                                                 |
| Connector Type                | 1 RJ45 for Modbus/CANopen                                                                                                                                                                                                                                                                                                                         |
| Physical Interface            | RS485 multidrop serial link                                                                                                                                                                                                                                                                                                                       |
| Transmission Frame            | RTU                                                                                                                                                                                                                                                                                                                                               |
| Transmission Rate             | 10, 20, 50, 125, 250, 500 kbps or 1 Mbps for CANopen<br>4800, 9600 or 19200 bps for Modbus                                                                                                                                                                                                                                                        |
| Number Of Addresses           | 1...127 for CANopen<br>1...247 for Modbus                                                                                                                                                                                                                                                                                                         |
| Number Of Drive               | 127 for CANopen<br>31 for Modbus                                                                                                                                                                                                                                                                                                                  |
| Electromagnetic Compatibility | 1.2/50 µs - 8/20 µs surge immunity test level 3 conforming to IEC 61000-4-5<br>Electrical fast transient/burst immunity test level 4 conforming to IEC 61000-4-4<br>Electrostatic discharge immunity test level 3 conforming to IEC 61000-4-2<br>Radiated radio-frequency electromagnetic field immunity test level 3 conforming to IEC 61000-4-3 |
| Standards                     | IEC 61800-5-1<br>IEC 61800-3                                                                                                                                                                                                                                                                                                                      |
| Marking                       | CE                                                                                                                                                                                                                                                                                                                                                |
| Height                        | 184 mm                                                                                                                                                                                                                                                                                                                                            |
| Width                         | 142 mm                                                                                                                                                                                                                                                                                                                                            |
| Depth                         | 152 mm                                                                                                                                                                                                                                                                                                                                            |
| Net Weight                    | 3.1 kg                                                                                                                                                                                                                                                                                                                                            |
| Option Card                   | Communication card for CANopen daisy chain<br>Communication card for DeviceNet<br>Communication card for Fipio<br>Communication card for Modbus TCP<br>Communication card for Profibus DP                                                                                                                                                         |

## Environment

|                                       |                                                                                                                                                             |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ip Degree Of Protection               | IP20 without cover plate                                                                                                                                    |
| Pollution Degree                      | 2                                                                                                                                                           |
| Protective Treatment                  | TC                                                                                                                                                          |
| Vibration Resistance                  | 1 gn (f= 13...150 Hz) conforming to EN/IEC 60068-2-6<br>1.5 mm (f= 3...13 Hz) conforming to EN/IEC 60068-2-6                                                |
| Shock Resistance                      | 15 gn for 11 ms conforming to EN/IEC 60068-2-27                                                                                                             |
| Relative Humidity                     | 5...95 % without condensation conforming to IEC 60068-2-3<br>5...95 % without dripping water conforming to IEC 60068-2-3                                    |
| Ambient Air Temperature For Storage   | -25...70 °C                                                                                                                                                 |
| Ambient Air Temperature For Operation | -10...50 °C without derating (with protective cover on top of the drive)<br>-10...60 °C with derating factor (without protective cover on top of the drive) |
| Operating Altitude                    | <= 1000 m without derating<br>>= 1000 m with current derating 1 % per 100 m                                                                                 |
| Operating Position                    | Vertical +/- 10 degree                                                                                                                                      |

## Packing Units

|                              |          |
|------------------------------|----------|
| Unit Type Of Package 1       | PCE      |
| Number Of Units In Package 1 | 1        |
| Package 1 Height             | 20.0 cm  |
| Package 1 Width              | 21.5 cm  |
| Package 1 Length             | 25.5 cm  |
| Package 1 Weight             | 2.885 kg |

## Contractual warranty

|          |           |
|----------|-----------|
| Warranty | 18 months |
|----------|-----------|

## Keberlanjutan

**Green Premium™** label adalah komitmen Schneider Electric untuk memberikan produk dengan performa lingkungan terbaik di kelasnya. Green Premium menjanjikan kepatuhan pada peraturan terbaru, transparansi pada dampak lingkungan, serta produk melingkar dan rendah CO<sub>2</sub>.

**Panduan untuk menilai keberlanjutan produk** adalah laporan resmi yang menjelaskan standar label lingkungan global dan bagaimana menafsirkan deklarasi lingkungan.

[Pelajari lebih lanjut tentang Green Premium >](#)

[Panduan untuk menilai keberlanjutan produk >](#)

## Kinerja kesejahteraan



Mercury Free



Rohs Exemption Information

Yes

Reach Regulation

[REACH Declaration](#)

Eu Rohs Directive

Pro-active compliance (Product out of EU RoHS legal scope)

China Rohs Regulation

[China RoHS declaration](#)

Weee

The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins