

ACS100 Technical Specification

Mains connection

Power range: 0.12 - 2.2 kW

Voltage: 1-phase and 3-phase, 200 to 240 V, $\pm 10\%$

Frequency: 48 to 63 Hz

Power Factor: 0.98

Use 60°C rated power cable (75°C if T_{amb} above 45°C).

Max. wire sizes (mm²)

- 4 single core/torque 0.8 Nm

Motor connection

Voltage: 3-phase, from 0 to U_{SUPPLY}

Frequency: 0 to 300 Hz

Continuous loading capability (constant torque at a max. ambient temperature of 40°C):

Rated output current I_{2N} .

Overload capacity (at a max. ambient temp. of 40°C):

- at constant torque $1.5 \times I_{2N}$, for 1 minute every 10 minutes
- at constant torque $1.25 \times I_{2N}$, for 2 minutes every 10 minutes

Characteristic data for short-time, intermittent and periodic load cycles are available on request.

Switching frequency:

Standard 4 kHz, Low-noise 8 kHz, Silent 16 kHz

Acceleration time: 0.1 to 1800 s

Deceleration time: 0.1 to 1800 s

For max. motor cable lengths see p. 16.

Programmable control connections

Max. wire sizes (mm²)

- 0.5-1.5 (AWG 22...AWG 16)/torque 0.4 Nm

One analog input:

- Voltage signal: 0 (2) to 10 V, 200 k Ω single-ended
- Current signal: 0 (4) to 20 mA, 500 Ω single-ended
- Potentiometer reference value:
10 V $\pm 2\%$ max. 10 mA, 1 k $\Omega \leq R \leq 10$ k Ω
- Response time: ≤ 60 ms
- Resolution: 0.1%
- Accuracy: $\pm 1\%$

Auxiliary voltage: 12 V DC, max. 100 mA

Three digital inputs:

- 12 V DC with internal or 12 V ... 24 V DC with external supply, PNP and NPN
- Input impedance: 1.5 k Ω
- Response time: ≤ 9 ms

One fault relay:

- Switching voltage: 12 to 250 V AC or max 30 V DC/0.5 A
- Maximum continuous current: 10 mA to 2 A

Serial communication for the control panel:

Modbus protocol

Protection limits

Overvoltage

- Running V DC: 420 (corr. to 295 V input)
- Start inhibit V DC: 390 (corr. to 276 V input)

Undervoltage

- Running V DC: 200 (corr. to 142 V input)
- Start inhibit V DC: 230 (corr. to 162 V input)

Environmental limits

Ambient temperatures:

- Output current = I_2 , $f_{switch} = 4$ kHz: 0 to 40°C
- Output current = $0.8 \cdot I_2$, $f_{switch} = 4$ kHz: 40 to 50°C
- Output current = I_2 , $f_{switch} = 8$ kHz: 0 to 30°C
- Output current = $0.9 \cdot I_2$, $f_{switch} = 8$ kHz: 30 to 40°C
- Output current = $0.75 \cdot I_2$, $f_{switch} = 16$ kHz: 0 to 30°C

Altitude:

- Output current = I_2 : 0 to 1000 m
- Output current reduced by 1% per 100 m over 1000 m to 2000 m

Relative humidity: lower than 95%
(without condensation)

Protection class: IP 20

Paint colour: NCS 1502-Y, RAL 9002, PMS 420 C

Contamination levels: no conductive dust, corrosive liquids or gases (IEC 721-3-3).

Product compliance

- Low Voltage Directive 73/23/EEC with supplements
- EMC Directive 89/336/EEC with supplements
- Quality assurance system ISO 9001 and ISO 14001
- CE, UL, ULc and C-Tick approvals

Options

- Control panel
- Extension cable 3 m with IP 65 Kit for control panels PEC-98-0008
- EMC IP 20 input filters
- Braking units and choppers
- Input and output chokes
- NEMA 1/ IP 21 Installation kits