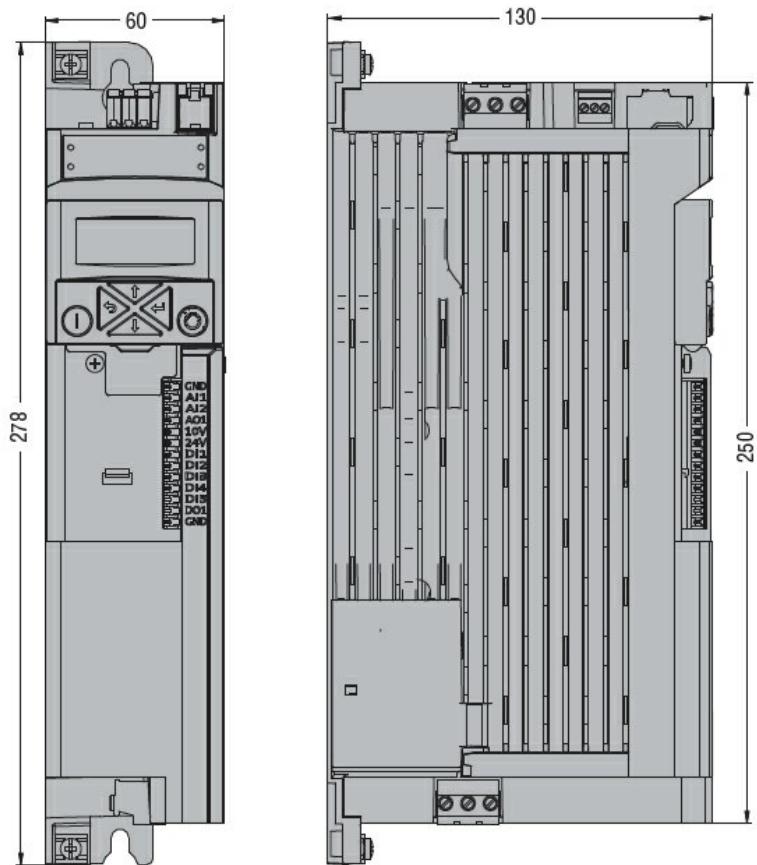




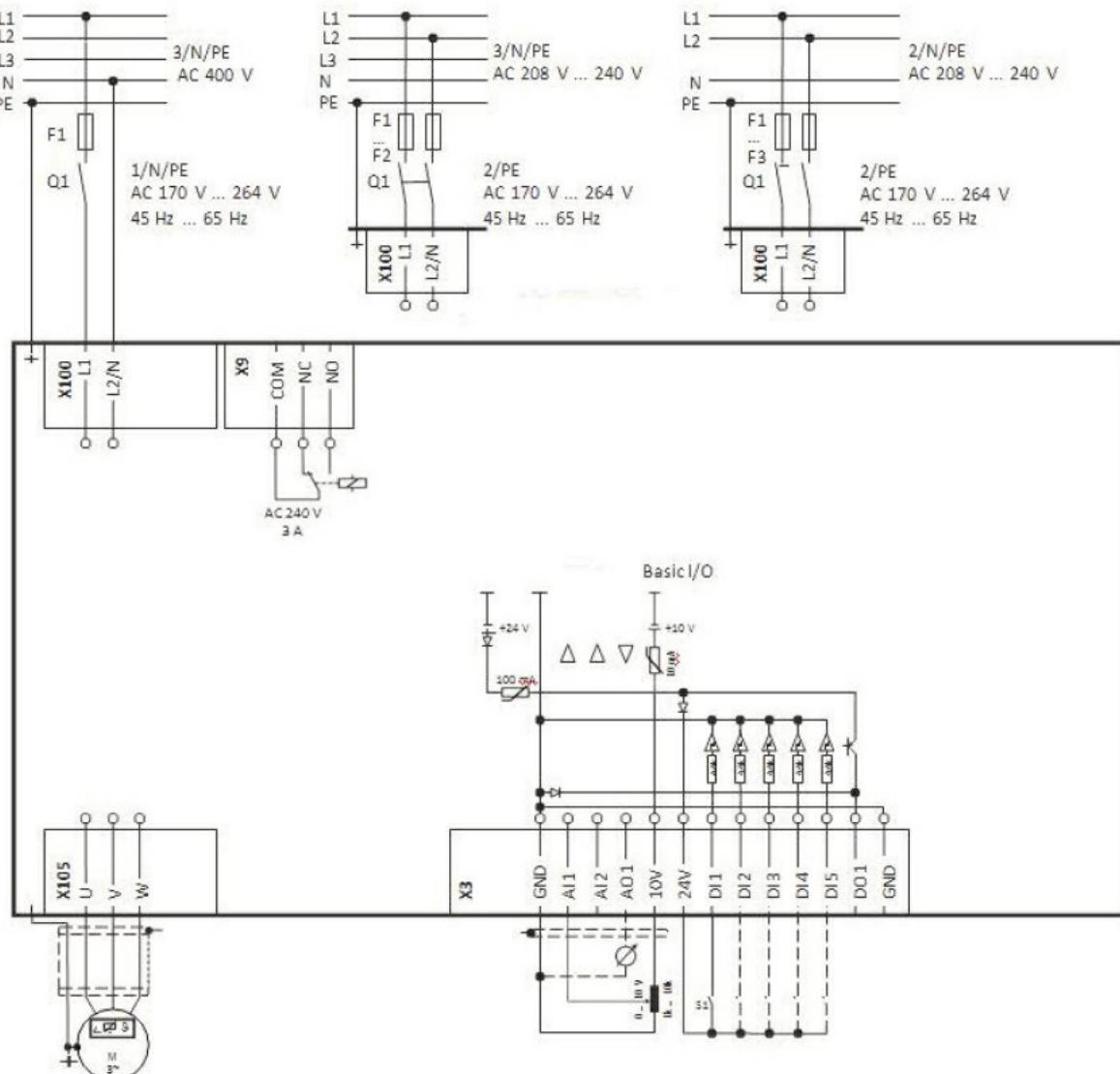
| | | | |
|---|---|---------------------------------------|----|
| Product designation | Variable speed drives | | |
| Product type designation | VLA1 | | |
| General characteristics | | | |
| Rated power supply voltage | 200...240VAC 50/60Hz | | |
| Rated output voltage | VAC | Three-phase 0...240VAC 0- 599Hz | |
| Rated output current | A | 9.6 | |
| Rated output power | kW | 2.2 | |
| Rated output power | HP | 3 | |
| EMC filter | Built-in EMC suppressor cat. C2 | | |
| Communication port | None | | |
| Technical features | | | |
| Input type | Single-phase | | |
| Rated mains voltage | VAC | 200...240 | |
| Operating mains voltage range | VAC | 170...264 | |
| Rated mains frequency | Hz | 50/60 | |
| Operating mains frequency range | Hz | 45...65 | |
| Rated mains current without mains choke | | 22.5 | |
| Rated mains current with mains choke | | 16.9 | |
| Output type | Three-phase | | |
| Output voltage range | VAC | 0...240 | |
| Output frequency range | Hz | 0...599 | |
| Current overload | %/s | 150% for 60s, 200% for 3s | |
| Power loss | | 70W | |
| Brake chopper | | No | |
| Switching frequency | | 2...16kHz | |
| Max motor cable length | Shielded | | |
| | Without EMC category | m | 50 |
| | Category C2 | m | 20 |
| Functions | | | |
| Motor control modes | V/f linear, quadratic torque, sensorless vector control, ECO mode | | |

| | |
|--|---|
| Speed reference signals | External potentiometer 0...10kΩ Voltage signals: 0...10VDC Current signals: 0/4...20mA Buttons on front keyboard Door-mount installation kit 15 preset speeds via digital inputs Motor potentiometer |
| 3-wire control | Yes |
| S-shape curves | Yes |
| Slip compensation | Yes |
| Flying restart | Yes |
| Access to DC bus | No |
| DC braking | Yes |
| DC injection at start | Yes |
| PID control | Yes, with sleep and rinse function |
| Sequencer (programmable frequency/time cycles) | Yes |
| Preset speeds | Yes |
| Motorpotentiometer | Yes |
| Different parameter configuration sets | Yes |
| Parameters changeover function | Yes |
| Favorite parameters menu | Yes |
| Autotuning | No |
| Safe torque Off (STO) safety function | No |
| PTC probe input | No |
| Protections | Overcurrent Output short circuit and earth/ground leakage Overtoltage Undervoltage Phase loss Motor heat overload (i2t) Overspeed Speed reverse |
| Special funct. | Multi-pump PID control (1 main pump frequency regulated + 2 auxiliary pumps activated in direct mode in case of necessity) |
| Input and Output | |
| Number of digital input | Nr. 5 |
| Digital input type | Selectable PNP or NPN logic |
| Number of digital output | Nr. 2 |

| | | | | | | | | | | | | | | | |
|---|--|---|-----|-----------------------|-----|----|-----|--|-----|----|-----|--|------------------------------------|--|--|
| Digital output arrangement | 1 relay output with changeover contact (C/O-SPDT) + 1 digital output | | | | | | | | | | | | | | |
| Output contacts ratings | Relay output: 3A 250VAC Digital output: 100mA max 30VDC | | | | | | | | | | | | | | |
| Number of analog input | Nr. | 2 | | | | | | | | | | | | | |
| Analog input 1: configurable 0/2...10VDC, 0...5VDC, 0/4...20mA Analog input 2: configurable 0/2...10VDC or 0...5VDC | | | | | | | | | | | | | | | |
| Number of analog output | Nr. | 1 | | | | | | | | | | | | | |
| configurable as 0...10VDC, 0...5VDC, 2...10VDC, 0/4...20mA | | | | | | | | | | | | | | | |
| Analogue output type | | | | | | | | | | | | | | | |
| Ambient conditions | | | | | | | | | | | | | | | |
| Temperature | <table> <tr> <td>Operating temperature</td> <td>min</td> <td>°C</td> <td>-10</td> </tr> <tr> <td></td> <td>max</td> <td>°C</td> <td>+55</td> </tr> <tr> <td></td> <td colspan="3">Current derating 2.5%/°C over 40°C</td> </tr> </table> | | | Operating temperature | min | °C | -10 | | max | °C | +55 | | Current derating 2.5%/°C over 40°C | | |
| Operating temperature | min | °C | -10 | | | | | | | | | | | | |
| | max | °C | +55 | | | | | | | | | | | | |
| | Current derating 2.5%/°C over 40°C | | | | | | | | | | | | | | |
| Storage temperature | min | °C | -25 | | | | | | | | | | | | |
| | max | °C | +60 | | | | | | | | | | | | |
| Relative humidity | % | 5...95% (with no condensing) | | | | | | | | | | | | | |
| Max altitude | m | 4000m (over 1000m derate the rated current by 5%/1000m) | | | | | | | | | | | | | |
| Maximum Pollution degree | | 2 | | | | | | | | | | | | | |
| Overvoltage category | | III up to 2000m altitude (II above 2000m) | | | | | | | | | | | | | |
| Housing | | | | | | | | | | | | | | | |
| Installation position | Vertical | | | | | | | | | | | | | | |
| IP degree of protection | IP20 | | | | | | | | | | | | | | |
| Dimensions (W x H x D) | mm | 60 x 281 x 130 | | | | | | | | | | | | | |
| Weight | Kg | 1.35 | | | | | | | | | | | | | |
| Dimensions | | | | | | | | | | | | | | | |



Wiring diagrams



Certifications and compliance

Compliance

CSA 22.2 No. 274

EN 61800-5-1

UL61800-5-1

Certificates

cULus

EAC

RCM

ETIM classification

ETIM 8.0

EC001857 -
Frequency
converter =< 1 kV