



|                                      |   |  |     |
|--------------------------------------|---|--|-----|
| Product designation                  | Variable speed drives                                   |  |     |
| Product type designation             | VLB3  |  |     |
| <b>General characteristics</b>       |   |  |     |
| Rated power supply voltage           | 400...480VAC<br>50/60Hz                                 |  |     |
| Rated output voltage                 | VAC   | Three-phase 0...<br>480VAC 0-599Hz         |     |
| Rated output current                 | A   | 89   |     |
| Rated output power                   | kW  | 45   |     |
| Rated output power                   | HP  | 60 (Heavy load) /<br>75 (Standard<br>load) |     |
| EMC filter                           | Built-in EMC<br>suppressor cat.<br>C2                   |  |     |
| <b>Technical features</b>            |   |  |     |
| Input type                           | Three-phase   |  |     |
| Rated mains voltage                  | VAC   | 400...480                                  |     |
| Operating mains voltage range        | VAC   | 340...528                                  |     |
| Rated mains frequency                | Hz  | 50/60                                      |     |
| Operating mains frequency range      | Hz  | 45...65                                    |     |
| Rated mains current with mains choke | 80 (heavy load) /<br>100 (standard<br>load)             |  |     |
| Output type                          | Three-phase   |  |     |
| Output voltage range                 | VAC   | 0...480                                    |     |
| Output frequency range               | Hz  | 0...599                                    |     |
| Current overload                     | %/s   | 150% for 60s;<br>200% for 3s               |     |
| Apparent output power                | 60 (heavy load) /<br>72 (standard<br>load)              |  |     |
| Power loss                           | 4kHz: 980W<br>(heavy load) /<br>1171 (standard<br>load) |  |     |
| Brake chopper                        | Yes   |  |     |
| Switching frequency                  | 2...16kHz   |  |     |
| Max motor cable length               | Shielded  |  |     |
|                                      | Without EMC category                                    | m  | 100 |
|                                      | Category C1   | m  | 3   |
|                                      | Category C2   | m  | 20  |
|                                      | Category C3   | m  | 35  |
|                                      | Unshielded  |  |     |

Without EMC category m 200

Functions

|  |   |
|--|---|
| Motor control modes                            | V/f linear, quadratic torque, sensorless vector control, ECO mode, servo control with encoder feedback, multipoint V/f curve, V/f closed loop control with encoder feedback, torque setpoint, sensorless                      |
| Speed reference signals                        | External potentiometer<br>0...10kΩ Voltage signals: 0...10VDC or -10...+10VDC Current signals: 0/4...20mA Buttons on front keyboard<br>Door-mount installation kit 15 preset speeds via digital inputs<br>Motor potentiometer |
| 3-wire control                                 | Yes   |
| S-shape curves                                 | Yes   |
| Slip compensation                              | Yes   |
| Flying restart                                 | Yes   |
| Access to DC bus                               | Yes   |
| 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          | Optional  |
| PTC probe input                                | Yes   |

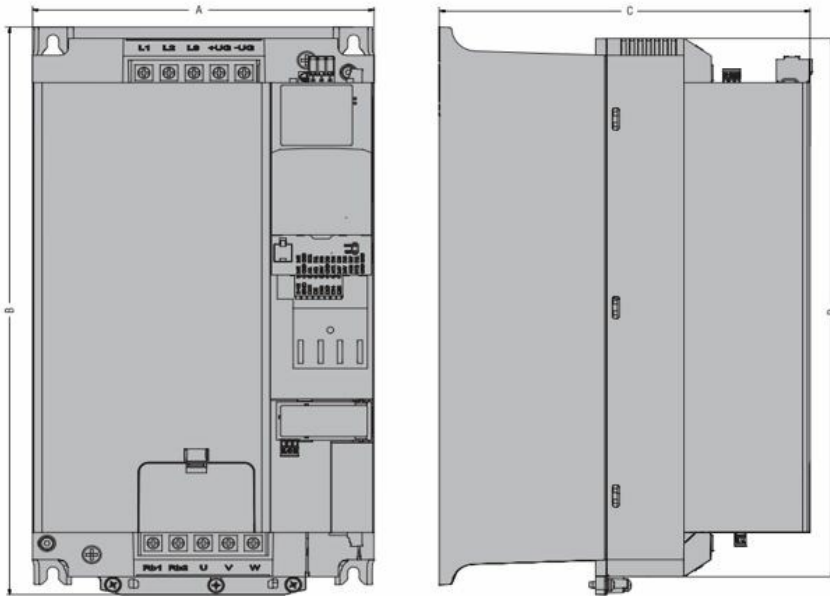
|                            |  |
|----------------------------|--|
| Protections                | Overcurrent<br>Output short circuit and earth/ground leakage<br>Overvoltage<br>Undervoltage<br>Phase loss<br>Motor heat overload<br>(i2t) Overspeed<br>Speed reverse |
| Special funct.             | Multi-pump PID control (1 main pump frequency regulated + 2 auxiliary pumps activated in direct mode in case of necessity)   |
| <b>Input and Output</b>    |  |
| 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<br>Digital output: 100mA max 30VDC   |
| Number of analog input     | Nr. 2  |
| Analog input type          | Configurable 0/2...10VDC, -10...+10VDC, 0...5VDC, 0/4...20mA   |
| Number of analog output    | Nr. 1  |
| Analog output type         | configurable as 0...10VDC, 0...5VDC, 2...10VDC, 0/4...20mA   |
| <b>Ambient conditions</b>  |  |
| Temperature                |  |
| Operating temperature      |  |
|                            | min °C -10   |
|                            | max °C +55   |

|                          |                     |    |   |
|--------------------------|---------------------|----|---|
|                          |                     |    | switching<br>frequency 2 or<br>4kHz: 2.5%/°C<br>over 45°C<br>switching<br>frequency 8 or<br>16kHz: 2.5%/°C<br>over 40°C |
|                          | Current derating    |    |   |
|                          | Storage temperature |    |   |
|                          | min                 | °C | -25   |
|                          | max                 | °C | +60   |
| Relative humidity        |                     | %  | 5...95% (with no<br>condensing)   |
| Max altitude             |                     | m  | 4000m (over<br>1000m derate<br>the rated current<br>by 5%/1000m)  |
| Maximum Pollution degree |                     |    | 2   |
| Overvoltage category     |                     |    | III up to 2000m<br>altitude (II above<br>2000m)   |

### Housing

|                         |                    |
|-------------------------|--------------------|
| Installation position   | Vertical           |
| IP degree of protection | IP20               |
| Dimensions (W x H x D)  | mm 250 x 520 x 230 |
| Weight                  | Kg 17.2            |

### Dimensions [mm (in)]



| A   | B   | C   | D   |
|-----|-----|-----|-----|
| 250 | 520 | 230 | 450 |

### Wiring diagrams

