

| Product designation                     |     | Variable speed   |
|---|-----|--|
| Product type designation                |     | drives<br>VLB3   |
| General characteristics                 |     | , 250  |
| Rated power supply voltage              |     | 400480VAC<br>50/60Hz                                   |
| Rated output voltage                    | VAC | Three-phase 0<br>480VAC 0-599Hz                        |
| Rated output current                    | А   | 9.5  |
| Rated output power                      | kW  | 4  |
| Rated output power                      | HP  | 5 (Heavy load) /<br>7.5 (Standard<br>load)             |
| EMC filter                              |     | Built-in EMC<br>suppressor cat.<br>C2                  |
| Technical features                      |     |  |
| Input type                              |     | Three-phase  |
| Rated mains voltage                     | VAC | 400480   |
| Operating mains voltage range           | VAC | 340528   |
| Rated mains frequency                   | Hz  | 50/60  |
| Operating mains frequency range         | Hz  | 4565   |
| Rated mains current without mains choke |     | 12.5 (heavy load)<br>/ 14 (standard<br>load)           |
| Rated mains current with mains choke    |     | 9 (heavy load) /<br>11 (standard<br>load)              |
| Output type                             |     | Three-phase  |
| Output voltage range                    | VAC | 0480   |
| Output frequency range                  | Hz  | 0599   |
| Current overload                        | %/s | 150% for 60s;<br>200% for 3s                           |
| Apparent output power                   |     | 6.4 (heavy load) /<br>8 (standard load)                |
| Power loss                              |     | 4kHz: 110W<br>(heavy load) /<br>133 (standard<br>load) |
| Brake chopper                           |     | Yes  |
| Switching frequency                     |     | 216kHz   |
| Max motor cable length                  |     |  |

VLB30040A480XX The characteristics described in this document are subject to updates or modifications at any time. The descriptions, technical and functional information, illustrations and instructions in this brochure are purely illustrative, and are consequently not contractually binding

Shielded





|  | Without EMC category  Category C1  Category C2  Category C3 | m<br>m<br>m<br>m | 50m / 100m<br>(40°C max,<br>switching<br>frequency 4kHz<br>max)<br>3<br>20<br>35   |
|--|---|------------------|--|
| Unshielded                                     | <u> </u>  |                  |  |
|  | 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 control for synchronous motors up to 22kW |
| Speed reference signals                        |   |                  | External potentiometer 010kΩ Voltage signals: 0 10VDC or -10 +10VDC Current signals: 0/4 20mA Buttons on front keyboard Door-mount installation kit 15 preset speeds via digital inputs Motor potentiometer Fieldbus                               |
| 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  |





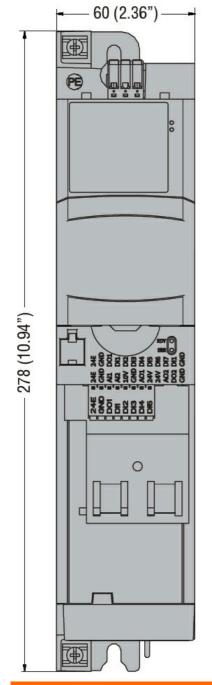
| Motorpotentiometer   |     | Yes   |
|--|-----|---|
| Different parameter configuration sets   |     | Yes   |
| Parameters changeover function   |     | Yes   |
| Favorite parameters menu   |     | Yes   |
| Autotuning   |     | No  |
| Safe torque Off (STO) safety function  |     | Optional  |
| PTC probe input  |     | Yes   |
| Protections  |     | Overcurrent Output short circuit and earth/ground leakage Overvoltage 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<br>with changeover<br>contact (C/O-<br>SPDT) + 1 digital<br>output   |
|  |     | Relay output: 3A<br>250VAC Digital  |
| Output contacts ratings  |     | output: 100mA<br>max 30VDC  |
| Number of analog input   | Nr. | output: 100mA<br>max 30VDC  |
| Number of analog input  Analog input type  |     | output: 100mA<br>max 30VDC<br>2<br>Configurable<br>0/210VDC,<br>-10+10VDC,<br>05VDC, 0/4<br>20mA  |
| Number of analog input   | Nr. | output: 100mA<br>max 30VDC<br>2<br>Configurable<br>0/210VDC,<br>-10+10VDC,<br>05VDC, 0/4<br>20mA  |
| Number of analog input  Analog input type  Number of analog output  Analog output type                     |     | output: 100mA<br>max 30VDC<br>2<br>Configurable<br>0/210VDC,<br>-10+10VDC,<br>05VDC, 0/4<br>20mA  |
| Number of analog input  Analog input type  Number of analog output  Analog output type  Ambient conditions |     | output: 100mA max 30VDC  2  Configurable 0/210VDC, -10+10VDC, 05VDC, 0/4 20mA  1  configurable as 010VDC, 0 5VDC, 2 10VDC, 0/4                  |
| Number of analog input  Analog input type  Number of analog output  Analog output type                     |     | output: 100mA max 30VDC  2  Configurable 0/210VDC, -10+10VDC, 05VDC, 0/4 20mA  1  configurable as 010VDC, 0 5VDC, 2 10VDC, 0/4                  |

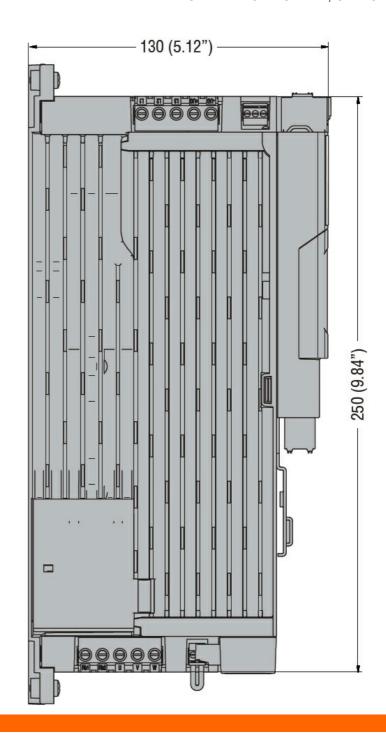




|                          | max<br>ent derating | °C | +55<br>switching<br>frequency 2 or<br>4kHz: 2.5%/°C<br>over 45°C<br>switching<br>frequency 8 or<br>16kHz: 2.5%/°C<br>over 40°C |
|--------------------------|---------------------|----|--|
| Storage temperature      |                     |    |  |
|                          | min                 | °C | -25  |
|                          | max                 | °C | +60  |
| Relative humidity        |                     | %  | 595% (with no 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 | 90 x 278 x 130   |
| Weight                   |                     | Kg | 2.3  |
| Dimensions               |                     |    |  |







## Certifications and compliance

Compliance

CSA 22.2 n°274

EN 61800-5-1

UL61800-5-1

Certificates

CSA

cULus

EAC

**RCM** 

ETIM classification

ETIM 8.0

EC001857 -Frequency converter =< 1 kV