



Product designation

Variable speed drives

Product type designation

VLB3

**General characteristics**

Rated power supply voltage	400...480VAC 50/60Hz
Rated output voltage	VAC Three-phase 0...480VAC 0-599Hz
Rated output current	A 1.3
Rated output power	kW 0.4
Rated output power	HP 0.5 (heavy load)
EMC filter	Built-in EMC suppressor cat. C1/C2
Communication port	RS485, Modbus-RTU

**Technical features**

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 without mains choke	1.8
Rated mains current with mains choke	1.4
Output type	Three-phase
Output voltage range	VAC 0...480
Output frequency range	Hz 0...599
Current overload	%/s 150% for 60s; 200% for 3s
Apparent output power	0.9 (heavy load)
Power loss	4kHz: 20W (heavy load)
Brake chopper	Yes
Switching frequency	2...16kHz

Max motor cable length

Shielded

Without EMC category	m	15
Category C1	m	3
Category C2	m	15
Category C3	m	15

Unshielded

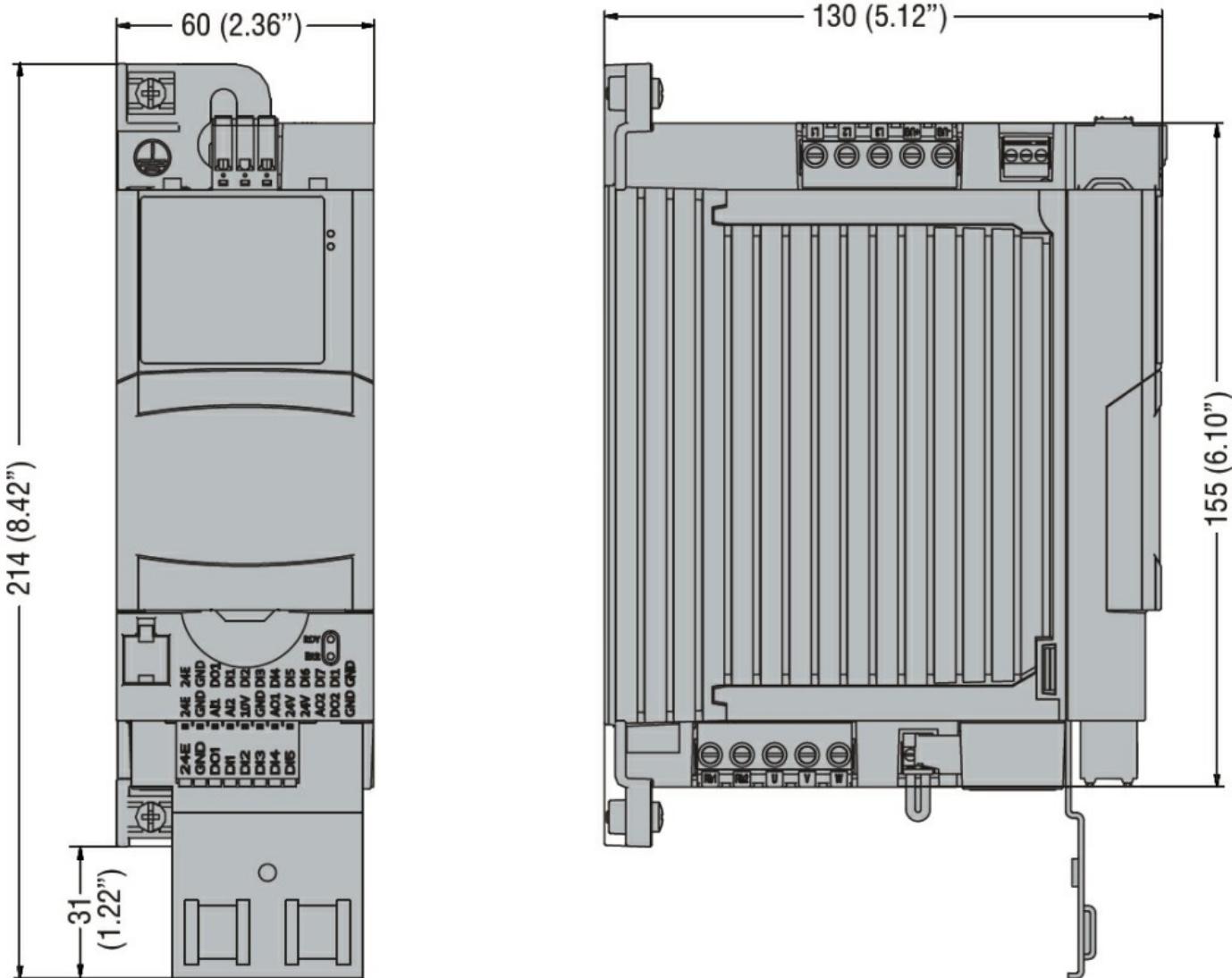
Without EMC category	m	30
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**Functions**

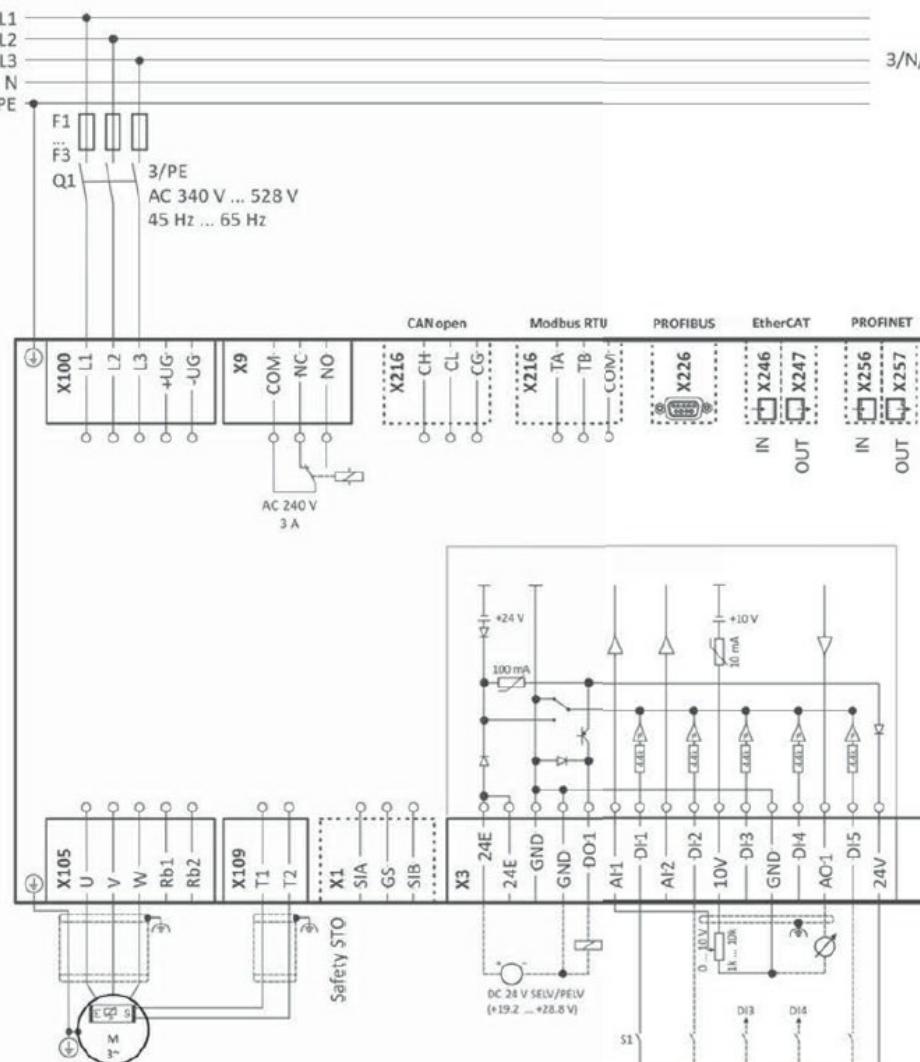
Motor control modes	V/f linear, quadratic torque, sensorless vector control, ECO mode, servo control with encoder feedback, multipoint V/f curve, V/f closed loop control with encoder feedback, torque setpoint, sensorless
Speed reference signals	External potentiometer 0...10kΩ Voltage signals: 0...10VDC or -10...+10VDC Current signals: 0/4...20mA Buttons on front keyboard Door-mount installation kit 15 preset speeds via digital inputs Motor potentiometer
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 (i <sup>2</sup> t) 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)												
<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 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	<table> <tr> <td>Operating temperature</td> <td>min °C</td> <td>-10</td> </tr> <tr> <td></td> <td>max °C</td> <td>+55</td> </tr> <tr> <td></td> <td colspan="2">2.5%/°C over 45°C</td> </tr> <tr> <td>Current derating</td> <td></td> <td></td> </tr> </table>	Operating temperature	min °C	-10		max °C	+55		2.5%/°C over 45°C		Current derating		
Operating temperature	min °C	-10											
	max °C	+55											
	2.5%/°C over 45°C												
Current derating													
Storage temperature	<table> <tr> <td>min °C</td> <td>-25</td> </tr> <tr> <td>max °C</td> <td>+60</td> </tr> </table>	min °C	-25	max °C	+60								
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	III up to 2000m altitude (II above 2000m)
Overvoltage category		
Housing		
Installation position		Vertical
IP degree of protection		IP20
Dimensions (W x H x D)	mm	60 x 214 x 130
Weight	Kg	0.85
Dimensions		



**Wiring diagrams**



## 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