



Product designation		Variable speed drives
Product type designation		VLB3
General characteristics		
Rated power supply voltage		Three phase 400...480VAC 50/60Hz
Rated output voltage	VAC	Three-phase 0... 480VAC 0-599Hz
Rated output current	A	9.5 (heavy load) / 11.9 (standard load)
Rated output power	kW	4 (Heavy load) / 5.5 (Standard load)
Rated output power	HP	5 (Heavy load) / 7.5 (Standard load)
EMC filter		Built-in EMC suppressor cat. C2
Communication port		Built-in RS485, Modbus RTU protocol
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		12.5 (heavy load) / 14 (standard load)
Rated mains current with mains choke		9 (heavy load) / 11 (standard load)
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		6.4 (heavy load) / 8 (standard load)
Power loss		4kHz: 110W (heavy load) / 133 (standard load)

Brake chopper				Yes		
Switching frequency				2...16kHz		
Max motor cable length	Shielded		Without EMC category	m	50m / 100m (40°C max, switching frequency 4kHz max)	
				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 control for synchronous motors up to 22kW
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 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	n°	5
Digital input type		Selectable PNP or NPN logic
Number of digital output	n°	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	n°	2
Analog input type		Configurable 0/2...10VDC, -10...+10VDC, 0...5VDC, 0/4...20mA
Number of analog output	n°	1
Analog output type		configurable as 0...10VDC, 0...5VDC, 2...10VDC, 0/4...20mA

Ambient conditions

Temperature

Operating temperature

min	°C	-10
max	°C	+55
switching frequency 2 or 4kHz: 2.5%/°C over 45°C		
switching frequency 8 or 16kHz: 2.5%/°C over 40°C		

Current derating

Storage temperature

min	°C	-25
max	°C	+60

Relative humidity

%	5...95% (with no condensing)
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Max altitude

m	4000m (over 1000m derate the rated current by 5%/1000m)
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Maximum Pollution degree

	2
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Overvoltage category

	III up to 2000m altitude (II above 2000m)
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Housing

Installation position

	Vertical
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IP degree of protection

	IP20
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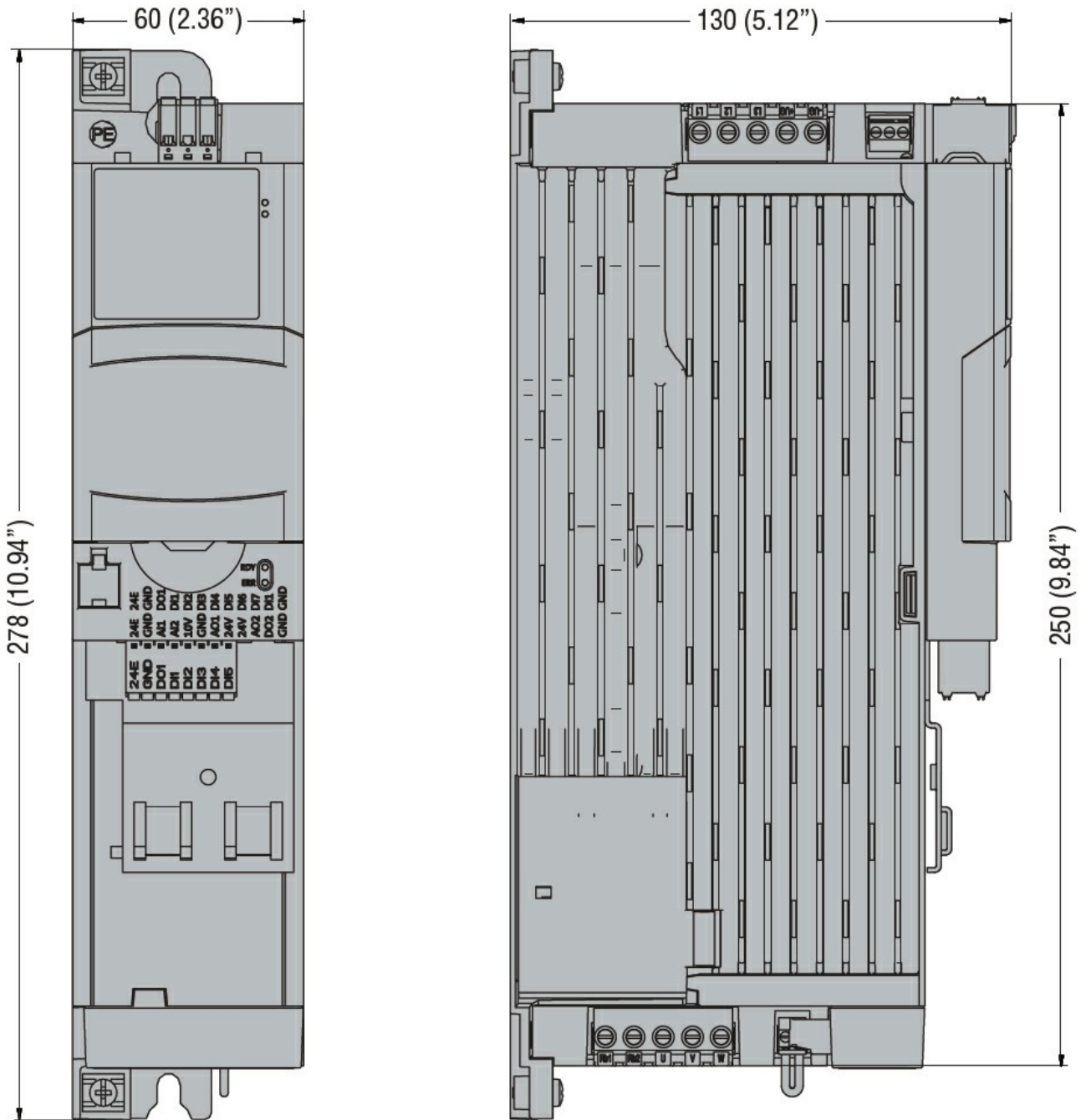
Dimensions (W x H x D)

mm	90 x 278 x 130
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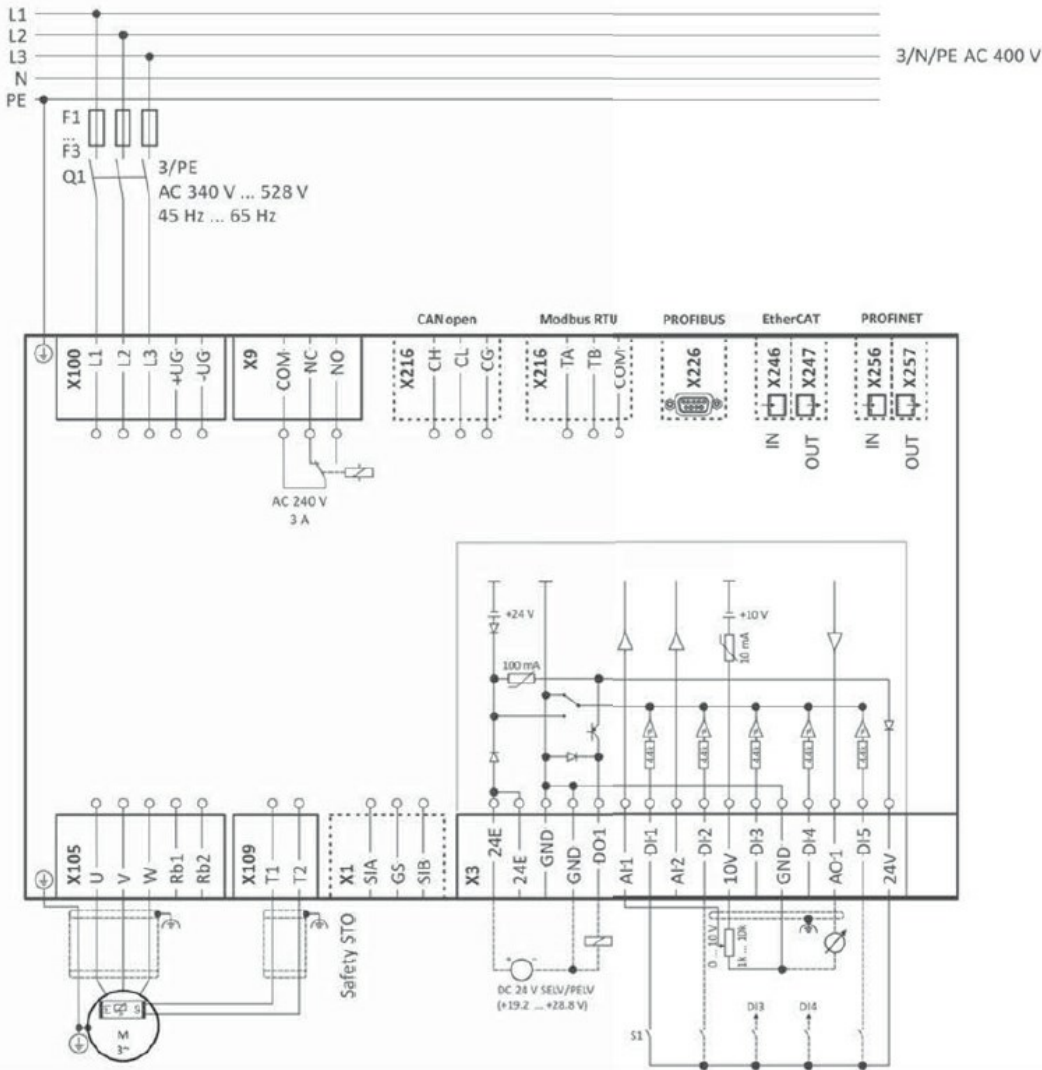
Weight

Kg	2.45
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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 kW