



Product designation

Product type designation

Variable speed
drives
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	3.9
Rated output power	kW	1.5
Rated output power	HP	2 (heavy load)
EMC filter		Built-in EMC suppressor cat. 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		5.4
Rated mains current with mains choke		3.7
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		2.6 (heavy load)
Power loss		4kHz: 48W (heavy 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

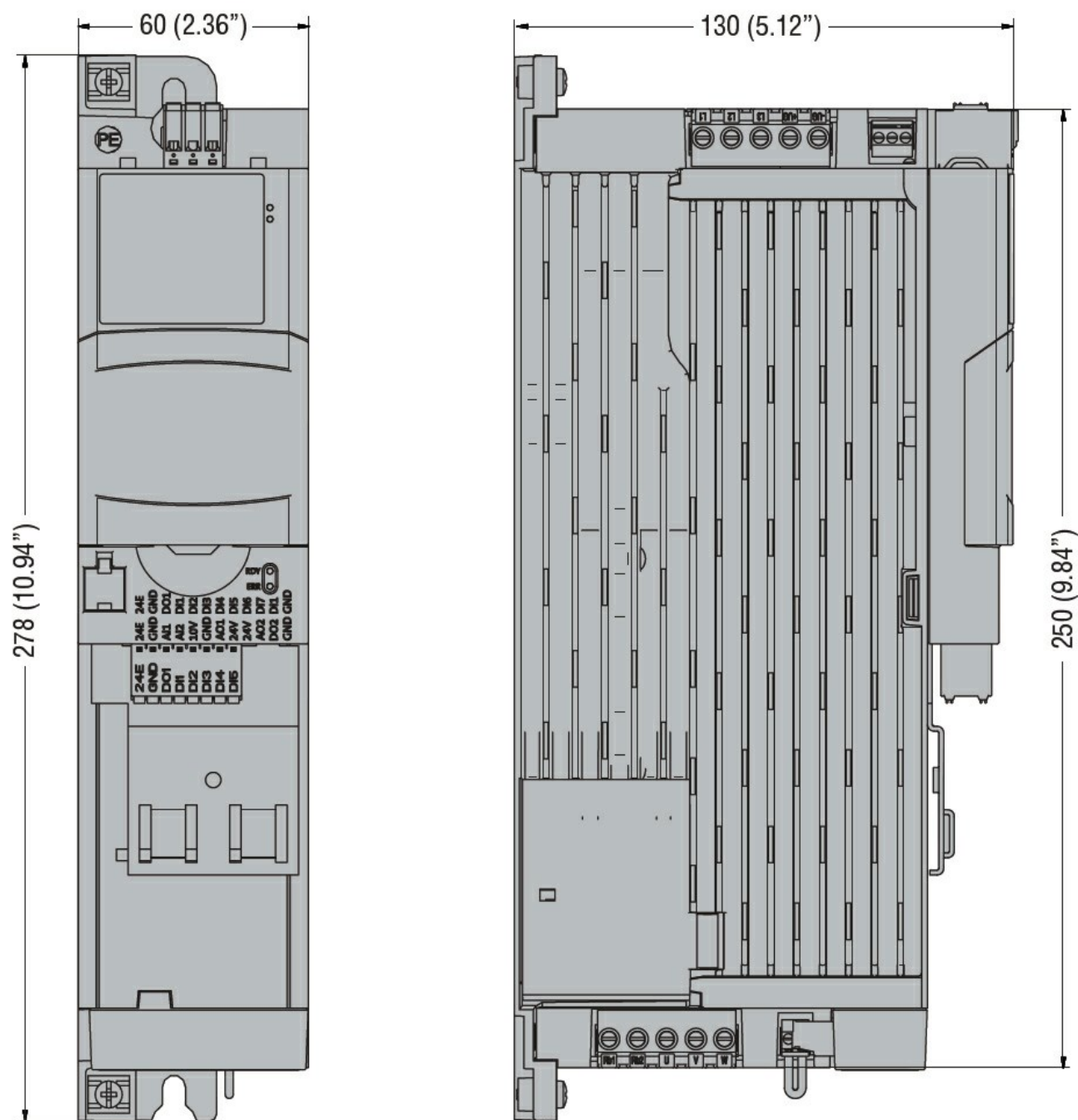
Without EMC category	m	200
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Functions

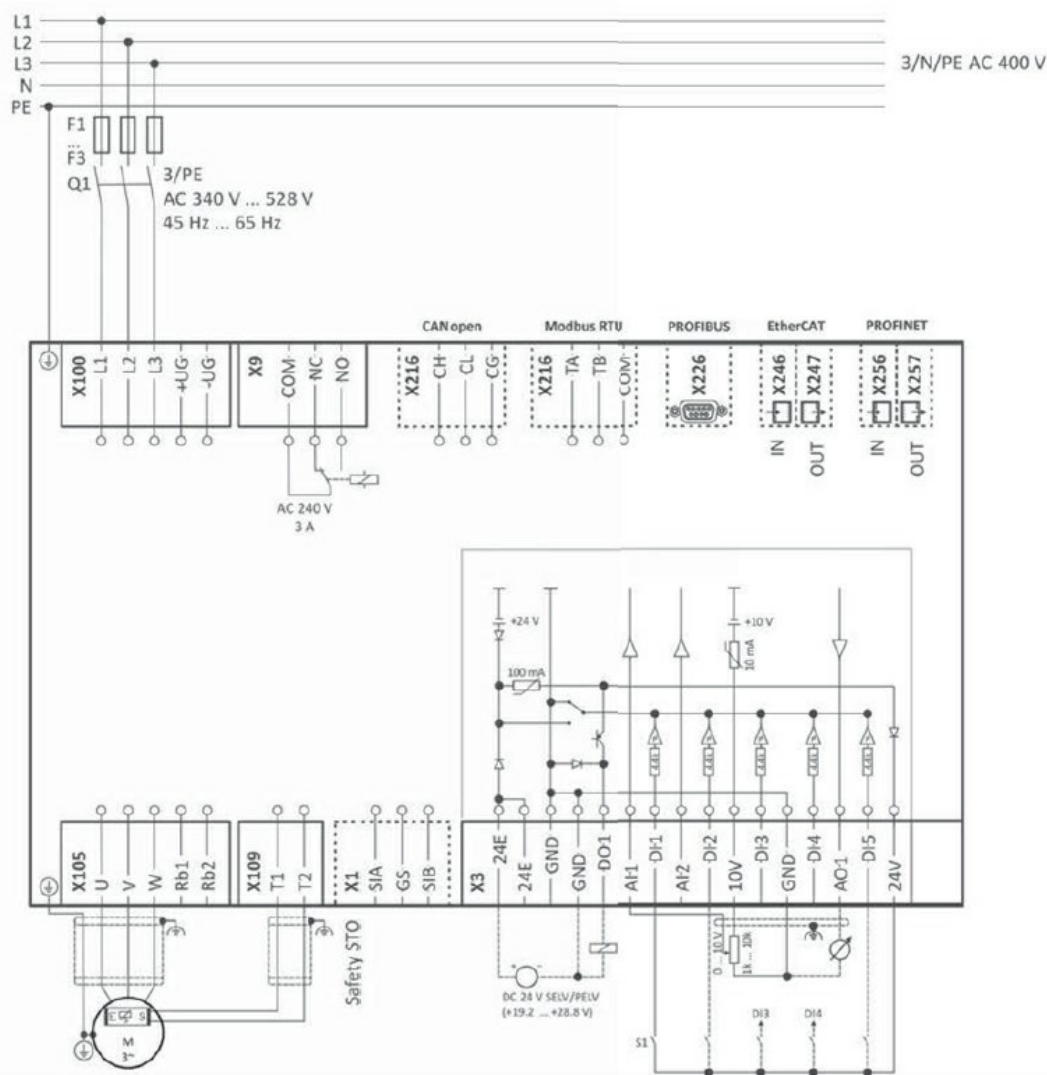
Motor control modes	V/f linear, quadratic torque, sensorless vector control, ECO mode, servo control with encoder feedback, multipoint V/f curve, V/f closed loop control with encoder feedback, torque setpoint, sensorless
Speed reference signals	External potentiometer 0...10kΩ Voltage signals: 0... 10VDC or -10... +10VDC Current signals: 0/4... 20mA Buttons on front keyboard Door-mount installation kit 15 preset speeds via digital inputs Motor potentiom
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 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		
Ambient conditions			
Temperature	Operating temperature		
	min	°C	-10
	max	°C	+55

		Current derating		switching frequency 2 or 4kHz: 2.5%/°C over 45°C switching frequency 8 or 16kHz: 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 278 x 130
Weight			Kg	1.38
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