



Variable speed drives
VLB3

Product designation

Product type designation

General characteristics

Rated power supply voltage		400...480VAC 50/60Hz
Rated output voltage	VAC	Three-phase 0... 480VAC 0-599Hz
Rated output current	A	9.5
Rated output power	kW	4
Rated output power	HP	5 (Heavy load) / 7.5 (Standard 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		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
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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	

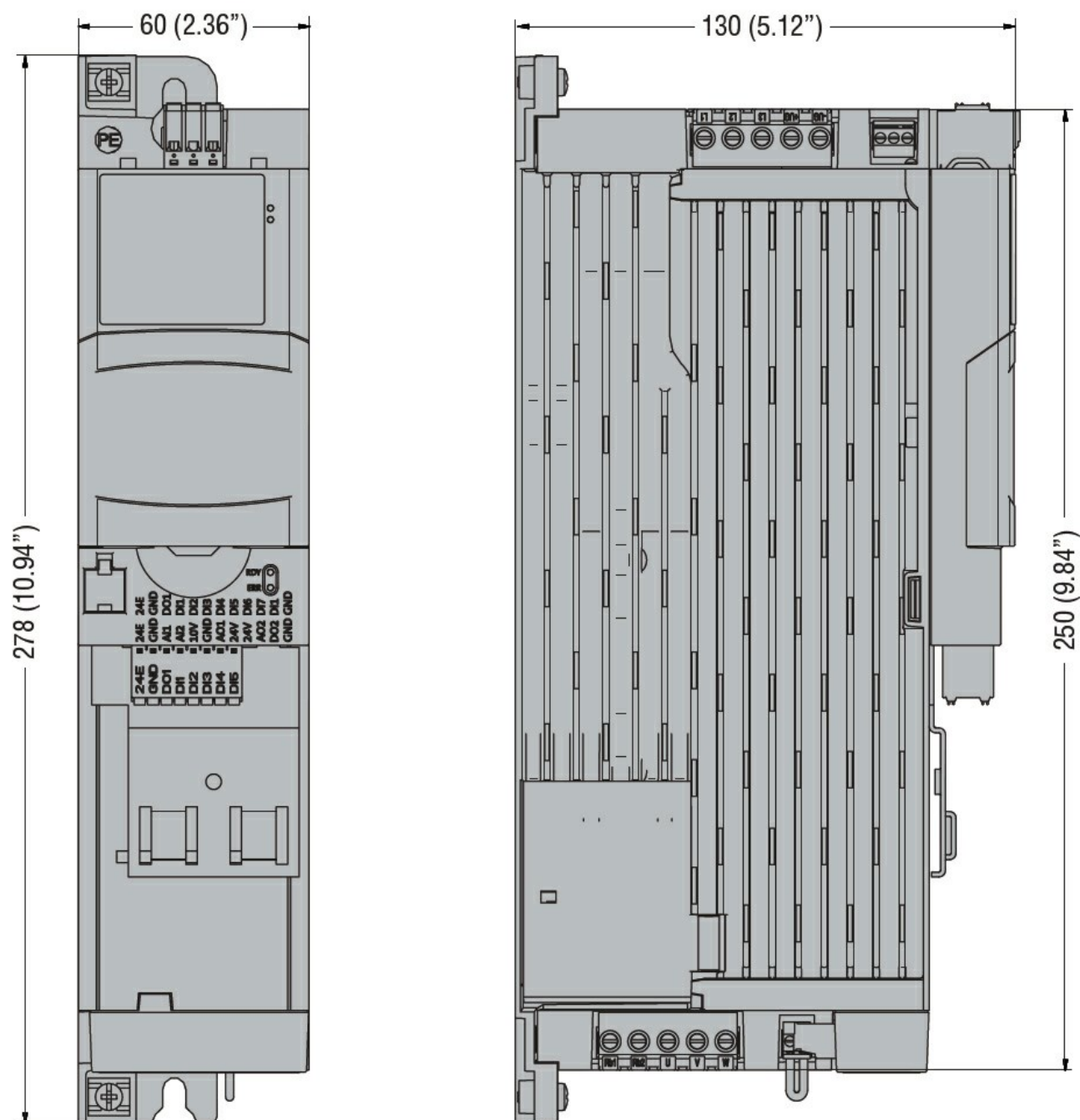
Ambient conditions

Temperature

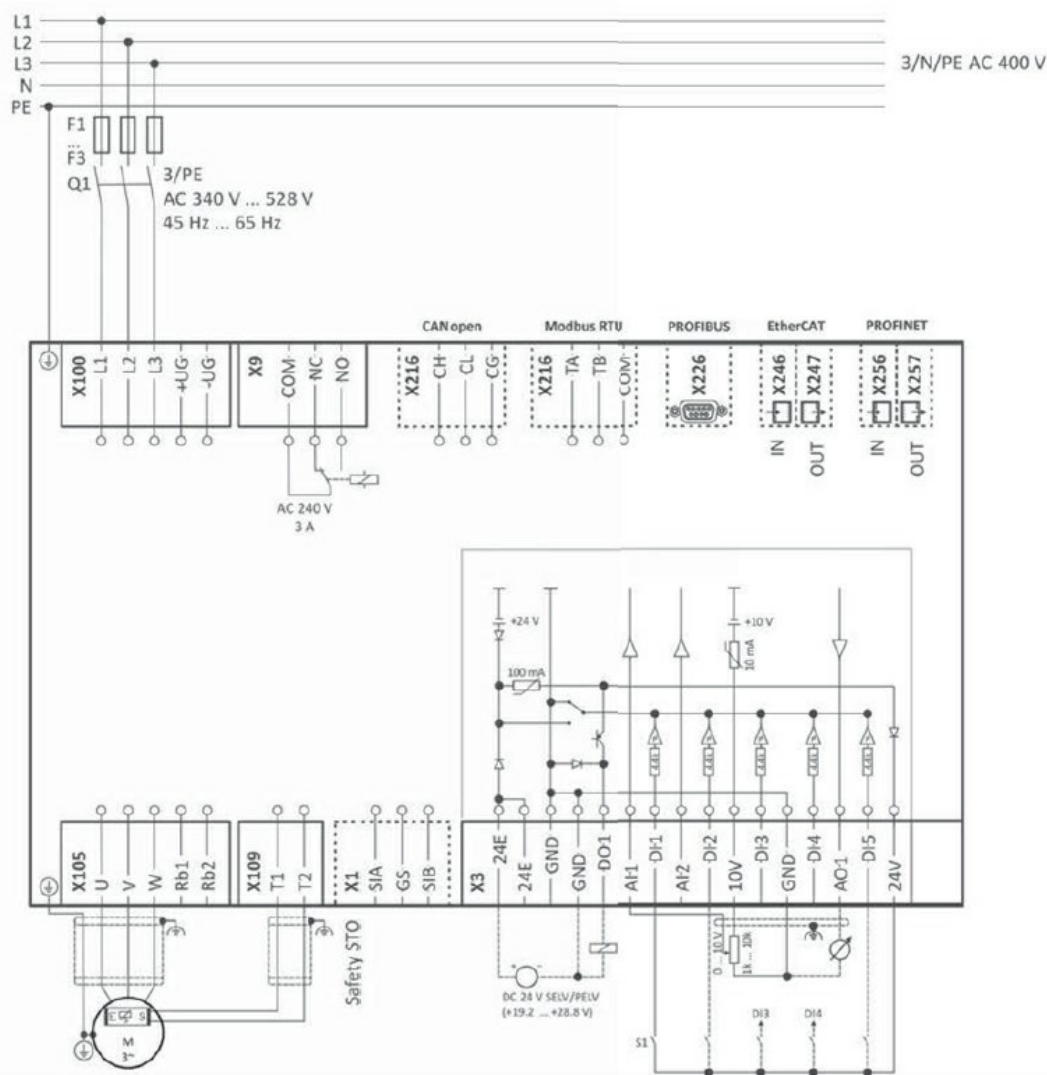
Operating temperature

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
		max	°C
			-25
			+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	90 x 278 x 130
Weight		Kg	2.45
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