



Variable speed drives
VLB3

Product designation

Product type designation

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	2.4 (heavy load)
Rated output power	kW	0.75 (Heavy load)
Rated output power	HP	1 (heavy load)
EMC filter		Built-in EMC suppressor cat. C1/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		3.3
Rated mains current with mains choke		2.6
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		1.6 (heavy load)
Power loss		4kHz: 32W (heavy load)
Brake chopper		Yes
Switching frequency		2...16kHz
Max motor cable length		
	Shielded	
	Without EMC category	m
	Category C1	m
	Category C2	m
	Category C3	m
		50m / 100m (40°C max, switching frequency 4kHz max)
		3
		20
		20

Unshielded

Without EMC category

m

100m / 150m
(40°C max,
switching
frequency 4kHz
max)

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

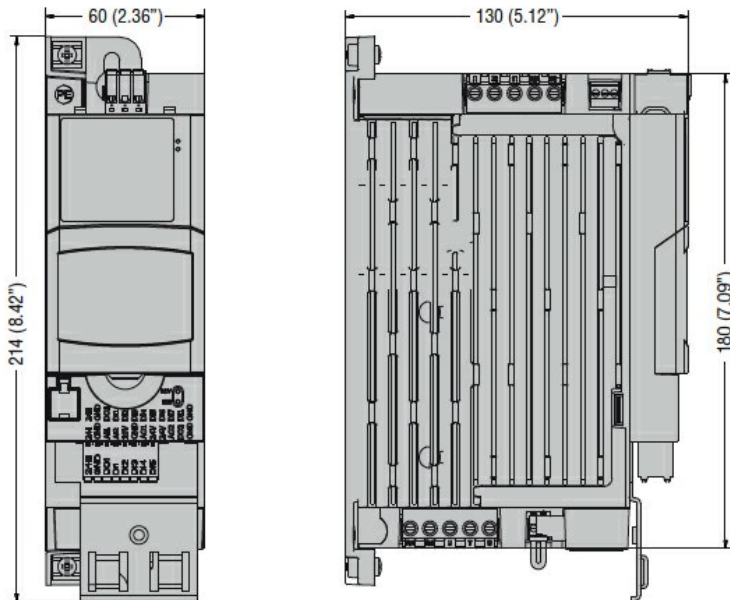
Ambient conditions	
Temperature	Operating temperature
	min °C -10
	max °C +55

			switching frequency 2 or 4kHz: 2.5%/°C over 45°C
	Current derating		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)

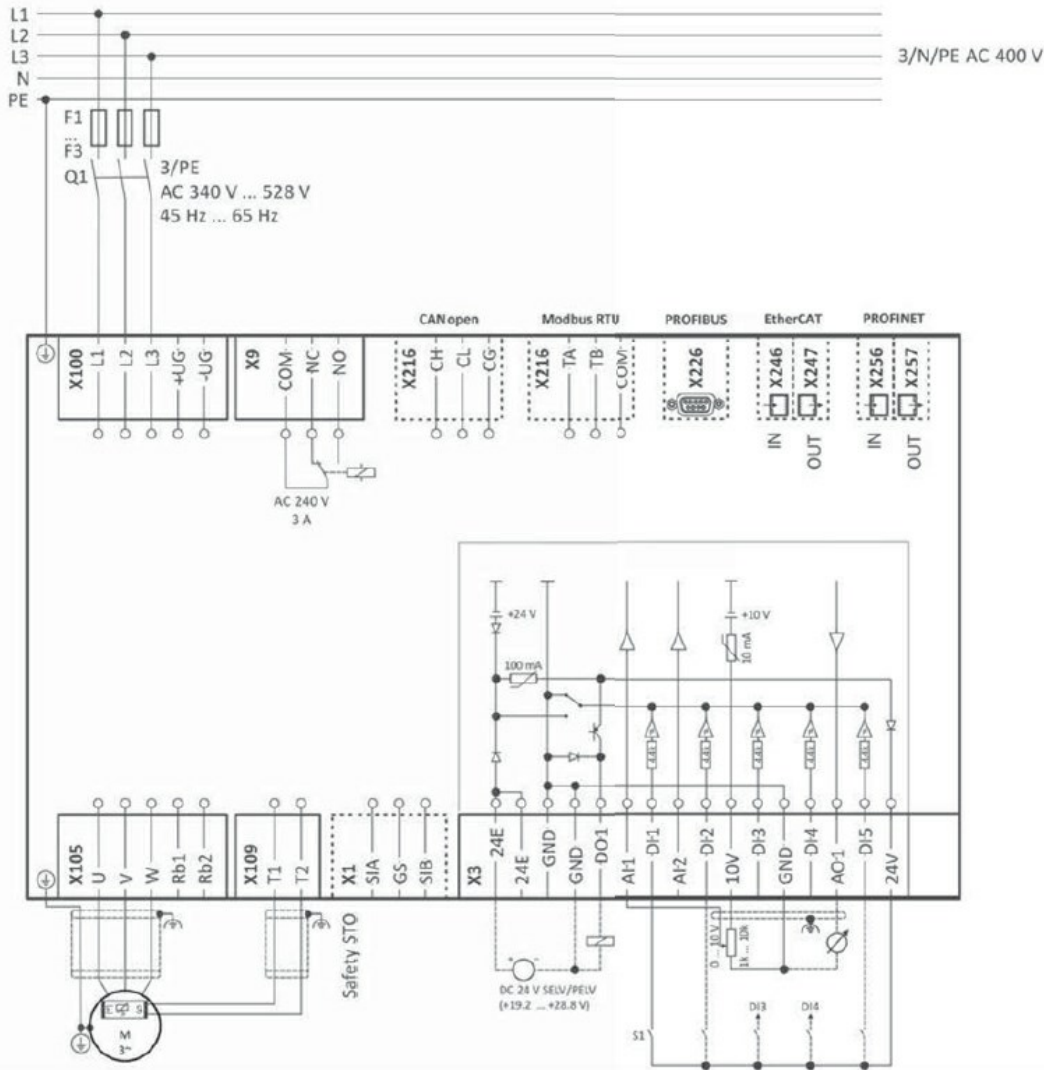
Housing

Installation position	Vertical
IP degree of protection	IP20
Dimensions (W x H x D)	mm 60 x 214 x 130
Weight	Kg 1.1

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