



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	40
Rated output power	kW	18.5
Rated output power	HP	25 (Heavy load) / 30 (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		48.4 (heavy load)
Rated mains current with mains choke		36 (heavy load) / 43 (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		27 (heavy load) / 32 (standard load)
Power loss		4kHz: 450W (heavy load) / 533 (standard load)
Brake chopper		Yes
Switching frequency		2...16kHz
Max motor cable length	Shielded	
	Without EMC category	m 100
	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
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 (i2t) Overspeed Speed reverse
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Special funct.	Multi-pump PID control (1 main pump frequency regulated + 2 auxiliary pumps activated in direct mode in case of necessity)
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**Input and Output**

Number of digital input	Nr.	5
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Digital input type	Selectable PNP or NPN logic
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Number of digital output	Nr.	2
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Digital output arrangement	1 relay output with changeover contact (C/O-SPDT) + 1 digital output
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Output contacts ratings	Relay output: 3A 250VAC Digital output: 100mA max 30VDC
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Number of analog input	Nr.	2
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Analog input type	Configurable 0/2...10VDC, -10...+10VDC, 0...5VDC, 0/4...20mA
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Number of analog output	Nr.	1
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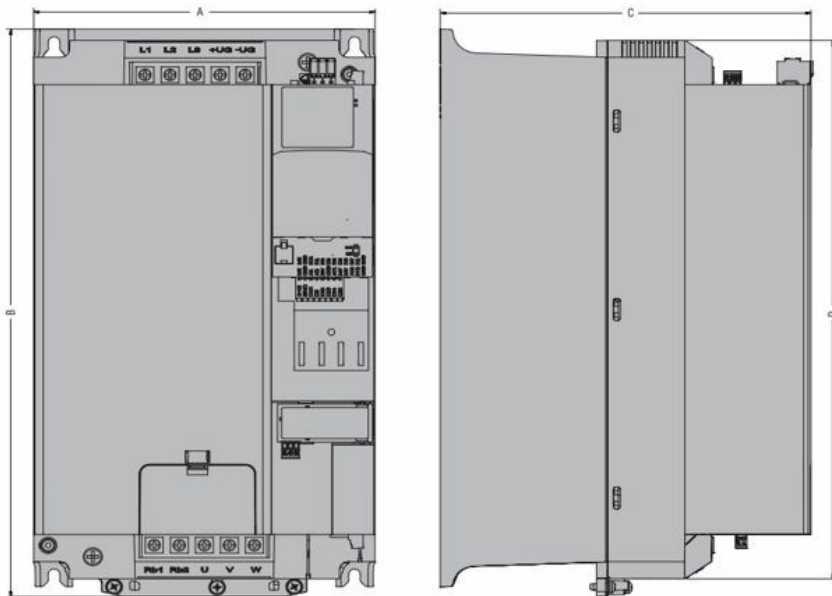
Analog output type	configurable as 0...10VDC, 0...5VDC, 2...10VDC, 0/4...20mA
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**Ambient conditions**

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

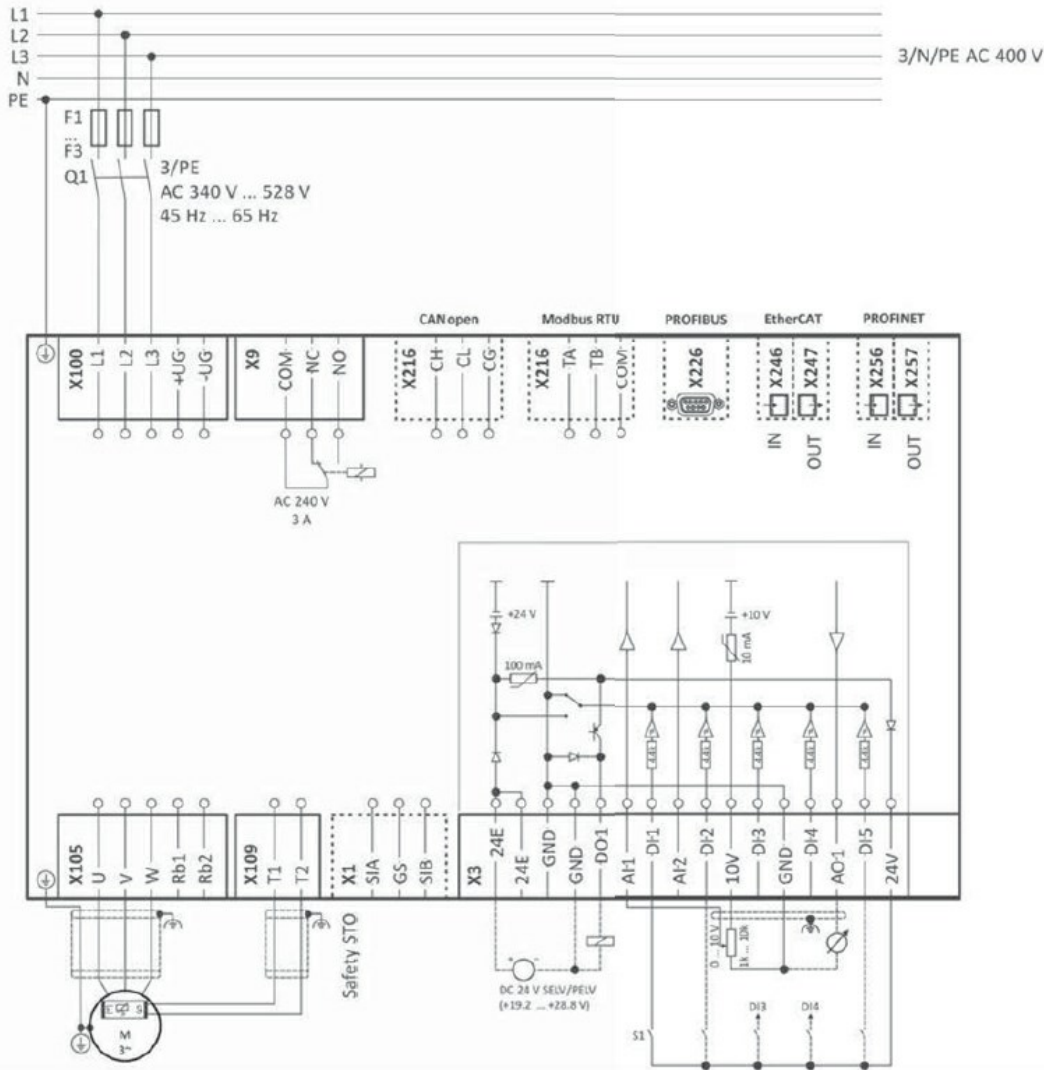
			switching frequency 2 or 4kHz: 2.5%/°C over 45°C switching frequency 8 or 16kHz: 2.5%/°C over 40°C
	Current derating		
	Storage temperature		
		min °C	-25
		max °C	+60
Relative humidity		%	5...95% (with no condensing)
Max altitude		m	4000m (over 1000m derate the rated current by 5%/1000m)
Maximum Pollution degree			2
Overvoltage category			III up to 2000m altitude (II above 2000m)
<b>Housing</b>			
Installation position			Vertical
IP degree of protection			IP20
Dimensions (W x H x D)		mm	Batch <=D 204.5 x 366 x 222 Batch >=E 180 x 384 x 165
Weight		Kg	10.65

**Dimensions**



Batch number	A	B	C	D
letter D or lower	204,5	366	222	347
letter E or greater	180	384	165	342

**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