



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	32 (heavy load) / 38.4 (standard load)
Rated output power	kW	15 (Heavy load) / 18.5 (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		38.7 (heavy load) / 48 (standard load)
Rated mains current with mains choke		28.8 (heavy load) / 36 (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		22 (heavy load) / 26 (standard load)
Power loss		4kHz: 360W (heavy load) / 430 (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
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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 control for synchronous motors up to 22kW
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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
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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)
<b>Input and Output</b>		
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

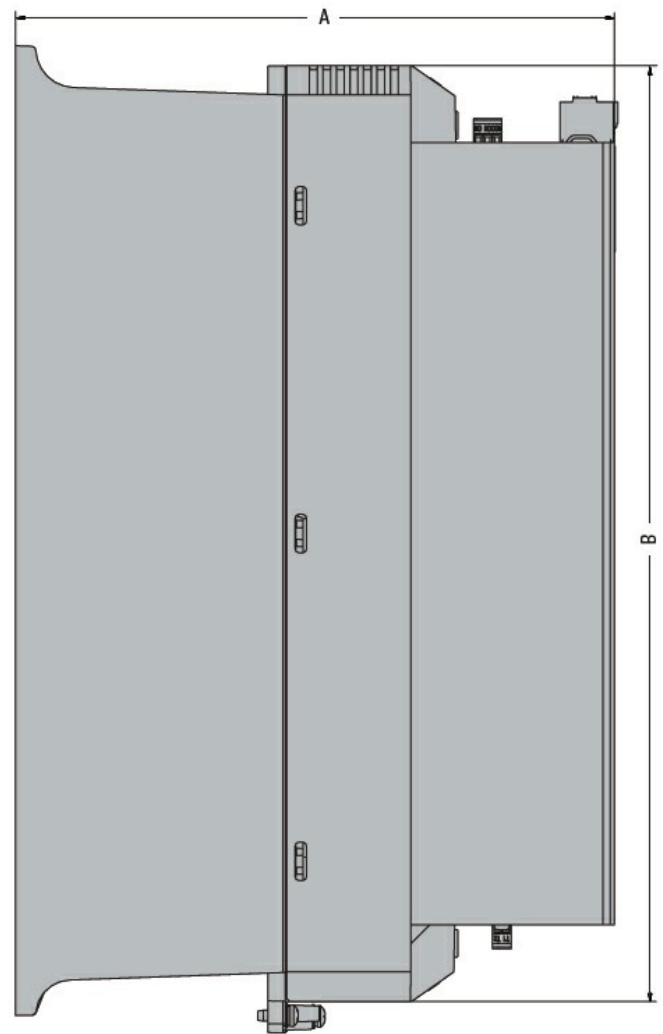
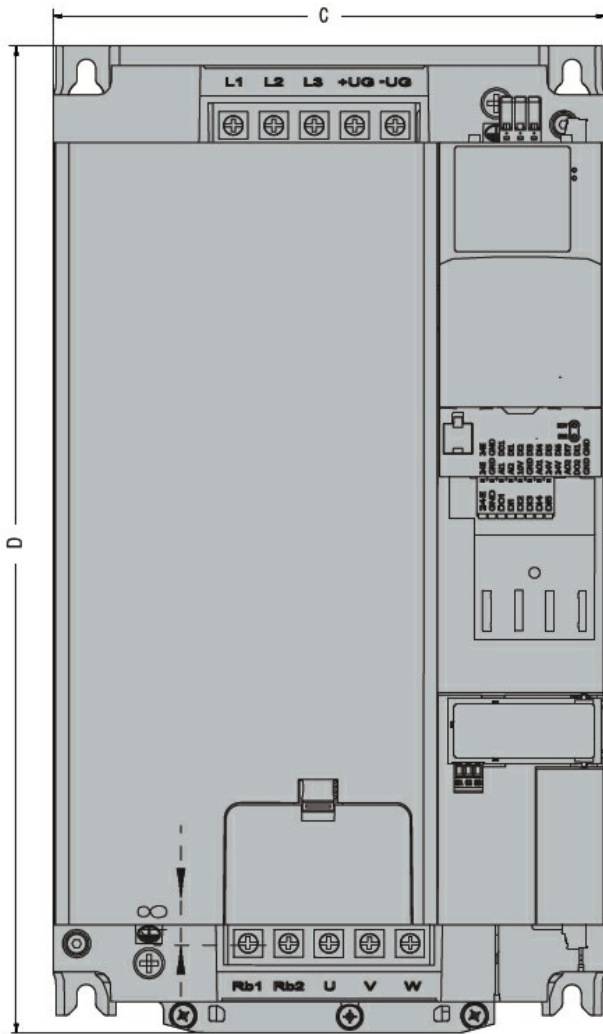
### Ambient conditions

#### Temperature

#### Operating temperature

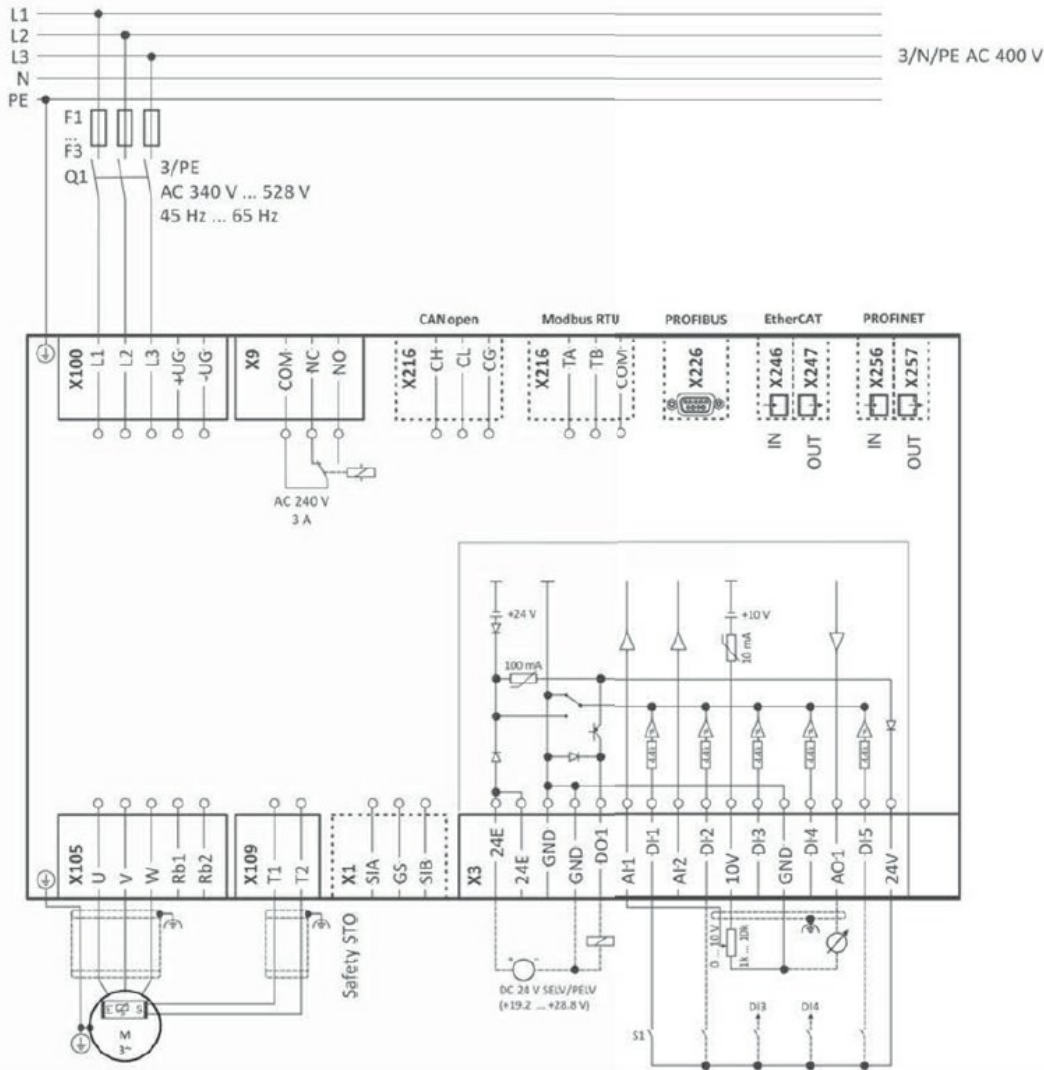
min	°C	-10
max	°C	+55

			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)
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	204.5 x 366 x 222
Weight		Kg	10.65
<b>Dimensions</b>			



TYPE	A	B	C	D
VLB3 0150 A480	222 (8.74")	347 (13.66")	204.5 (8.05")	366 (14.41")
VLB3 0185 A480	222 (8.74")	347 (13.66")	204.5 (8.05")	366 (14.41")
VLB3 0220 A480	222 (8.74")	347 (13.66")	204.5 (8.05")	366 (14.41")
VLB3 0300 A480	230 (9.05")	450 (17.72")	250 (9.84")	520 (20.47")

**Wiring diagrams**



## Certifications and compliance

### Compliance

CSA 22.2 n°274  
EN 61800-5-1  
UL61800-5-1

### Certificates

CSA  
cULus  
EAC  
RCM