



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)
Rated output power	HP	20 (Heavy load) / 25 (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
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		
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)
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Max altitude

m	4000m (over 1000m derate the rated current by 5%/1000m)
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Maximum Pollution degree

2

Overvoltage category

III up to 2000m altitude (II above 2000m)

Housing

Installation position

Vertical

IP degree of protection

IP20

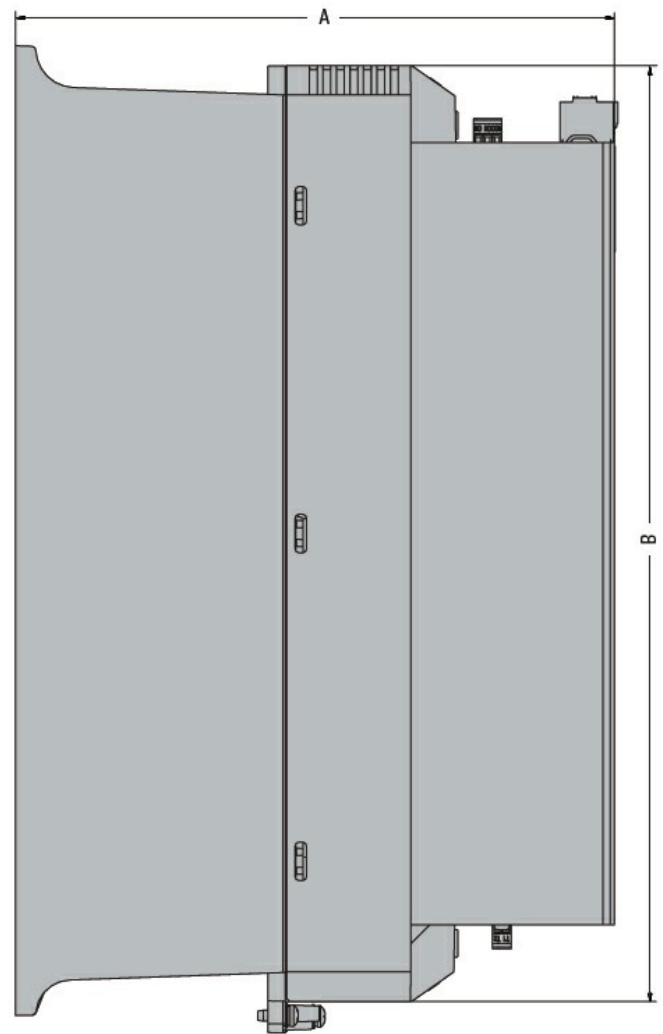
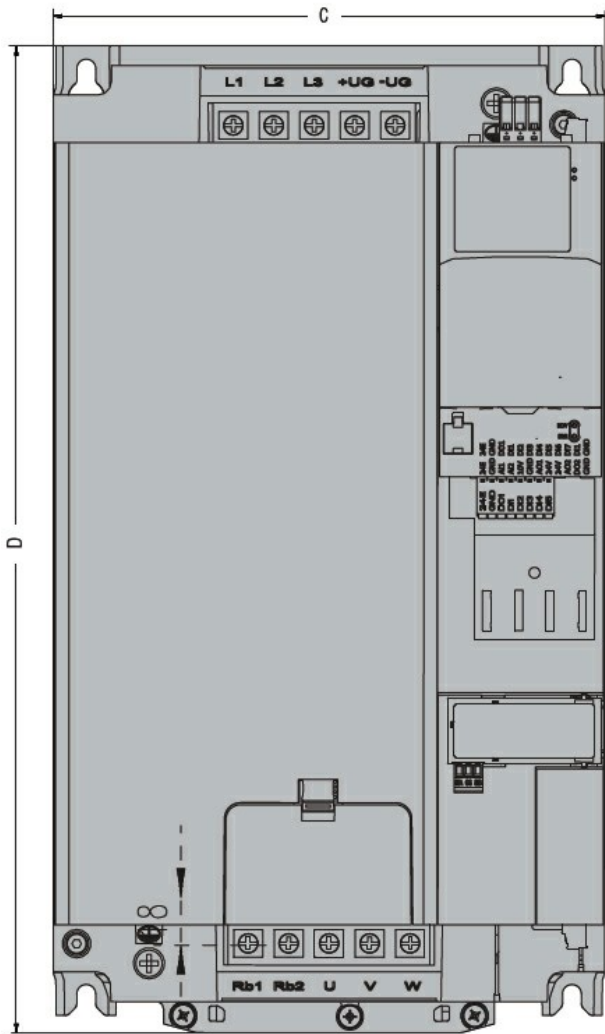
Dimensions (W x H x D)

mm	204.5 x 366 x 222
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Weight

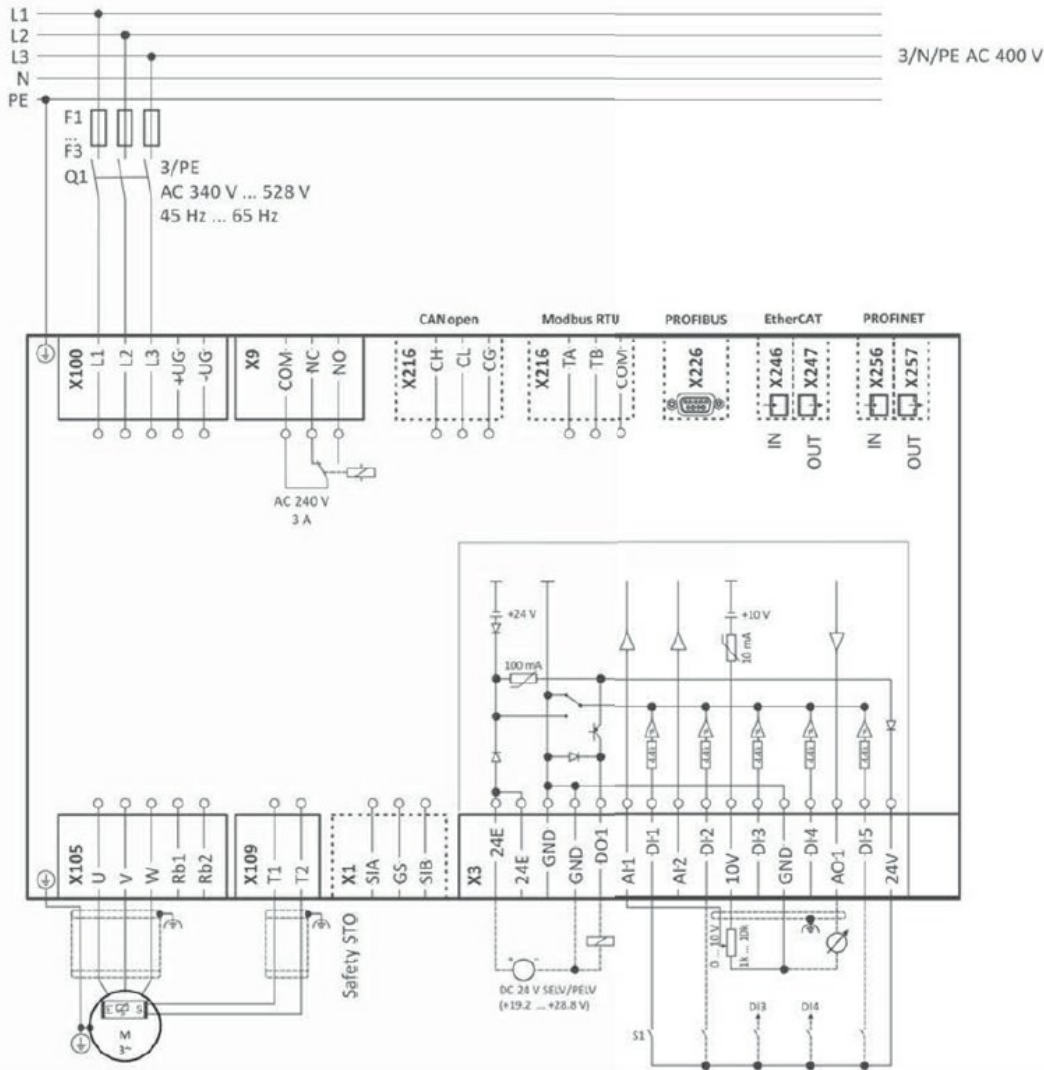
Kg	10.65
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Dimensions



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

ETIM classification

ETIM 8.0

EC001857 -
Frequency
converter =< 1 kW