



Product designation			Variable speed drives
Product type designation			VLB1
General characteristics			
Rated power supply voltage			200...240VAC 50/60Hz
Rated output current	A	4.2	
Rated output power	kW	0.75	
EMC filter			Built-in EMC suppressor cat. C1/C2
Technical features			
Input type			Single-phase
Rated mains voltage	VAC	200...240	
Operating mains voltage range	VAC	170...264	
Rated mains frequency	Hz	50/60	
Operating mains frequency range	Hz	45...65	
Rated mains current without mains choke			10
Rated mains current with mains choke			8.8
Output type			Three-phase
Output voltage range	VAC	0...240	
Output frequency range	Hz	0...599	
Current overload	%/s	150% for 60s; 200% for 3s	
Apparent output power			1.6
Power loss			4kHz: 29W
Brake chopper			Yes
Switching frequency			2...16kHz
Max motor cable length			
Shielded		Without EMC category	m 50
		Category C1	m 3
		Category C2	m 20
		Category C3	m 50
Unshielded		Without EMC category	m 100

Functions

Motor control modes

	V/f linear, V/f quadratic, V/f multipoint, sensorless vector control, ECO mode, servo control with encoder feedback, torque setpoint, sensorless control for synchronous motors
3-wire control	Yes
S-shape curves	Yes
Slip compensation	Yes
Flying restart	Yes
Access to DC bus	-
DC braking	Yes
DC injection at start	Yes
PID control	Yes
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	Yes
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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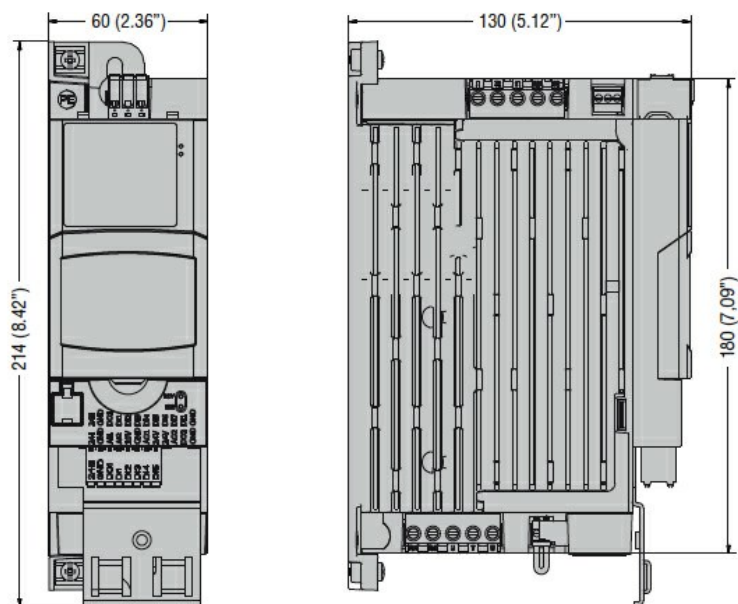
Special funct.

	Multi-pump PID control (1 main pump frequency regulated + 2 auxiliary pumps activated in direct mode in case of necessity)
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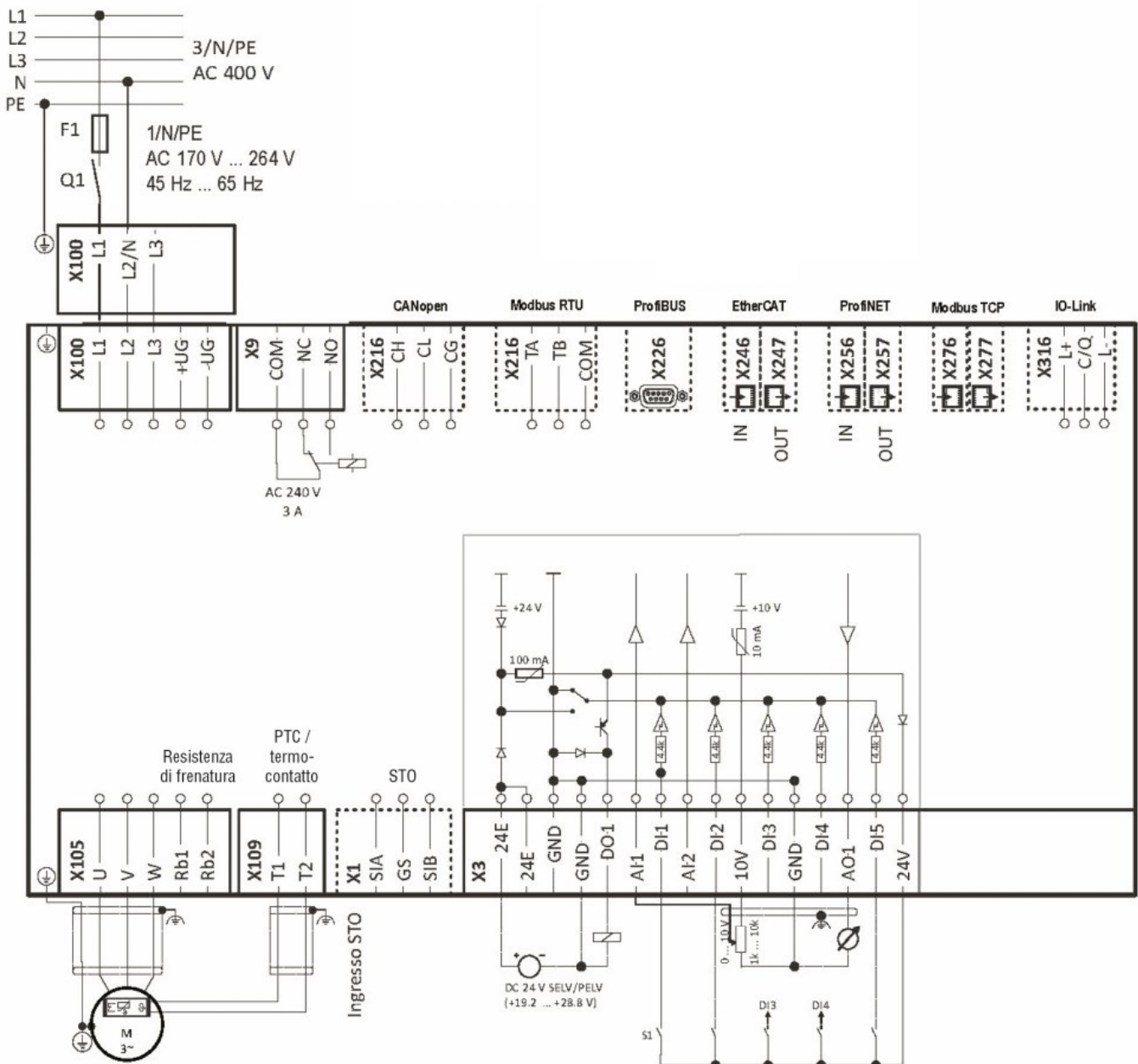
Input and Output

Number of digital input	Nr.	5
Digital input type		Selectable PNP or NPN logic
Number of digital output	Nr.	1

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		+60 (with derating over +45°C)
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		-25
	max	°C		+60
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
Dimensions				



Wiring diagrams



Certifications and compliance

Compliance

CSA 22.2 No. 274

EN/BS 61800-5-1

UL 61800-5-1

Certificates

cULus

RCM

ETIM classification

ETIM 8.0

EC001857 -
Frequency
converter ≤ 1 kW