



Product designation	Variable speed drives	
Product type designation	VLA1	
<b>General characteristics</b>		
Rated power supply voltage	200...240VAC 50/60Hz	
Rated output voltage	VAC	Three-phase 0...240VAC 0- 599Hz
Rated output current	A	9.6
Rated output power	kW	2.2
Rated output power	HP	3
EMC filter	Built-in EMC suppressor cat. C2	
Communication port	None	
<b>Technical features</b>		
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	22.5	
Rated mains current with mains choke	16.9	
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
Power loss	70W	
Brake chopper	No	
Switching frequency	2...16kHz	
Max motor cable length	Shielded	
	Without EMC category	m 50
	Category C2	m 20

**Functions**

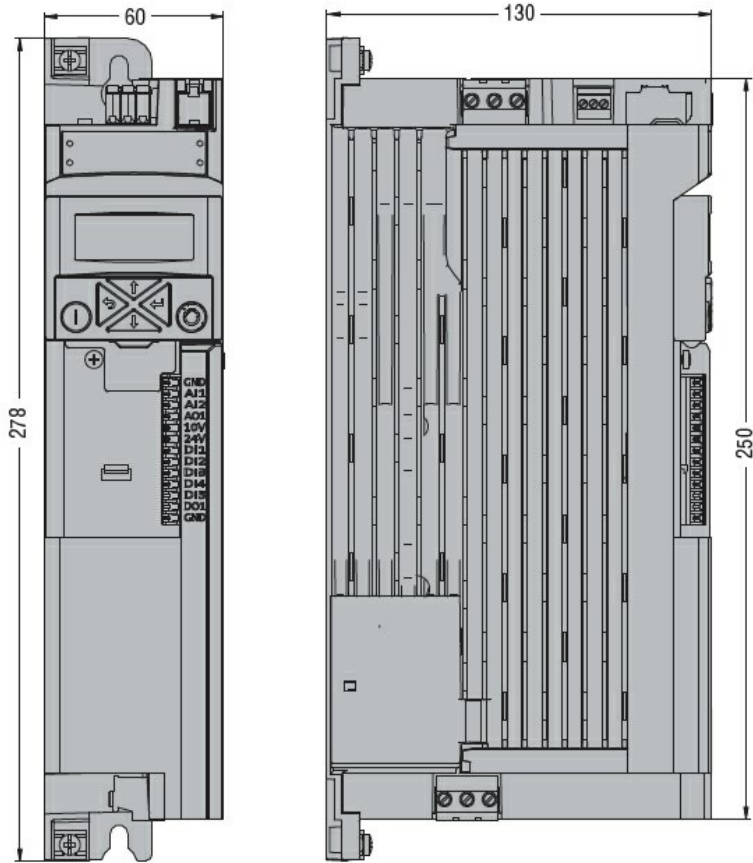
Motor control modes	V/f linear, quadratic torque, sensorless vector control, ECO mode
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Speed reference signals	External potentiometer 0...10kΩ Voltage signals: 0...10VDC Current signals: 0/4...20mA Buttons on front keyboard Door-mount installation kit 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	No
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	No
PTC probe input	No
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)

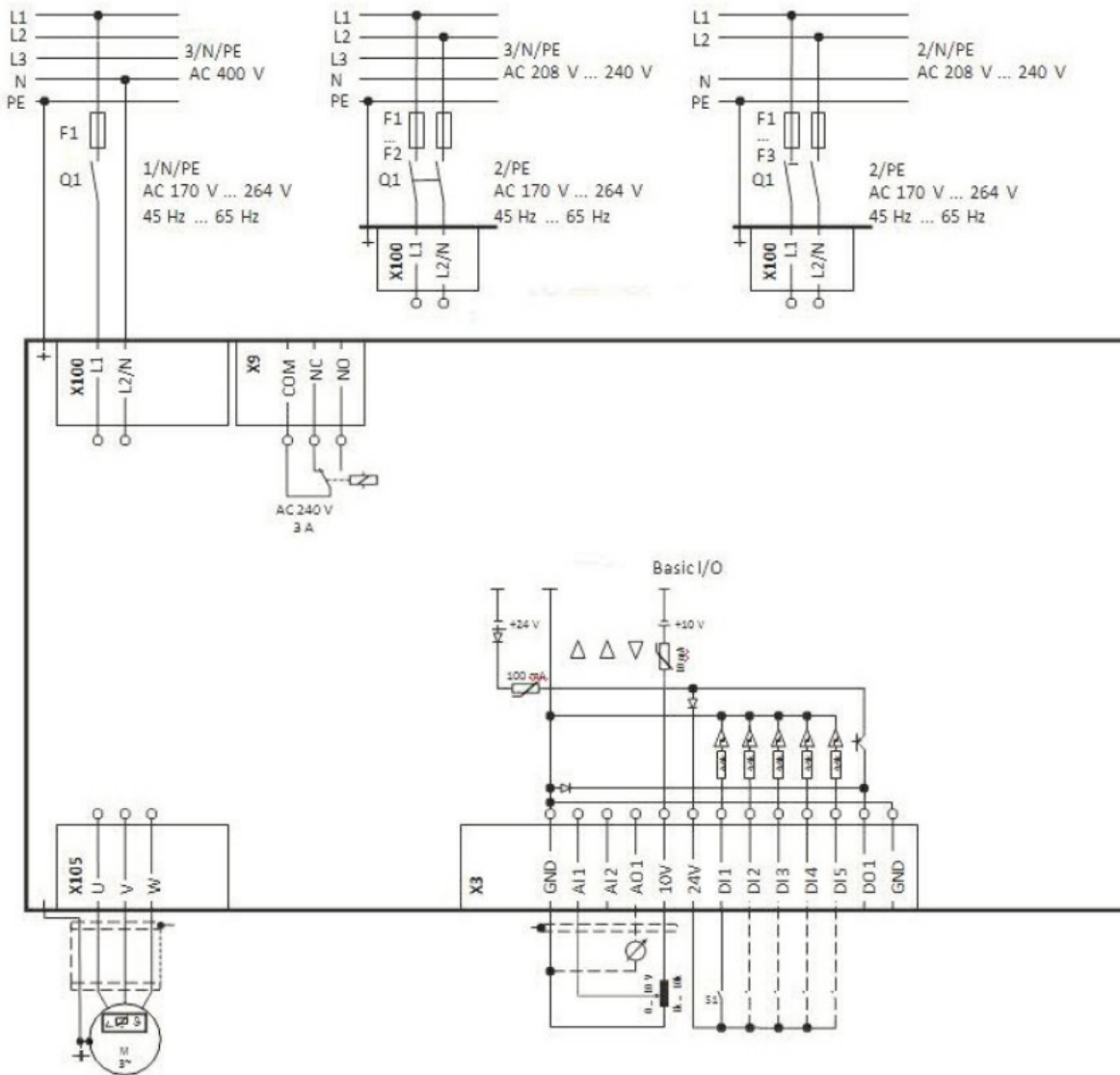
### Input and Output

Number of digital input	Nr.	5
Digital input type		Selectable PNP or NPN logic
Number of digital output	Nr.	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		Nr.		2
Analog input type				Analog input 1: configurable 0/2...10VDC, 0...5VDC, 0/4...20mA Analog input 2: configurable 0/2...10VDC or 0...5VDC
Number of analog output		Nr.		1
Analog output type				configurable as 0...10VDC, 0...5VDC, 2...10VDC, 0/4...20mA
<b>Ambient conditions</b>				
Temperature				
	Operating temperature			
		min	°C	-10
		max	°C	+55
		Current derating		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)
<b>Housing</b>				
Installation position				Vertical
IP degree of protection				IP20
Dimensions (W x H x D)		mm		60 x 281 x 130
Weight		Kg		1.35
<b>Dimensions</b>				



Wiring diagrams



**Certifications and compliance**

**Compliance**

CSA 22.2 No. 274

EN 61800-5-1

UL61800-5-1

**Certificates**

cULus

EAC

RCM

**ETIM classification**

ETIM 8.0

EC001857 -  
Frequency  
converter =< 1 kV