



Variable speed drives
VLA1

Product designation

Product type designation

General characteristics

Rated power supply voltage		200...240VAC 50/60Hz
Rated output voltage	VAC	Three-phase 0...240VAC 0- 599Hz
Rated output current	A	2.4
Rated output power	kW	0.4
Rated output power	HP	0.5
EMC filter		Built-in EMC suppressor cat. C2
Communication port		None

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		5.7
Rated mains current with mains choke		4.8
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
Power loss		20W
Brake chopper		No
Switching frequency		2...16kHz
Max motor cable length		

Shielded

Without EMC category	m	50
Category C2	m	15

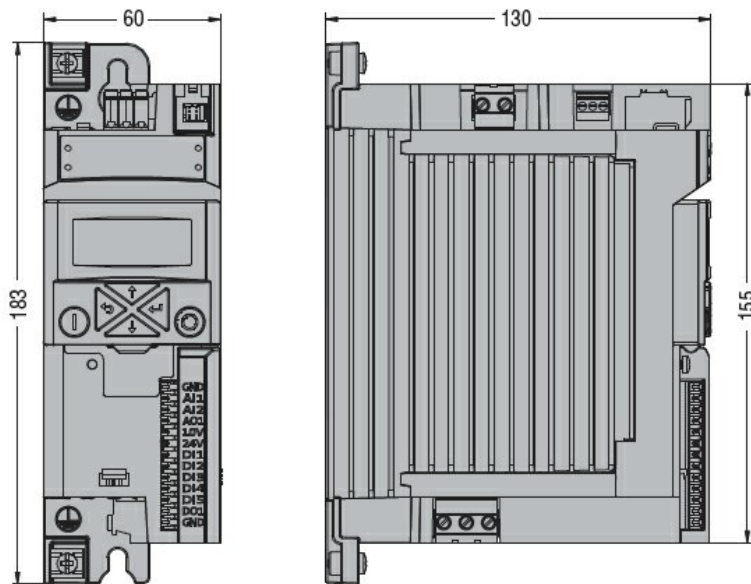
Functions

Motor control modes

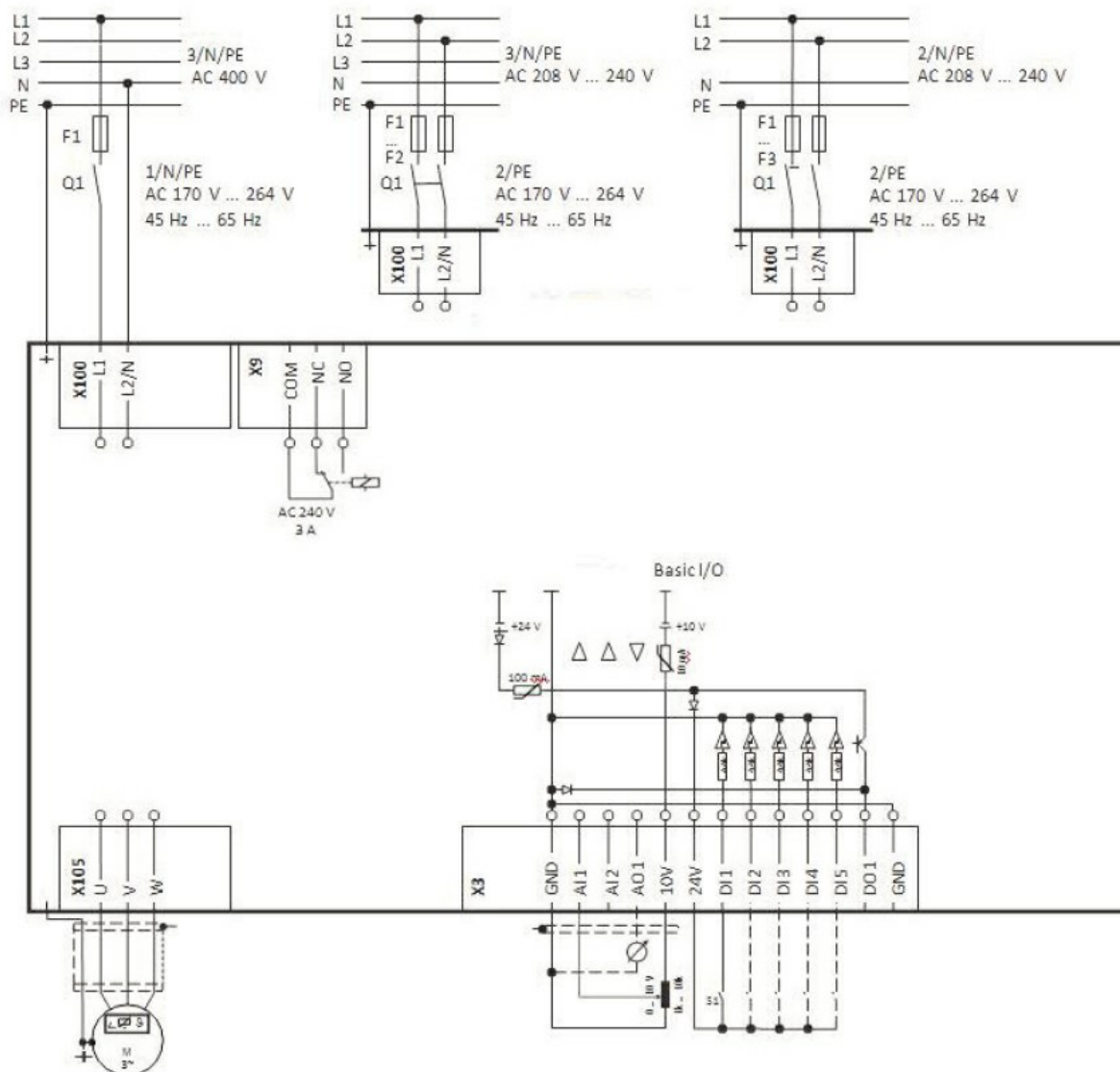
V/f linear,
quadratic torque,
sensorless
vector control,
ECO mode

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		
Ambient conditions					
Temperature					
Operating temperature		min	°C	-10	
				max	°C
Current derating		2.5%/°C over 40°C			
		Storage temperature		min	°C
		max	°C		
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)		
Housing					
Installation position			Vertical		
IP degree of protection			IP20		
Dimensions (W x H x D)			mm	60 x 183 x 130	
Weight			Kg	0.75	
Dimensions					



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