

Categ	ory C3 m	35
Categ	•	^-
<del>-</del>	jory C2 m	20
	ory C1 m	3
	0.4	max)
Without EMC ca	ategory m	(40°C max, switching frequency 4kHz
Gilleided		50m / 100m
Shielded		
Switching frequency  Max motor cable length		216kHz
Brake chopper		Yes
Press channer		(heavy load)
Apparent output power		2.6 (heavy load) 4kHz: 48W
Current overload	%/s	150% for 60s; 200% for 3s
Output frequency range	Hz	0599
Output voltage range	VAC	0480
Output type		Three-phase
Rated mains current with mains choke		3.7
Rated mains current without mains choke		5.4
Operating mains frequency range	Hz	4565
Rated mains frequency	Hz	50/60
Operating mains voltage range	VAC	340528
Rated mains voltage	VAC	400480
Input type		Three-phase
Communication port  Technical features		RTU
Communication part		C2 RS485, Modbus-
EMC filter		Built-in EMC suppressor cat.
Rated output power	HP	2 (heavy load)
Rated output power	kW	1.5
Rated output voltage  Rated output current	VAC A	480VAC 0-599Hz 3.9
Rated power supply voltage		50/60Hz Three-phase 0
General characteristics		400480VAC
Product type designation		VLB3
Product designation		drives
		Variable speed
		nin





V/f linear, quadratic torque, sensorless vector control. ECO mode, servo control with encoder feedback, multipoint V/f curve, V/f closes, multipoint V/f curve, V/f closes, multipoint V/f curve, V/f closes feedback, torque setpoint, sensorless control for synchronous motors up to 22kW  External potentiometer 010kD Voltage signals: 0.1. 10VDC or -10 10VDC or -	Functions	
quadratic torque, sensorless vector control, ECO mode, servo control with encoder feedback, multipoint VY.  Motor control modes  External potentiometer elebaback, torque setpoint, sensorless control for synchronous miotors up to 22kW  External potentiometer 010kC Voltage signals: 0 10VDC or 1-0 110VDC or 1-0	Tanonono	V/f linear.
sensorless vector control, ECO mode, servo control with encoder feedback, multipoint VI curve, VIII closer feedback, torque setpoint, sensorless control for synchronous motors up to 22kW External potentiometer 010kD Voltage signals: 0 10VDC or -10 +10VDC or -10 +10VDC current signals: 0 10VDC current signals: 0 10VDC or -10 +10VDC current signals: 0 10VDC or -10 +10VDC current signals: 0 10VDC current signals: 0		
BECO mode, servo control with encoder feedback, for the control with encoder feedback, for the course, Vif closed loop control with encoder feedback, torque setpoint, sensorless control for synchronous motors up to 22kW  External potentiometer 010kD Voltage signals: 0 10VDC or =10 +10VDC current		
Servo control with encoder feedback, multipoint Vif curve, Vif closed loop control with encoder feedback, torque setpoint, sensorless control for synchronous motors up to 22kW         External potentiometer 010kΩ Voltage signals: 010kΩ Volt		vector control,
Motor control modes encoder feedback, multipoint V/f courve, V/f closed loop control with encoder feedback, torque setpoint, sensorless control for synchronous motors up to 22kW  External potentiometer 010kD Voltage signals: 0 10VDC or 10 +10VDC Current signals: 0 10VDC or 10 +10VDC Current signals: 0 10VDC or 10 +10VDC Current signals: 0 20mA Buttons on front keyboard Door-mount installation kit 15 preset speeds via digital inputs Motor potentiometer Flieldous  3-wire control September 9 yes Sip compensation Yes Sip compensation Yes Sip compensation Yes DC braking Yes DC braking Yes DC braking Yes DC braking Yes DC pricetion at start Yes DC pricetion at start Yes DC pricetion at start Yes Motorpotentiometer Yes, with sleep and rinse function Sequencer (programmable frequency/time cycles) Yes DC pricetion at start Yes Motorpotentiometer Yes, with sleep and rinse function Sequencer (programmable frequency/time cycles) Yes Motorpotentiometer Yes, with sleep and rinse function Sequencer (programmable frequency/time cycles) Yes Prosest speeds Yes Motorpotentiometer Yes, Motorpotentiometer Yes Different parameter configuration sets Parameters changeover function Yes Favortie parameters menu Autoturning No Safe torque Off (STO) safety function Optional		ECO mode,
Motor control modes  External potentiometer 010kG Voltage signals: 0 10VDC or -10 10VDC o		servo control with
Motor control modes  External potentiometer control control motors up to 22kW  External potentiometer potential motors up to 22kW  External potentiometer potential motors up to 22kW  External potentiometer control modes signals: 0 10VDC or -10 110VDC or -10		
Motor control modescurvè, Vif closed loop control with encoder feedback, torque setpoint, sensorless control for synchronous motors up to 22kWExternal potentiometer 010kΩ 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 Motor3-wire controlYesS-shape curvesYesSlip compensationYesSlip compensationYesDC braking DC braking DC cinjection at startYesDC cinjection at startYesPlD controlYes, with sleep and rinse functionSequencer (programmable frequency/time cycles)YesPreset speeds Motopotentiometer Preset speeds yesYesPreset speeds Motopotentiometer Preset speeds YesYesPreset speeds Motopotentiometer Preset speeds Access to Ob us YesYesPreset speeds Motopotentiometer Preset speeds Preset speeds Preset speeds YesYesPreset speeds Motopotentiometer Preset speeds Preset speeds		
loop control with encoder feedback, torque setpoint, sensorless control for synchronous motors up to 22kW  External potentiometer 010kQ Voltage signals: 0		
encoder feedback, torque setpoint, sensorless control for synchronous motors up to 22kW  External potentiometer 010kD Voltage signals: 0 10VDC or -10 +10VDC Current 10VDC or -10 +10VDC Current 10VDC or -10 +10VDC current installation kit 15 preset speeds via digital inputs Motor potentiometer Fieldbus 3-wire control yes speeds via digital inputs Motor potentiometer Fieldbus 3-wire control yes S-shape curves Yes Silp compensation yes Selp compensation yes Schape curves Yes OC braking yes Selp Compensation yes	Motor control modes	
Speed reference signalsfeedback, torque setpoint, sensorless control for synchronous motors up to 22kWExternal potentiometer 010kΩ Voltage signals: 0 10VDC or -10 +1 VVDC or -10 +1 VVDC Current signals: 0/4 +1 VVDC current sign		
Septoint, sensorless control for synchronous motors up to 22kW         External potentiometer 010kΩ Voltage signals: 0 10VDC or -10 + 10VDC Current signals: 04 10VDC current sign		
Sensorless control for synchronous motors up to 22kW  External potentiometer 010kQ 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 Silip compensation Yes Sliptompensation Yes Flying restart Yes Access to DC bus Yes DC braking Yes DC injection at start Yes DC braking Yes PID control Sequencer (programmable frequency/time cycles) Yes Preset speeds Yes Motorpotentiometer Yes Motorpotentiometer Yes Motorpotentiometer Yes Preset speeds Yes Preset speeds Yes Preset speeds Yes Motorpotentiometer Yes Preset speeds Yes Preset spee		
Speed reference signalsControl for synchronous motors up to 22kWSpeed reference signalsExternal potentiometer 010kΩ 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 with given and signals with the present speeds via digital inputs of the present speeds via digital inputs on the speed speeds with the present speeds via digital inputs on the speed speeds with the speed speeds of the speed speed speed speeds of the speed		
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External potentiometer   010kΩ Voltage signals: 0   10vVC 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   Silip compensation   Yes   Yes   SC   Yes   SC   Sc   Yes   SC   Sc   Yes   SC   Sc   Yes   SC   SC   SC   Yes   SC   SC   SC   SC   SC   SC   SC   S		synchronous
External potentiometer   010kΩ Voltage signals: 0 10kDc or -10 +10VDC current signals: 0		motors up to
potentiometer 010kD 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 Slip compensation Yes Access to DC bus Yes DC braking Yes DC braking Yes DC injection at start Yes DC injection at start Yes PID control Yes Preset speeds Yes Preset speeds Yes Preset speeds Yes Preset speeds Yes Different parameter configuration sets Yes Parameters changeover function Yes Pavorite parameters menu Yes Pavorite parameters menu Yes Pavorite parameters menu Yes Pavorite parameters menu No Safe torque Off (STO) safety function Optional		22kW
Speed reference signals  Speed signals: 0.1.  HovDC Current signals: 0.4.  Hotor poor-mount instalt installation kit 15  Fees Speed sp		
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  3-wire control  4-yes S-shape curves  Yes Slip compensation  Yes Slip compensation  Yes Pilying restart  Yes DC braking  Yes DC braking  Yes DC injection at start  Yes DC injection at start  Yes PID control  Sequencer (programmable frequency/time cycles)  Yes Preset speeds  Motorpotentiometer  Yes Motorpotentiometer  Yes Motorpotentiometer  Yes Preset speeds  Yes Preset speeds  Yes Motorpotentiometer  Yes Parameters changeover function  Yes Favorite parameters menu  Yes Autotuning  No Safe torque Off (STO) safety function  Optional		
Speed reference signals  Speeds Speeds  Yes  Sesure Control  Speed Reference signals  Speed S		•
Speed reference signals  Speed Speed Speed Speed Poor-mount installation kit 15 preset speeds via digital inputs Motor potentiometer Fieldbus  S-wire control  Yes  S-shape curves  Yes  Slip compensation  Yes  Flying restart  Access to DC bus  Pes  DC braking  Yes  DC braking  Yes  DC injection at start  Yes  PID control  Sequencer (programmable frequency/time cycles)  Preset speeds  Yes  Preset speeds  Yes  Motorpotentiometer  Yes  Motorpotentiometer  Yes  Parameters changeover function  Yes  Parameters changeover function  Yes  Favorite parameters menu  Yes  Autotuning  No  Safe torque Off (STO) safety function  Optional		
Speed reference signals  Speeds yield signals to 15 prosest speeds  Yes  Possible or speed speeds  Speed reference signals  Speed reference signals  Speeds  Speeds  Speed reference signals  Speeds yes  Speed reference reference signals  Speeds yes  Speed reference signals  Speeds yes  Speeds  Speed reference signals  Speeds yes  Speeds  Speed reference signals  Speeds yes  Speeds  Speed reference signals  Speeds yes  Spe		
Speed reference signals  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 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 Favorite parameters menu Autotuning No Safe torque Off (STO) safety function Optional		
Itom 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 DC injection at start Yes PID control Yes, with sleep and rinse function Sequencer (programmable frequency/time cycles) Yes Motorpotentiometer 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	Chand reference signals	
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 DC injection at start Yes PID control Yes, with sleep and rinse function Sequencer (programmable frequency/time cycles) Yes Motorpotentiometer Yes Motorpotentiometer Yes Different parameter configuration sets Yes Favorite parameters menu Yes Autotuning No Safe torque Off (STO) safety function	Speed reference signals	front keyboard
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		
S-wire controlYesS-shape curvesYesSlip compensationYesFlying restartYesAccess to DC busYesDC brakingYesDC injection at startYesPID controlYes, with sleep and rinse functionSequencer (programmable frequency/time cycles)YesPreset speedsYesMotorpotentiometerYesDifferent parameter configuration setsYesParameters changeover functionYesFavorite parameters menuYesAutotuningNoSafe torque Off (STO) safety functionOptional		
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 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		
Potentiometer Fieldbus3-wire controlYesS-shape curvesYesS-lip compensationYesFlying restartYesAccess to DC busYesDC brakingYesDC injection at startYesPID controlYes, with sleep and rinse functionSequencer (programmable frequency/time cycles)YesPreset speedsYesMotorpotentiometerYesDifferent parameter configuration setsYesParameters changeover functionYesFavorite parameters menuYesAutotuningNoSafe torque Off (STO) safety functionOptional		•
S-wire control S-shape curves S-shape curves Slip compensation 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		
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		·
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 Parameters changeover function Yes Favorite parameters menu Yes Autotuning No Safe torque Off (STO) safety function Optional	3-wire control	
Flying restart  Access to DC bus  PC braking  PID control  Sequencer (programmable frequency/time cycles)  Preset speeds  Motorpotentiometer  Different parameter configuration sets  Parameters changeover function  Yes  Preset speeds  Motorpotentiometer  Yes  Parameters changeover function  Yes  Parameters changeover function  Yes  Favorite parameters menu  Autotuning  No  Safe torque Off (STO) safety function  Yes  Yes  Optional	S-shape curves	Yes
Access to DC bus  DC braking  DC injection at start  PID control  Sequencer (programmable frequency/time cycles)  Preset speeds  Motorpotentiometer  Different parameter configuration sets  Parameters changeover function  Yes  Parorite parameters menu  Autotuning  No  Safe torque Off (STO) safety function  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Ye	Slip compensation	
DC braking 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 Autotuning No Safe torque Off (STO) safety function Optional		-
DC injection at start  PID control  Sequencer (programmable frequency/time cycles)  Preset speeds  Motorpotentiometer  Different parameter configuration sets  Parameters changeover function  Yes  Favorite parameters menu  Autotuning  Sequencer (programmable frequency/time cycles)  Yes  Yes  Yes  Yes  Yes  Yes  No  Optional		
PID control  Yes, with sleep and rinse function  Sequencer (programmable frequency/time cycles)  Preset speeds  Motorpotentiometer  Yes  Different parameter configuration sets  Parameters changeover function  Yes  Favorite parameters menu  Autotuning  Safe torque Off (STO) safety function  Yes, with sleep and rinse function  Yes  Yes  Yes  Yes  Yes  No  Optional		
Sequencer (programmable frequency/time cycles)  Preset speeds  Motorpotentiometer  Different parameter configuration sets  Parameters changeover function  Yes  Favorite parameters menu  Autotuning  Safe torque Off (STO) safety function  and rinse function  Yes  Yes  Yes  Yes  Yes  Yes  No  Optional	DC Injection at start	
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	PID control	
Preset speeds Motorpotentiometer Yes Different parameter configuration sets Yes Parameters changeover function Yes Favorite parameters menu Yes Autotuning No Safe torque Off (STO) safety function Optional	Seguencer (programmable frequency/time cycles)	
Different parameter configuration sets  Parameters changeover function  Yes  Favorite parameters menu  Autotuning  No  Safe torque Off (STO) safety function  Yes  No  Optional	Preset speeds	
Parameters changeover function Yes Favorite parameters menu Yes Autotuning No Safe torque Off (STO) safety function Optional	Motorpotentiometer	Yes
Favorite parameters menu Yes Autotuning No Safe torque Off (STO) safety function Optional	Different parameter configuration sets	Yes
Favorite parameters menu Yes Autotuning No Safe torque Off (STO) safety function Optional	Parameters changeover function	Yes
Autotuning No Safe torque Off (STO) safety function Optional		Yes
	Autotuning	No
PTC probe input Yes	Safe torque Off (STO) safety function	Optional
	PTC probe input	Yes





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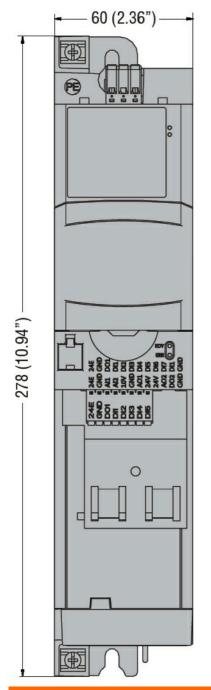
			Overcurrent
			Output short
			circuit and
			earth/ground
			leakage
Protections			Overvoltage
			Undervoltage
			Phase loss Motor
			heat overload
			(i2t) Overspeed
			Speed reverse
			Multi-pump PID
			control (1 main
			pump frequency
Operated for the second			regulated + 2
Special funct.			auxiliary pumps
			activated in direct
			mode in case of
			necessity)
Input and Output			,,
Number of digital input		Nr.	5
Digital input type			Selectable PNP
Digital input type			or NPN logic
Number of digital output		Nr.	2
			1 relay output
			with changeover
Digital output arrangement			contact (C/O-
			SPDT) + 1 digital
			output
			Relay output: 3A
Output appleate actions			250VAC Digital
Output contacts ratings			output: 100mA
			max 30VDC
Number of analog input		Nr.	2
			Configurable
			0/210VDC,
Analog input type			-10+10VDC,
Thinking input type			05VDC, 0/4
			20mA
Number of analog output		Nr.	1
- Trainbor of analog octput		141.	configurable as
			010VDC, 0
Analog output type			5VDC, 2
, maiog oarpat typo			10VDC, 0/4
			20mA
Ambient conditions			2011/1
Temperature			
Operating temperature			
- L	min	°C	-10
	max	°C	+55
	max	9	. 50

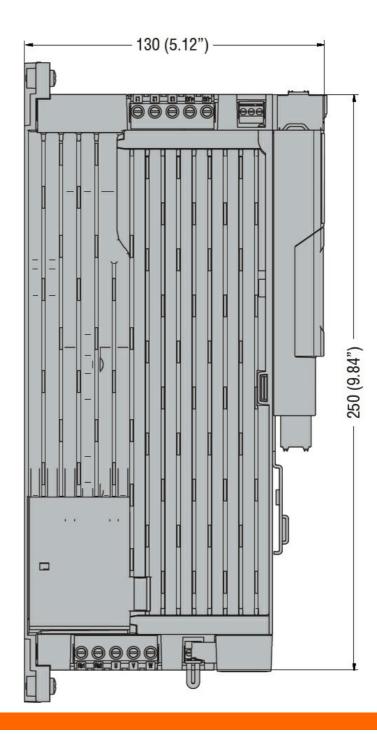




	Current derating		switching frequency 2 or 4kHz: 2.5%/°C over 45°C switching frequency 8 or 16kHz: 2.5%/°C over 40°C
Storage temperature			_
	min	°C	-25
	max	°C	+60
Relative humidity		%	595% (with no condensing)
Max altitude		m	4000m (over 1000m derate the rated current by 5%/1000m)
Maximum Pollution 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 278 x 130
Weight		Kg	1.38
Dimensions			

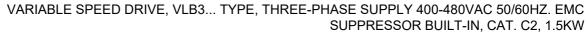
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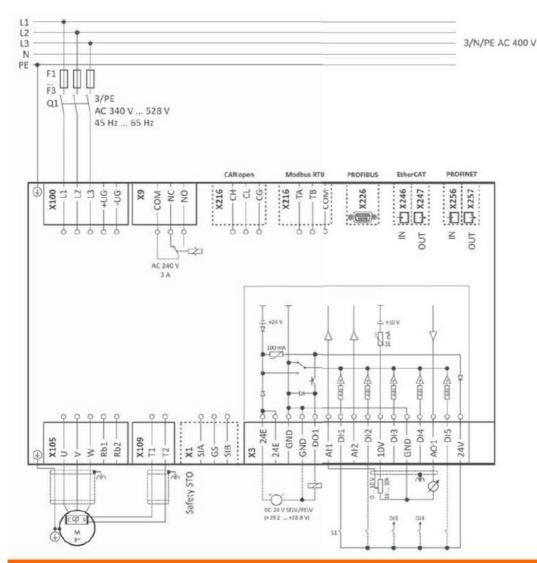




Wiring diagrams

**ENERGY AND AUTOMATION** 





## Certifications and compliance

Compliance

CSA 22.2 n°274 EN 61800-5-1

LIV 01000-3-

UL61800-5-1

Certificates

CSA

cULus

EAC

**RCM** 

ETIM classification

ETIM 8.0

EC001857 -Frequency converter =< 1 kV