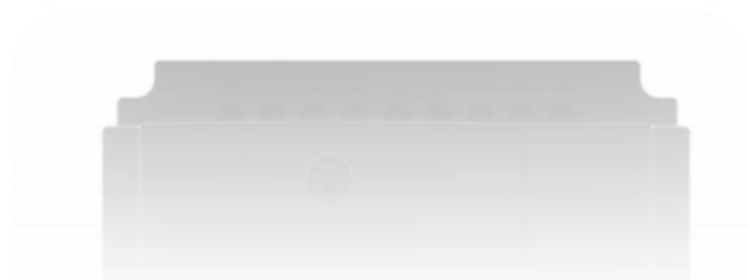


ELMARK[®]

The Brand of Electricity

ELM 2000+ FREQUENCY INVERTERS



Description:

- High-tech motor control concept, based on advanced DSP-technology - ready for V/Hz, SENSORLESS VECTOR, CLV and PMM motor control - intelligent AUTOTUNING functions for easy setup.
- Flexible inverter control, dual high-resolution analogue inputs, free mappable digital I/O channels. Ready for all commonly used fieldbus systems.
- Universal function-set for all kind of industrial and residential applications, including integrated PID/pump controller routines
- Smart PC-tools, for inverter control, parametrization and troubleshooting. Parameter-duplication stick
- Brake chopper integrated

Technical data:

- **Power range:** 0,4.....400 kW
- **Power input:**
 - Rated input voltage- 1-Phase 220V~240V~±15%); 3-Phase 380V-460V (+/-) 15%
 - Input frequency: 44...67 Hz
 - EMC filter- Integrated for Industrial area
- **Motor output:**
 - Output frequency- 0-650 Hz
 - Frequency resolution- 0,01 Hz
 - Overload capability- 150% - 60 sec. / 10 min
- **Control mode:**
 - Motor control algorithm- V/Hz-SpaceVector, SLVSENSORLESS VECTOR, Torque/Speed control mode CLV-Closed loop vector, Permanent Magnet Synchronous Motor
 - Chopper frequency- 0.8...16 kHz (fixed / random)
 - V/Hz curve- Linear, exponential, and user programmable curve
 - Starting torque- 150% rated torque at 0,5 Hz (in SLV Mode)
 - Torque compensation- Automatic / Manual
 - Motor data input- Manual, from nameplate
- **AUTOTUNING:**
 - Control range- 1:100 in SLV mode,1:1000 in CLV mode,1:20 in PMSM mode
 - Speed precision +/- 0,5% (SLV), +/- 0.02% (CLV)
 - Torque precision +/- 5% (SLV)
 - DC-Brake- User programmable functions
 - Brake chopper- Chopper transistor integrated (up to 90 kW)

TECHNICAL SPECIFICATION

FREQUENCY INVERTERS

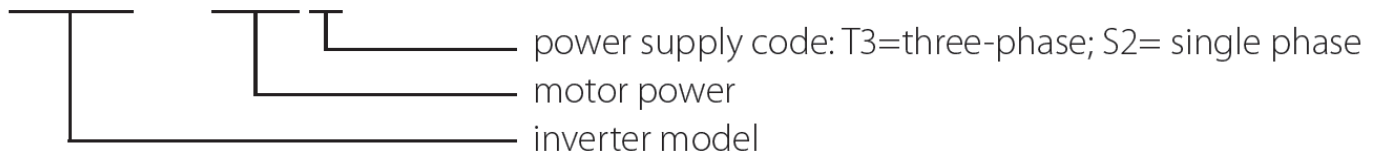
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- **Display:**
 - 7 segments, 4 characters
 - Config-Parameters and -value, programmable to display various working parameters
- **I/O Channels and control functions:**
 - Inverter control- Via terminals / Keypad / Serial link (or combination of all)
 - Digital inputs- 6 (8) Dig. inputs (NPN-PNP selectable) pulstrain-input
 - Speed reference input- Potentiometer (on keypad unit, external), analogue signal (terminals)
 - keypad, internal programmable value, pulsetrain, serial link
- **Analogue channels- analogue channels - 12 BIT:**
 - 0...10V, 0...5V, -10V...0...10V, 0..(4)20 mA
 - all free scalable in gain and offset, and mathematically concatenable
 - Analogue outputs- 2 analogue outputs, programmable in gain and function (0...10V, 0(4)..20 mA)
 - Digital outputs- 2 digital outputs (free mapping to different functions)
 - Relays output- 1 switchover contact 3A 250VAC/30VDC (programmable assignment)
 - Data link- Serial link RS 485 (MODBUS)
 - Special functions- 24V / 50 mA auxiliary power supply on terminals, 10V potentiometer power supply, 5V/100 mA power supply on Modbus connector Simple PTC / KLIXON motor protection
- **Protection:**
 - Electrical- Overvoltage, under voltage
 - Overcurrent, overload, motor-overload, output short-circuit
 - Thermal- Heatsink overtemperature, I²t motor protection
- **Operating conditions:**
 - Protection class IP20
 - Working temperature -10+50 °C
 - Humidity- 0 to 95% RH, non-condensing, noncorrosive
 - Altitude- 1000 m, above 1% derating / 100m
 - Vibration- Max. 0,5 g

Type of sign

ELM2000+ 0015 T3



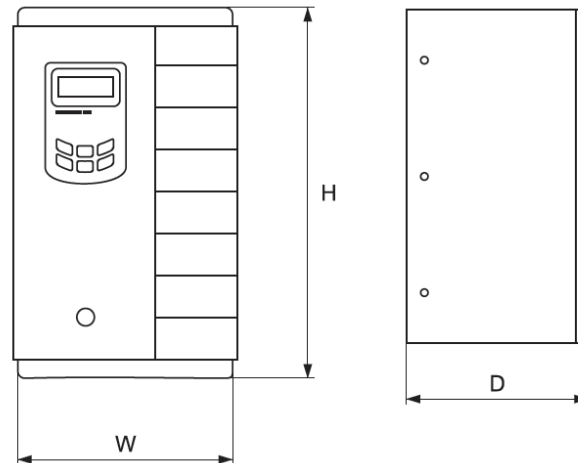
TECHNICAL SPECIFICATION

FREQUENCY INVERTERS

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Variants and Dimensions:



Type	Input voltage (V)	Maximum output power (kW)	Maximum current output (A)	Dimensions (W x D x H) mm	Weights (kg)	Catalogue number
E2000-0004 S2B	230	0.4	2.5A	80x140x135	1.40	423400P
E2000-0007 S2B	230	0.7	4.5A	80x140x135	1.50	423401P
E2000-0015 S2B	230	1.5	7A	106x180x150	2.00	423402P
E2000-0022 S2B	230	2.2	10A	106x180x150	2.10	423403P
E2000-0007 T3	400	0.7	2A	106x180x150	2.00	423404P
E2000-0015 T3	400	1.5	4.6A	106x180x150	2.10	423405P
E2000-0022 T3	400	2.2	6.5A	106x180x170	2.20	423406P
E2000-0030 T3	400	3.0	7A	138x235x152	2.50	423407P
E2000-0040 T3	400	4.0	9A	138x235x152	3.00	423408P
E2000-0055 T3	400	5.5	12A	156x265x170	3.50	423409P
E2000-0075 T3	400	7.5	17A	156x265x170	4.50	423410P
E2000-0110 T3	400	11.0	23A	205x340x196	4.80	423411P
E2000-0150 T3	400	15.0	32A	205x340x196	8.00	423412P
E2000-0185 T3	400	18.5	38A	205x340x196	8.50	423413P
E2000-0220 T3	400	22.0	44A	270x435x235	9.00	423414P
E2000-0300 T3	400	30.0	60A	315x480x235	22.50	423415P
E2000-0370 T3	400	37.0	75A	315x480x235	24.00	423416P
E2000-0450 T3	400	45.0	90A	360x555x265	24.50	423417P
E2000-0550 T3	400	55.0	110A	360x555x265	41.50	423418P
E2000-0750 T3	400	75.0	150A	410x650x300	42.00	423419P
E2000-0900 T3	400	90.0	180A	410x650x300	56.00	423420P
E2000-1100 T3	400	110.0	220A	516x765x326	56.50	423421P
E2000-1320 T3	400	132.0	265A	560x910x342	87.00	423422P
E2000-1600 T3	400	160.0	320A	560x910x342	123.00	423423P
E2000-1800 T3	400	180.0	360A	400x1310x385	124.00	423424P
E2000-2000 T3	400	200.0	400A	535x1340x380	125.00	423425P
E2000-2200 T3	400	220.0	440A	535x1340x380	185.00	423426P
E2000-2500 T3	400	250.0	480A	600x1465x380	186.00	423427P
E2000-2800 T3	400	280.0	530A	600x1465x380	225.00	423428P
E2000-3150 T3	400	315.0	580A	600x1465x380	230.00	423429P
E2000-3550 T3	400	355.0	640A	600x1600x388	233.00	423430P
E2000-4000 T3	400	400.0	690A	600x1600x388	234.00	423431P

TECHNICAL SPECIFICATION

FREQUENCY INVERTERS

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LCD REMOTE FRAMESIZE
KEYPAD FOR CABINET IP66
423432P



CABLE FOR REMOTE KEYPAD
IP66 - 1.5meter
423433P



PARAMETER
COPY STICK
423434P

Standards
EN 61800-3
EN 61800-5-1

