

## TECHNICAL SPECIFICATION

### ELM 1000 frequency inverters



#### Description:

Frequency inverters are designed to control three-phase induction motors with short-circuited rotor. They provide for the implementation of some control laws, thus becoming an indispensable part of the control systems for conveyors and packaging machines, pumps, air conditioning systems, etc. The ELM 1000 inverter provides the so-called no-sensor control, V/f control and impulse control while the out-put load can reach up to 150% within 60 seconds. It features easy definition of curves and easy parameters setting of inverter through the use of control panel buttons. The inverter can auto calibrate according to the motor power, i.e. if the inverter is connected to a motor with power different from that set by the inverter manufacturer, it automatically adjusts its programmable parameters to suit the motor parameters.

#### Functions:

- rotation speed increase – automatic and manual
- sliding compensation: from 0 to 20%
- no-sensor control of the motor
- adjustment of the V/F control curve – linear or quadratic

- energy saving through automatic optimization of the V/F curve
- PID control law implementation option
- omission of resonance frequencies
- JOG function
- 'counter' function
- automatic restart option in case of power supply failure
- fifteen speed degrees control option
- control choice from the control panel; external or COM terminal
- frequency control from the control panel, external potentiometer by current or by voltage
- auto-calibration in accordance with the switched motor
- incoming signals on clockwise or counter-clock-wise rotation, multi-step control, restart, etc.
- outgoing discrete control signal 24V
- outgoing analogue control signal 0 – 10V
- DC brake in static mode
- dynamic braking with external braking resistor used in inert electric motor load
- output voltage adjustment option
- activation of output safety functions option
- electronic motor protection

**Technical data:**

- Rated working voltage: 230/400V AC; 50 Hz
- Permissible working voltage deviation:  $\pm 10\%$
- Unbalance of phases:  $< 3\%$
- Frequency fluctuation:  $< 5\%$
- Output frequency: 0 – 400 Hz
- Output voltage: from 0 to  $U_{bx}$  max
- Overload capacity:
  - constant: up to 110%
  - momentary: up to 150%
- Precision of output frequency adjustment: 0.1%

- Type of connection:
  - the connection of the inverter to the power supply should always be done through a circuit breaker of the MCB or MCCB type
  - connection of consumer to power terminals: through conductors suitable for the power
  - connection of control circuits: flexible conductor up to 1.5 mm<sup>2</sup>

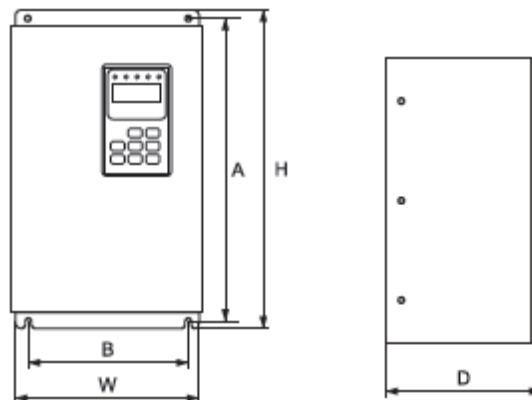
**Note:** It is not recommendable to mount contactors or other commutation devices between the frequency inverter and the motor, except as described in the product passport.

- Mounting:
  - mounting to a flat surface by means of bolts
  - mounting position – vertical gradient maximum  $\pm 5^\circ$

**Note:** When more than one inverter is mounted in a board, it is recommendable to mount them side by side and when this is not possible, the appropriate cooling conditions should be provided.

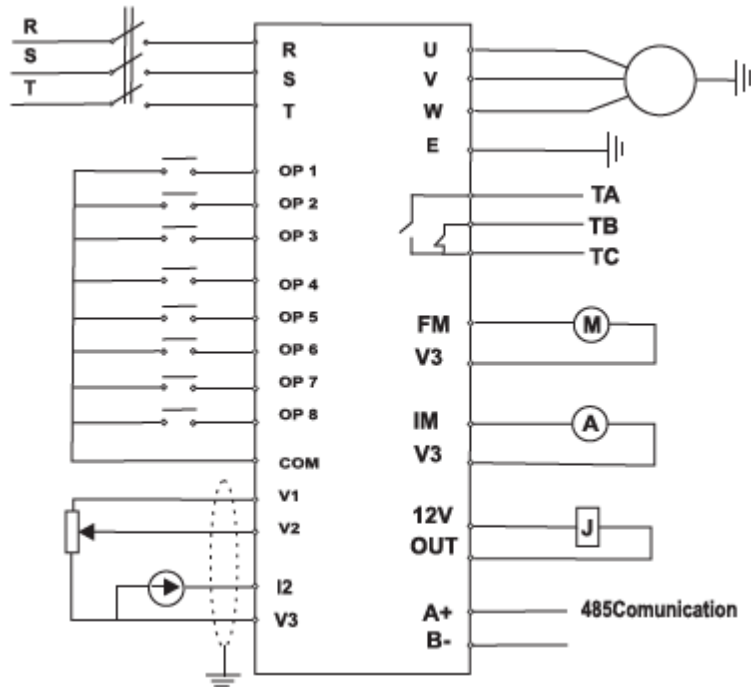
- Plastic: UV-rays resistant and fire resistant (self-extinguishing material)
- Ambient temperature:  $-10^\circ$  to  $65^\circ$  C
- Altitude : up to 2000 m
- Function enhancement option: through the inclusion of additional modules

### Dimensions:

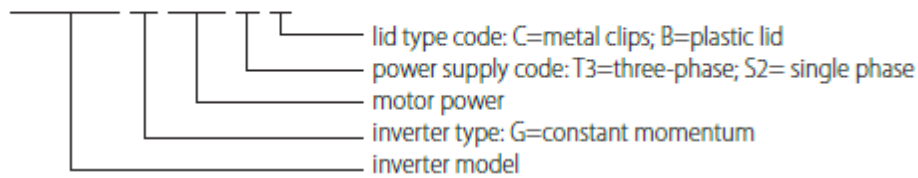


Type	H	W	A	B	D	d
ELM1000-G0007S2B	150	105	139	94	120	Ø4
ELM1000-G0015S2B	170	125	160	114	140	Ø5
ELM1000-G0022SB	170	125	160	114	140	Ø5
ELM1000-G0007T3B	170	125	160	114	140	Ø5
ELM1000-G0015T3B	170	125	160	114	140	Ø5
ELM1000-G0022T3B	170	125	160	114	140	Ø5
ELM1000-G0037T3B	250	162	233	145	150	Ø6
ELM1000-G0040T3B	250	162	233	145	150	Ø6
ELM1000-G0055T3B	300	200	282	182	160	Ø6
ELM1000-G0075T3B	300	200	282	182	160	Ø6
ELM1000-G0110T3C	340	225	322	160	220	Ø6
ELM1000-G0150T3C	380	230	362	186	225	Ø6

**Schemes:**



**Type of sign  
ELM1000- G -0150 T3 C**



**Variants:**

Type	Input voltage (V)	Maximum output power (kW)	Maximum current output (A)	Packing / Box (pcs)	Catalogue number
ELM1000-G0007S2B	230	0.75	4.5	1 / 4	423107M
ELM1000-G0015S2B	230	1.5	7	1 / 4	423115M
ELM1000-G0022SB	230	2.2	9	1 / 4	423122M
ELM1000-G0007T3B	400	0.75	2	1 / 4	423307M
ELM1000-G0015T3B	400	1.5	4	1 / 4	423315M
ELM1000-G0022T3B	400	2.2	6.5	1 / 4	423322M
ELM1000-G0037T3B	400	3.7	8	1 / 1	423337M
ELM1000-G0040T3B	400	4.0	9	1 / 1	423340M
ELM1000-G0055T3B	400	5.5	12	1 / 1	423355M
ELM1000-G0075T3B	400	7.5	17	1 / 1	423375M
ELM1000-G0110T3C	400	11	23	1 / 1	423391M
ELM1000-G0150T3C	400	15	32	1 / 1	423392M

**Standards:**

EN60898-1; EN 60947-2

The products are in accordance with the directives of EC “Low voltage directives (LVD) no 2006/95/EC” and “Electromagnetic Compatibility Directives (EMC) no. 2004/108/EC”.

