



VECTOR FREQUENCY INVERTER

**MFC 1000 (AcR) for supply voltages: 3x400 V; 3x500 V; 3x690 V
with the possibility of returning energy to the power grid**

TRANSFORMERLESS FREQUENCY CONVERTERS DESIGNED FOR
ADVANCED APPLICATIONS OF INDUCTION MOTOR CONTROL
FOR SUPPLY VOLTAGES: **3x400V; 3x500V; 3x690V** WITH THE
POSSIBILITY OF RETURNING ENERGY TO THE POWER SUPPLY
NETWORK



Basic parameters:

- Input Voltage: 3 x 400 V; 3 x 500 V; 3 x 690 V; 45..60 Hz
- Output Voltage: 3 x 400 V; 3 x 500 V; 3 x 690 V; 0..400 Hz (0-200 Hz in vector mode)
- AFE (Active Front End) technology in MFC1000 AcR systems
- V/F control: linear and square; Vector: sensor and sensorless
- Removable signaling and control panel
- Built-in PLC
- Integrated PID controller
- Identification of engine parameters
- Built-in winder calculator controller
- Built-in pump and fan set controller
- Built-in RS232/RS485 Modbus RTU communication module
- Programmable constant speeds
- Motorpotentiometer function
- Encoder can be connected directly (5V line transmitter)
- Skipping programmable resonant frequency bands
- Defining Shapes and Slopes of Characteristics
- speed controller (linear, "S" curve)
- Can be operated with torque control
- Programmable Structure:
 - Switchable control variants (A, B)
 - Speed controller: control panel, analog inputs, PID controller, motopotentiometer, RS-232 / RS-485, function blocks
 - Torque controller: analogue inputs, function blocks
 - Start and direction control: control panel, digital inputs, function blocks
 - Programmable digital inputs: start, direction, work lockout, external fault
 - Programmable digital outputs: (3 relays and 1 open collector): standby, operation, failure, warning, exceeded the programmed inverter temperature
 - Programmable analogue outputs: frequency, rotational speed, output current, voltage, load, function blocks
- Built-in RFI filter – up to and including 18.5 kW
- Four motors can be stored in memory
- Interlock and diagnostic system
- Time measurement
- Defined sets of factory parameters
- Internally mounted LC filter



Chip Type MFC1000 400V	Constant moment load		Moment Variable Load		Overload current 60 sec. Every 10 min. [A]
	Motor power [kW]	Rated output current [A]	Motor power [kW]	Rated output current [A]	
MFC1000/ 75 kW	75,0	150,0	75,0	180,0	225,0
MFC1000/ 90 kW	90,0	180,0	90,0	210,0	270,0
MFC1000/ 110 kW	110,0	210,0	110,0	250,0	315,0
MFC1000/ 132 kW	132,0	250,0	132,0	310,0	375,0
MFC1000/ 160 kW	160,0	310,0	160,0	375,0	465,0
MFC1000/ 200 kW	200,0	375,0	200,0	465,0	570,0
MFC1000/ 250 kW	250,0	465,0	250,0	465,0	690,0
MFC1000/ 315 kW	315,0	585,0	315,0	650,0	850,0
MFC1000/ 355 kW	355,0	650,0	355,0	730,0	940,0
MFC1000/ 400 kW	400,0	730,0	400,0	730,0	1100,0
MFC1000/ 450 kW	450,0	820,0	450,0	910,0	1190,0
MFC1000/ 500 kW	500,0	910,0	500,0	1020,0	1365,0
Power	U _{IN} voltage		MFC1000 400 V: 3-phase (-15% +10%), 45-60 Hz MFC1000 500 V: 3-phase (-15% +10%), 45-60 Hz MFC1000 690 V: 3-phase (-15% +10%), 45-60 Hz		
Egress	Voltage/Frequency		0-U _{IN} / 0.0-400 Hz (0.0-200 Hz in vector mode)		
	Resolution		0,1 Hz / 1 obr/min		
Driver	Operating Mode		Scalar V/f: linear or quadratic characteristic		
	Switching frequency		Vector DTC-SVM: sensorless or with angular position sensor		
	Analog inputs		2..15 kHz (range depends on power rating)		
Control inputs/outputs	Digital Inputs		5 analog inputs		
	Analog Outputs		Up to 40 inputs		
	Relay outputs		Up to 12 analog outputs		
			Up to 11 relay outputs		

Inverter data for 500V and 690V supply voltages as well as AcR designs are available on request

For more detailed information, please contact us. The data provided is subject to change without notice. Frequency converters for 3x400V and 3x500V with a power of up to and including 18.5 kW have a braking transistor built in as standard. Other devices are equipped with a braking transistor only if this is clearly indicated when ordering. After the converter is manufactured, it is not possible to add a braking transistor.



ORDER CODE – HOW TO CONFIGURE THE ORDER

(please tick the appropriate boxes and write down the symbol of the ordered device according to the pattern under the table)

MFC1000 – [1] – [2] – [3] – [4] – [5] – [6]

[1]: – power [kW]

[2]: – voltage [V]

[3]: – braking

0 – without braking transistor

H – with braking transistor

[4]: - return of energy to the power grid

0 – no energy return to the mains

ACR – inverter with return of energy to the power supply network

[5]: - input filter

0 – the order does not include an external input filter

1 – the order includes an external input filter – the specification is agreed upon when placing the order

[6]: - output filter

0 – the order does not include an external output filter

1 - the order includes an external output filter – the specification is agreed upon when placing the order

An example of how to configure a symbol to place an order:

90 kW circuit with 400V power supply, without braking transistor, with energy return to the mains, with input filter, without output filter:

MFC1000 90 – 400 – 0 – ACR – 1 – 0