MFC710

Vector Frequency Converter

0,37 - 500 kW

400 V

- Input: 3 x 400 V, 45 – 66 Hz
- Output: 0 – 400Hz, 3 x 400 V
- Operation mode: **U/f** (linear, exponential),
  Vector (sensor/sensorless)
- Switching frequency: **1..15 kHz**, also random carrier
- Operation control **LCD panel** (removable)
- Build-in **PLC controller**
- Build-in **reeling calculator**
- Build-in **pump/fan controller**
- Internal **PID regulator**
- Build-in communication module **RS-232/RS-485 (MODBUS)**
- Programmable **constant speeds**
- **Motopotentiometer functions**
- Build-in **incremental encoder interface** (line driver 5V)
- Resonance **frequencies elimination**
- Definable type of **speed curves** (linear, "S" curve)
- Operating with **torque control mode**
- **Motor parameters identification**

- **Programmable structure:**
  - **Switchable variants of control** (A,B)
  - **Speed setting** from: control panel, analog inputs, PID regulator, motopotentiometer, function block, RS-232/RS-485
  - **Torque setting** from: analog inputs, function block
  - **START/STOP & direction control** from: control panel, digital inputs, function block, RS-232/RS-485
  - **Programmable digital inputs:** start, direction, blockade, external fault, external fault reset
  - **Programmable digital outputs** (3 relays and 1 open collector): ready, operating, fault, non-fault, warning, heatsink overheating, set speed value achieved, current limitation, function block
  - **Programmable analog outputs:** frequency, speed, output current, output voltage, load, function block
- **Total worktime counter**
- **Blockades and diagnostics system**
- System of control panel **security codes**
- Build-in **RFI filter** (up to 18,5 kW)
- Store up to **4 sets of motor parameters**
- **Predefined factory settings** for the most typical applications

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TECHNICAL DATA:

Type	Constant torque Load		Pump & Fan Load		Overcurrent 60 s. every 10 min. [A]	Dimensions (H x W x D) [mm]
	Rated motor power [kW]	Rated output current [A]	Rated motor power [kW]	Rated output current [A]		
MFC710/0,37kW	0,37	1,5	0,55	2,0	2,25	114x267x154
MFC710/0,55kW	0,55	2,0	0,75	2,5	3,0	114x267x154
MFC710/0,75kW	0,75	2,5	1,1	3,5	3,75	114x267x154
MFC710/1,1kW	1,1	3,5	1,5	4,0	5,25	114x267x154
MFC710/1,5kW	1,5	4,0	2,2	5,5	6,0	114x267x154
MFC710/2,2kW	2,2	5,5	3,0	7,8	8,3	114x267x154
MFC710/3kW	3,0	7,8	4,0	9,5	11,7	114x267x154
MFC710/4kW	4,0	9,5	4,0	9,5	15,8	114x267x154
MFC710/5,5kW	5,5	12,0	7,5	16,0	18,0	130x337x188
MFC710/7,5kW	7,5	17,0	11,0	23,0	25,0	130x337x188
MFC710/11kW	11,0	24,0	15,0	29,0	36,0	130x337x223
MFC710/15kW	15,0	30,0	18,0	37,0	45,0	130x337x223
MFC710/18,5kW	18,5	39,0	18,5	39,0	60,0	130x337x223
MFC710/22kW	22,0	45,0	30,0	60,0	68,0	220x450x225
MFC710/30kW	30,0	60,0	37,0	75,0	90,0	225x600x247
MFC710/37kW	37,0	75,0	45,0	90,0	112,0	225x600x247
MFC710/45kW	45,0	90,0	55,0	110,0	135,0	256x615x266
MFC710/55kW	55,0	110,0	75,0	150,0	165,0	256x615x266
MFC710/75kW	75,0	150,0	90,0	180,0	225,0	256x615x266
MFC710/90kW	90,0	180,0	110,0	210,0	270,0	283x865x400
MFC710/110kW	110,0	210,0	132,0	250,0	315,0	283x865x400
MFC710/132kW	132,0	250,0	160,0	310,0	375,0	460x920x345
MFC710/160kW	160,0	310,0	180,0	375,0	465,0	460x920x345
MFC710/200kW	200,0	375,0	250,0	465,0	570,0	460x920x345
MFC710/250kW	250,0	465,0	250,0	465,0	690,0	460x920x345
MFC710/315kW	315,0	585,0	355,0	650,0	850,0	640x940x345
MFC710/355kW	355,0	650,0	400,0	730,0	940,0	640x940x345
MFC710/400kW	400,0	730,0	400,0	730,0	1100,0	640x940x345
MFC710/450kW	450,0	820,0	500,0	910,0	1190,0	800x1127x345
MFC710/500kW	500,0	910,0	560,0	1020,0	1365,0	800x1127x345

Power supply	Voltage U_{IN} / frequency	three-phase power: 400 V -15% +10% / 45-66 Hz
Output	Voltage / frequency	0-U_{IN} / 0,0-400 Hz
	Frequency resolution	0,01 Hz (vector)
Control system	Operation mode	scalar U/f (linear / exponential) vector DTC-SVM sensorless vector DTC-SVM with sensor
	Switching frequency	2...15 kHz, also random carrier frequency
Digital inputs/outputs	Analog inputs	3 separated analog inputs 0(2)...10 V / 0(4)...20 mA mode & polarization set by jumpers, resolution 10 bit, accuracy 0.5% of the full range
	Digital inputs	6 separated digital inputs 0/(15...24) V
	Analog outputs	2 separated analog outputs 0(2)...10 V / 0(4)...20 mA – configuration by parameters & jumpers, accuracy 0.5% of the full range. Fully programmable signal source
	Digital outputs	3 relays output K1, K2 and K3, breaking capacity: 250 V / 1 A (AC) 1 open collector output 100 mA / 24 V. Fully programmable signal source
Protection	Overcurrent	3.5 I_N instantaneous value 2.5 I_N effective value
	Overvoltage	1.47 U_{IN} (U_{IN} = 400 V) AC U_{DC} > 750 V DC
	Undervoltage	0,65 U_{IN}
	Device thermal protection	Heat sensor
	Motor thermal protection	I^2t limit, motor heat sensor
	Communication with control panel	Max. time lack of communication (definable)
	RS communication	Max. time lack of communication (definable)
	Analog inputs control	Control of "living zero" in modes 2...10 V & 4...20 mA
	Load symmetry control	

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