emotioninmotion

FROM ABILITY TO PASSION

Drive Motor

Catalogue

EN

ORANGE1
HOLDING

A dynamic, strong and ambitious Group:

Orange1 Holding is an international renown Group, one of the most important European manufacturers of single-phase and three-phase asynchronous electric motors. It has an annual capacity of more than 1 million motors and 5 million electric stators with an annual turnover of approx 150 million euro and more than 1000 workers in 9 production facilities. The group, established in 1971 by Leone Donazzan, chaired today by his son Armando Donazzan, is strongly focused on technological innovation, performance and customization to meet individual clients requirements. As a group of 10 companies it has a powerful advantage: the strength in numbers.

emotioninmotion

EMOTIONinMOTION, member of Orange1 Holding since 2015, is a flexible business division capable to offer customized and integrated solutions.

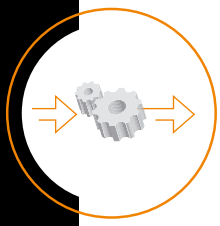
It improves its product's range with variable frequency drives "plug & play" in addition of the general purpose drives, which can be fitted to AC and DC motors, stepper and brushless motor. Drives can be installed either in control panels or directly on the motor. Drives are designed to meet the requirements of an extensive range of machinery applications. The VFD are suitable for automotive, textile, car wash, homelift and tyre changer industries. The division EMOTIONinMOTION custom makes solutions according to the specific applications as from material handling, packaging, hydraulic systems to photovoltaic technology ad many others. For ventilation and aspiration kits an appropriate range is available. EMOTIONinMOTION range of products has a simple user interface and a management software.

Drives for AC motors

The AC Drive is an electronic device designed to convert direct current DC power input into alternating current output.
This device is mainly used for two reasons:

1. to change the frequency of the asynchronous electric motors in industrial application. Without the VFD these motors will run with constant speed as they get a constant frequency (50 Hz in Europe)

2. to convert the direct current of renewable energy systems to alternating current output to be sold to the National electricity network. This is a typical domestic application.



VFD with plc integrated

VFD integrated into the motor

VFD with PFC

VFD for industrial Photovoltaic

VFD low voltage

Combi VFD

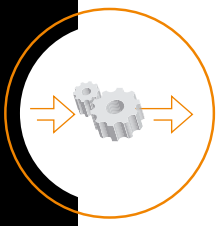
Drives for PM motors

PM Drive is an electronic device having AC Drive functions with higher performance on firmware and hardware.
The Pm motors have mainly three advantages:

1. Smaller dimensions

2. It's a synchronous motor , it accomplishes strictly the orders of the drive in terms of torque, acceleration and deceleration according to the application.

3. Top efficiency makes it perfect to meet the efficiency norms.



VFD with plc integrated

VFD integrated into the motor

VFD with PFC

VFD low voltage

Inverter codification

X 01 07 2 0 1 02 000

DIVISION	
X	Emotion In Motion

INVERTER TYPE	
01	EM01 Premium
02	EM02 Premium
03	EM03 Premium
04	EM04 Premium
05	EM05 Premium
06	EM06 Premium
08	EM08 Premium
09	EM09 Premium
11	EM11 Master
12	EM12 Master
13	EM13 Master
21	EM21 Executive
22	EM22 Executive
31	EM31 Excellence
32	EM32 Excellence
33	EM33 Excellence
41	EM41 Distinctive
42	EM42 Distinctive
61	EM61 Future

POWER	
04	0,4 kW
06	0,6 kW
07	0,75 kW
08	0,8 kW
11	1,1 kW
15	1,5 kW
22	2,2 kW
30	3,0 kW
37	3,7 kW
55	5,5 kW
75	7,5 kW
A1	11 kW
A5	15 kW
A8	18 kW
B2	22 kW
C0	30 kW
Z1	0,4 + 2,2 kW
Z2	0,7 + 2,2 kW
Z3	1,1 + 2,2 kW
Z4	1,5 + 2,2 kW
Z5	0,4 + 0,7 kW
Z6	0,4 + 1,5 kW
Z7	0,7 + 1,5 kW
Z8	0,7 + 2,2 kW

INPUT VOLTAGE (Vin)	
0	Vin < 110V
1	110 single phase 50/60Hz
2	230 single phase 50/60Hz
3	230 three phase 50/60Hz
4	400 three phase 50/60Hz

CUSTOMIZATION	
n,n,n	SW and/or HW customization

OPTIONS	
00	
E0	EIM000
01	MART207A
02	MART238
03	MART223
04	MART273
05	F105
06	F110
07	F310
08	MART38
09	MART184
10	MART186A
11	MART185A
12	B1
13	B3
15	HMI-G
16	P1
17	S1
18	HMI7S
19	HMI7S-P1
20	S1-P1
21	.....

EXECUTION	
0	IP00
1	IP00 with heat-sink
2	IP20
4	IP54
5	IP55
6	IP65

CONTROL METHOD	
0	V/F
1	Vectorial sensorless
2	Vectorial sensored-type encoder
4	Vectorial sensored-type tachimeter
5	Permanent magnet
6	Brushless sensorless
7	Brushless with encoder
8	Brushless with Hall probe
9	V/F or Vectorial sensorless

Synoptic table

	Description	Products																	
												ON DEMAND							
		EM01	EM02	EM03	EM04	EM05	EM06	EM08	EM09	EM11	EM12	EM13	EM21	EM22	EM31	EM32	EM33	EM41	EM42	EM61
Motor	Inverter for three phase asynchronous motor	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓			
	Inverter for 2 three phase asynchronous motors																	✓	✓	
	Drive for Brushless motor-PM motor							✓	✓											✓
Power supply	Power supply: Input 230V single phase Output 230V three phase	✓			✓	✓	✓	✓		✓			✓	✓	✓			✓	✓	✓
	Power supply: Input 400V three phase Output 400V three phase		✓	✓					✓		✓	✓				✓	✓			
Standard configuration	3 digital input NPN (multifunctional optoinsulated); 1 serial TTL (proprietary protocol)	✓	✓	✓	✓	✓	✓	✓	✓											✓
	4 Digital Input PNP or NPN (12V) or self-powered; Kyebaord + Potentiometer									✓	✓									
	6 Digital Input PNP or NPN; 2 Digital Output; 1 Output relè (dry contact); 2 Analog Input 0-5Vdc or 4-20mA or 0-10Vdc; 1 Analog Output (0-10V); 1 serial TTL (proprietary protocol); 1 serial RS485-IN/OUT; Brake supply (180Vdc-single wave); 2 dipswitch for setting											✓								
	6 Digital Input PNP; 4 Output Digital PNP; 1 Analog Input 0-5Vdc or 4-20mA or 0-10Vdc; 2 serial RS485												✓	✓						
	3 digital input NPN; serial TTL and RS485- Multi														✓	✓				
	3 Input Digital NPN; serial RS485; RS485-Multi																✓			
	6 digital input PNP; 6 Output (dry contact); Braking resistence 4 Anolog Input (4-20mA or 0-5Vdc or 0-10Vdc); 1 Serial TTL (proprietary protocol)																	✓		
	11 digital input; 2 analog input; STO																		✓	
	5 digital input PNP o NPN (multifunctional optoinsulated); 11 Analog Input (0-5Vdc or 4-20mA, or 0-10Vdc); 3 relè output (dry contact); 1 output open collector																			✓

Options	Description	Products																		
												ON DEMAND								
		EM01	EM02	EM03	EM04	EM05	EM06	EM08	EM09	EM11	EM12	EM13	EM21	EM22	EM31	EM32	EM33	EM41	EM42	EM61
MBM207A	2 Analog Input (setting 0÷5Vdc/0÷10Vdc/4÷20mA) ; 1 Output (Relè-dry contact)	✓	✓	✓	✓	✓	✓	✓	✓											
MART238	2 Analog Input (setting 0÷5Vdc/0÷10Vdc/4÷20mA); 1 Output (Relè-dry contact); 1 Analog output 0÷5Vdc/0÷10Vdc (setting: default frequency); Serial RS485 (Cable)	✓	✓	✓	✓			✓	✓											
MART223	4 Digital Output; 2 Analog Input	✓	✓	✓	✓			✓	✓						✓	✓	✓			
MART273	4 Digital Output (relè); 2 Aanalog Input; Serial RS485		✓	✓	✓			✓	✓											
MBM142	2 Analog Input (setting 0÷5Vdc/0÷10Vdc/4÷20mA); 3 Digital Input; 1 Output (Relè-dry contact); Serial RS485																		✓	
MBM206A	2 Output (Relè-dry contact); Serial TTL (proprietary protocol)																		✓	
MART213	5 Output 24Vac-1A(relè); 1 Output 24Vdc-2A (relè); 1 Output 230V-5A (Triac); 1 Serial TTL (proprietary protocol)																		✓	
MBM38	6 digital Input-4 digital output; 2 step motors (0,5A e 2,5A)												✓							
MBM184	1relè 230V-3A; 1 Analog Input (0-5Vdc or 4-20mA, or 0-10Vdc); 1 Analog Output									✓	✓									
MBM186A	1 serial RS485									✓	✓									
MART185A	1 serial Can Bus									✓	✓									
EIM000	Encoder: push-pull or NPN or open collector						✓	✓							✓					
MBM210A	Encoder absolute SSI-Endat																			✓
F105	Internal filter; C2 Category-upto 1,1kW- 230V Single Phase; up to 5A	✓			✓				✓											
F110	Internal filter; C2 Category- upto 2,2kW- 230V Single Phase; up to 10A	✓			✓				✓											
F310	Internal filter; C2 Category- upto 3,7kW- 400V Three Phase; up to 10A		✓					✓												
B1	Brake (230V): external resistence and/or DC electrical brake				✓				✓											
B3	Brake (400V): external resistence and/or DC electrical brake		✓	✓				✓												
P1	Potentiometer - 10kOhm	✓	✓		✓	✓	✓	✓	✓											
S1	Toogle Switch	✓	✓	✓	✓	✓	✓	✓	✓											
P1-S1	Potentiometer 10kOhm; Toogle Switch	✓	✓		✓															
HMI7S	Display 7 segments; 4 buttons for comands and setting	✓	✓		✓			✓	✓											
HMI7S-P1	Display 7 segments; 4 buttons for comands and setting; Potentiometer-10kOhm	✓	✓		✓			✓	✓											
HMI-8LCD	Display LCD-8 buttons												✓	✓					✓	✓
HMI-18LCD	Display LCD-18 buttons												✓	✓					✓	✓
HMI-G	LCD grafico (64x128 dot) with Eeprom and clock circuit				✓			✓	✓						✓	✓	✓			

EM01 Premium

All in One - 230Vac VFD
Asynchronous motor
Protection IP54

	CODE (PARTIAL)			X0104...	X0107 ...	X0111...	X0115...	X0122...
STANDARD	INPUT ELECTRICAL DATA	Vin- type		Single phase				
		Voltage input (Vin)	V	230 ± 15%				
		Frequency input	Hz	47 ÷ 63				
		Input protection		None				
	OUTPUT ELECTRICAL DATA	Output Power	kW	0,4	0,75	1,1	1,5	2,2
		Output Current	(A)	1,7	3,2	4,7	6,5	9,5
		Opertations mode		S1	S1	S1	S2/S3	S2/S3
		Output Voltage	V	0 ÷ Vin				
		Output Voltage		Three phase				
		Frequency Output	Hz	0 ÷ 200 Hz				
	PERFOMANCE DATA	Switching mode		PWM- V/F linear				
		Switching Frequency	KHz	4 (default)				
		Frequency Resolution	Hz	0,1				
		Range voltage of Boost	%	0 ÷ 20				
	SIGNALS DATA	Signals: input		3 digital input NPN (multifunctional optoinsulated)				
		Connections		1 serial TTL (proprietary protocol)				
	SETTING DATA	Acceleration time	s	0,1 ÷ 99,9				
		Deceleration time	s	0,1 ÷ 99,9				
		Protections		Over voltage –Under voltage - Over current- Overload (I^2xt) –Over temperature				
		Over Voltage range	%	100 ÷ 150 (200% for 1s)				
		Brake Energy Management		Direct input CC only ramp				
	GENERAL DATA	Box type (see drawings)		A	A	A	B	B
		Cooling system		Natural				
		Working temperature	°C	-5 / 45				
		Storage temperature	°C	-15 / +80				
		Relative humidity	%	20 ÷ 85 (No condensation)				
		EMC rate		Class A ; category C3				

OPTIONS	PERFORMANCE	MBM207A	2 Analog Input (setting 0÷5Vdc/0÷10Vdc/0÷20mA ; 1 relè (dry contact) 230V-1A or 24V-3A
		MART238	1 Analog input 0÷5Vdc; 1 Digital Output; 1 Analog outpu; Serial RS485
		MART223	4 Digital Output; 2 Analog Input
	BUILT-IN CONTROL	P1	Potentiometer - 10kOhm
		S1	Toogle switch
		HMI7S	Display 7 segments; 4 buttons for comands and setting
		HMI7S-P1	Display 7 segments; 4 buttons for comands and setting; Potentiometer-10kOhm
		P1-S1	Potentiometer-10kOhm ; Toogle switch
	REMOTE CONTROL SYSTEM	HMI7S-Box	Display 7 segments; 4 buttons for comands and setting
	EMC LINE FILTER	F105	Internal filter; C2 Category-upto 1,1kW- 230V Single Phase; up to 5A
		F110	Internal filter; C2 Category- upto 2,2kW- 230V Single Phase; up to 10A

EM02 Premium

All in One - 400Vac VFD
Asynchronous motor
Protection IP54

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	CODE (PARTIAL)			X0207...	X0215...	X0222...	X0230...
STANDARD	INPUT ELECTRICAL DATA	Vin- type		Three phase			
		Voltage input (Vin)	V	400 ± 15%			
		Frequency input	Hz	47 ÷ 63			
		Input protection		None			
	OUTPUT ELECTRICAL DATA	Output Power	kW	0,75	1,5	2,2	3
		Output Current	(A)	1,8	3,75	5,5	7,5
		Opertations mode		S1	S1	S1	S1
		Output Voltage	V	0 ÷ Vin			
		Output Voltage		Three phase			
		Frequency Output	Hz	0 ÷ 200 Hz			
	PERFOMANCE DATA	Switching mode		PWM-V/F linear or Vectorial sensorless			
		Switching Frequency	KHz	4(default)÷14 (V/F) / 4(default)÷8 (Vectorial)			
		Frequency Resolution	Hz	0,1			
		Range voltage of Boost	%	0 ÷ 20			
	SIGNALS DATA	Signals: input		3 digital input NPN (multifunctional optoinsulated)			
		Connections		1 serial TTL (proprietary protocol)			
	SETTING DATA	Acceleration time	s	0,1 ÷ 99,9			
		Deceleration time	s	0,1 ÷ 99,9			
		Protections		Over voltage –Under voltage - Over current- Overload (I^2xt) –Over temperature			
		Over Voltage range	%	100 ÷ 150 (200% for 1s)			
		Brake Energy Management		Direct input CC only ramp			
	GENERAL DATA	Box type (see drawings)		B	B	B	B
		Cooling system		Natural			
		Working temperature	°C	-5 / 45			
		Storage temperature	°C	-15 / +80			
		Relative humidity	%	20 ÷ 85 (No condensation)			
		EMC rate		Class A ; category C3			

OPTIONS	PERFORMANCE	MBM207A	2 Analog Input (setting 0÷5Vdc/0÷10Vdc/0÷20mA ; 1 relè (dry contact) 230V-1A or 24V-3A
		MART238	1 Analog input 0÷5Vdc; 1 Digital Output; 1 Analog output; Serial RS485
		MART223	4 Digital Output; 2 Analog Input
		MART273	4 Digital Output (relè); 2 Aanalog Input; Serial RS485
	BUILT-IN CONTROL	P1	Potentiometer - 10kOhm
		S1	Toogle Switch
		HMI7S	Display 7 segments; 4 buttons for comands and setting
		HMI7S-P1	Display 7 segments; 4 buttons for comands and setting; Potentiometer-10kOhm
		P1-S1	Potentiometer-10kOhm ; Toogle switch
	BRAKE SYSTEM	B3 (400V)	Brake (400V): external resistence and/or DC electrical brake
	REMOTE CONTROL SYSTEM	HMI7S-Box	Display 7 segments; 4 buttons for comands and setting
	EMC LINE FILTER	F310	Internal filter; C2 Category- 400V Three Phase; up to 10A

EM03 Premium

All in One
400Vac High Power VFD
Asynchronous motor
Protection IP54

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	CODE (PARTIAL)			X0337...	X0355...	X0375
STANDARD	INPUT ELECTRICAL DATA	Vin- type		Three phase		
		Voltage input (Vin)	V	400 ± 15%		
		Frequency input	Hz	47 ÷ 63		
		Input protection		None		
	OUTPUT ELECTRICAL DATA	Output Power	kW	3,7	5,5	7,5
		Output Current	(A)	9,2	13,7	18,7
		Opertations mode		S1	S1	S2/S3
		Output Voltage	V	0 ÷ Vin		
		Output Voltage		Three phase		
		Frequency Output	Hz	0 ÷ 200 Hz		
	PERFOMANCE DATA	Switching mode		PWM-V/F linear or Vectorial sensorless or		
		Switching Frequency	KHz	4(default)÷14 (V/F); 4(default)÷8 (Vectorial)		
		Frequency Resolution	Hz	0,1		
		Range voltage of Boost	%	0 ÷ 20		
	SIGNALS DATA	Signals: input		3 digital input NPN (multifunctional optoinsulated)		
		Connections		1 serial TTL (proprietary protocol)		
	SETTING DATA	Acceleration time	s	0,1 ÷ 99,9		
		Deceleration time	s	0,1 ÷ 99,9		
		Protections		Over voltage –Under voltage - Over current- Overload (I^2xt) –Over temperature		
		Over Voltage range	%	100 ÷ 150 (200% for 1s)		
		Brake Energy Management		Direct input CC only ramp		
		Brake Energy Management Hight Inertia		None		
	GENERAL DATA	Box type (see drawings)		C	C	C
		Cooling system		NATURAL		FORCED
		Working temperature	°C	-5 / 45		
		Storage temperature	°C	-15 / +80		
		Relative humidity	%	20 ÷ 85 (No condensation)		
		EMC rate		Class A ; category C3		

OPTIONS	PERFORMANCE	MBM207A	2 Analog Input (setting 0÷5Vdc/0÷10Vdc/0÷20mA ; 1 relè (dry contact) 230V-1A or 24V-3A
		MART238	1 Analog input 0÷5Vdc; 1 Digital Output; 1 Analog output; Serial RS485
		MART223	4 Digital Output; 2 Analog Input
		MART273	4 Digital Output (relè); 2 Aanalog Input; Serial RS485
	BRAKE SYSTEM	B3 (400V)	Brake (400V): external resistence and/or DC electrical brake
	REMOTE CONTROL SYSTEM	HMI7S-Box	Display 7 segments; 4 buttons for comands and setting
	EMC LINE FILTER	F310	Internal filter; C2 Category- 400V Three Phase; up to 10A

EM04 Premium

All in One
230Vac vectorial sensorless VFD
Asynchronous motor
Protection IP54

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	CODE (PARTIAL)			X0404...	X0407 ...	X0411...	X0415...	X0422...
STANDARD	INPUT ELECTRICAL DATA	Vin- type		Single phase				
		Voltage input (Vin)	V	230 ± 15%				
		Frequency input	Hz	47 ÷ 63				
		Input protection		None				
	OUTPUT ELECTRICAL DATA	Output Power	kW	0,4	0,75	1,1	1,5	2,2
		Output Current	(A)	1,8	3,4	5	6,8	10
		Opertations mode		S1	S1	S1	S2/S3	S2/S3
		Output Voltage	V	0 ÷ Vin				
		Output Voltage		Three phase				
		Frequency Output	Hz	0 ÷ 200 Hz				
	PERFOMANCE DATA	Switching mode		PWM-V/F linear or Vectorial sensorless				
		Switching Frequency	KHz	4(default)÷14 (V/F); 4(default)÷8 (Vectorial)				
		Frequency Resolution	Hz	0,1				
		Frequency Precision	%	0,1 (digital)- 0,1 (analog)				
		Range voltage of Boost	%	0 ÷ 20				
	SIGNALS DATA	Signals: input		3 digital input NPN (multifunctional optoinsulated)				
		Connections		1 serial TTL (proprietary protocol)				
	SETTING DATA	Acceleration time	s	0,1 ÷ 99,9				
		Deceleration time	s	0,1 ÷ 99,9				
		Protections		Over voltage –Under voltage - Over current- Overload (I^2xt) –Over temperature				
		Over Voltage range	%	100 ÷ 150 (200% for 1s)				
		Brake Energy Management		Direct input CC only ramp				
	GENERAL DATA	Box type (see drawings)		A	A	A	B	B
		Cooling system		Natural				
		Working temperature	°C	-5 / 45				
		Storage temperature	°C	-15 / +80				
		Relative humidity	%	20 ÷ 85 (No condensation)				
		EMC rate		Class A ; category C3				

OPTIONS	PERFORMANCE	MBM207A	2 Analog Input (setting 0÷5Vdc/0÷10Vdc/0÷20mA ; 1 relè (dry contact) 230V-1A or 24V-3A
		MART238	1 Analog input 0÷5Vdc; 1 Digital Output; 1 Analog outpu; Serial RS485
		MART223	4 Digital Output; 2 Analog Input
	BUILT-IN CONTROL	P1	Potentiometer - 10kOhm
		S1	Toogle Switch
		HMI7S	Display 7 segments; 4 buttons for comands and setting
		HMI7S-P1	Display 7 segments; 4 buttons for comands and setting; Potentiometer-10kOhm
		P1-S1	Potentiometer-10kOhm; Toogle Switch
	BRAKE SYSTEM	B1 (230V)	Brake (230): external resistence and/or DC electrical brake
	REMOTE CONTROL SYSTEM	HMI7S-Box	Display 7 segments; 4 buttons for comands and setting
	EMC LINE FILTER	F105	Internal filter; C2 Category-upto 1,1kW- 230V Single Phase; up to 5A
		F110	Internal filter; C2 Category- upto 2,2kW- 230V Single Phase; up to 10A

EM05 Premium

SmAll in One
Tiny 230Vac VFD
Asynchronous motor
Protection IP54

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	CODE (PARTIAL)			X0504...	X0507 ...	X0511...	X0515...	X0522...
STANDARD	INPUT ELECTRICAL DATA	Vin- type		Single phase				
		Voltage input (Vin)	V	230 ± 15%				
		Frequency input	Hz	47 ÷ 63				
		Input protection		None				
	OUTPUT ELECTRICAL DATA	Output Power	kW	0,4	0,75	1,1	1,5	2,2
		Output Current	(A)	1,7	3,2	4,7	6,5	9,5
		Opertations mode		S1	S1	S1	S2/S3	S2/S3
		Output Voltage	V	0 ÷ Vin				
		Output Voltage		Three phase				
		Frequency Output	Hz	0 ÷ 200 Hz				
	PERFOMANCE DATA	Switching mode		PWM- V/F linear				
		Switching Frequency	KHz	4 (default)				
		Frequency Resolution	Hz	0,1				
		Range voltage of Boost	%	0 ÷ 20				
	SIGNALS DATA	Signals: input		3 digital input NPN (multifunctional optoinsulated)				
		Connections		1 serial TTL (proprietary protocol)				
	SETTING DATA	Acceleration time	s	0,1 ÷ 99,9				
		Deceleration time	s	0,1 ÷ 99,9				
		Protections		Over voltage –Under voltage - Over current- Overload (I^2xt) –Over temperature				
		Over Voltage range	%	100 ÷ 150 (200% for 1s)				
		Brake Energy Management		Direct input CC only ramp				
	GENERAL DATA	Box type (see drawings)		D	E	E	F	F
		Cooling system		Natural				
		Working temperature	°C	-5 / 45				
		Storage temperature	°C	-15 / +80				
		Relative humidity	%	20 ÷ 85 (No condensation)				
		EMC rate		Class A ; category C3				

OPTIONS	PERFORMANCE	MBM207A	2 Analog Input (setting 0÷5Vdc/0÷10Vdc/0÷20mA ; 1 relè (dry contact) 230V-1A or 24V-3A
	BUILT-IN CONTROL	P1	Potentiometer - 10kOhm
		S1	Toogle switch
	REMOTE CONTROL SYSTEM	HMI7S-Box	Display 7 segments; 4 buttons for comands and setting

EM06 Premium

SmAll in One
Tiny 230Vac vectorial sensorless VFD
Asynchronous motor
Protection IP54

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STANDARD	CODE (PARTIAL)			X0604...	X0607 ...	X0611...	X0615...	X0622...
	INPUT ELECTRICAL DATA	Vin- type		Single phase				
		Voltage input (Vin)	V	230 ± 15%				
		Frequency input	Hz	47 ÷ 63				
		Input protection		None				
	OUTPUT ELECTRICAL DATA	Output Power	kW	0,4	0,75	1,1	1,5	2,2
		Output Current	(A)	1,8	3,4	5	6,8	10
		Opertations mode		S1	S1	S1	S2/S3	S2/S3
		Output Voltage	V	0 ÷ Vin				
		Output Voltage		Three phase				
		Frequency Output	Hz	0 ÷ 200 Hz				
	PERFOMANCE DATA	Switching mode		PWM-V/F linear or Vectorial sensorless				
		Switching Frequency	KHz	4(default)÷14 (V/F); 4(default)÷8 (Vectorial)				
		Frequency Resolution	Hz	0,1				
		Frequency Precision	%	0,1 (digital)- 0,1 (analog)				
		Range voltage of Boost	%	0 ÷ 20				
	SIGNALS DATA	Signals: input		3 digital input NPN (multifunctional optoinsulated)				
		Connections		1 serial TTL (proprietary protocol)				
	SETTING DATA	Acceleration time	s	0,1 ÷ 99,9				
		Deceleration time	s	0,1 ÷ 99,9				
		Protections		Over voltage –Under voltage - Over current- Overload (I^2xt) –Over temperature				
		Over Voltage range	%	100 ÷ 150 (200% for 1s)				
		Brake Energy Management		Direct input CC only ramp				
	GENERAL DATA	Box type (see drawings)		D	E	E	F	F
		Cooling system		Natural				
		Working temperature	°C	-5 / 45				
		Storage temperature	°C	-15 / +80				
		Relative humidity	%	20 ÷ 85 (No condensation)				
		EMC rate		Class A ; category C3				

OPTIONS			
	PERFORMANCE	MBM207A	2 Analog Input (setting 0÷5Vdc/0÷10Vdc/0÷20mA ; 1 relè (dry contact) 230V-1A or 24V-3A
	BUILT-IN CONTROL	P1	Potentiometer - 10kOhm
		S1	Toogle Switch
	REMOTE CONTROL SYSTEM	HMI7S-Box	Display 7 segments; 4 buttons for comands and setting

EM08 Premium

Brushless drive
Sensorless or sensored 400Vac
Protection IP54

emotioninmotion

	CODE (PARTIAL)			X0807...	X0815...	X0822...	X0830...
STANDARD	INPUT ELECTRICAL DATA	Vin- type		Three phase			
		Voltage input (Vin)	V	400 ± 15%			
		Frequency input	Hz	47 ÷ 63			
		Input protection		None			
	OUTPUT ELECTRICAL DATA	Output Power	kW	0,75	1,5	2,2	3
		Output Current	(A)	1,8	3,75	5,5	7,5
		Opertations mode		S1	S1	S1	S1
		Output Voltage	V	0 ÷ Vin			
		Output Voltage		Three phase			
		Frequency Output	Hz	0 ÷ 200 Hz			
	PERFOMANCE DATA	Switching mode		AC Brushless: sensorless or sensored			
		Switching Frequency	KHz	10(default)÷16			
		Frequency Resolution	Hz	0,1			
	SIGNALS DATA	Signals: input		3 digital input NPN (multifunctional optoinsulated)			
		Connections		1 serial TTL (proprietary protocol)			
		Type trasducer only Brushless mode		Encoder: Push-Pull or open collector			
	SETTING DATA	Acceleration time	s	0,1 ÷ 99,9			
		Deceleration time	s	0,1 ÷ 99,9			
		Protections		Over voltage –Under voltage - Over current- Overload (I^2xt) –Over temperature			
		Over Voltage range	%	100 ÷ 150 (200% for 1s)			
		Brake Energy Management		Direct input CC only ramp			
		B3 (400V)		Brake: external resistence and/or DC electrical brake			
	GENERAL DATA	Box type (see drawings)		B	B	B	B
		Working temperature	°C	-5 / 45			
		Storage temperature	°C	-15 / +80			
		Relative humidity	%	20 ÷ 85 (No condensation)			
		Cooling system		Natural			
		EMC rate		Class A ; category C3			

OPTIONS	PERFORMANCE	MBM207A	2 Analog Input (setting 0÷5Vdc/0÷10Vdc/0÷20mA ; 1 relè (dry contact) 230V-1A or 24V-3A
		MART238	1 Analog input 0÷5Vdc; 1 Digital Output; 1 Analog output; Serial RS485
		MART223	4 Digital Output; 2 Analog Input
		MART273	4 Digital Output (relè); 2 Aanalog Input; Serial RS485
		B1	Braking external system
	BUILT-IN CONTROL	P1	Potentiometer - 10kOhm
		S1	Toogle Switch
		HMI7S	Display 7 segments; 4 buttons for comands and setting
		HMI7S-P1	Display 7 segments; 4 buttons for comands and setting; Potentiometer-10kOhm
		P1-S1	Potentiometer-10kOhm; Toogle Switch
	REMOTE CONTROL SYSTEM	HMI7S-Box	Display 7 segments; 4 buttons for comands and setting
	EMC LINE FILTER	F310	Internal filter; C2 Category- 400V Three Phase; up to 10A

EM09 Premium

Brushless drive
Sensorless or sensored 230Vac
Protection IP54

	CODE (PARTIAL)			X0904...	X0907 ...	X0911...	X0915...	X0922...
STANDARD	INPUT ELECTRICAL DATA	Vin- type		Single phase				
		Voltage input (Vin)	V	230 ± 15%				
		Frequency input	Hz	47 ÷ 63				
		Input protection		None				
	OUTPUT ELECTRICAL DATA	Output Power	kW	0,4	0,75	1,1	1,5	2,2
		Output Current	(A)	1,8	3,4	5	6,8	10
		Opertations mode		S1	S1	S1	S2/S3	S2/S3
		Output Voltage	V	0 ÷ Vin				
		Output Voltage		Three phase				
		Frequency Output	Hz	0 ÷ 200 Hz				
	PERFOMANCE DATA	Switching mode		AC Brushless: sensorless or sensored				
		Switching Frequency	kHz	10(default)÷16				
		Frequency Resolution	Hz	0,1				
	SIGNALS DATA	Signals: input		3 digital input NPN (multifunctional optoinsulated)				
		Connections		1 serial TTL (proprietary protocol)				
	SETTING DATA	Acceleration time	s	0,1 ÷ 99,9				
		Deceleration time	s	0,1 ÷ 99,9				
		Protections		Over voltage –Under voltage - Over current- Overload (I^2xt) –Over temperature				
		Over Voltage range	%	100 ÷ 150 (200% for 1s)				
		Brake Energy Management		Direct input CC only ramp				
	GENERAL DATA	Box type (see drawings)		A	A	A	B	B
		Cooling system		Natural				
		Working temperature	°C	-5 / 45				
		Storage temperature	°C	-15 / +80				
		Relative humidity	%	20 ÷ 85 (No condensation)				
		EMC rate		Class A ; category C3				

OPTIONS	PERFORMANCE	MBM207A	2 Analog Input (setting 0÷5Vdc/0÷10Vdc/0÷20mA ; 1 relè (dry contact) 230V-1A or 24V-3A
		MART238	1 Analog input 0÷5Vdc; 1 Digital Output; 1 Analog outpu; Serial RS485
		MART223	4 Digital Output; 2 Analog Input
	BUILT-IN CONTROL	P1	Potentiometer - 10kOhm
		S1	Toogle Switch
		HMI7S	Display 7 segments; 4 buttons for comands and setting
		HMI7S-P1	Display 7 segments; 4 buttons for comands and setting; Potentiometer-10kOhm
		P1-S1	Potentiometer-10kOhm; Toogle Switch
	BRAKE SYSTEM	B1 (230V)	Brake (230): external resistence and/or DC electrical brake
	REMOTE CONTROL SYSTEM	HMI7S-Box	Display 7 segments; 4 buttons for comands and setting
	EMC LINE FILTER	F105	Internal filter; C2 Category-upto 1,1kW- 230V Single Phase; up to 5A
		F110	Internal filter; C2 Category- upto 2,2kW- 230V Single Phase; up to 10A

EM11 Master

All in One
230Vac vectorial sensorless VFD
Asynchronous motor
Protection IP54

emotioninmotion

	CODE (PARTIAL)			X1104...	X1107 ...	X1111...	X1115...	X1122...
STANDARD	INPUT ELECTRICAL DATA	Vin- type		Single phase				
		Voltage input (Vin)	V	230 ± 15%				
		Frequency input	Hz	47 ÷ 63				
		Input protection		None				
	OUTPUT ELECTRICAL DATA	Output Power	kW	0,40	0,75	1,1	1,5	2,2
		Output Current	(A)	1,7	3,2	4,7	6,5	9,5
		Opertations mode		S1	S1	S1	S1	S1
		Output Voltage	V	0 ÷ Vin				
		Output Voltage		Three phase				
		Frequency Output	Hz	0 ÷ 200 Hz				
	PERFOMANCE DATA	Switching mode		Vectorial sensorless				
		Switching Frequency	kHz	5				
		Max Torque/Rated Torque	%	150 (200-1s)				
		Frequency Resolution	Hz	0,1				
		Frequency Precision	%	0,1 (digital)- 0,1 (analog)				
		Range voltage of Boost	%	0 ÷ 20				
	SIGNALS DATA	Signals: input		4 Digital Input PNP or NPN (12V) or self-powered				
		HMI7S		Display 7 segments; 4 buttons for comands and setting				
		P1		Potentiometer - 10kOhm				
	SETTING DATA	Acceleration time	s	0,1 ÷ 99,9				
		Deceleration time	s	0,1 ÷ 99,9				
		Protections		Over voltage –Under voltage - Over current- Overload (I^2xt) –Over temperature				
		Over Voltage range	%	100 ÷ 150 (200% for 1s)				
		Brake Energy Management		Direct input CC only ramp				
	GENERAL DATA	Box type (see drawings)		A	A	A	B	B
		Cooling system		Natural				
		Working temperature	°C	-5 / 45				
		Storage temperature	°C	-15 / +80				
		Relative humidity	%	20 ÷ 85 (No condensation)				
		EMC rate		Class A ; category C2				

OPTIONS	PERFORMANCE	MBM184	1relè 230V-3A; 1 Analog Input (0-5Vdc or 4-20mA, or 0-10Vdc); 1 Analog Output
		MBM186A	1 serial RS485 (proprietary protocol-Modbus compatible)
		MART185A	1 serial Can Bus (Propretary protocol)

EM12 Master

All in One
400Vac vectorial sensorless VFD
Asynchronous motor
Protection IP54

emotioninmotion

STANDARD

CODE (PARTIAL)			X1207...	X1215 ...	X1222...	X1230...	X1237...
INPUT ELECTRICAL DATA	Vin- type		Three phase				
	Voltage input (Vin)	V	400 ± 15%				
	Frequency input	Hz	47 ÷ 63				
	Input protection		None				
OUTPUT ELECTRICAL DATA	Output Power	kW	0,75	1,5	2,2	3	3,7
	Output Current	(A)	1,8	3,75	5,5	7,5	9,25
	Opertations mode		S1	S1	S1	S1	S2/S3
	Output Voltage	V	0 ÷ Vin				
	Output Voltage		Three phase				
	Frequency Output	Hz	0 ÷ 200 Hz				
PERFOMANCE DATA	Switching mode		Vectorial sensorless				
	Switching Frequency	kHz	5				
	Max Torque/Rated Torque	%	150 (200 for 1s)				
	Frequency Resolution	Hz	0,1				
	Frequency Precision	%	0,1 (digital)- 0,1 (analog)				
	Range voltage of Boost	%	0 ÷ 20				
SIGNALS DATA	Signals: input		4 Digital Input PNP or NPN (12V) or self-powered				
	HMI7S		Display 7 segments; 4 buttons for comands and setting				
	P1		Potentiometer - 10kOhm				
SETTING DATA	Acceleration time	s	0,1 ÷ 99,9				
	Deceleration time	s	0,1 ÷ 99,9				
	Protections		Over voltage –Under voltage - Over current- Overload (I^2xt) –Over temperature				
	Over Voltage range	%	100 ÷ 150 (200% for 1s)				
	Brake Energy Management		Direct input CC only ramp				
GENERAL DATA	Box type (see drawings)		B	B	B	B	B
	Cooling system		Natural				
	Working temperature	°C	-5 / 45				
	Storage temperature	°C	-15 / +80				
	Relative humidity	%	20 ÷ 85 (No condensation)				
	EMC rate		Class A ; category C2				

OPTIONS

PERFORMANCE	MBM184	1relè 230V-3A; 1 Analog Input (0-5Vdc or 4-20mA, or 0-10Vdc); 1 Analog Output
	MBM186A	1 serial RS485 (proprietary protocol-Modbus compatible)
	MART185A	1 serial Can Bus (Propretary protocol)

ON DEMAND

EM13 Master

Stand-alone vectorial sensorless VFD
Asynchronous motor
Protection IP00 with heat sink

emotioninmotion

	CODE (PARTIAL)			X1315...	X1322 ...	X1337...	X1355...	X1375...
STANDARD	INPUT ELECTRICAL DATA	Vin- type		Three phase				
		Voltage input (Vin)	V	400 ± 15%				
		Frequency input	Hz	47 ÷ 63				
		Input protection		None				
	OUTPUT ELECTRICAL DATA	Output Power	kW	1,5	2,2	3,7	5,5	7,5
		Output Current	(A)	3,75	5,5	9,25	13,75	18,75
		Opertations mode		S1	S1	S1	S1	S1
		Output Voltage	V	0 ÷ Vin				
		Output Voltage		Three phase				
		Frequency Output	Hz	0 ÷ 200 Hz				
	PERFOMANCE DATA	Switching mode		PWM-V/F linear or Vectorial sensorless				
		Switching Frequency	kHz	4				
		Max Torque/Rated Torque	%	150 (200 for 1s)				
		Frequency Resolution	Hz	0,1				
		Frequency Precision	%	0,1 (digital)- 0,1 (analog)				
		Range voltage of Boost	%	0 ÷ 20				
	SIGNALS DATA	Signals: input		6 Digital Input PNP or NPN; 2 Analog Input 0-5Vdc or 4-20mA or 0-10Vdc;				
		Signals: output		2 Digital Output; 1 Output relè (dry contact); 1 Analog Output (0-10V);				
		Connections		1 serial TTL (proprietary protocol); 1 serial RS485-IN/OUT				
		Dipswitch		2 dipswitch for setting				
	EXTERNAL BRAKE	Brake supply	V	180Vdc (single wave);				
	SETTING DATA	Acceleration time	s	0,1 ÷ 99,9				
		Deceleration time	s	0,1 ÷ 99,9				
		Protections		Over voltage –Under voltage - Over current- Overload (I^2xt) –Over temperature				
		Over Voltage range	%	100 ÷ 150 (200% for 1s)				
		Brake Energy Management		Direct input CC only ramp				
	GENERAL DATA	Dimension	mm	130x210xh80				
		Cooling system		Natural				
		Working temperature	°C	-5 / 45				
		Storage temperature	°C	-15 / +80				
		Relative humidity	%	20 ÷ 85 (No condensation)				
		EMC rate		Class A; category C2				

OPTIONS	HMI7S-BOX	Display 7 segments; 4 buttons for comands and setting

ON DEMAND

EM21 Executive

Stand-alone V/F 230Vac VFD
Asynchronous motor
Protection IP00 with heat sink

emotioninmotion

STANDARD	CODE (PARTIAL)			X2104...	X2107 ...	X2111...	X2115...	X2122...
	INPUT ELECTRICAL DATA	Vin- type		Single phase				
		Voltage input (Vin)	V	230 ± 15%				
		Frequency input	Hz	47 ÷ 63				
		Input protection		None				
	OUTPUT ELECTRICAL DATA	Output Power	kW	0,4	0,75	1,1	1,5	2,2
		Output Current	(A)	1,7	3,2	4,7	6,5	9,5
		Opertations mode		S1	S1	S1	S1	S1
		Output Voltage	V	0 ÷ Vin				
		Output Voltage		Three phase				
		Frequency Output	Hz	0 ÷ 200 Hz				
	PERFOMANCE DATA	Switching mode		PWM-V/F linear				
		Switching Frequency	kHz	4				
		Frequency Resolution	Hz	0,1				
		Frequency Precision	%	0,1 (digital)- 0,1 (analog)				
		Range voltage of Boost	%	0 ÷ 20				
	SIGNALS DATA	Signals: input		6 Digital Input PNP				
		Signals: output		1 Analog Input 0-5Vdc or 4-20mA or 0-10Vdc;				
		Connections		4 Digital Output PNP;				
	SETTING DATA	Acceleration time	s	0,1 ÷ 99,9				
		Deceleration time	s	0,1 ÷ 99,9				
		Protections		Over voltage –Under voltage - Over current- Overload (I^2xt) –Over temperature				
		Over Voltage range	%	100 ÷ 150 (200% for 1s)				
		Brake Energy Management		Direct input CC only ramp				
	GENERAL DATA	Dimension	mm	192x84xh116				
		Cooling system		Natural	Natural	Natural	Forced	Forced
		Working temperature	°C	-5 / 45				
		Storage temperature	°C	-15 / +80				
		Relative humidity	%	20 ÷ 85 (No condensation)				
		EMC rate		Class A ; category C3				

OPTIONS			
	PERFORMANCE	MBM38	6 digital Input; 4 digital output; 2 step motors (0,5A e 2,5A)
	REMOTE CONTROL SYSTEM	HMI-8LCD	Display LCD-8 buttons
		HMI-18LCD	Display LCD-18 buttons

ON DEMAND

EM22 Executive

Stand-alone vectorial sensorless 230Vac VFD
Asynchronous motor
Protection IP20

emotioninmotion

	CODE (PARTIAL)			X2204...	X2207 ...	X2211...	X2215...	X2222...
STANDARD	INPUT ELECTRICAL DATA	Vin- type		Single phase				
		Voltage input (Vin)	V	230 ± 15%				
		Frequency input	Hz	47 ÷ 63				
		Input protection		None				
	OUTPUT ELECTRICAL DATA	Output Power	kW	0,4	0,75	1,1	1,5	2,2
		Output Current	(A)	1,7	3,2	4,7	6,5	9,5
		Opertations mode		S1	S1	S1	S1	S1
		Output Voltage	V	0 ÷ Vin				
		Output Voltage		Three phase				
		Frequency Output	Hz	0 ÷ 200 Hz				
	PERFOMANCE DATA	Switching mode		Vectorial sensorless				
		Switching Frequency	kHz	4				
		Frequency Resolution	Hz	0,1				
		Frequency Precision	%	0,1 (digital)- 0,1 (analog)				
		Range voltage of Boost	%	0 ÷ 20				
	SIGNALS DATA	Signals: input		6 Digital Input PNP; 1 Analog Input 0-5Vdc or 4-20mA or 0-10Vdc;				
		Signals: output		4 Digital Output PNP;				
		Connections		2 serial RS485 (Modbus compatible)				
	SETTING DATA	Acceleration time	s	0,1 ÷ 99,9				
		Deceleration time	s	0,1 ÷ 99,9				
		Protections		Over voltage –Under voltage - Over current- Overload (I^2xt) –Over temperature				
		Over Voltage range	%	100 ÷ 150 (200% for 1s)				
		Brake Energy Management		Direct input CC only ramp				
	GENERAL DATA	Box type	mm	Steel -192x84xh116mm				
		Cooling system		Natural	Natural	Natural	Forced	Forced
		Working temperature	°C	-5 / 45				
		Storage temperature	°C	-15 / +80				
		Relative humidity	%	20 ÷ 85 (No condensation)				
		EMC rate		Class A ; category C3				

OPTIONS	REMOTE CONTROL SYSTEM	HMI-8LCD	Display LCD-8 buttons
		HMI-18LCD	Display LCD-18 buttons

ON DEMAND

EM31 Excellence

Pump application- Stand-alone 230Vac VFD
Asynchronous motor
Protection IP00 with heat sink

emotioninmotion

	CODE (PARTIAL)			X3104...	X3107 ...	X3111...	X3115...	X3122...
STANDARD	INPUT ELECTRICAL DATA	Vin- type		Single phase				
		Voltage input (Vin)	V	230 ± 15%				
		Frequency input	Hz	47 ÷ 63				
		Input protection		None				
	OUTPUT ELECTRICAL DATA	Output Power	kW	0,4	0,75	1,1	1,5	2,2
		Output Current	(A)	1,7	3,2	4,7	6,5	9,5
		Opertations mode		S1	S1	S1	S1	S1
		Output Voltage	V	0 ÷ Vin				
		Output Voltage		Three phase				
		Frequency Output	Hz	0 ÷ 200 Hz				
	PERFOMANCE DATA	Switching mode		PWM-V/F linear				
		Switching Frequency	kHz	4				
		Frequency Resolution	Hz	0,1				
		Frequency Precision	%	0,1 (digital)- 0,1 (analog)				
		Range voltage of Boost	%	0 ÷ 20				
	SIGNALS DATA	Signals: input		3 digital input NPN;				
		Connections		1 serial TTL ; 1 serial RS485- bridge other devices				
	SETTING DATA	Acceleration time	s	0,1 ÷ 99,9				
		Deceleration time	s	0,1 ÷ 99,9				
		Protections		Over voltage –Under voltage - Over current- Overload (I^2xt) –Over temperature				
		Over Voltage range	%	100 ÷ 150 (200% for 1s)				
		Brake Energy Management		Direct input CC only ramp				
	GENERAL DATA	Dimension	mm	173x200xh145				
		Cooling system		Forced				
		Working temperature	°C	-5 / 45				
		Storage temperature	°C	-15 / +80				
		Relative humidity	%	20 ÷ 85 (No condensation)				
		EMC rate		Class A ; category C2				

OPTIONS	PERFORMANCE	MART223	4 Digital Output; 2 Analog Input
	REMOTE CONTROL SYSTEM	HMI-G	LCD grafic (64x128 dot) with Eeprom and clock circuit

ON DEMAND

EM32 Excellence

Pump application- Stand-alone 400Vac VFD
Asynchronous motor
Protection IP00 with heat sink

emotioninmotion

	CODE (PARTIAL)			X3204...	X3207 ...	X3211...	X3215...	X3222...
STANDARD	INPUT ELECTRICAL DATA	Vin- type		Three phase				
		Voltage input (Vin)	V	400 ± 15%				
		Frequency input	Hz	47 ÷ 63				
		Input protection		None				
	OUTPUT ELECTRICAL DATA	Output Power	kW	1,5	2,2	3,7	5,5	7,5
		Output Current	(A)	3,75	5,5	9,25	13,75	18,75
		Opertations mode		S1	S1	S1	S1	S1
		Output Voltage	V	0 ÷ Vin				
		Output Voltage		Three phase				
		Frequency Output	Hz	0 ÷ 200 Hz				
	PERFOMANCE DATA	Switching mode		PWM-V/F linear				
		Switching Frequency	kHz	4				
		Frequency Resolution	Hz	0,1				
		Frequency Precision	%	0,1 (digital)- 0,1 (analog)				
		Range voltage of Boost	%	0 ÷ 20				
	SIGNALS DATA	Signals: input		3 digital input NPN;				
		Connections		1 serial TTL ; 1 serial RS485- bridge other devices				
	SETTING DATA	Acceleration time	s	0,1 ÷ 99,9				
		Deceleration time	s	0,1 ÷ 99,9				
		Protections		Over voltage –Under voltage - Over current- Overload (I^2xt) –Over temperature				
		Over Voltage range	%	100 ÷ 150 (200% for 1s)				
		Brake Energy Management		Direct input CC only ramp				
	GENERAL DATA	Dimension	mm	173x200xh145				
		Cooling system		Forced				
		Working temperature	°C	-5 / 45				
		Storage temperature	°C	-15 / +80				
		Relative humidity	%	20 ÷ 85 (No condensation)				
		EMC rate		Class A ; category C2				

OPTIONS	PERFORMANCE	MART223	4 Digital Output; 2 Analog Input
	REMOTE CONTROL SYSTEM	HMI-G	LCD grafic (64x128 dot) with Eeprom and clock circuit

ON DEMAND

EM33 Excellence

Photovoltaic energy without power module input
Stand-alone 400Vac High Power VFD
Asynchronous motor
Protection IP00 with heat sink

emotioninmotion

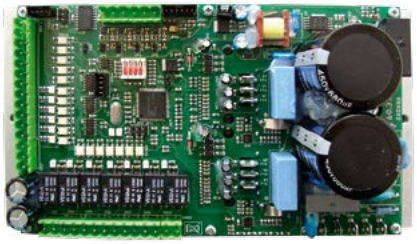
STANDARD	CODE (PARTIAL)			X33A5...	X33A8 ...	X33B2...	X33C0...
	INPUT ELECTRICAL DATA	Vin- type		Three phase			
		Voltage input (Vin)	V	400 ± 15%			
		Frequency input	Hz	47 ÷ 63			
		Input protection		None			
	OUTPUT ELECTRICAL DATA	Output Power	kW	15	18	22	30
		Output Current	(A)	25	30	36	50
		Opertations mode		S1	S1	S1	S1
		Output Voltage	V	400			
		Output Voltage		Three phase			
		Frequency Output	Hz	0 ÷ 200 Hz			
	PERFOMANCE DATA	Switching mode		PWM-V/F linear			
		Switching Frequency	kHz	2,5			
		Frequency Resolution	Hz	0,1			
		Frequency Precision	%	0,1 (digital)- 0,1 (analog)			
	SIGNALS DATA	Signals: input		3 digital input NPN;			
		Connections		1 serial RS485; 1 serial RS485-Bridge other devices			
	SETTING DATA	Acceleration time	s	0,1 ÷ 99,9			
		Deceleration time	s	0,1 ÷ 99,9			
		Protections		Over voltage –Under voltage - Over current- Overload (I^2xt) –Over temperature			
		Over Voltage range	%	100 ÷ 150 (200% for 1s)			
		Brake Energy Management		Direct input CC only ramp			
	GENERAL DATA	Dimension	mm	300X345XH160			
		Cooling system		Forced			
		Working temperature	°C	-5 / 45			
		Storage temperature	°C	-15 / +80			
		Relative humidity	%	20 ÷ 85 (No condensation)			
		EMC rate		To be provided in the electrical cabinet			

OPTIONS			
	PERFORMANCE	MBM207A	2 Analog Input (setting 0÷5Vdc/0÷10Vdc/0÷20mA ; 1 relè (dry contact) 230V-1A or 24V-3A
		MART238	1 Analog input 0÷5Vdc; 1 Digital Output; 1 Analog outpu; Serial RS485
		MART223	4 Digital Output; 2 Analog Input
		MART273	4 Digital Output (relè); 2 Aanalog Input; Serial RS485-Modbus compatible
	REMOTE CONTROL SYSTEM	HMI-G	LCD grafic (64x128 dot) with Eeprom and clock circuit

ON DEMAND

EM41 Distinctive

General Purpose - Stand-alone 230Vac VFD
2 Asynchronous motor
Protection IP00 with heat sink



emotioninmotion

STANDARD	CODE (PARTIAL)			X41Z1...	X41Z2 ...	X41Z3...	X41Z4...
	INPUT ELECTRICAL DATA	Vin- type		Single phase			
		Voltage input (Vin)	V	230 ± 15%			
		Frequency input	Hz	47 ÷ 63			
		Input protection		None			
	OUTPUT ELECTRICAL DATA	Output Power 1	kW	0,4	0,75	1,1	1,5
		Output Power 2	kW	2,2	2,2	2,2	2,2
		Output Current 1	(A)	1,7	3,2	4,7	6,5
		Output Current 2	(A)	9,5	9,5	9,5	9,5
		Opertations mode		S2	S2	S2	S2
		Output Voltage	V	0 ÷ Vin			
		Output Voltage		Three phase			
		Frequency Output	Hz	0 ÷ 200 Hz			
	PERFOMANCE DATA	Switching mode		PWM-V/F linear			
		Switching Frequency	kHz	4			
		Frequency Resolution	Hz	0,1			
		Frequency Precision	%	0,1 (digital)- 0,1 (analog)			
		Range voltage of Boost	%	0 ÷ 20			
	SIGNALS DATA	Signals: input		6 digital input PNP; Braking resistence - 4 Anolog Input (4-20mA or 0-5Vdc or 0-10Vdc);			
		Signals: output		6 Output (dry contact)			
		Connections		1 Serial TTL (proprietary protocol)			
	SETTING DATA	Acceleration time	s	0,1 ÷ 99,9			
		Deceleration time	s	0,1 ÷ 99,9			
		Protections		Over voltage –Under voltage - Over current- Overload (I^2xt) –Over temperature			
		Over Voltage range	%	100 ÷ 150 (200% for 1s)			
		Brake Energy Management		Direct input CC only ramp			
	GENERAL DATA	Dimension	mm	120X200XH120			
		Cooling system		Natural			
		Working temperature	°C	-5 / 45			
		Storage temperature	°C	-15 / +80			
		Relative humidity	%	20 ÷ 85 (No condensation)			
		EMC rate		Class A ; category C3			

ON DEMAND

EM42 Distinctive

Packaging - Stand-alone 230Vac VFD
2 Asynchronous motor
Protection IP00 with heat sink

emotioninmotion

STANDARD	CODE (PARTIAL)			X42Z5...	X42Z6 ...	X42Z7...	X42Z8...
	INPUT ELECTRICAL DATA	Vin- type		Single phase			
		Voltage input (Vin)	V	230 ± 15%			
		Frequency input	Hz	47 ÷ 63			
		Input protection		None			
	OUTPUT ELECTRICAL DATA	Output Power 1	kW	0,4	0,4	0,75	0,75
		Output Power 2	kW	0,7	1,5	1,5	2,2
		Output Current 1	(A)	1,7	1,7	3,2	3,2
		Output Current 2	(A)	3,2	6,5	6,5	9,5
		Opertations mode		S2	S2	S2	S2
		Output Voltage	V	0 ÷ Vin			
		Output Voltage		Three phase			
		Frequency Output	Hz	0 ÷ 200 Hz			
	PERFOMANCE DATA	Switching mode		PWM-V/F linear			
		Switching Frequency	kHz	4			
		Frequency Resolution	Hz	0,1			
		Frequency Precision	%	0,1 (digital)- 0,1 (analog)			
		Range voltage of Boost	%	0 ÷ 20			
	SIGNALS DATA	Signals: input		11 Digital Input; 2 Analog Input; STO (Safe Torque Off)			
	SETTING DATA	160x300xh80	mm	120x200xh120			
		Acceleration time	s	0,1 ÷ 99,9			
		Deceleration time	s	0,1 ÷ 99,9			
		Protections		Over voltage –Under voltage - Over current- Overload (I^2xt) –Over temperature			
		Over Voltage range	%	100 ÷ 150 (200% for 1s)			
		Brake Energy Management		Direct input CC only ramp			
	GENERAL DATA	Dimension	mm	120X200XH120			
		Cooling system		Natural			
		Working temperature	°C	-5 / 45			
		Storage temperature	°C	-15 / +80			
		Relative humidity	%	20 ÷ 85 (No condensation)			
		EMC rate		Class A ; category C2			

OPTIONS			
	PERFORMANCE	MBM142	2 Analog Input (setting 0÷5Vdc/0÷10Vdc/4÷20mA); 3 Digital Input; 1 Output (Relè-dry contact); Serial RS485-Modbus comaptible
		MBM206A	2 Output (Relè-dry contact); Serial TTL (proprietary protocol)
		MART213	5 Output 24Vac-1A(relè); 1 Output 24Vdc-2A (relè); 1 Output 230V-5A (Triac); 1 Serial TTL (proprietary protocol)
	REMOTE CONTROL SYSTEM	HMI-8LCD	Display LCD-8 buttons
		HMI-18LCD	Display LCD-18 buttons

ON DEMAND

EM61 Future

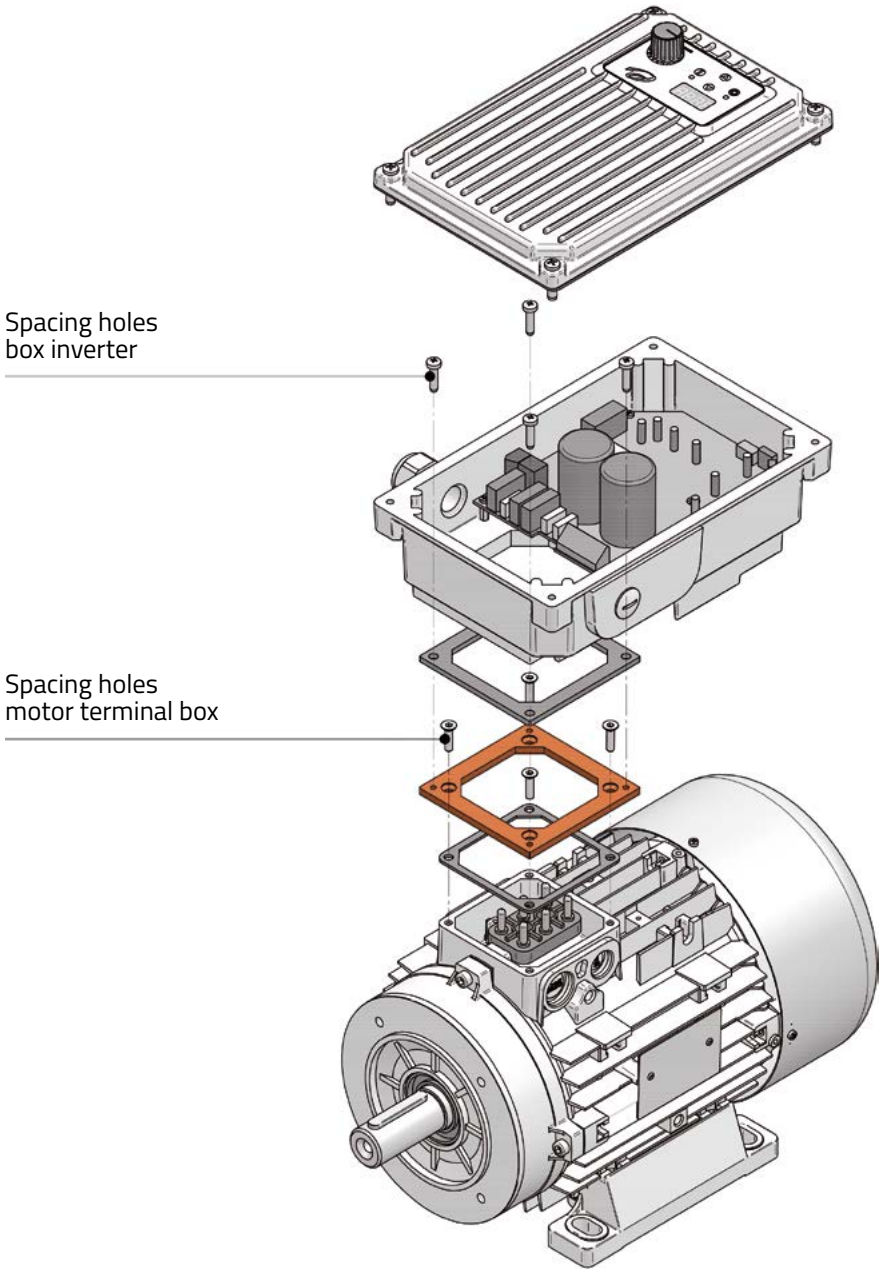
Brushless drive motor sensored sinusoidal
Stand-alone
Protection IP20

emotioninmotion

	CODE (PARTIAL)			X6104...	X6107 ...	X6111...	X6115...	X6122...
STANDARD	INPUT ELECTRICAL DATA	Vin- type		Single phase				
		Voltage input (Vin)	V	230 ± 15%				
		Frequency input	Hz	47 ÷ 63				
		Input protection		None				
	OUTPUT ELECTRICAL DATA	Output Power	kW	0,4	0,75	1,1	1,5	2,2
		Output Current	(A)	1,7	3,2	4,7	6,5	9,5
		Opertations mode		S1	S1	S1	S1	S1
		Output Voltage	V	0 ÷ Vin				
		Output Voltage		Three phase				
		Frequency Output	Hz	0 ÷ 200 Hz				
	PERFOMANCE DATA	Switching mode		AC Brushless sensored				
		Switching Frequency	kHz	10				
		Frequency Resolution	Hz	0,1				
		Frequency Precision	%	0,1 (digital)- 0,1 (analog)				
	SIGNALS DATA	Signals: input		5 digital input PNP o NPN (multifunctional optoinsulated); 1 Analog Input(0-5Vdc or 4-20mA, or 0-10Vdc)				
		Signals: output		3 relè output (dry contact); 1 Digital Output open collector;				
		Connections		1 serial RS485 ModBus/Proprietary protocol (canbus compatible)				
		Type trasducer		SSI				
	SETTING DATA	Acceleration time	s	0,01 ÷ 2,0				
		Deceleration time	s	0,01 ÷ 2,0				
		Protections		Over voltage –Under voltage - Over current- Overload (I^2xt) –Over temperature				
		Over Voltage range	%	100 ÷ 150 (200% for 1s)				
		Brake Energy Management		Power control system inside- external resistance				
	GENERAL DATA	Box dimesnion	mm	192x84xh116				
		Cooling system		Natural	Natural	Natural	Forced	Forced
		Working temperature	°C	-5 / 45				
		Storage temperature	°C	-15 / +80				
		Relative humidity	%	20 ÷ 85 (No condensation)				
		EMC rate		Class A ; category C3				

OPTIONS	TYPE ENCODER	Endat (absolute)

Mechanical Interface between motor and VFD

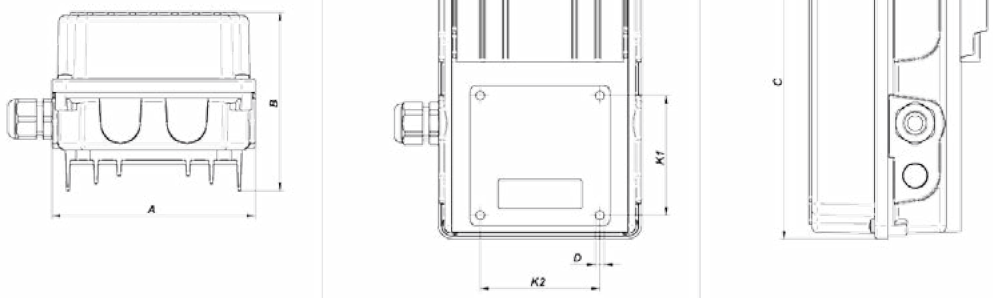


BOX INVERTER		SPACING 60x60 MEC 63÷71 (Code)	SPACING 73x73 MEC 80÷112 (Code)	SPACING 82x82 MEC 132 (Code)
TYPE	SPACING			
A	97,5x71	X316.000P16000005	X316.000P16000006	NOT AVAILABLE
B	87x87	NOT AVAILABLE	X316.000P16000007	X316.000P16000008
C	87x87	NOT AVAILABLE	X316.000P16000007	X316.000P16000008
D	73x73	X316.000P16000009	STANDARD	NOT AVAILABLE
E	73x73	X316.000P16000009	STANDARD	NOT AVAILABLE
F	73x73	X316.000P16000009	STANDARD	NOT AVAILABLE
G	87x87	NON APPLICABILE	X316.000P16000007	X316.000P16000008

Box-dimensions

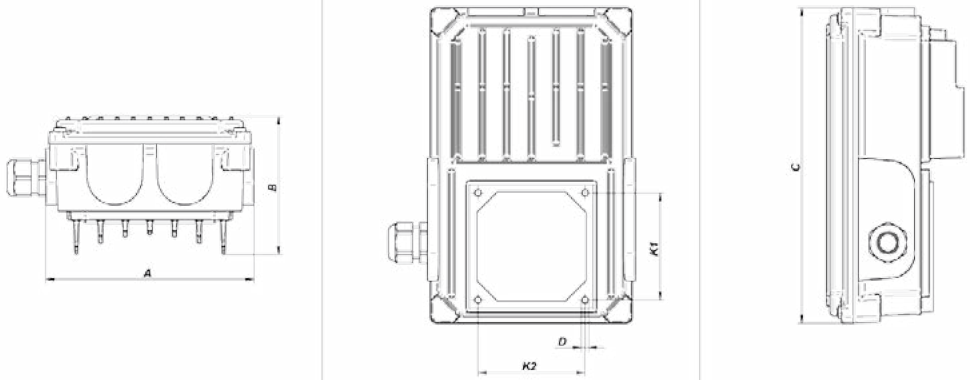
Type A

A	124
B	109
C	194
D	5,5
K1	73
K2	73



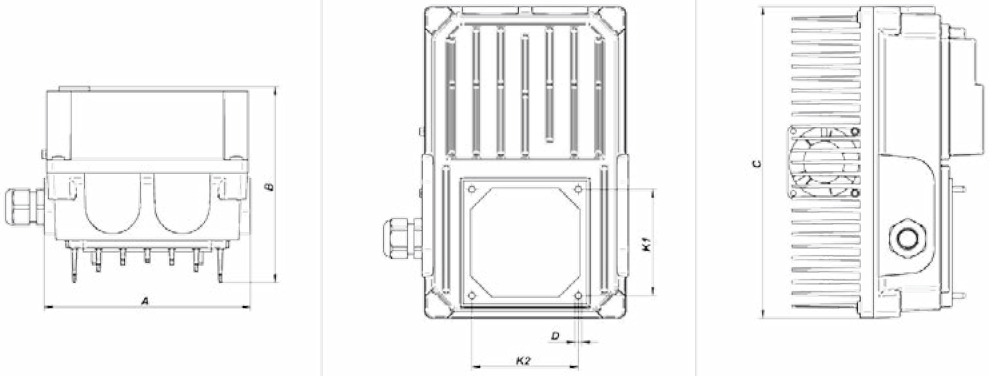
Type B

A	169
B	112
C	256
D	5,5
K1	87
K2	87



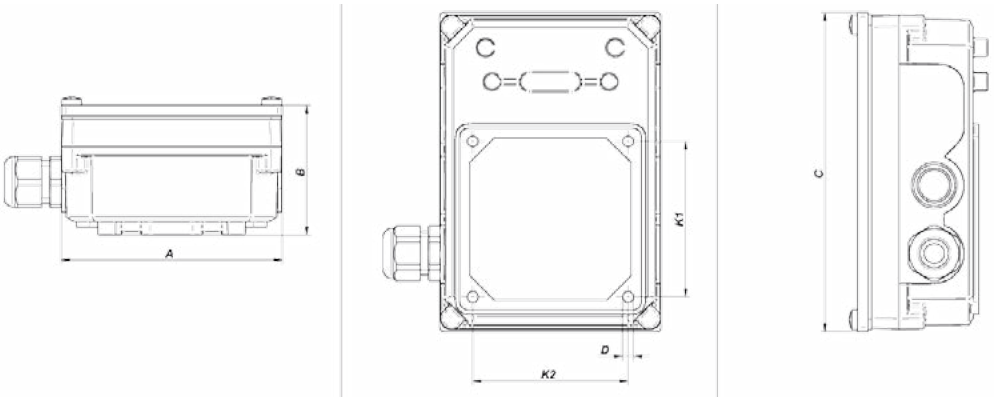
Type C

A	169
B	161
C	256
D	5,5
K1	87
K2	87



Type D

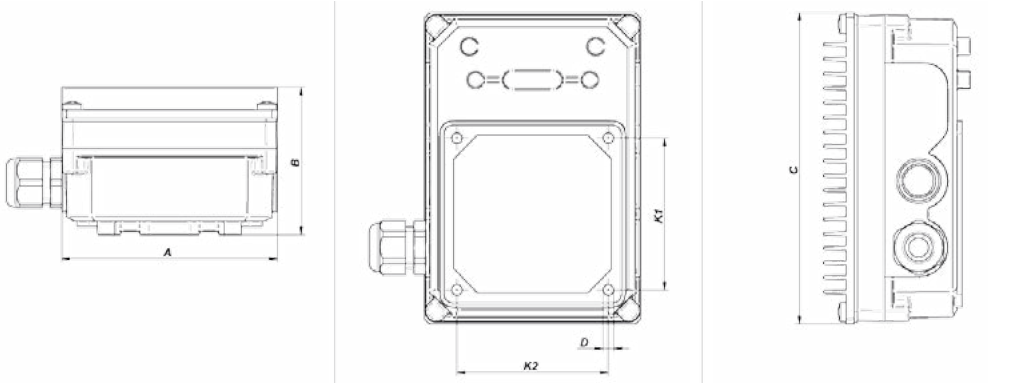
A	104
B	61
C	150
D	5,2
K1	73
K2	73



Box type-dimensions

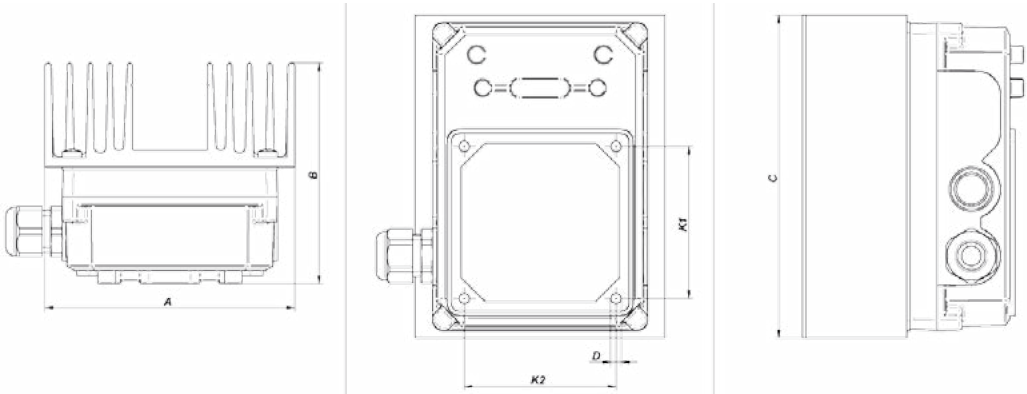
Type E

A	104
B	71
C	150
D	5,2
K1	73
K2	73



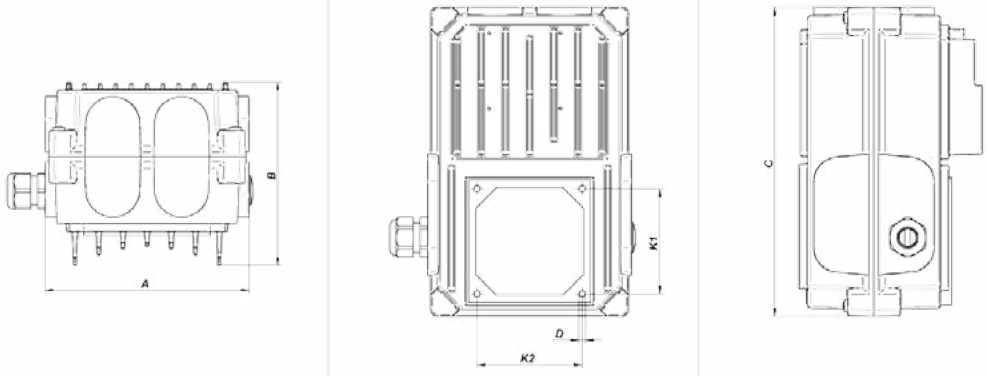
Type F

A	120
B	106
C	155
D	5,2
K1	73
K2	73



Type G

A	169
B	152
C	256
D	5,5
K1	87
K2	87



Accessories

		HMI7S-BOX	HMI-8LCD	HMI-18LCD	HMI-G
					
SIZES	IP GRADE Dimensions (mm)	IP20 67x67xP30	IP00 94X84xP45	IP00 125x108xP50	IP00 90x100xP30
POWER SUPPLY	Voltage Vin	5Vdc	5Vdc	24Vdc	5Vdc
DISPLAY	Typology	4 modules, 7 segments	1 LCD 2 lines for 16 characters	1 LCD 2 lines for 16 characters	64x128 dot
	Colour	Red	Green	Green	Blue
	Backlight	no	Yes white	Yes white	Yes white
	Vin 2 voltage backlight	-	24Vdc	-	-
BUTTONS	Quantity	4	8	18	6
	Type	Mechanical inner	Mechanical inner	Mechanical inner	External membrane
COMMUNICATION	Serial	TTL o Rs485	Rs485	Rs485	TTL o Rs485
ADDITIONAL FEATURES	Optional	-	-	-	EEprom 1M And date clock circuit

	CODE	DESCRIPTION
	X205.MT0P10000027	USB-TTL cable (1m); connection between PC (parameters software) and inverter

ORANGE1
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