



emotion **in** motion
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 235 million euro and more than 1600 workers in 15 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.



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

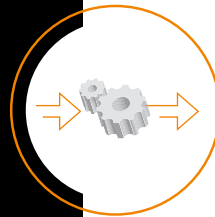
It improves its product's range with variable frequency drives "plug & play" in addition of the general purpose drives, which can be fitted to AC and DC motors, stepper and brushless motor. Drives can be installed either in control panels or directly on the motor. Drives are designed to meet the requirements 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

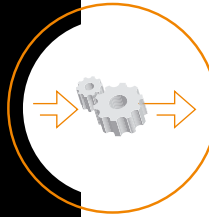
Drives for **PM** motors

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-Plus
02	EM02
03	EM03LV - EM03
04	EM04
06	EM06
08	EM08
09	EM09
11	EM11
13	EM13
21	EM21
22	EM22
31	EM31
32	EM32
33	EM33
42	EM42
61	EM61

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	MBM207A
02	MART238
03	MART223
04	MART273
05	F105
06	F110
07	F310
08	MBM38F
09	MBM184
10	MBM186A
11	MART185A
12	B1
13	B3
15	HMI-G
16	P1
17	S1
18	HMI75
19	HMI75-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 sensed-type encoder
4	Vectorial sensed-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 Plus	EM02	EM03LV	EM03	EM04	EM06	EM08	EM09	EM11	EM13	EM21	EM22	EM31	EM32	EM33	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 resistance 4 Analog 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																		✓	

Option	Description	Products																	
		ON DEMAND																	
		EM01 Plus	EM02	EM03LV	EM03	EM04	EM06	EM08	EM09	EM11	EM13	EM21	EM22	EM31	EM32	EM33	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 Analog 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																		
MBM38F	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 resistance and/ or DC electrical brake			✓		✓			✓										
B3	Brake (400V): external resistance and/ or DC electrical brake		✓		✓				✓										
P1	Potentiometer - 10kOhm (must apply expansion card with Analog Input)	✓	✓			✓	✓	✓	✓										
S1	Toggle Switch	✓	✓	✓	✓	✓	✓	✓	✓										
P1-S1	Potentiometer 10kOhm; Toggle Switch (must apply expansion card with Analog Input)	✓	✓			✓													
HMI7S	Display 7 segments; 4 buttons for comands and setting	✓	✓			✓			✓	✓									
HMI7S-P1	Display 7 segments; 4 buttons for comands and setting; Potentiometer-10kOhm (must apply expansion card with Analog Input)	✓	✓			✓			✓	✓									
HMI-8LCD	Display LCD-8 buttons											✓	✓			✓	✓		
HMI-18LCD	Display LCD-18 buttons											✓	✓			✓	✓		
HMI-G	LCD grafico (64x128 dot) with Eeprom and clock circuit					✓			✓	✓			✓	✓	✓				

EM01-Plus



All in One - 230Vac VFD
Asynchronous motor
Protection IP55



STANDARD	CODE (PARTIAL)		X0104...	X0107 ...	X0111...	X0115...	X0122...
	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)	1,9	3,0	4,8	6,1	8,1
	Operations mode		S1	S1	S1	S1	S2/S3
	Output Voltage	V	0 ÷ Vin				
	Output Voltage		Three phase				
	Frequency Output	Hz	0 ÷ 200 Hz				
PERFORMANCE DATA	Switching mode		PWM- V/F linear and V/F quadratic				
	Switching Frequency	kHz	10				
	Frequency Resolution	Hz	0,1				
	Range voltage of Boost	%	0 ÷ 90				
SIGNALS DATA	Signals: input		3 digital input NPN (multifunctional optoinsulated)				
	Connections		1 serial TTL (proprietary protocol and Modbus RTU)				
SETTING DATA	Acceleration time	s	0,1 ÷ 99,9				
	Deceleration time	s	0,1 ÷ 99,9				
	Alarm		Over voltage – Under voltage - Over current- Overload (I ² xt) – Over temperature				
	Overload 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 output; Serial RS485	
	BUILT-IN CONTROL	P1 (Option board with Analog Input is required)	Potentiometer - 10kOhm	
		S1	Toggle switch	
		HMI75	Display 7 segments; 4 buttons for comands and setting	
		HMI75-P1 (Option board with Analog Input is required)	Display 7 segments; 4 buttons for comands and setting; Potentiometer- 10kOhm ; status led	
		P1-S1 (Option board with Analog Input is required)	Potentiometer-10kOhm ; Toggle switch ; status led	
	REMOTE CONTROL SYSTEM	HMI75-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

All in One - 400Vac VFD
Asynchronous motor
Protection IP55



STANDARD	CODE (PARTIAL)		X0207...	X0215...	X0222...	X0230...	
	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
		Operations mode		S1	S1	S1	S1
		Output Voltage	V	0 - Vin			
		Output Voltage		Three phase			
Frequency Output		Hz	0 - 200 Hz				
PERFORMANCE 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 ² t) - Over temperature				
	Overload 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	CODE (PARTIAL)		X0207...	X0215...	X0222...	X0230...	
	PERFORMANCE	MBM207A		2 Analog Input (setting 0-5Vdc/0-10Vdc/0-20mA ; 1 relè (dry contact) 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 Analog Input; Serial RS485			
	BUILT-IN CONTROL	P1 (Option board with Analog Input is required)		Potentiometer - 10kOhm			
		S1		Toggle Switch			
		HMI75		Display 7 segments; 4 buttons for comands and setting			
		HMI75-P1 (Option board with Analog Input is required)		Display 7 segments; 4 buttons for comands and setting; Potentiometer-10kOhm			
		P1-S1 (Option board with Analog Input is required)		Potentiometer-10kOhm ; Toggle switch			
BRAKE SYSTEM	B3 (400V)		Brake (400V): external resistance and/or DC electrical brake				
REMOTE CONTROL SYSTEM	HMI75-Box		Display 7 segments; 4 buttons for comands and setting				
EMC LINE FILTER	F310		Internal filter; C2 Category- 400V Three Phase; up to 10A				

EM03LV



All in One
230Vac High Power VFD
Asynchronous motor
Protection IP55

STANDARD	CODE (PARTIAL)		X0315...	X0322...
	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	1,5	2,2
	Output Current	(A)	6,5	9,5
	Operations mode		S1	S1
	Output Voltage	V	0 ÷ Vin	
	Output Voltage		Three phase	
	Frequency Output	Hz	0 ÷ 200 Hz	
PERFORMANCE 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 ² t) – Over temperature	
	Overload range	%	100 ÷ 150 (200% for 1s)	
	Brake Energy Management		Direct input CC only ramp	
	Brake Energy Management High Inertia		None	
GENERAL DATA	Box type (see drawings)		C	C
	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	CODE (PARTIAL)		X0315...	X0322...
	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 Analog Input; Serial RS485	
BRAKE SYSTEM	B1 (230V)		Brake (230): external resistance and/or DC electrical brake	
REMOTE CONTROL SYSTEM	HMI7S-Box		Display 7 segments; 4 buttons for comands and setting	
EMC LINE FILTER	F110		Internal filter; C2 Category- upto 2,2kW- 230V Single Phase; up to 10A	

EM03



All in One
400Vac High Power VFD
Asynchronous motor
Protection IP55

STANDARD	CODE (PARTIAL)		X0337...	X0355...	X0375
	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
	Operations mode		S1	S1	S2/S3
	Output Voltage	V	0 - Vin		
	Output Voltage		Three phase		
	Frequency Output	Hz	0 - 200 Hz		
PERFORMANCE 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 ² t) - Over temperature		
	Overload range	%	100 - 150 (200% for 1s)		
	Brake Energy Management		Direct input CC only ramp		
	Brake Energy Management High 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	CODE (PARTIAL)		X0337...	X0355...	X0375
	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 Analog Input; Serial RS485		
BRAKE SYSTEM	B3 (400V)		Brake (400V): external resistance and/or DC electrical brake		
REMOTE CONTROL SYSTEM	HMI75-Box		Display 7 segments; 4 buttons for comands and setting		
EMC LINE FILTER	F310		Internal filter; C2 Category- 400V Three Phase; up to 10A		

EMO4



All in One
230Vac vectorial sensorless VFD
Asynchronous motor
Protection IP55

STANDARD	CODE (PARTIAL)		X0404...	X0407 ...	X0411...	X0415...	X0422...
	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
	Operations mode		S1	S1	S1	S2/S3	S2/S3
	Output Voltage	V	0 ÷ Vin				
	Output Voltage		Three phase				
	Frequency Output	Hz	0 ÷ 200 Hz				
PERFORMANCE 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 ² xt) –Over temperature				
	Overload 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				

* Must use the mechanical interface

OPTIONS	PERFORMANCE	
		MBM207A
	MART238	1 Analog input 0-5Vdc; 1 Digital Output; 1 Analog output; Serial RS485
	MART223	4 Digital Output; 2 Analog Input
BUILT-IN CONTROL	P1 (Option board with Analog Input is required)	Potentiometer - 10kOhm
	S1	Toggle Switch
	HMI75	Display 7 segments; 4 buttons for comands and setting
	HMI75-P1 (Option board with Analog Input is required)	Display 7 segments; 4 buttons for comands and setting; Potentiometer-10kOhm
	P1-S1 (Option board with Analog Input is required)	Potentiometer-10kOhm; Toggle Switch
BRAKE SYSTEM	B1 (230V)	Brake (230): external resistance and/or DC electrical brake
REMOTE CONTROL SYSTEM	HMI75-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

EM06



SmAll in One
 Tiny 230Vac vectorial sensorless VFD
 Asynchronous motor
 Protection IP55

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 ² xt) – Over temperature				
	Overload 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 (Option board with Analog Input is required)	Potentiometer - 10kOhm	
		S1	Toggle Switch	
REMOTE CONTROL SYSTEM	HMI75-Box	Display 7 segments; 4 buttons for comands and setting		

EM08

Brushless drive
Sensorless or sensed 400Vac
Protection IP55



STANDARD	CODE (PARTIAL)		X0807...	X0815...	X0822...	X0830...
	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
	Operations mode		S1	S1	S1	S1
	Output Voltage	V	0 ÷ Vin			
	Output Voltage		Three phase			
	Frequency Output	Hz	0 ÷ 200 Hz			
PERFORMANCE DATA	Switching mode		AC Brushless: sensorless or sensed			
	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 ² xt) – Over temperature			
	Overload range	%	100 ÷ 150 (200% for 1s)			
	Brake Energy Management		Direct input CC only ramp			
	B3 (400V)		Brake: external resistance 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	CODE (PARTIAL)		X0807...	X0815...	X0822...	X0830...
	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 Analog Input; Serial RS485			
B1			Braking external system			
BUILT-IN CONTROL	P1 (Option board with Analog Input is required)		Potentiometer - 10kOhm			
	S1		Toggle Switch			
	HMI75		Display 7 segments; 4 buttons for comands and setting			
	HMI75-P1 (Option board with Analog Input is required)		Display 7 segments; 4 buttons for comands and setting; Potentiometer-10kOhm			
	P1-S1 (Option board with Analog Input is required)		Potentiometer-10kOhm; Toggle Switch			
REMOTE CONTROL SYSTEM	HMI75-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



full options

Brushless drive
Sensorless or sensed 230Vac
Protection IP55

STANDARD	CODE (PARTIAL)		X0904...	X0907 ...	X0911...	X0915...	X0922...
	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
	Operations mode		S1	S1	S1	S2/S3	S2/S3
	Output Voltage	V	0 ÷ Vin				
	Output Voltage		Three phase				
	Frequency Output	Hz	0 ÷ 200 Hz				
PERFORMANCE DATA	Switching mode		AC Brushless: sensorless or sensed				
	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 ² xt) – Over temperature				
	Overload 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				

* Must use the mechanical interface

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	
BUILT-IN CONTROL	P1 (Option board with Analog Input is required)	Potentiometer - 10kOhm	
	S1	Toggle Switch	
	HMI7S	Display 7 segments; 4 buttons for comands and setting	
	HMI7S-P1 (Option board with Analog Input is required)	Display 7 segments; 4 buttons for comands and setting; Potentiometer-10kOhm	
	P1-S1 (Option board with Analog Input is required)	Potentiometer-10kOhm; Toggle Switch	
BRAKE SYSTEM	B1 (230V)	Brake (230): external resistance 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



All in One
230Vac vectorial sensorless VFD
Asynchronous motor
Protection IP55

STANDARD	CODE (PARTIAL)		X1107 ...	X1111...	X1115...	X1122...
	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	0,75	1,1	1,5	2,2
	Output Current	(A)	3,2	4,7	6,5	9,5
	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		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 ² t) –Over temperature			
	Overload range	%	100 ÷ 150 (200% for 1s)			
	Brake Energy Management		Direct input CC only ramp			
GENERAL DATA	Box type (see drawings)		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 (Proprietary protocol)	

EM13



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

STANDARD	CODE (PARTIAL)		X1315...	X1322 ...	X1337...	X1355...	X1375...
	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 ² xt) –Over temperature				
	Overload range	%	100 ÷ 150 (200% for 1s)				
	Brake Energy Management		Direct input CC only ramp				
GENERAL DATA	Dimension	mm	130x210x80				
	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		
HMI75-BOX		Display 7 segments; 4 buttons for comands and setting

EM21



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

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
	Operations mode		S1	S1	S1	S1	S1
	Output Voltage	V	0 ÷ Vin				
	Output Voltage		Three phase				
	Frequency Output	Hz	0 ÷ 200 Hz				
PERFORMANCE 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 ² xt) – Over temperature				
	Overload range	%	100 ÷ 150 (200% for 1s)				
	Brake Energy Management		Direct input CC only ramp				
GENERAL DATA	Dimension	mm	176x84x95			192x84x116	
	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
	MBM38F	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



Stand-alone V/F linear 230Vac VFD
Asynchronous motor
Protection IP20

STANDARD	CODE (PARTIAL)		X2204...	X2207 ...	X2211...	X2215...	X2222...
	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
	Operatations mode		S1	S1	S1	S1	S1
	Output Voltage	V	0 ÷ Vin				
	Output Voltage		Three phase				
	Frequency Output	Hz	0 ÷ 200 Hz				
PERFORMANCE 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; 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 ² t) –Over temperature				
	Overload 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	

EM31



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

STANDARD	CODE (PARTIAL)		X3104...	X3107 ...	X3111...	X3115...	X3122...
	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
	Operations mode		S1	S1	S1	S1	S1
	Output Voltage	V	0 ÷ Vin				
	Output Voltage		Three phase				
	Frequency Output	Hz	0 ÷ 200 Hz				
PERFORMANCE 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 ² t) –Over temperature				
	Overload 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



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

STANDARD	CODE (PARTIAL)		X3204...	X3207 ...	X3211...	X3215...	X3222...
	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
	Operations mode		S1	S1	S1	S1	S1
	Output Voltage	V	0 ÷ Vin				
	Output Voltage		Three phase				
	Frequency Output	Hz	0 ÷ 200 Hz				
PERFORMANCE 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 ² t) –Over temperature				
	Overload range	%	100 ÷ 150 (200% for 1s)				
	Brake Energy Management		Direct input CC only ramp				
GENERAL DATA	Dimension	mm	173x200x145				
	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

EM33



Photovoltaic energy without power module input
 Stand-alone 400Vac High Power VFD
 Asynchronous motor
 Protection IPO0 with heat sink

STANDARD	CODE (PARTIAL)		X33A5...	X33A8 ...	X33B2...
	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
	Output Current	(A)	25	30	36
	Operatations mode		S1	S1	S1
	Output Voltage	V	400		
	Output Voltage		Three phase		
	Frequency Output	Hz	0 ÷ 200 Hz		
PERFORMANCE 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		TTL serial; 1 serial RS485; 1 serial RS485 for 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 ² t) –Over temperature		
	Overload range	%	100 ÷ 150 (200% for 1s)		
GENERAL DATA	Brake Energy Management		Direct input CC only ramp		
	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 output; Serial RS485
	MART223	4 Digital Output; 2 Analog Input
REMOTE CONTROL SYSTEM	HMI-G	LCD grafic (64x128 dot) with Eeprom and clock circuit

ON DEMAND

EM42



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

		CODE (PARTIAL)	X4225...	X4226 ...	X4227...	X4228...
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
	Operations mode		S2	S2	S2	S2
	Output Voltage	V	0 ÷ Vin			
	Output Voltage		Three phase			
PERFORMANCE DATA	Frequency Output	Hz	0 ÷ 200 Hz			
	Switching mode		PWM-V/F linear			
	Switching Frequency	kHz	4			
	Frequency Resolution	Hz	0,1			
	Frequency Precision	%	0,1 (digital)- 0,1 (analog)			
SIGNALS DATA	Range voltage of Boost	%	0 ÷ 20			
SETTING DATA	Signals: input		11 Digital Input; 2 Analog Input; STO (Safe Torque Off)			
	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 ² t) –Over temperature			
	Overload range	%	100 ÷ 150 (200% for 1s)			
GENERAL DATA	Brake Energy Management		Direct input CC only ramp			
	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			

		CODE (PARTIAL)	DESCRIPTION
PERFORMANCE	MBM142		2 Analog Input (setting 0÷5Vdc/0÷10Vdc/4÷20mA); 3 Digital Input; 1 Output (Relè-dry contact); Serial RS485-Modbus compatible
	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

EM61

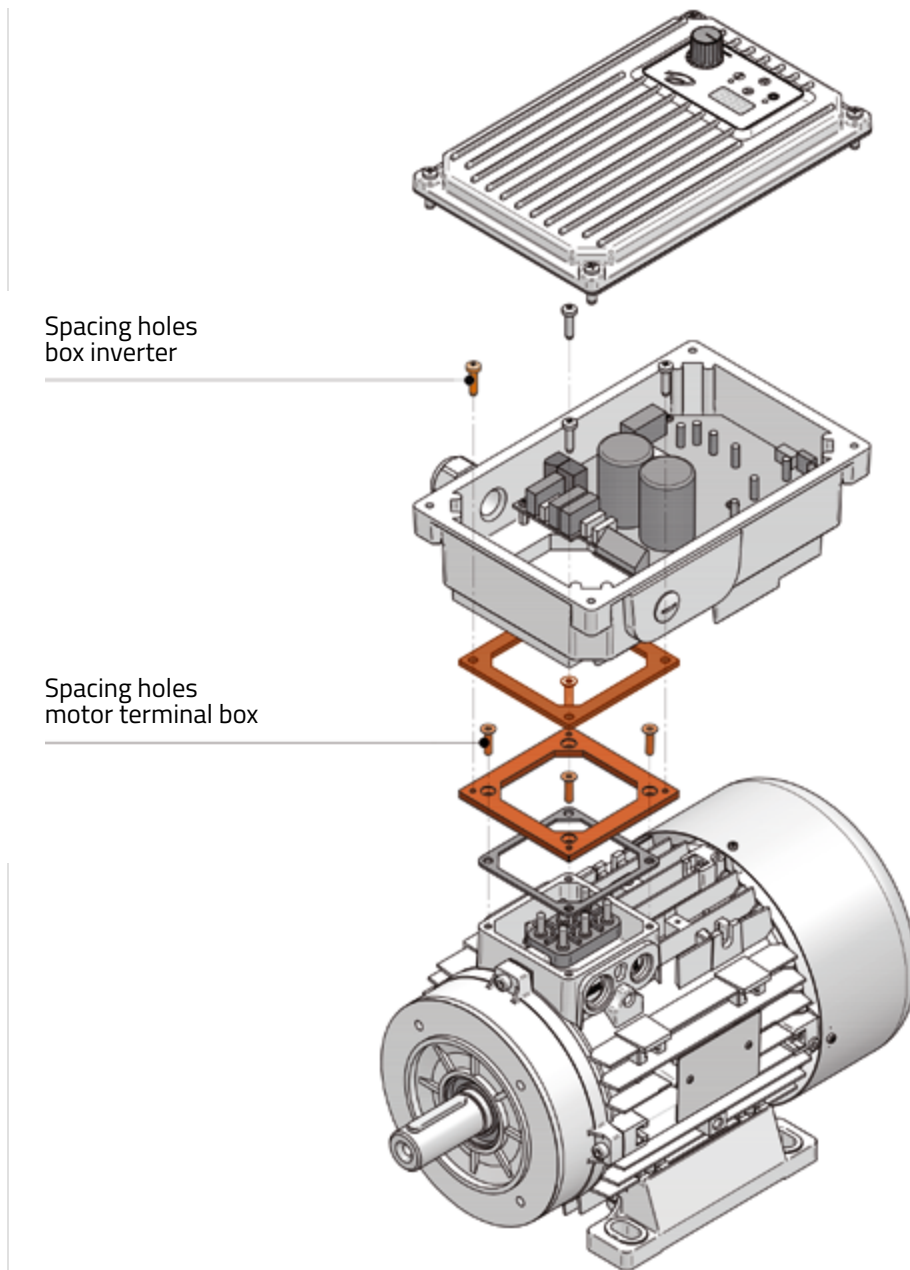


Brushless drive motor sensed sinusoidal
Stand-alone
Protection IP20

STANDARD	CODE (PARTIAL)		X6104...	X6107 ...	X6111...	X6115...	X6122...
	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
	Operations mode		S1	S1	S1	S1	S1
	Output Voltage	V	0 ÷ Vin				
	Output Voltage		Three phase				
	Frequency Output	Hz	0 ÷ 200 Hz				
PERFORMANCE DATA	Switching mode		AC Brushless sensed				
	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 ² xt) –Over temperature				
	Overload 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



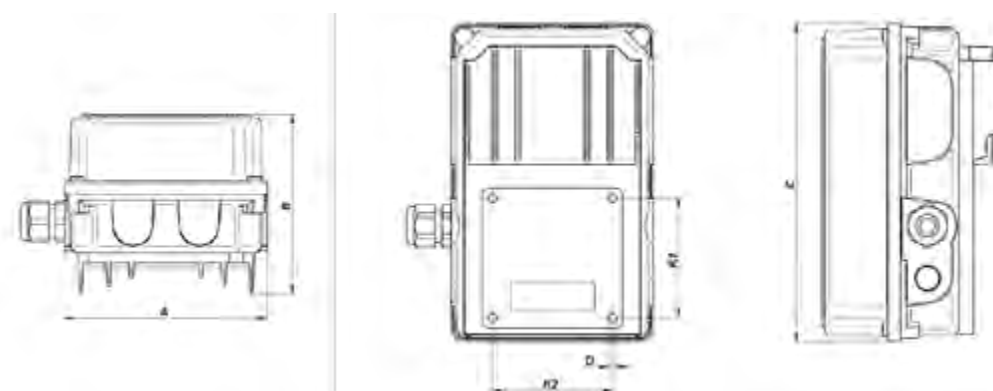
CASE		MEC 63÷71 SPACING 60x60 Code	MEC 80÷112 SPACING 73x73 Code	MEC 132 SPACING 82x82 Code
TYPE	SPACING			
A (EM11)	73x73	X316.000P16000009	STANDARD	NOT AVAILABLE
A* (EM01, EM04, EM09)	97,5x71	X316.000P16000005	X316.000P16000006	NOT AVAILABLE
B	87x87	NOT AVAILABLE	X316.000P16000007	X316.000P16000008
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	NOT AVAILABLE	X316.000P16000007	X316.000P16000008

* Must use the mechanical interface

Box-dimensions

Type A-A*

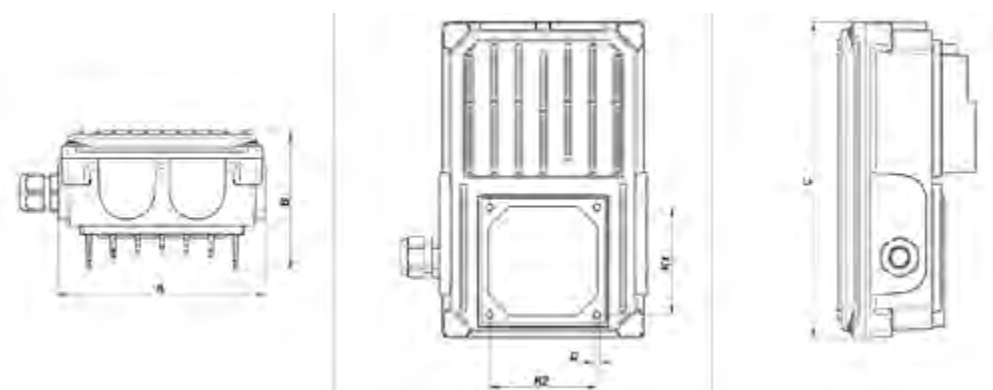
Dimension	A	A*
A	124	124
B	109	109
C	194	194
D	5,5	5,5
K1	73	97,5
K2	73	71



With A* must use the mechanical interface

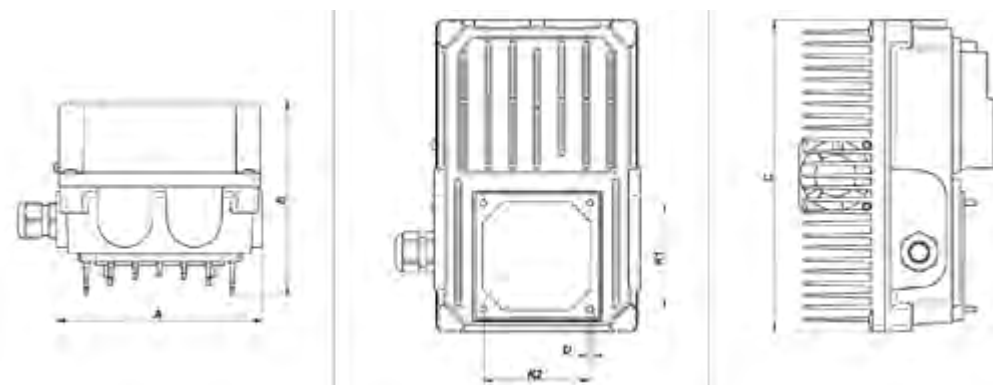
Type B

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



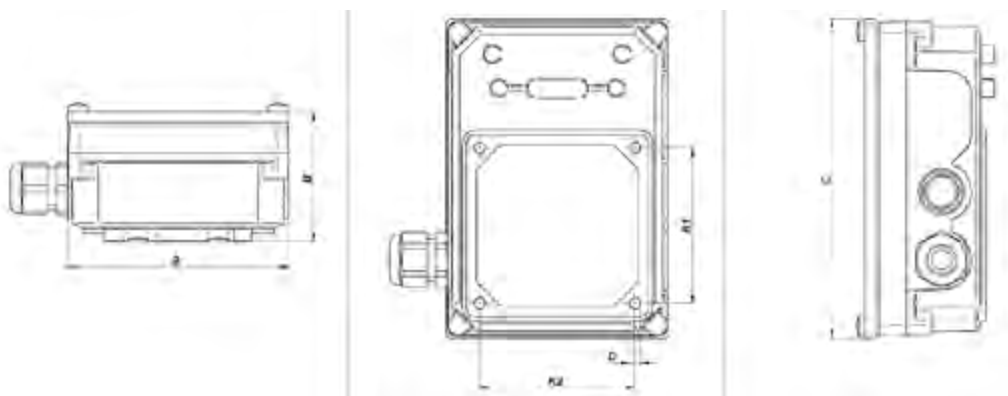
Type C

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



Type D

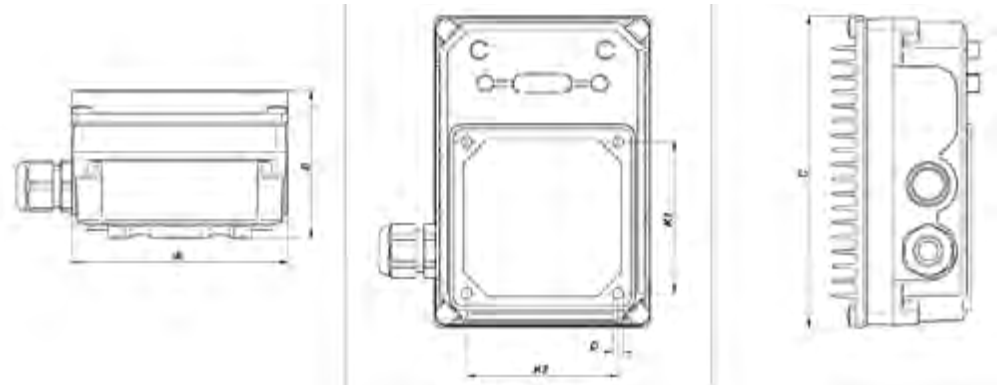
A	104
B	61
C	150
D	5,2
K1	73
K2	73



Box-dimensions

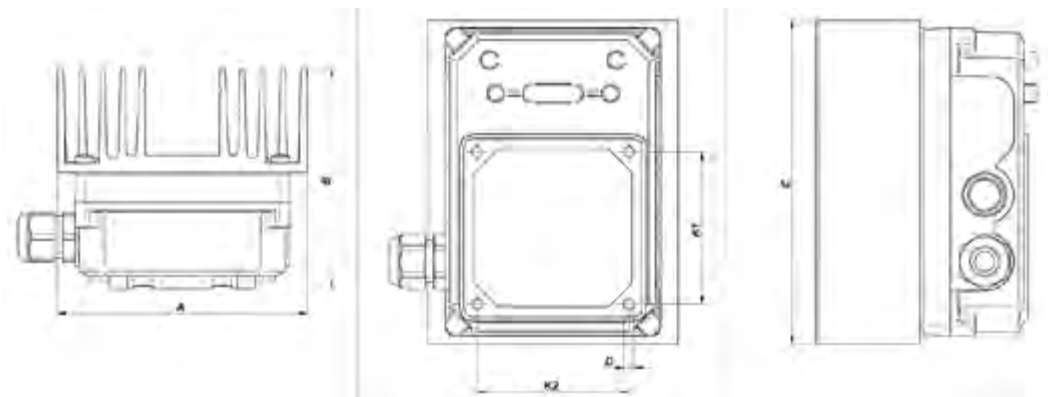
Type E

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



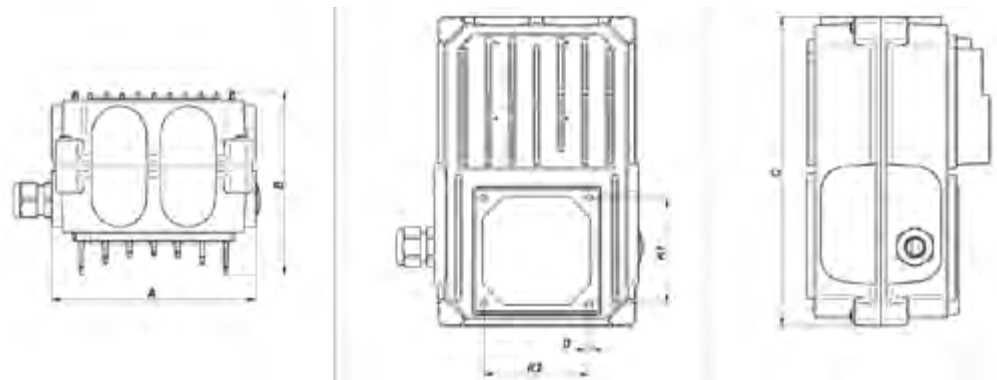
Type F

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

		HMI7SP-BOX	HMI7S-BOX	On demand HMI-8LCD	On demand HMI-18LCD	On demand HMI-G
						
		Suitable for EM01-Plus	Not suitable for EM01-Plus Included cable with connector; length 0,7m			
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.MTOP10000027	USB-TTL cable (1m); connection between PC (parameters software) and inverter
	X205.MTPOP17000021	USB-RS485 (connector AMP) Use with protocol ModBus-RTU and expansion card MART238

The information shown in this publication is purely indicative. Orange1 reserves the right to make any modifications to the products as it sees fit



ORANGE1
HOLDING

EMOTIONinMOTION

Zona Industriale
via Angelo Messedaglia 4
32030 - Arsiè (BL) Italy
T. +39 0439 750067
F. +39 0439 750070

info@orange1.eu
www.orange1.eu

follow us    

#06 - 03/2018

