



Variable frequency drives, 1p, 230 V, 11A, 2.2kW

Part no. **MMX12AA9D6F0-0**
 Catalog No. **121369**
 Eaton Catalog No. **MMX12AA9D6F0-0**
 EL-Nummer **0004132506**
 (Norway)

Delivery program

Product range			M-MAX (MMX)
Rated operational voltage			1 AC 230 V
Mains voltage (50/60Hz)	U _{LN}	V	208 (-15%) - 240 (+10%)
Assigned motor rating			
at 230 V, 50 Hz	P	kW	2.2
			Rated operational current at an operating frequency of 6 kHz and an ambient air temperature of +50 °C
at 230 V, 60 Hz	P	HP	3
			Assigned motor rating for normal internally and externally ventilated 4 pole, three-phase asynchronous motors with 1500 rpm ⁻¹ (at 50 Hz) or 1800 min ⁻¹ (at 60 Hz)
Rated operational current	I _e	A	9.6
Rated motor current			
at 230 V, 50 Hz	I _M	A	8.7
at 220 - 240 V, 60 Hz	I _M	A	9.6
Radio interference suppression filters			with internal radio interference suppression filters
Degree of Protection			IP20/NEMA 0
Brake chopper			without internal brake chopper
Frame size			FS3
Notes			
Cross-reference Increased protection type IP21/NEMA 1, → Accessories			

Technical data

Power section

Input side			
Number of phases			single-phase (L, N) two-phase (e.g. L1, L2)
Mains voltage (50/60Hz)	U _{LN}	V	208 (-15%) - 240 (+10%)
Mains voltage UL/CSA (45-66 Hz ± 0%)	U _{LN}	V	177 - 264 (±0%)
Rated operational voltage			1 AC 230 V
Rated operational current	I _e	A	9.6
Input current	I _{LN}	T	15.8
Overload current for 60 s every 600 s at 50 °C		T	14.4
Starting current for 2 s every 20 s at 50 °C		T	19.2
Maximum leakage current to ground (PE) without motor	I _{PE}	mA	24.4
Apparent power			
Apparent power at rated operation 230 V	S	kVA	3.82
Apparent power at rated operation 240 V	S	kVA	3.99
Assigned motor rating			
at 230 V, 50 Hz	P	kW	2.2
at 230 V, 60 Hz	P	HP	3
Braking torque			
Standard braking torque			max. 30 % M _N
DC braking torque			max. 100% of rated operational current I _e , variable
Switching frequency	f _{PWM}	kHz	6

			adjustable 1 - 16
Heat dissipation at rated operational current $I_{\theta} = 150\%$	P_V	W	78.1
Efficiency		%	96
Fitted with			Fan (internal, temperature controlled)
Frame size			FS3
Weight	m	kg	0,990

Technical data ETIM 5.0

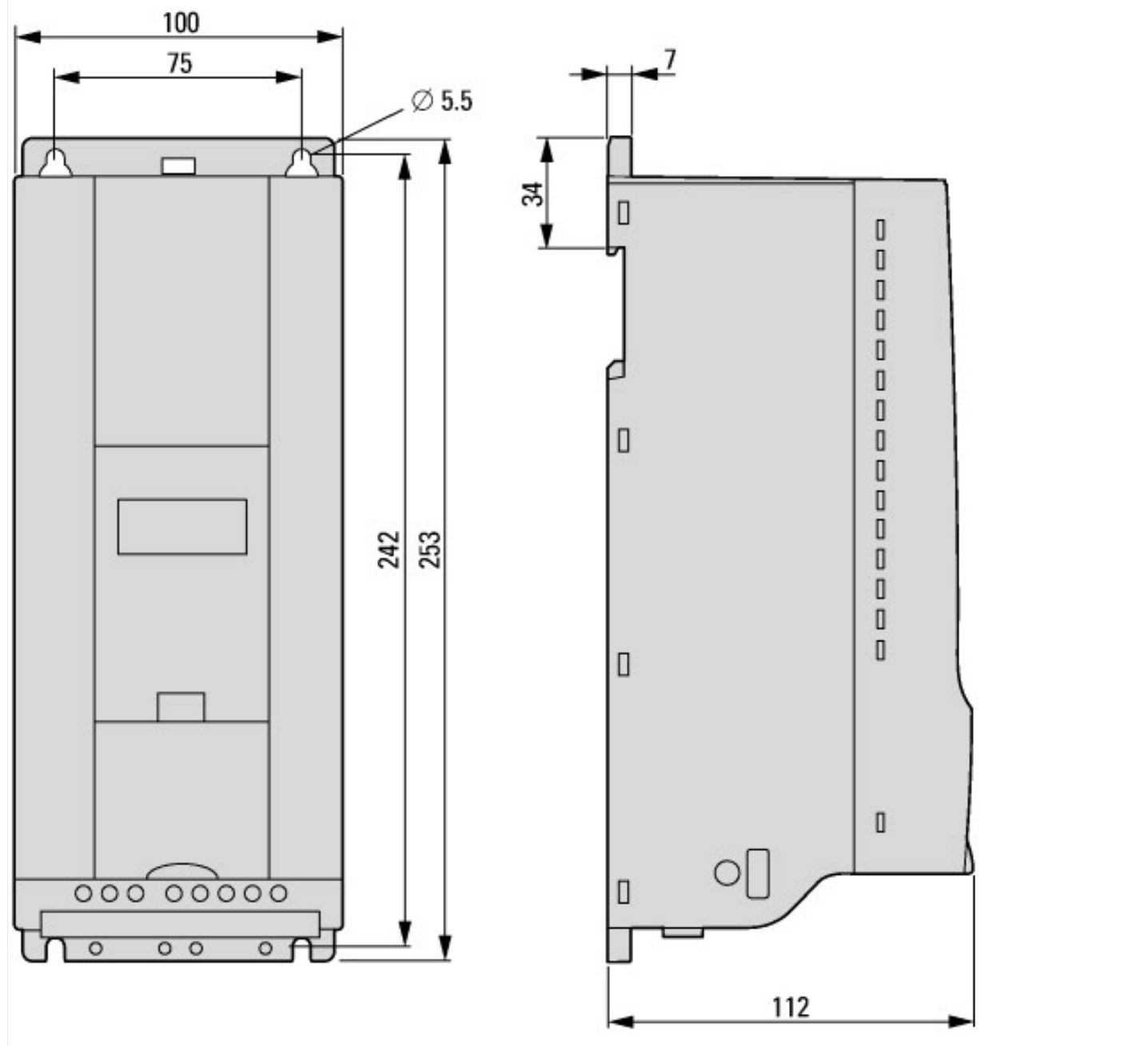
Low-voltage industrial components (EG000017) / Frequency controller ≤ 1 kV (EC001857)			
Electric engineering, automation, process control engineering / Electrical drive / Static frequency converter / Static frequency converter = < 1 kv (ecl@ss8-27-02-31-01 [AKE177010])			
Mains voltage		V	177 - 264
Mains frequency			50/60 Hz
Number of phases input			1
Number of phases output			3
Max. output frequency		Hz	320
Rated output voltage		V	230
Measuring output current		A	9.6
Output power at rated output voltage		kW	2.2
Max. output at quadratic load at rated output voltage		kW	2.2
Max. output at linear load at rated output voltage		kW	2.2
With control unit			Yes
Application in industrial area permitted			Yes
Application in domestic- and commercial area permitted			Yes
Supporting protocol for TCP/IP			No
Supporting protocol for PROFIBUS			No
Supporting protocol for CAN			No
Supporting protocol for INTERBUS			No
Supporting protocol for ASI			No
Supporting protocol for KNX			No
Supporting protocol for MODBUS			Yes
Supporting protocol for Data-Highway			No
Supporting protocol for DeviceNet			No
Supporting protocol for SUCONET			No
Supporting protocol for LON			No
Supporting protocol for PROFINET IO			No
Supporting protocol for PROFINET CBA			No
Supporting protocol for SERCOS			No
Supporting protocol for Foundation Fieldbus			No
Supporting protocol for EtherNet/IP			No
Supporting protocol for AS-Interface Safety at Work			No
Supporting protocol for DeviceNet Safety			No
Supporting protocol for INTERBUS-Safety			No
Supporting protocol for PROFIsafe			No
Supporting protocol for SafetyBUS p			No
Supporting protocol for other bus systems			No
Number of HW-interfaces industrial Ethernet			0
Number of HW-interfaces PROFINET			0
Number of HW-interfaces RS-232			0
Number of HW-interfaces RS-422			0
Number of HW-interfaces RS-485			1
Number of HW-interfaces serial TTY			0
Number of HW-interfaces USB			0
Number of HW-interfaces parallel			0
Number of HW-interfaces other			0
With optical interface			No

With PC connection			Yes
Integrated braking resistance			No
4-quadrant operation possible			No
Type of converter			U converter
Degree of protection (IP)			IP20
Height		mm	253
Width		mm	100
Depth		mm	109
Relative symmetric net frequency tolerance		%	0
Relative symmetric net current tolerance		%	0

Approvals

Product Standards			UL 508C; CSA-C22.2 No. 14; IEC/EN61800-3; IEC/EN61800-5; CE marking
UL File No.			E134360
UL Category Control No.			NMMS, NMMS7
CSA File No.			UL report applies to both US and Canada
CSA Class No.			3211-06
North America Certification			UL listed, certified by UL for use in Canada
Specially designed for North America			No
Suitable for			Branch circuits
Max. Voltage Rating			1~ 240 V AC IEC: TN-S UL/CSA: "Y" (Solidly Grounded Wey)
Degree of Protection			IEC: IP20; optionally UL/CSA NEMA 1

Dimensions



Additional product information (links)

IL04020001E MMX adjustable frequency drives

IL04020001E MMX adjustable frequency drives ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL04020001E2013_09.pdf

MN04020001Z M-Max variable frequency drive, manual

MN04020001Z Frequenzumrichter M-Max, Handbuch - Deutsch ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN04020001Z_DE.pdf

MN04020001Z M-Max variable frequency drive, manual - English ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN04020001Z_EN.pdf

MN04020001Z Convertisseurs de fréquence M-Max, manuel - français ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN04020001Z_FR.pdf

MN04020001Z Frekvenční měnič M-Max, manuál - čeština ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN04020001Z_CZ.pdf

MN04020001Z Convertitori di frequenza M-Max, manuale - italiano ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN04020001Z_IT.pdf

MN04020001Z Przemienник częstotliwości M-Max, podręcznik - polski ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN04020001Z_PL.pdf

MN04020001Z Преобразователи частоты M-Max, руководство - русский ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN04020001Z_RU.pdf