MX2 Quick Start Guide

1 SPECIFICATIONS

1.1 Upon receipt

Please perform the following task after receiving the drive:

- Inspect the driver for damage. If the drive appears to be damaged upon receipt, contact your supplier
- Verify the receipt of the correct model by checking the information on the nameplate. If you have received the wrong model contact your supplier.
- Refer to the User's Manual for detailed information about the product and functions

Basic specifications and EMC filter

Voltage	Type		HD (150% overload for 60s)		ND (120% overload for 60s)		EMC filter*
	IP20	IP54	Max Motor (KW)	Rated current (A)	Max Motor (KW)	Rated current (A)	
1 x 230 V	3G3MX2-AB001-E	3G3MX2-DB001-E/EC	0.1	1.0	0.2	1.2	AX-FIM1010-RE AX-FIM1014-SE
	3G3MX2-AB002-E	3G3MX2-DB002-E/EC	0.2	1.6	0.4	1.9	
	3G3MX2-AB004-E	3G3MX2-DB004-E/EC	0.4	3.0	0.55	3.5	
	3G3MX2-AB007-E	3G3MX2-DB007-EC	0.75	5.0	1.1	6.0	AX-FIM1014-RE/SE
	3G3MX2-AB015-E	3G3MX2-DB015-EC	1.5	8.0	2.2	9.6	AX-FIM1024-RE/SE
	3G3MX2-AB022-E	3G3MX2-DB022-EC	2.2	11.0	3.0	12.0	
3 x 230 V	3G3MX2-A2001-E	3G3MX2-D2001-E/EC	0.1	1.0	0.2	1.2	AX-FIM2010-RE/SE
	3G3MX2-A2002-E	3G3MX2-D2002-E/EC	0.2	1.6	0.4	1.9	
	3G3MX2-A2004-E	3G3MX2-D2004-E/EC	0.4	3.0	0.55	3.5	
	3G3MX2-A2007-E	3G3MX2-D2007-E/EC	0.75	5.0	1.1	6.0	
	3G3MX2-A2015-E	3G3MX2-D2015-EC	1.5	8.0	2.2	9.6	AX-FIM2020-RE/SE
	3G3MX2-A2022-E	3G3MX2-D2022-EC	2.2	11.0	3.0	12.0	
	3G3MX2-A2037-E	3G3MX2-D2037-EC	3.7	17.5	5.5	19.6	AX-FIM2030-RE/SE
	3G3MX2-A2055-E	3G3MX2-D2055-EC	5.5	25.0	7.5	30.0	AX-FIM2060-RE/SE
	3G3MX2-A2075-E	3G3MX2-D2075-EC	7.5	33.0	11	40.0	
	3G3MX2-A2110-E	3G3MX2-D2110-EC	11	47.0	15	56.0	AX-FIM2080-RE/SE
	3G3MX2-A2150-E	3G3MX2-D2150-EC	15	60.0	18.5	69.0	AX-FIM2100-RE/SE
3 x 400 V	3G3MX2-A4004-E	3G3MX2-D4004-EC	0.4	1.8	0.75	2.1	AX-FIM3005-RE/SE
	3G3MX2-A4007-E	3G3MX2-D4007-EC	0.75	3.4	1.5	4.1	
	3G3MX2-A4015-E	3G3MX2-D4015-EC	1.5	4.8	2.2	5.4	AX-FIM3010-RE/SE
	3G3MX2-A4022-E	3G3MX2-D4022-EC	2.2	5.5	3.0	6.9	
	3G3MX2-A4030-E	3G3MX2-D4030-EC	3.0	7.2	4.0	8.8	
	3G3MX2-A4040-E	3G3MX2-D4040-EC	4.0	9.2	5.5	11.1	AX-FIM3014-RE/SE
	3G3MX2-A4055-E	3G3MX2-D4055-EC	5.5	14.8	7.5	17.5	AX-FIM3030-RE/SE
	3G3MX2-A4075-E	3G3MX2-D4075-EC	7.5	18.0	11	23.0	
	3G3MX2-A4110-E	3G3MX2-D4110-EC	11	24.0	15	31.0	AX-FIM3050-RE/SE
	3G3MX2-A4150-E	3G3MX2-D4150-EC	15	31.0	18.5	38.0	

* 3G3MX2-D types include a built in EMC filter

1.2 Technical specification

Model number MX2		Specifications
Control functions	Control methods	Phase-to-phase sinusoidal pulse with modulation PWM (Sensorless vector control, V/F)
	Output frequency range	0.10..1000.00 Hz (with restrictions above 400Hz)
	Frequency precision	Digital set value: ±0.01% of the max. frequency
		Analogue set value: ±0.2% of the max. frequency (25 ±10 °C)
	Resolution of frequency set value	Digital set value: 0.01 Hz
		Analogue set value: 1/1000 of maximum frequency
	Resolution of output frequency	0.01Hz
	Starting torque	200% / 0.5Hz
	Overload capability	Dual rating: Heavy duty (CT): 150% for 1 minute / Normal Duty (VT): 120% for 1 minute
	Frequency set value	0 to 10 VDC (10KW), 4 to 20mA (100W), RS485 Modbus, Network options
	V/f Characteristics	Constant/ reduced torque, free V/f
Functionality	Analogue inputs	2 analogue inputs 0 to 10V (10KW), 4 to 20mA (100W)
	Pulse train input terminal	0 to 10V (up to 24V), up to 32KHz
	Accel/Decel times	0.01 to 3600.0s (line/curve selection), 2nd accel/decel setting available
	Display	Status indicator LED's Run, Program, Alarm, Power, Hz, Amps
Protection functions	Motor overload protection	Electronic Thermal overload relay and PTC thermistor input
	Instantaneous overcurrent	200% of rated current
	Overload	Dual rating: Heavy duty (CT): 150% for 1 minute / Normal Duty (VT): 120% for 1 minute
	Overvoltage	800V for 400V type and 400V for 200V type
	Undervoltage	345V for 400V type and 172.5V for 200V type
	Momentary power loss	Following items are selectable: Alarm, decelerates to stop, decelerates to stop with DC bus controlled, restart
	Cooling fin overheat	Temperature monitor and error detection
	Stall prevention level	Stall prevention during acceleration/deceleration and constant speed
	Ground fault	Detection at power-on
Ambient conditions	Degree of protection	IP20, Varnish coating on PCB & IP54 (For 3G3MX2-D□ type)
	Ambient humidity	90% RH or less (without condensation)
	Storage temperature	-20 °C..+65 °C (short-term temperature during transportation)
	Ambient temperature	-10°C to 50°C (Output current derating could be necessary above 40°C or depending on installation conditions)
	Installation	Indoor (no corrosive gas, dust, etc.)
	Installation height	Max. 1000 m
	Vibration	5.9 m/s^2 (0.6G), 10 to 55 Hz

1.3 Power ratings

Item			Single-phase 200 V class Specifications					
MX2 inverters, 200 V models			AB001	AB002	AB004	AB007	AB015	AB022
Applicable motor size	kW	VT	0.2	0.4	0.55	1.1	2.2	3.0
		CT	0.1	0.2	0.4	0.75	1.5	2.2
	HP	VT	1/4	1/2	3/4	1.5	3	4
		CT	1/8	1/4	1/2	1	2	3
Rated capacity (kVA)	200 V	VT	0.4	0.6	1.2	2.0	3.3	4.1
		CT	0.2	0.5	1.0	1.7	2.7	3.8
	240 V	VT	0.4	0.7	1.4	2.4	3.9	4.9
		CT	0.3	0.6	1.2	2.0	3.3	4.5
Rated input voltage			Single-phase: 200 V-15% to 240 V+10%, 50/60 Hz±5%					
Rated output voltage			3-phase: 200 to 240 V (proportional to input voltage)					
Rated output current (A)		VT	1.2	1.9	3.5	6.0	9.6	12.0
		CT	1.0	1.6	3.0	5.0	8.0	11.0
Starting torque			200% at 0.5 Hz					
Braking	Without resistor		100%: at50 Hz 50%: at 60 Hz				70%: at 50 Hz 50%: at 60 Hz	20%: at 50 Hz 20%: at 60 Hz
	With resistor		150%					100%
DC braking			Variable operating frequency, time, and braking force					
Weight		kg	1.0	1.0	1.1	1.4	1.8	1.8
		lb	2.2	2.2	2.4	3.1	4.0	4.0

SPECIFICATIONS

Item			Three-phase 200V class Specifications										
MX2 inverters, 200 V models			A2001	A2002	A2004	A2007	A2015	A2022	A2037	A2055	A2075	A2110	A2150
Applicable motor size	kW	VT	0.2	0.4	0.75	1.1	2.2	3.0	5.5	7.5	11	15	18.5
		CT	0.1	0.2	0.4	0.75	1.5	2.2	3.7	5.5	7.5	11	15
	HP	VT	1/4	1/2	1	1.5	3	4	7.5	10	15	20	25
		CT	1/8	1/4	1/2	1	2	3	5	7.5	10	15	20
Rated capacity (kVA)	200 V	VT	0.4	0.6	1.2	2.0	3.3	4.1	6.7	10.3	13.8	19.3	23.9
		CT	0.2	0.5	1.0	1.7	2.7	3.8	6.0	8.6	11.4	16.2	20.7
	240 V	VT	0.4	0.7	1.4	2.4	3.9	4.9	8.1	12.4	16.6	23.2	28.6
		CT	0.3	0.6	1.2	2.0	3.3	4.5	7.2	10.3	13.7	19.5	24.9
Rated input voltage			Three-phase: 200 V-15% to 240 V+10%, 50/60 Hz±5%										
Rated output voltage			Three-phase: 200 to 240 V (proportional to input voltage)										
Rated output current (A)		VT	1.2	1.9	3.5	6.0	9.6	12.0	19.6	30.0	40.0	56.0	69.0
		CT	1.0	1.6	3.0	5.0	8.0	11.0	17.5	25.0	33.0	47.0	60.0
Starting torque			200% at 0.5 Hz										
Braking	Without resistor		100%: at 50 Hz 50%: at 60 Hz				70%: at 50 Hz 50%: at 60 Hz	100%: at 50 Hz 50%: at 60 Hz					100%: at 50 Hz 50%: at 60 Hz
	With resistor		150%										
DC braking			Variable operating frequency, time, and braking force										
Weight		kg	1.0	1.0	1.1	1.2	1.6	1.8	2.0	3.3	3.4	5.1	7.4
		lb	2.2	2.2	2.4	2.6	3.5	4.0	4.4	7.3	7.5	11.2	16.3

Item			Three-phase 400V class Specifications									
MX2 inverters, 400 V models			A4004	A4007	A4015	A4022	A4030	A4040	A4055	A4075	A4110	A4150
Applicable motor size	kW	VT	0.75	1.5	2.2	3.0	4.0	5.5	7.5	11	15	18.5
		CT	0.4	0.75	1.5	2.2	3.0	4.0	5.5	7.5	11	15
	HP	VT	1	2	3	4	5	7.5	10	15	20	25
		CT	1/2	1	2	3	4	5	7.5	10	15	20
Rated capacity (kVA)	380 V	VT	1.3	2.6	3.5	4.5	5.7	7.3	11.5	15.1	20.4	25.0
		CT	1.1	2.2	3.1	3.6	4.7	6.0	9.7	11.8	15.7	20.4
	480 V	VT	1.7	3.4	4.4	5.7	7.3	9.2	14.5	19.1	25.7	31.5
		CT	1.4	2.8	3.9	4.5	5.9	7.6	12.3	14.9	19.9	25.7
Rated input voltage			Three-phase: 380 V-15% to 480 V+10%, 50/60 Hz±5%									
Rated output voltage			Three-phase: 380 to 480 V (proportional to input voltage)									
Rated output current (A)		VT	2.1	4.1	5.4	6.9	8.8	11.1	17.5	23.0	31.0	38.0
		CT	1.8	3.4	4.8	5.5	7.2	9.2	14.8	18.0	24.0	31.0
Starting torque			200% at 0.5 Hz									
Braking	Without resistor		100% at 50 Hz 50%: at 60 Hz				70%: at 50 Hz 50%: at 60 Hz	100%: at 50 Hz 50%: at 60 Hz				
	With resistor		150%									
DC braking			Variable operating frequency, time, and braking force									
Weight		kg	1.5	1.6	1.8	1.9	1.9	2.1	3.5	3.5	4.7	5.2
		lb	3.3	3.5	4.0	4.2	4.2	4.6	7.7	7.7	10.4	11.5