

Multi-function Compact Inverter

# MX2-Series V2 type

CSM\_MX2-V2\_DS\_E\_3\_1

**Provides rich features,  
including simple positioning and  
PM motor control,  
for a variety of applications**

- Positioning functionality  
Positioning with 90° phase difference pulse input (32 kHz max.) and with single-phase pulse input (32 kHz max.)
- EtherCAT® communications with optional unit
- Built-in logic programming for simple sequence control
- PM motor control for more efficient energy use
- Sensorless vector control and auto-tuning to achieve high starting torque of 200% at 0.5 Hz
- Safety functionality  
EN ISO 13849-1 Cat.3 PLe  
IEC 61800-5-2 "Safe Torque Off (STO)"  
Safety input (2CH) + EDM (safety monitor) output
- Output frequency range up to 590 Hz



# Multi-function Compact Inverter **MX2-Series V2 type**

## Standard Specifications

### Inverter MX2-series V2 type

#### 3-phase 200-V Class

ND: Normal load, LD: Light load

Item			3-phase 200 V										
Model (3G3MX2-□-V2)			A2001	A2002	A2004	A2007	A2015	A2022	A2037	A2055	A2075	A2110	A2150
Maximum applicable motor capacity *1	kW	ND	0.1	0.2	0.4	0.75	1.5	2.2	3.7	5.5	7.5	11	15
		LD	0.2	0.4	0.75	1.1	2.2	3.0	5.5	7.5	11	15	18.5
	HP	ND	1/8	1/4	1/2	1	2	3	5	7 1/2	10	15	20
		LD	1/4	1/2	1	1 1/2	3	4	7 1/2	10	15	20	25
Rated output capacity [kVA]	200 V	ND	0.2	0.5	1.0	1.7	2.7	3.8	6.0	8.6	11.4	16.2	20.7
		LD	0.4	0.6	1.2	2.0	3.3	4.1	6.7	10.3	13.8	19.3	23.9
	240 V	ND	0.3	0.6	1.2	2.0	3.3	4.5	7.2	10.3	13.7	19.5	24.9
		LD	0.4	0.7	1.4	2.4	3.9	4.9	8.1	12.4	16.6	23.2	28.6
Rated input voltage			3-phase 200 V -15% to 240 V +10%, 50/60 Hz ±5%										
Rated input current [A]	ND	1.0	1.6	3.3	6.0	9.0	12.7	20.5	30.8	39.6	57.1	62.6	
	LD	1.2	1.9	3.9	7.2	10.8	13.9	23.0	37.0	48.0	68.0	72.0	
Rated output voltage *2			3-phase 200 to 240 V (Less than incoming voltage)										
Rated output current [A]	ND	1.0	1.6	3.0	5.0	8.0	11.0	17.5	25.0	33.0	47.0	60.0	
	LD	1.2	1.9	3.5	6.0	9.6	12.0	19.6	30.0	40.0	56.0	69.0	
Braking torque during short-time deceleration [%] *3 (discharge resistor not connected)			50	50	50	50	50	20	20	20	20	10	10
Braking resistor circuit *4	Regenerative braking	Built-in braking resistor circuit (discharge resistor separately mounted)											
	Minimum connection resistance [Ω]	100	100	100	50	50	35	35	20	17	17	10	
Cooling method			Self-cooling (without fan)				Forced air cooling (with fan)						
Weight [kg]			1.0	1.0	1.1	1.2	1.6	1.8	2.0	3.5	3.5	4.5	6.5
Dimensions (Width × Height) [mm]			68 × 128				108 × 128		140 × 128	140 × 260		180 × 296	220 × 350
Dimensions (Depth) [mm]			112		125.5	148.5	173.5			158		168	178

\*1. "Applicable motor" represents standard 3-phase motors. When using other types of motors, make sure that the rated current of the motor does not exceed that of the inverter.

\*2. The output voltage decreases as the input voltage drops.

\*3. The braking torque during capacitor feedback is the average deceleration torque applied when the motor decelerates in the shortest deceleration time (when stopped from 50 Hz), not the continuous regenerative torque. The average deceleration torque varies depending on the motor loss. This value will decrease in operation over 50 Hz.

\*4. The usage rate of the regenerative braking function is 10%.

## 3-phase 400-V Class

ND: Normal load, LD: Light load

Item		3-phase 400 V										
<b>Model (3G3MX2-□-V2)</b>		A4004	A4007	A4015	A4022	A4030	A4040	A4055	A4075	A4110	A4150	
<b>Maximum applicable motor capacity *1</b>	<b>kW</b>	<b>ND</b>	0.4	0.75	1.5	2.2	3.0	4.0	5.5	7.5	11	15
		<b>LD</b>	0.75	1.5	2.2	3.0	4.0	5.5	7.5	11	15	18.5
	<b>HP</b>	<b>ND</b>	1/2	1	2	3	4	5	7 1/2	10	15	20
		<b>LD</b>	1	2	3	4	5	7 1/2	10	15	20	25
<b>Rated output capacity [kVA]</b>	<b>380 V</b>	<b>ND</b>	1.1	2.2	3.1	3.6	4.7	6.0	9.7	11.8	15.7	20.4
		<b>LD</b>	1.3	2.6	3.5	4.5	5.7	7.3	11.5	15.1	20.4	25.0
	<b>480 V</b>	<b>ND</b>	1.4	2.8	3.9	4.5	5.9	7.6	12.3	14.9	19.9	25.7
		<b>LD</b>	1.7	3.4	4.4	5.7	7.3	9.2	14.5	19.1	25.7	31.5
<b>Rated input voltage</b>		3-phase 380 V -15% to 480 V +10%, 50/60 Hz ±5%										
<b>Rated input current [A]</b>	<b>ND</b>	1.8	3.6	5.2	6.5	7.7	11.0	16.9	18.8	29.4	35.9	
	<b>LD</b>	2.1	4.3	5.9	8.1	9.4	13.3	20.0	24.0	38.0	44.0	
<b>Rated output voltage *2</b>		3-phase 380 to 480 V (Less than incoming voltage)										
<b>Rated output current [A]</b>	<b>ND</b>	1.8	3.4	4.8	5.5	7.2	9.2	14.8	18.0	24.0	31.0	
	<b>LD</b>	2.1	4.1	5.4	6.9	8.8	11.1	17.5	23.0	31.0	38.0	
<b>Braking torque during short-time deceleration [%] *3 (discharge resistor not connected)</b>		50	50	50	20	20	20	20	20	10	10	
<b>Braking resistor circuit *4</b>	<b>Regenerative braking</b>	Built-in braking resistor circuit (discharge resistor separately mounted)										
	<b>Minimum connection resistance [Ω]</b>	180	180	180	100	100	100	70	70	70	35	
<b>Cooling method</b>		Self-cooling (without fan)			Forced air cooling (with fan)							
<b>Weight [kg]</b>		1.5	1.8	1.8	1.8	2.0	2.0	3.5	3.5	4.5	4.5	
<b>Dimensions (Width × Height) [mm]</b>		108 × 128					140 × 128	140 × 260			180 × 296	
<b>Dimensions (Depth) [mm]</b>		146.5	173.5				158			168		

\*1. "Applicable motor" represents standard 3-phase motors. When using other types of motors, make sure that the rated current of the motor does not exceed that of the inverter.

\*2. The output voltage decreases as the input voltage drops.

\*3. The braking torque during capacitor feedback is the average deceleration torque applied when the motor decelerates in the shortest deceleration time (when stopped from 50 Hz), not the continuous regenerative torque. The average deceleration torque varies depending on the motor loss. This value will decrease in operation over 50 Hz.

\*4. The usage rate of the regenerative braking function is 10%.

# Multi-function Compact Inverter **MX2-Series V2 type**

## Single-phase 200-V Class

ND: Normal load, LD: Light load

Item		Single-phase 200 V						
Model (3G3MX2-□-V2)		AB001	AB002	AB004	AB007	AB015	AB022	
Maximum applicable motor capacity *1	kW	ND	0.1	0.2	0.4	0.75	1.5	2.2
		LD	0.2	0.4	0.55	1.1	2.2	3.0
	HP	ND	1/8	1/4	1/2	1	2	3
		LD	1/4	1/2	3/4	1 1/2	3	4
Rated output capacity [kVA]	200 V	ND	0.2	0.5	1.0	1.7	2.7	3.8
		LD	0.4	0.6	1.2	2.0	3.3	4.1
	240 V	ND	0.3	0.6	1.2	2.0	3.3	4.5
		LD	0.4	0.7	1.4	2.4	3.9	4.9
Rated input voltage		Single-phase 200 V -15% to 240 V +10%, 50/60 Hz ±5%						
Rated input current [A]	ND	1.3	3.0	6.3	11.5	16.8	22.0	
	LD	2.0	3.6	7.3	13.8	20.2	24.0	
Rated output voltage *2		3-phase 200 to 240 V (Less than incoming voltage)						
Rated output current [A]	ND	1.0	1.6	3.0	5.0	8.0	11.0	
	LD	1.2	1.9	3.5	6.0	9.6	12.0	
Braking torque during short-time deceleration [%] *3 (discharge resistor not connected)		50	50	50	50	50	20	
Braking resistor circuit *4	Regenerative braking	Built-in braking resistor circuit (discharge resistor separately mounted)						
	Minimum connection resistance [Ω]	100	100	100	50	50	35	
Cooling method		Self-cooling (without fan)			Forced air cooling (with fan)			
Weight [kg]		1.0	1.0	1.1	1.6	1.8	1.8	
Dimensions (Width × Height) [mm]		68 × 128			108 × 128			
Dimensions (Depth) [mm]		112		125.5	173.5			

\*1. "Applicable motor" represents standard 3-phase motors. When using other types of motors, make sure that the rated current of the motor does not exceed that of the inverter.

\*2. The output voltage decreases as the input voltage drops.

\*3. The braking torque during capacitor feedback is the average deceleration torque applied when the motor decelerates in the shortest deceleration time (when stopped from 50 Hz), not the continuous regenerative torque. The average deceleration torque varies depending on the motor loss. This value will decrease in operation over 50 Hz.

\*4. The usage rate of the regenerative braking function is 10%.

## Common Specifications

## Inverter MX2-series V2 type

Item	Specifications	
<b>Enclosure rating</b>	Open type (IP20)	
<b>Control</b>	<b>Control method</b>	Phase-to-phase sinusoidal modulation PWM
	<b>Output frequency range *1</b>	0.01 to 590 Hz
	<b>Frequency precision *2</b>	Digital command: $\pm 0.01\%$ of the maximum frequency, Analog command: $\pm 0.2\%$ of the maximum frequency ( $25 \pm 10^\circ\text{C}$ )
	<b>Frequency setting resolution</b>	Digital setting: 0.01 Hz, Analog setting: Maximum frequency $\times 1/1000$
	<b>Voltage/Frequency characteristics</b>	V/f characteristics (constant torque, reduced torque) Sensorless vector control, V/f control with speed feedback
	<b>Overload current rating of inverter</b>	Normal-load rating (ND): 150%/60 s Light-load rating (LD): 120%/60 s
	<b>Instantaneous overcurrent protection</b>	200% of normal-load rating (ND) value
	<b>Acceleration/Deceleration time</b>	0.00 to 3600 s (line/curve arbitrary setting), 2nd acceleration/deceleration setting provided
	<b>Carrier frequency change range</b>	2 to 15 kHz (Derating required)
	<b>Starting torque</b>	200%/0.5 Hz (Sensorless vector control)
	<b>DC injection braking</b>	Operates at operating frequency or less during deceleration via STOP command, at set frequency or less during operation, or via external input (level and time can be set).
<b>Protective function</b>	Overcurrent, Overvoltage, Undervoltage, Electronic thermal, Temperature error, Ground-fault current at power-on, Inrush current protection circuit, Overload limit, Incoming overvoltage, External trip, Memory error, CPU error, USP error, Communication error, Overvoltage suppression during deceleration, Power interruption protection, Emergency shutoff, Analog current input (new), STO internal error (new), etc.	
<b>Input signal</b>	<b>Frequency settings</b>	Digital Operator External analog input signal (variable resistor/0 to 10 VDC/4 to 20 mA), Modbus communication
	<b>RUN/STOP command</b>	Digital Operator External digital input signal (3-wire input available), Modbus communication
	<b>Multi-function Input *3</b>	7 points (Functions can be selected from among 66)
	<b>Analog input *4</b>	2 points (FV terminal for voltage: 10 bits/0 to 10 V, FI terminal for current: 10 bits/4 to 20 mA)
	<b>Pulse input</b>	2 point (32 kHz max., RP terminal: 5 to 24 VDC, S7 terminal: 24 VDC)
	<b>Safety input</b>	2 points (GS1, GS2: Dedicated terminals)
<b>Output signal</b>	<b>Multi-function output *3</b>	2 points (P1 and P2 terminal, Functions can be selected from among 47)
	<b>Relay output *3</b>	1 point (SPDT contact (MC, MA, MB), Functions can be selected from among 47)
	<b>Analog output (Frequency monitor) *5</b>	1 point (AM terminal: 10 bits for voltage, 0 to 10 V) (Frequency or current can be selected)
	<b>Pulse output</b>	1 point (MP terminal: 32 kHz max., 0 to 10 V)
<b>Communications</b>	<b>RS-422</b>	RJ45 connector (for Digital Operator)
	<b>RS-485</b>	Control circuit terminal, Modbus communication
	<b>USB</b>	USB 2.0, Micro-B connector
<b>Other functions</b>	AVR function, V/f characteristics switching, Upper/Lower limit, Multi-step speed (16 steps), Starting frequency adjustment, Jogging operation, Carrier frequency adjustment, PID control, Frequency jump, Analog gain/bias adjustment, S-shape acceleration/deceleration, Electronic thermal characteristics/level adjustment, Restart function, Torque boost function, Fault monitor, Soft lock function, Frequency conversion display, USP function, 2nd control function, UP/DOWN, Overcurrent suppression function, etc.	
<b>General specifications</b>	<b>Operating ambient temperature *6</b>	-10 to 50°C (Derating required)
	<b>Storage ambient temperature</b>	-20 to 65°C (During shipment)
	<b>Operating ambient humidity</b>	20% to 90% (with no condensation)
	<b>Vibration resistance</b>	5.9 m/s <sup>2</sup> (0.6 G), 10 to 55 Hz
	<b>Location</b>	At a maximum altitude of 1,000 m, indoors (without corrosive gases or dust)
<b>Options</b>	<b>EtherCAT Communications Unit</b> 3G3AX-MX2-ECT	
<b>Other optional equipment</b>	DC reactor, AC reactor, Radio noise filter, Input noise filter, Output noise filter, Regenerative braking unit, Braking resistor, etc.	

\*1. If you must use the motor at higher than 50/60 Hz, check the allowable maximum motor speed and other information with the motor manufacturer. To run the motor at higher than 400 Hz, use the high-frequency mode.

\*2. To achieve stable motor control, the output frequency may exceed the maximum frequency set in the 1st/2nd Maximum Frequency (A004/A204) by a maximum of 2 Hz.

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- \*3. In the LD (light load) mode and the PM motor mode, the available functions are limited compared with the ND (normal load) mode. For some parameters, the default data and setting range also differ.
- \*4. By default, the maximum frequency is adjusted to 9.8 V for a voltage input of 0 to 10 VDC and to 19.8 mA for a current input of 4 to 20 mA, respectively. If necessary, adjust the default parameter settings. For details, refer to the *Multi-function Compact Inverter 3G3MX2-V2 User's Manual* (Cat. No. I666).
- \*5. The analog voltage and current values for the multi-function monitor output terminals show values that can only be used as a guide for analog meter connection. The maximum output value may differ from 10 V or 20 mA due to the variability of the analog output circuit. If necessary, adjust the default parameter settings. For details, refer to the *Multi-function Compact Inverter 3G3MX2-V2 User's Manual* (Cat. No. I666).
- \*6. Derating of the rated output current of the Inverter may be required depending on the normal/light load mode selection, operating ambient temperature, side-by-side installation, and carrier frequency settings.  
Use the inverter in an appropriate environment, refer to the *Multi-function Compact Inverter 3G3MX2-V2 User's Manual* (Cat. No. I666).

## Applicable Standards

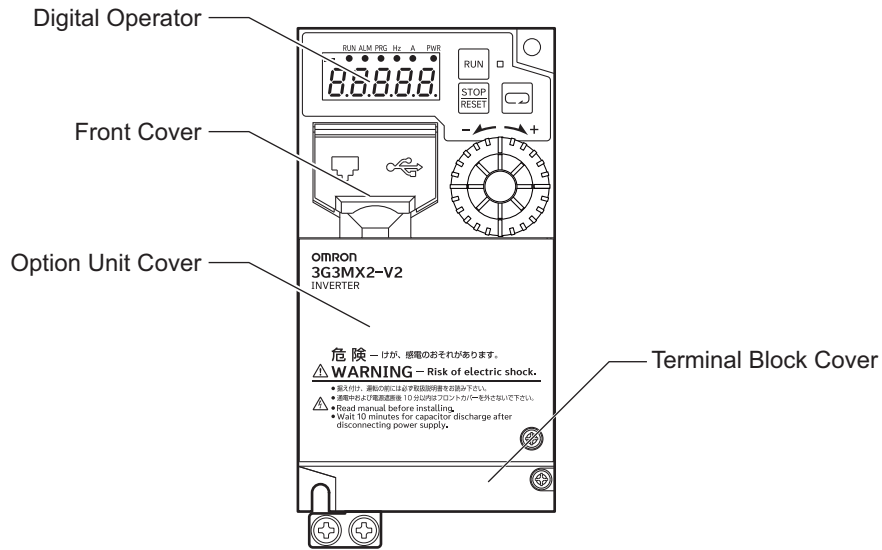
The 3G3MX2-V2 Series complies with following standards.

Regulation		Applicable Standards
CE UKCA	EMC	EN 61800-3
	Functional safety	EN 61800-5-2, STO SIL3 EN ISO 13849-1, Cat.3/PLe
	Electrical safety	EN 61800-5-1
	Others	Ecodesign, RoHS
UL	US	UL61800-5-1
	CA	CSA-C22.2 No.274
	FS	IEC 61800-5-2, STO SIL3 IEC 61508-1 to -7 SIL3 EN ISO 13849-1, Cat.3/PLe
RCM		EN 61800-3

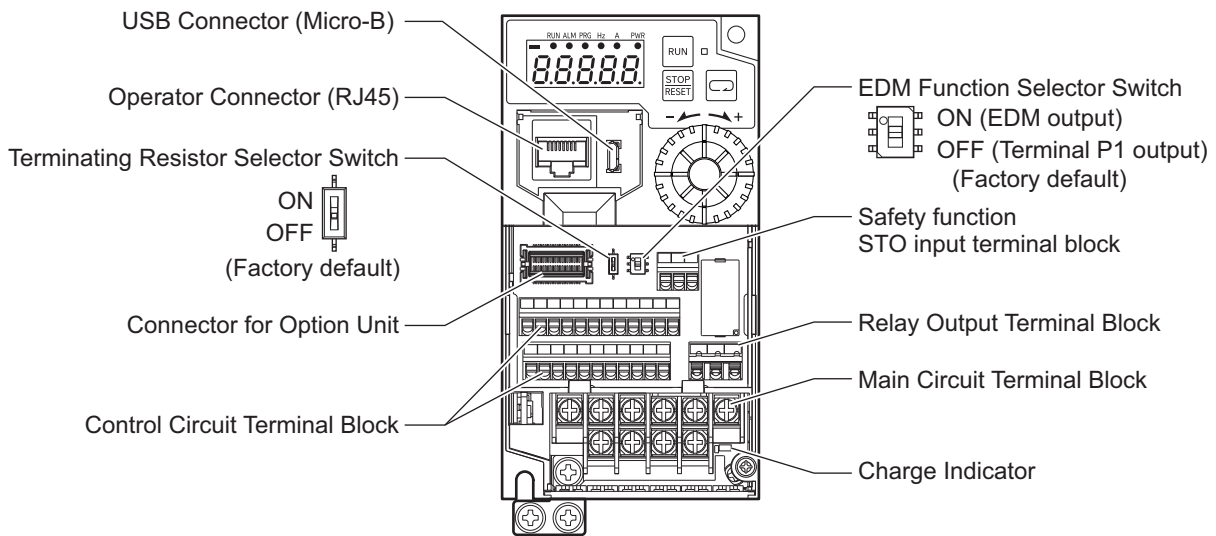
## Appearance and Part Names

### Inverter MX2-series V2 type

The following shows the front view when the product is unpacked (an example of 3G3MX2-A2001-V2/A2002-V2/A2004-V2/A2007-V2/AB001-V2/AB002-V2/AB004-V2).



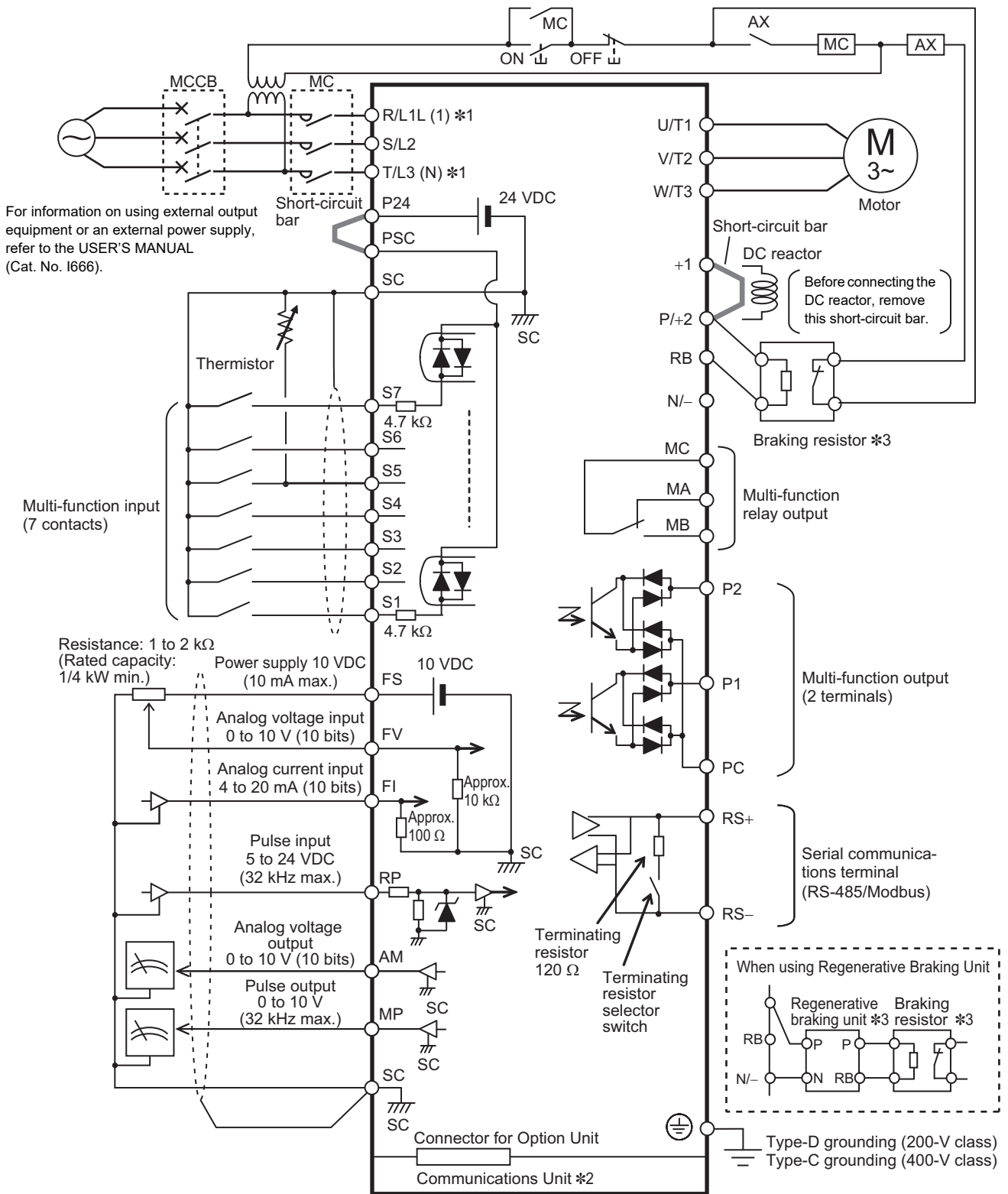
Open the terminal block cover to wire the main circuit terminal block and the control circuit terminal block.



# Multi-function Compact Inverter MX2-Series V2 type

## Wiring

### Standard Connection Diagram



\*1. Connect to the terminals L1 and N on the single-phase 200-VAC inverter (Model: 3G3MX2-AB□□-V2).

\*2. For the connection to communications units, refer to the user's manual for each option unit.

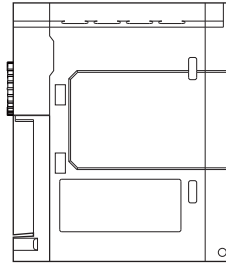
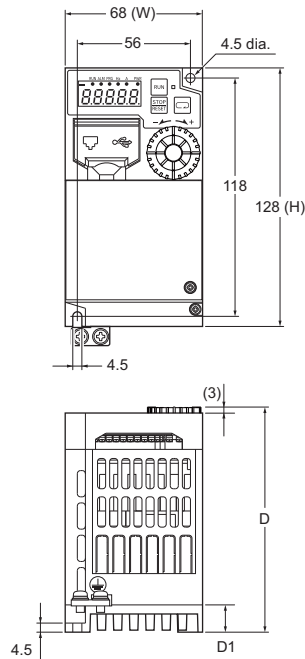
\*3. For the connection to the braking resistor and regenerative braking unit, refer to the USER'S MANUAL (Cat. No. I666).



Dimensions

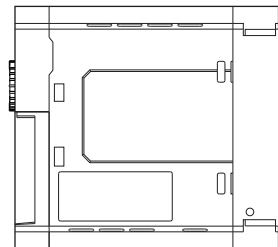
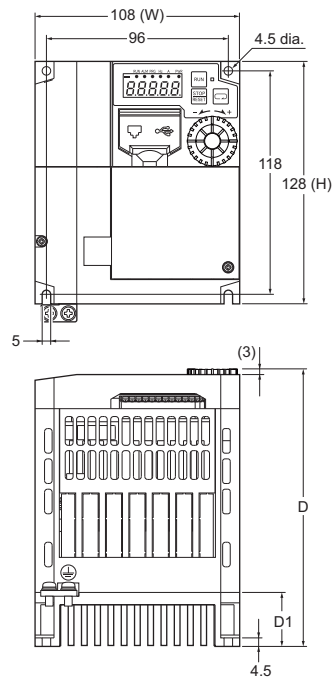
(Unit: mm)

- 3G3MX2-AB001-V2
- 3G3MX2-AB002-V2
- 3G3MX2-AB004-V2
- 3G3MX2-A2001-V2
- 3G3MX2-A2002-V2
- 3G3MX2-A2004-V2
- 3G3MX2-A2007-V2



Power supply	Model	W (mm)	H (mm)	D (mm)	D1 (mm)
Single-phase 200 V	3G3MX2-AB001-V2 3G3MX2-AB002-V2	68	128	112	13.5
	3G3MX2-AB004-V2			125.5	27
3-phase 200 V	3G3MX2-A2001-V2 3G3MX2-A2002-V2			112	13.5
	3G3MX2-A2004-V2			125.5	27
	3G3MX2-A2007-V2			148.5	50

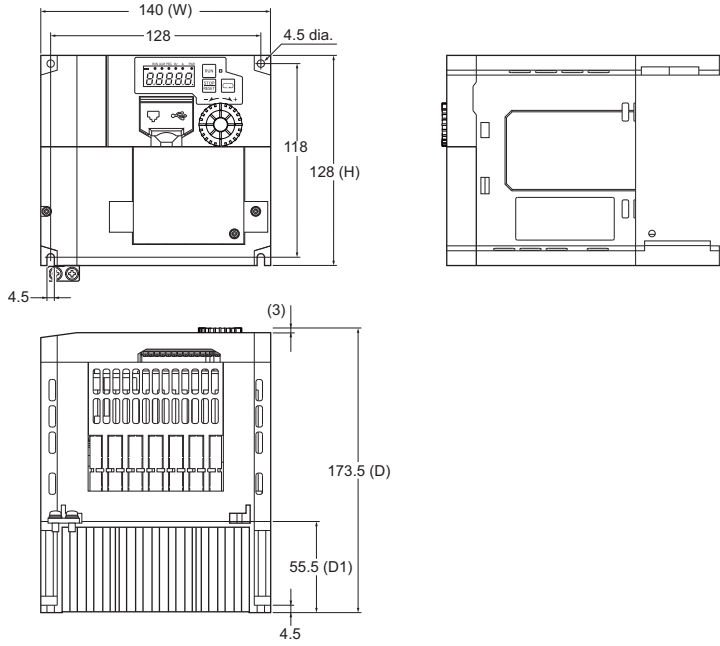
- 3G3MX2-AB007-V2
- 3G3MX2-AB015-V2
- 3G3MX2-AB022-V2
- 3G3MX2-A2015-V2
- 3G3MX2-A2022-V2
- 3G3MX2-A4004-V2
- 3G3MX2-A4007-V2
- 3G3MX2-A4015-V2
- 3G3MX2-A4022-V2
- 3G3MX2-A4030-V2



Power supply	Model	W (mm)	H (mm)	D (mm)	D1 (mm)			
Single-phase 200 V	3G3MX2-AB007-V2 3G3MX2-AB015-V2 3G3MX2-AB022-V2	108	128	173.5	55.5			
	3-phase 200 V					3G3MX2-A2015-V2 3G3MX2-A2022-V2	146.5	28.5
						3G3MX2-A4004-V2		
3-phase 400 V	3G3MX2-A4007-V2 3G3MX2-A4015-V2 3G3MX2-A4022-V2 3G3MX2-A4030-V2							

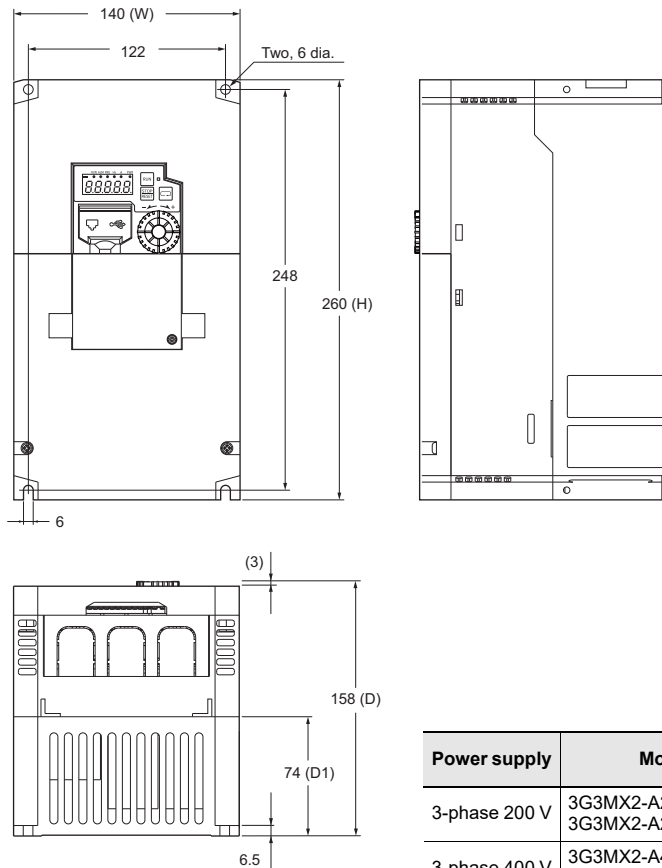
# Multi-function Compact Inverter **MX2-Series V2 type**

**3G3MX2-A2037-V2**  
**3G3MX2-A4040-V2**



Power supply	Model	W (mm)	H (mm)	D (mm)	D1 (mm)
3-phase 200 V	3G3MX2-A2037-V2	140	128	173.5	55.5
3-phase 400 V	3G3MX2-A4040-V2				

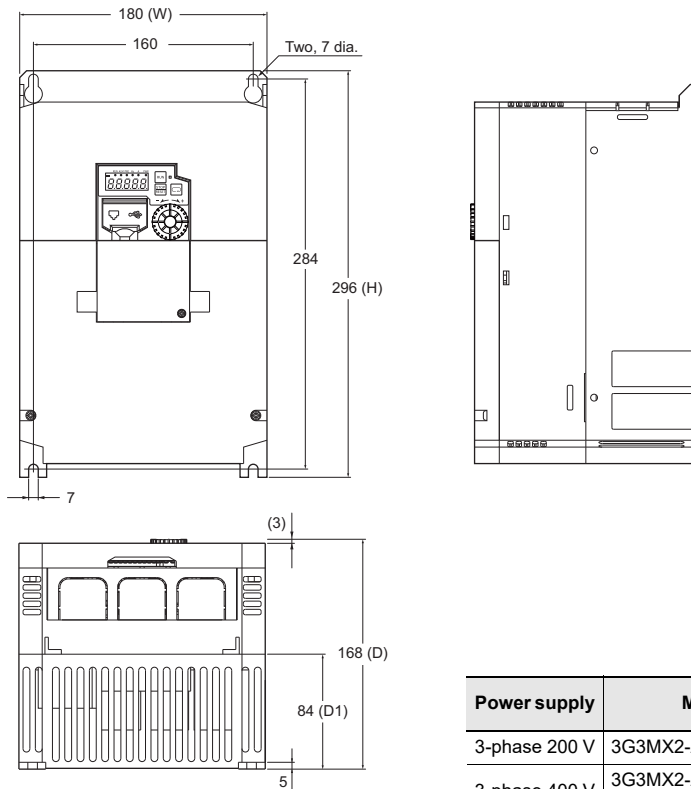
**3G3MX2-A2055-V2**  
**3G3MX2-A2075-V2**  
**3G3MX2-A4055-V2**  
**3G3MX2-A4075-V2**



Power supply	Model	W (mm)	H (mm)	D (mm)	D1 (mm)
3-phase 200 V	3G3MX2-A2055-V2 3G3MX2-A2075-V2	140	260	158	74
3-phase 400 V	3G3MX2-A4055-V2 3G3MX2-A4075-V2				

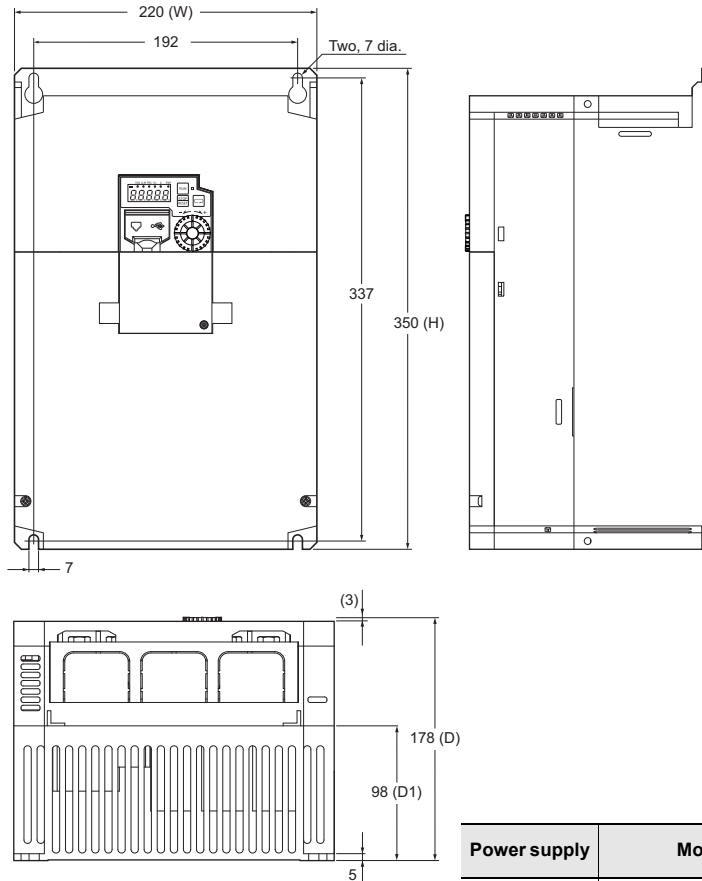
# Multi-function Compact Inverter MX2-Series V2 type

3G3MX2-A2110-V2  
 3G3MX2-A4110-V2  
 3G3MX2-A4150-V2



Power supply	Model	W (mm)	H (mm)	D (mm)	D1 (mm)
3-phase 200 V	3G3MX2-A2110-V2	180	296	168	84
3-phase 400 V	3G3MX2-A4110-V2				
	3G3MX2-A4150-V2				

3G3MX2-A2150-V2



Power supply	Model	W (mm)	H (mm)	D (mm)	D1 (mm)
3-phase 200 V	3G3MX2-A2150-V2	220	350	178	98

## Communication Unit

### MX2-Series EtherCAT Communication Unit 3G3AX-MX2-ECT

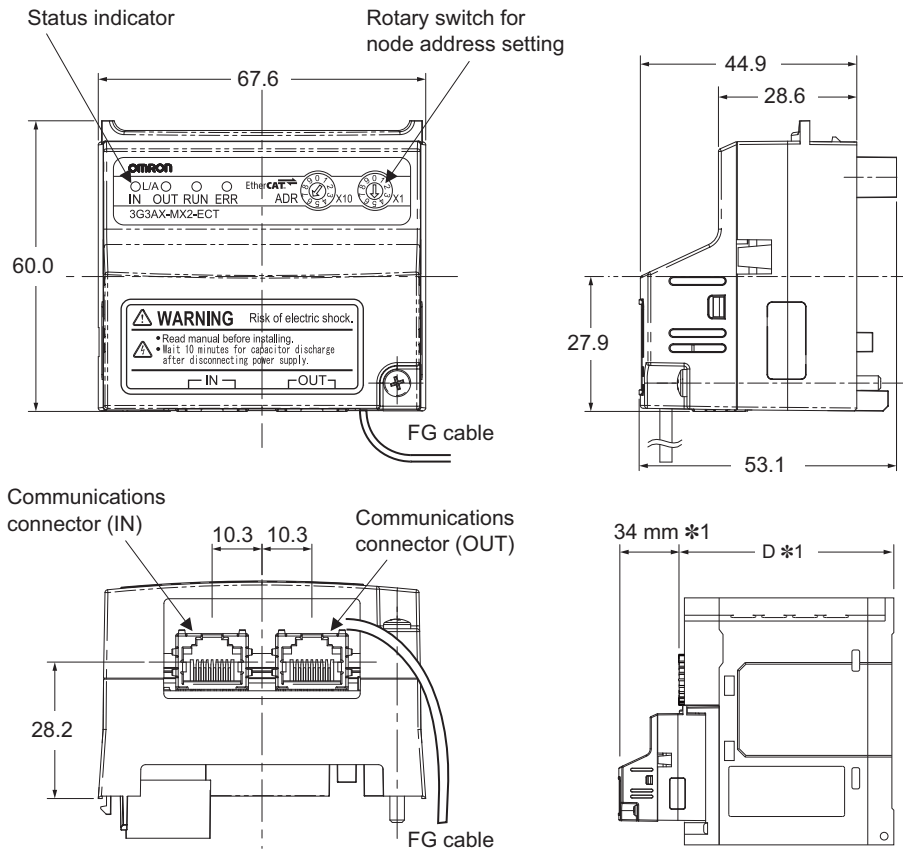
This is the communication unit to connect the Multi-function Compact Inverter MX2 to EtherCAT network.

This communication unit passed the conformance test of EtherCAT.

#### Specifications

	Item	Specifications
<b>General specifications</b>	Power supply	Supplied from inverter
	Enclosure rating	IP20
	Operating ambient temperature	-10 to 50°C
	Storage ambient temperature	-20 to 65°C
	Operating ambient humidity	20% to 90% (with no condensation)
	Vibration resistance	5.9 m/s <sup>2</sup> (0.6 G), 10 to 55 Hz
	Location	At a maximum altitude of 1,000 m, indoors (without corrosive gases or dust)
	Weight	100 g max. (Shipping weight: Approx. 130 g)
	EC Directives	EMC Directive: EN61800-3 Low Voltage Directive: EN61800-5-1
	UL/cUL Standard	UL508C
<b>EtherCAT Communication specifications</b>	Communications standard	IEC 61158 Type12, IEC 61800-7 CiA 402 drive profile
	Physical layer	100BASE-TX (IEEE802.3)
	Connector	RJ45 × 2 (shielded type) ECAT IN: EtherCAT input ECAT OUT: EtherCAT output
	Communications media	Category 5 or higher (cable with double, aluminum tape and braided shielding) is recommended.
	Communications distance	Distance between nodes: 100 m max.
	Process data	Fixed PDO mapping PDO mapping
	Mailbox (CoE)	Emergency messages, SDO requests, SDO responses, and SDO information
	Distributed clock	Free-run mode (asynchronous)
	LED display	L/A IN (Link/Activity IN) × 1 L/A OUT (Link/Activity OUT) × 1 RUN × 1 ERR × 1
	CiA402 drive profile	Velocity mode

## External Dimensions (mm)



\*1. With the EtherCAT Communication Unit mounted, dimension D of the inverter increases by 34 mm.  
 (Dimension D of the inverter varies depending on the capacity. For details, refer to the *Multi-function Compact Inverter 3G3MX2-V2 User's Manual* (Cat. No. I666).

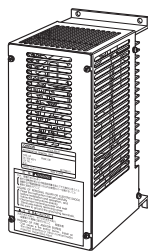
# Multi-function Compact Inverter MX2-Series V2 type

## Options

### Regenerative Braking Unit (3G3AX-RBU□□)

These products absorb the regenerative energy generated when a load decelerates or an elevating axis descends to prevent overvoltage trip of the inverter.

Used with a Braking Resistor when the deceleration time of the motor is needed to be reduced in the MX2.



### Specifications

#### Built-in Resistor Type (3G3AX-RBU21/RBU22/RBU41)

Voltage class		3-phase 200-V class		3-phase 400-V class
Model		3G3AX-RBU21	3G3AX-RBU22	3G3AX-RBU41 *1
Connection resistance		17 Ω min.	17 Ω min.	34 Ω min.
Operating voltage (ON/OFF)		ON: 362.5 ± 5 V OFF: 355 ± 5 V (-5% or -10% setting available *2)		ON: 725 ± 5 V OFF: 710 ± 5 V (-5% or -10% setting available *2)
Operation indication		LED ON (Lit)		
Maximum number of units for parallel interlocking operation *2		5 units		
Model		3G3AX-RBU21	3G3AX-RBU22	3G3AX-RBU41 *1
Cable length between regenerative braking unit and inverter		5 m max.		
Built-in resistor	Internal resistance	120 W 180 Ω	120 W 20 Ω	120 W 180 Ω × 2 in series
	Allowable continuous ON time	10 s max.	0.5 s max.	10 s max.
	Allowable operation cycle	Cycle 1/10 (ON for 10 s/OFF for 90 s)	Cycle 1/80 (ON for 0.5 s/OFF for 40 s)	Cycle 1/10 (ON for 10 s/OFF for 90 s)
	Power consumption	Instantaneous: 0.73 kW Short-time rating: 120 W	Instantaneous: 6.6 kW Short-time rating: 120 W	Instantaneous: 1.46 kW Short-time rating: 240 W
Protective function	Built-in resistor overheat protection	Built-in relay specifications Built-in resistor temperature: Relay trips at approximately 200°C or higher and resets at approximately 170°C or lower. Built-in thermal fuse (No resetting) *3 Contact rating: 250 VAC 200 mA (R load) 12 VDC 500 mA (R load) 42 VDC 200 mA (R load) Minimum load: 1 mA		
Operating environment	Operating ambient temperature	-10 to 50°C		
	Storage ambient temperature	-20 to 65°C		
	Operating ambient humidity	20% to 90% (with no condensation)		
	Vibration resistance	5.9 m/s <sup>2</sup> (0.6 G) 10 to 55 Hz		
	Location	At a maximum altitude of 1,000 m (without corrosive gases or dust)		
Weight [kg]		1.7		2.0
Paint color		Munselle 5Y7/1 (except for cooling fan with aluminum base color)		

\*1. To use the braking resistor (Model: 3G3AX-RBA/RBB/RBC) for the 400-V class regenerative braking unit, be sure to remove the built-in resistor and connect two resistors of the same model in series. Using a 400-V class regenerative braking unit with only a single braking resistor connected may cause damage to the braking resistor.

\*2. Use DIP switches (SW1 to SW4) on the regenerative braking unit to set the number of connected units.

\*3. The built-in resistor has a thermal fuse. If the alarm terminals are not connected, the fuse may blow out in order to prevent the overheating. If the fuse blows out, the regenerative braking unit must be repaired.

## External Resistor Type (3G3AX-RBU23/RBU24/RBU42/RBU43)

Voltage class		3-phase 200-V class		3-phase 400-V class	
<b>Model</b>		3G3AX-RBU23	3G3AX-RBU24	3G3AX-RBU42 *1	3G3AX-RBU43 *1
<b>Connection resistance</b>	<b>Continuous operation</b>	6 Ω min.	4 Ω min.	24 Ω min.	12 Ω min.
	<b>Short-time operation/ Allowable operation cycle/Allowable continuous ON time</b>	4 Ω min. Cycle 1/5 (ON for 2 min/OFF for 8 min) 2 min	2 Ω min. Cycle 1/5 (ON for 2 min/OFF for 8 min) 2 min	10 Ω min. Cycle 1/10 (ON for 10 s/OFF for 90 s) 10 s	6 Ω min. Cycle 1/5 (ON for 2 min/OFF for 8 min) 2 min
<b>Operating voltage (ON/OFF)</b>		ON: 362.5 ± 5 V, OFF: 355 ± 5V (-5% or -10% setting available *2)		ON: 725 ± 5 V, OFF: 710 ± 5 V (-5% or -10% setting available *2)	
<b>Operation indication</b>		LED ON (Lit)			
<b>Maximum number of units for parallel interlocking operation *2</b>		2 units			
<b>Model</b>		3G3AX-RBU23	3G3AX-RBU24	3G3AX-RBU42 *1	3G3AX-RBU43 *1
<b>Cable length between regenerative braking unit and inverter</b>		4 m max.	Braking resistance: 4 Ω or lower for 4 m min. Lower than 4 Ω for 3 m min.	4 m max.	4 m max.
<b>Protective function</b>	<b>Internal power module overheat protection</b>	Built-in relay specifications Cooling fin temperature: Relay trips at approximately 100°C or higher. Contact rating: 240 VAC 3 A (R load) 36 VDC 2 A (R load) Minimum load: 5 VDC 50 mA (R load)			
<b>Operating environment</b>	<b>Operating ambient temperature</b>	-10 to 50°C			
	<b>Storage ambient temperature</b>	-20 to 65°C			
	<b>Operating ambient humidity</b>	20% to 90% (with no condensation)			
	<b>Vibration resistance</b>	4.9 m/s <sup>2</sup> (0.5 G), 10 to 55 Hz			
	<b>Location</b>	At a maximum altitude of 1,000 m (without corrosive gases or dust)			
<b>Weight [kg]</b>		6	8	2	6
<b>Paint color</b>		Munselle 5Y7/1 (except for cooling fan with aluminum base color)			

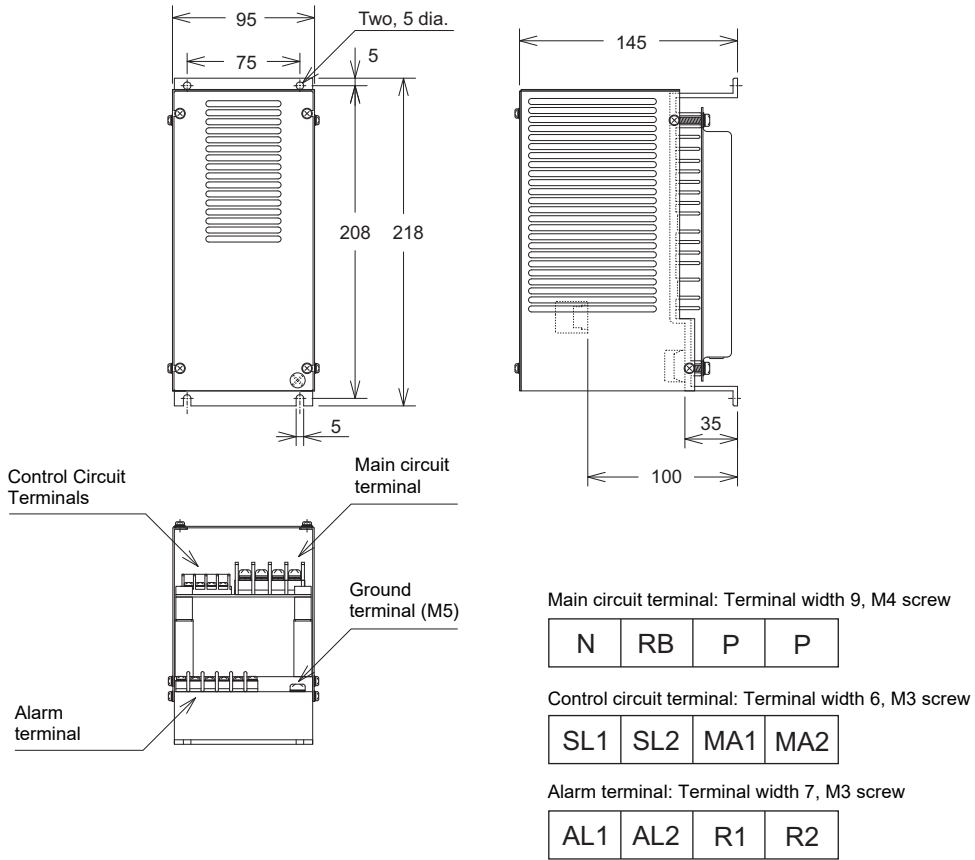
\*1. To use the braking resistor (Model: 3G3AX-RBA/RBB/RBC) for the 400-V class regenerative braking unit, be sure to remove the built-in resistor and connect two resistors of the same model in series. Using a 400-V class regenerative braking unit with only a single braking resistor connected may cause damage to the braking resistor.

\*2. Use DIP switches (SW1 to SW4) on the regenerative braking unit to set the number of connected units.

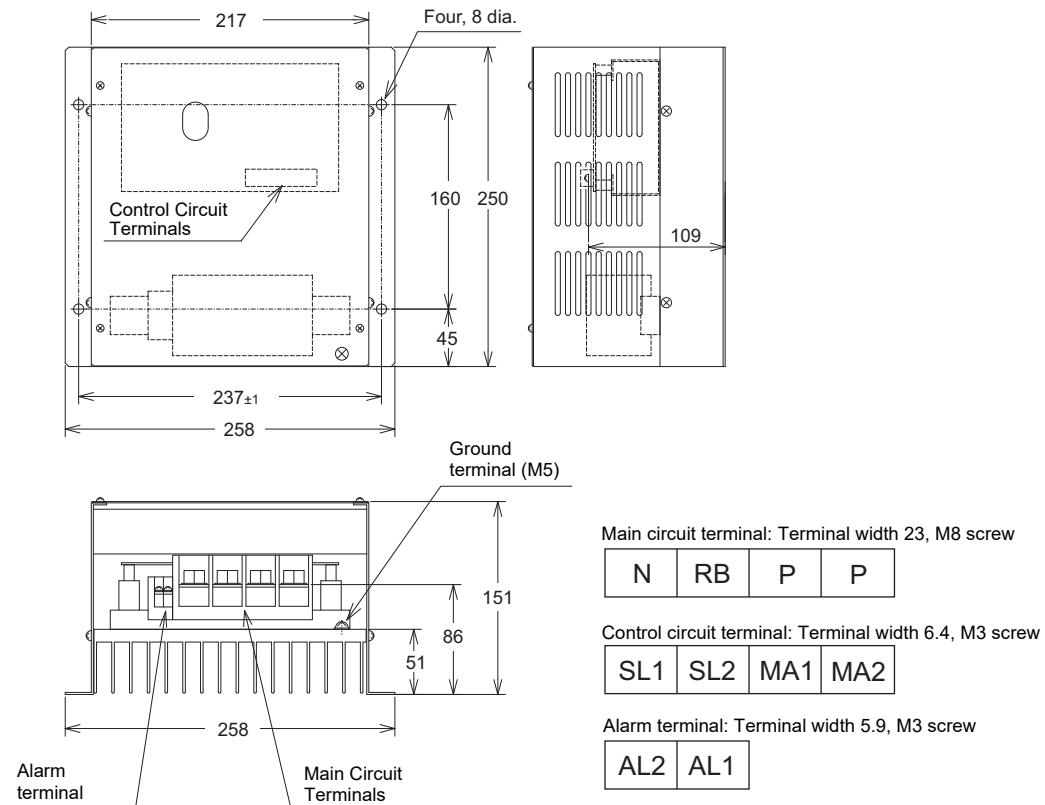
# Multi-function Compact Inverter MX2-Series V2 type

## Dimensions (Unit: mm)

### 3G3AX-RBU21/RBU22/RBU41

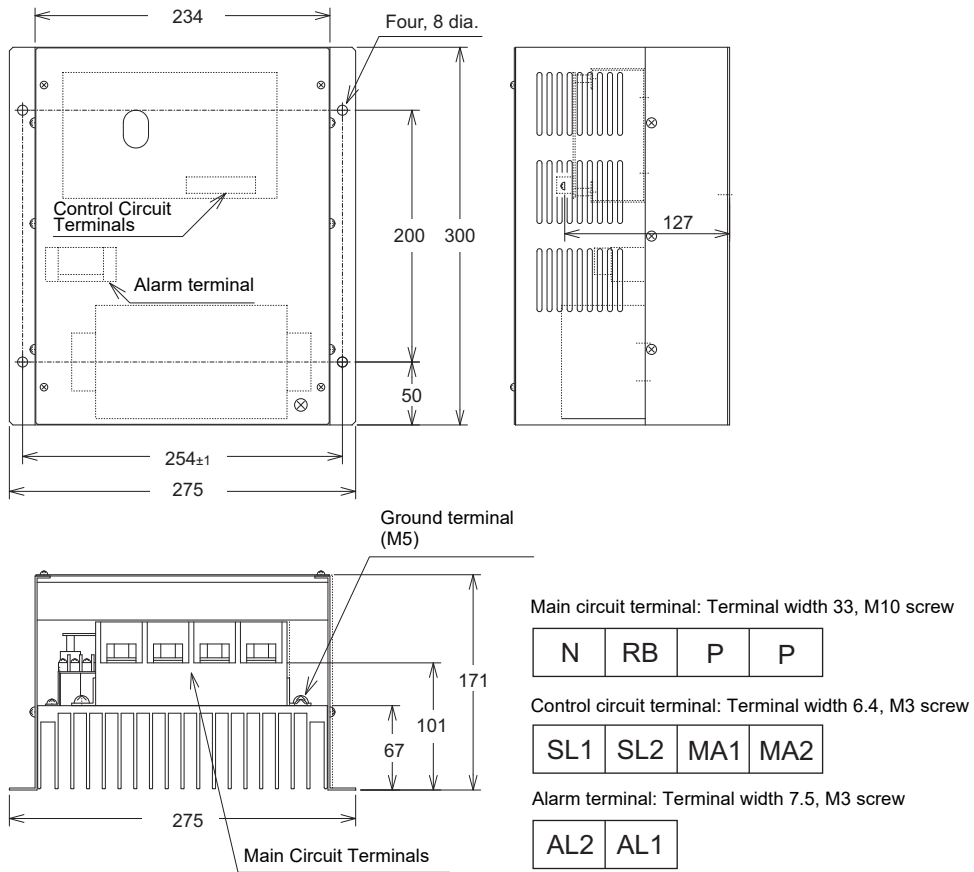


### 3G3AX-RBU23

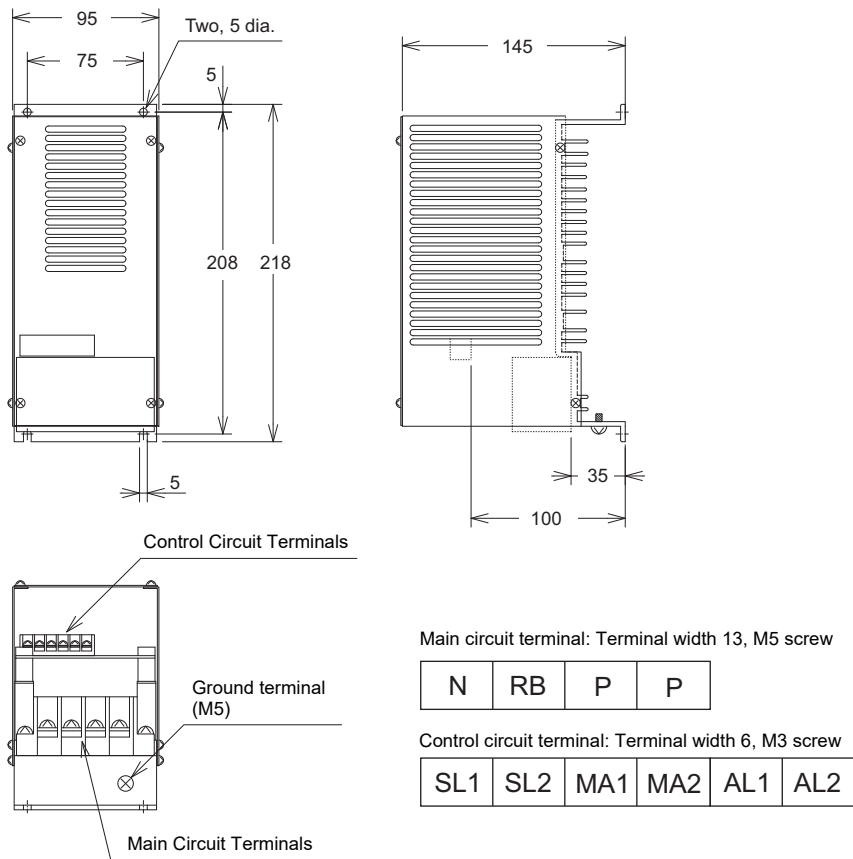




3G3AX-RBU24

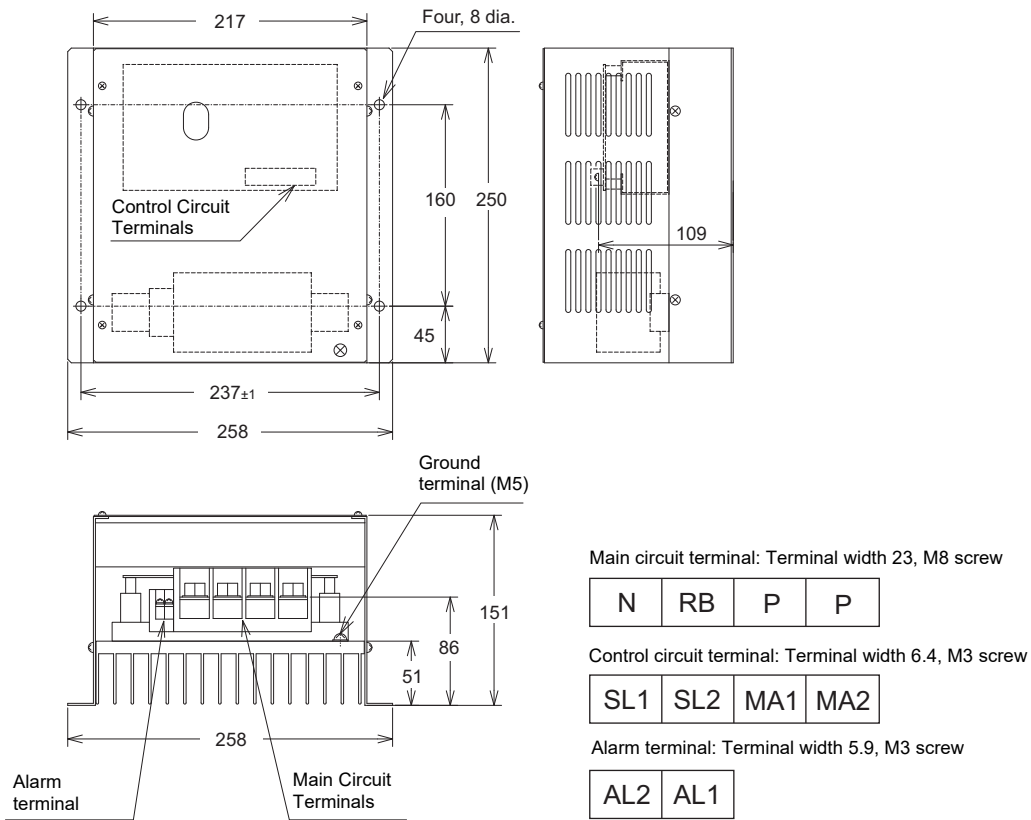


3G3AX-RBU42



# Multi-function Compact Inverter **MX2-Series V2 type**

**3G3AX-RBU43**

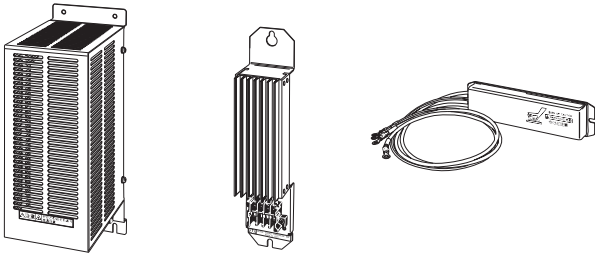


## Connection Examples

For details, refer to the *Multi-function Compact Inverter 3G3MX2-V2 User's Manual* (Cat. No. I666).

## Braking Resistor (3G3AX-RBA/RBB/RBC□□□□)

These products absorb the regenerative energy generated when a load decelerates or an elevating axis descends to prevent overvoltage trip of the inverter.



### Specifications

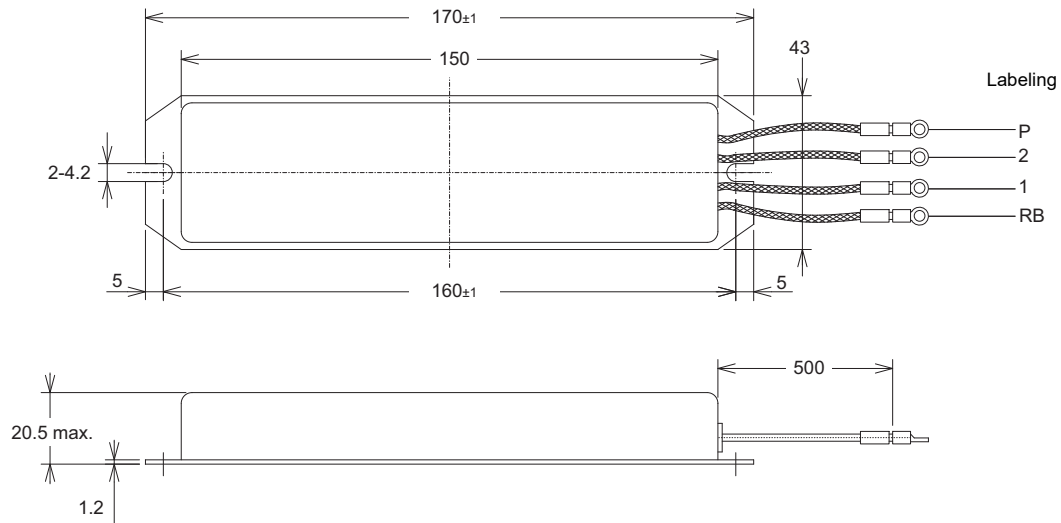
Model		Compact type (Model: 3G3AX-RBA□□□□)				Standard type (Model: 3G3AX-RBB□□□□)				Medium capacity type (Model: 3G3AX-RBC□□□□)		
		1201	1202	1203	1204	2001	2002	3001	4001	4001	6001	12001
Resistance	Capacity [W]	120				200		300	400	400	600	1200
	Resistance [ $\Omega$ ]	180	100	50	35	180	100	50	35	50	35	17
Allowable braking frequency [%]		5	2.5	1.5	1.0	10	7.5	7.5	7.5	10		
Allowable continuous braking time [s]		20	12	5	3	30			20	10		
Weight [kg]		0.27				0.97		1.68	2.85	2.5	3.6	6.5
Error detection function		Built-in thermal (Contact capacity: 240 VAC 2 A max., Minimum current: 5 mA) Normally ON (NC contact) Built-in thermal fuse (No resetting)							Built-in thermal relay: Normally ON (NC contact) Contact capacity: 240 VAC 3 A (resistance load)/0.2 A (L load), 36 VDC 2 A (resistance load)			
General specifications	Operating ambient temperature	-10 to 50°C										
	Storage ambient temperature	-20 to 65°C										
	Operating ambient humidity	20% to 90% (with no condensation)										
	Vibration resistance	5.9 m/s <sup>2</sup> (0.6 G), 10 to 55 Hz										
	Location	At a maximum altitude of 1,000 m (without corrosive gases or dust)										
Cooling method		Self-cooling										

**Note 1.** When using the Braking Resistor (Model: 3G3AX-RBA/RBB/RBC) with a 400-V class inverter or Regenerative Braking Unit (Model: 3G3AX-RBU41/RBU42/RBU43), be sure to connect two braking resistors of the same model in series. Using the Regenerative Braking Unit with only one braking resistor connected may cause damage to the braking resistor.

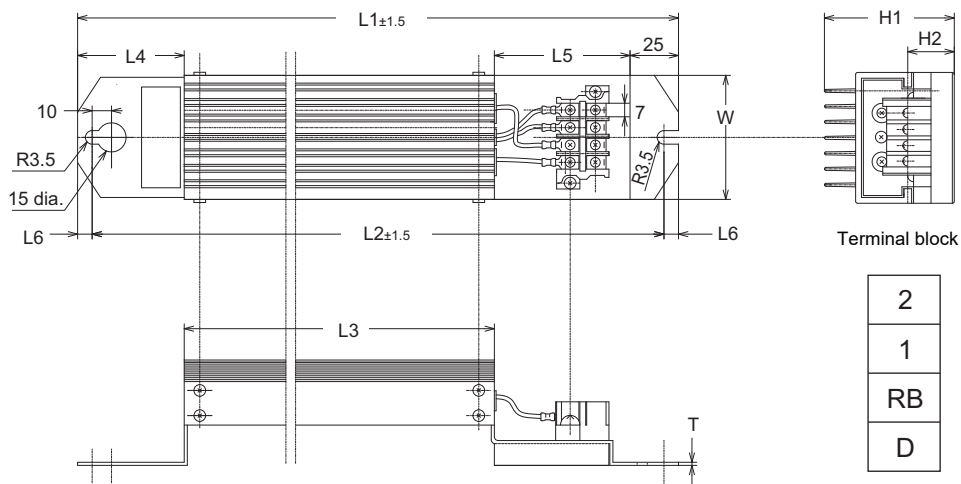
# Multi-function Compact Inverter MX2-Series V2 type

## Dimensions (Unit: mm)

### 3G3AX-RBA□□□□

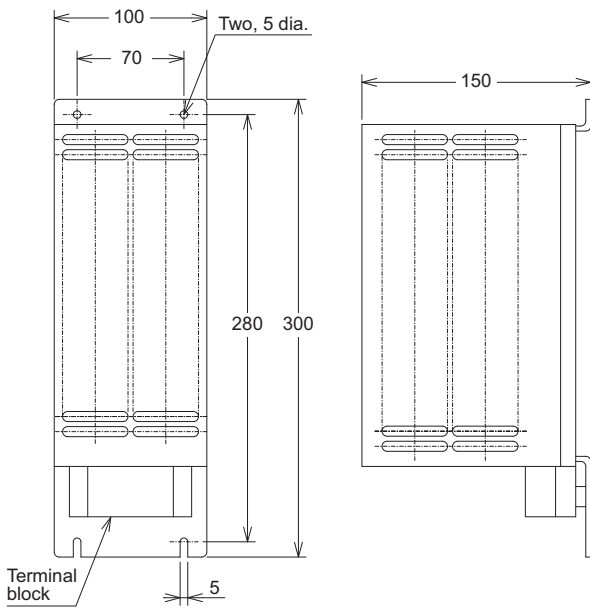


### 3G3AX-RBB□□□□



Model	Rated capacity [W]	Resistance [ $\Omega$ ]	Dimensions [mm]										Weight [kg]	Terminal screw
			L1	L2	L3	L4	L5	L6	H1	H2	W	T		
3G3AX-RBB2001	200	180	310	295	160	55	70	7.5	67	12	64	1.6	0.97	M3.5
3G3AX-RBB2002	200	100	310	295	160	55	70	7.5	67	12	64	1.6	0.97	
3G3AX-RBB3001	300	50	470	455	320	55	70	7.5	67	12	64	1.6	1.68	
3G3AX-RBB4001	400	35	435	422	300	50	60	6.5	94	15	76	2	2.85	

## 3G3AX-RBC4001

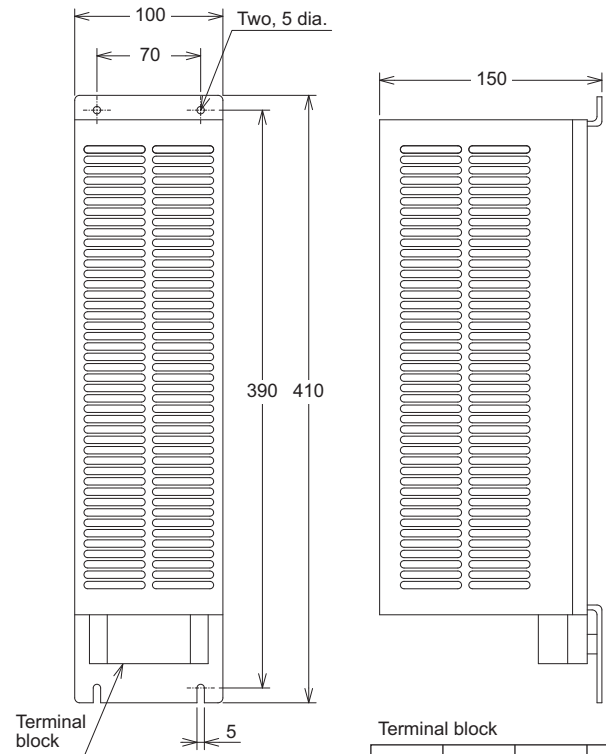


Terminal block

P	RB	AL1	AL2
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Terminal width W = 9 mm  
Screw M4

## 3G3AX-RBC6001



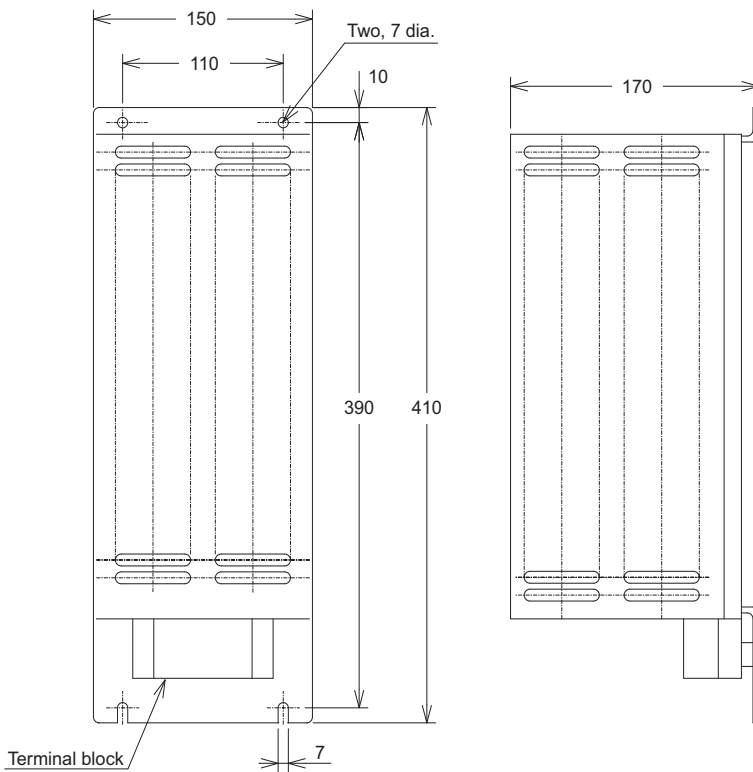
Terminal block

Terminal block

P	RB	AL1	AL2
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Terminal width W = 9 mm  
Screw M4

## 3G3AX-RBC12001



Terminal block

Terminal block

P	RB	AL1	AL2
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Terminal width W = 9 mm  
Screw M4

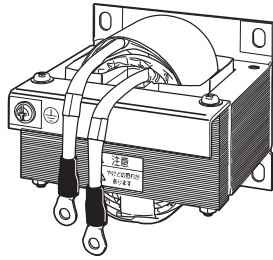
## Connection Examples

For details, refer to the *Multi-function Compact Inverter 3G3MX2-V2 User's Manual* (Cat. No. I666).

# Multi-function Compact Inverter **MX2-Series V2 type**

## DC Reactor (3G3AX-DL□□□□)

Use these reactors to suppress harmonics generated from the inverter.



### Specifications

Inverter						DC reactor specifications				
Voltage class	Max. applicable motor capacity [kW]	Model	Normal/ Light load mode	Max. applicable motor capacity [kW]	Rated input current [A]	Model	Inductance [mH]	Heat generation [W]	Operating ambient temperature/ humidity	Location
3-phase 200-V class	0.1	3G3MX2-A2001-V2	Normal load *1	0.1	1.0	3G3AX-DL2002	21.4	8	-10 to 50°C 20% to 90%	At an altitude of 1,000 m max.; indoors (without corrosive gases or dust)
			Light load	0.2	1.2					
	0.2	3G3MX2-A2002-V2	Normal load *1	0.2	1.6	3G3AX-DL2004	10.7			
			Light load	0.4	1.9					
	0.4	3G3MX2-A2004-V2	Normal load *1	0.4	3.3	3G3AX-DL2007	6.75	10		
			Light load	0.75	3.9					
	0.75	3G3MX2-A2007-V2	Normal load *1	0.75	6.0	3G3AX-DL2015	3.51			
			Light load	1.1	7.2					
	1.5	3G3MX2-A2015-V2	Normal load *1	1.5	9.0	3G3AX-DL2022	2.51	13		
			Light load	2.2	10.8					
	2.2	3G3MX2-A2022-V2	Normal load *1	2.2	12.7	3G3AX-DL2037	1.60	20		
			Light load	3.0	13.9					
	3.7	3G3MX2-A2037-V2	Normal load *1	3.7	20.5	3G3AX-DL2055	1.11	26		
			Light load	5.5	23.0					
	5.5	3G3MX2-A2055-V2	Normal load *1	5.5	30.8	3G3AX-DL2075	0.84	36		
			Light load	7.5	37.0					
	7.5	3G3MX2-A2075-V2	Normal load *1	7.5	39.6	3G3AX-DL2110	0.59	52		
			Light load	11	48.0					
11	3G3MX2-A2110-V2	Normal load *1	11	57.1	3G3AX-DL2150	0.44	60			
		Light load	15	68.0						
15	3G3MX2-A2150-V2	Normal load *1	15	62.6	3G3AX-DL2220	0.30	63			
		Light load	18.5	72.0						
Single-phase 200-V Class	0.1	3G3MX2-AB001-V2	Normal load *1	0.1	1.3	3G3AX-DL2002	21.4	8	-10 to 50°C 20% to 90%	At an altitude of 1,000 m max.; indoors (without corrosive gases or dust)
			Light load	0.2	2.0					
	0.2	3G3MX2-AB002-V2	Normal load *1	0.2	3.0	3G3AX-DL2004	10.7			
			Light load	0.4	3.6					
	0.4	3G3MX2-AB004-V2	Normal load *1	0.4	6.3	3G3AX-DL2007	6.75	10		
			Light load	0.55	7.3					
	0.75	3G3MX2-AB007-V2	Normal load *1	0.75	11.5	3G3AX-DL2015	3.51			
			Light load	1.1	13.8					
	1.5	3G3MX2-AB015-V2	Normal load *1	1.5	16.8	3G3AX-DL2022	2.51	13		
			Light load	2.2	20.2					
	2.2	3G3MX2-AB022-V2	Normal load *1	2.2	22.0	3G3AX-DL2037	1.60	20		
			Light load	3.0	24.0					

## Multi-function Compact Inverter MX2-Series V2 type

Inverter						DC reactor specifications				
Voltage class	Max. applicable motor capacity [kW]	Model	Normal/Light load mode	Max. applicable motor capacity [kW]	Rated input current [A]	Model	Inductance [mH]	Heat generation [W]	Operating ambient temperature/humidity	Location
3-phase 400-V class	0.4	3G3MX2-A4004-V2	Normal load *1	0.4	1.8	3G3AX-DL4004	43.0	10	-10 to 50°C 20% to 90%	At an altitude of 1,000 m max.; indoors (without corrosive gases or dust)
			Light load	0.75	2.1	3G3AX-DL4007	27.0			
	0.75	3G3MX2-A4007-V2	Normal load *1	0.75	3.6					
			Light load	1.5	4.3					
	1.5	3G3MX2-A4015-V2	Normal load *1	1.5	5.2	3G3AX-DL4022	10.1	13		
			Light load	2.2	5.9					
	2.2	3G3MX2-A4022-V2	Normal load *1	2.2	6.5	3G3AX-DL4037	6.4	20		
			Light load	3.0	8.1					
	3.0	3G3MX2-A4030-V2	Normal load *1	3.0	7.7	3G3AX-DL4055	4.41	26		
			Light load	4.0	9.4					
	4.0	3G3MX2-A4040-V2	Normal load *1	4.0	11.0	3G3AX-DL4075	3.35	36		
			Light load	5.5	13.3					
	5.5	3G3MX2-A4055-V2	Normal load *1	5.5	16.9	3G3AX-DL4110	2.33	52		
			Light load	7.5	20.0					
	7.5	3G3MX2-A4075-V2	Normal load *1	7.5	18.8	3G3AX-DL4150	1.75	60		
			Light load	11	24.0					
	11	3G3MX2-A4110-V2	Normal load *1	11	29.4	3G3AX-DL4220	1.2	67		
			Light load	15	38.0					
15	3G3MX2-A4150-V2	Normal load *1	15	35.9						
		Light load	18.5	44.0						

\*1. The DC reactor model for the normal load mode is selected with reference to the rated current value of a general-purpose motor, which is 85% of the rated output current of the Inverter. If you intend to constantly drive a motor whose rated current value exceeds 85% of the rated output current of the inverter, use the DC reactor model selected for the light-load mode.

# Multi-function Compact Inverter MX2-Series V2 type

## Dimensions (Unit: mm)

Inverter input power supply	Model	Fig. No.	Applicable Motor capacity [kW]	Dimensions [mm]									Weight [kg]	Standard applicable wire
				W	D	H	A	B	X	Y	C	K		
3-phase/ 1-phase 200 VAC	3G3AX-DL2002	Fig. 1	0.1, 0.2	66	90	98	-	85	56	72	5.2×8	M4	0.8	1.25 mm <sup>2</sup> min.
	3G3AX-DL2004		0.4	66	90	98	-	95	56	72	5.2×8	M4	1.0	1.25 mm <sup>2</sup> min.
	3G3AX-DL2007		0.55, 0.75	66	90	98	-	105	56	72	5.2×8	M4	1.3	2 mm <sup>2</sup> min.
	3G3AX-DL2015		1.1, 1.5	66	90	98	-	115	56	72	5.2×8	M4	1.6	2 mm <sup>2</sup> min.
	3G3AX-DL2022		2.2	86	100	116	-	105	71	80	6×9	M4	2.1	2 mm <sup>2</sup> min.
	3G3AX-DL2037	Fig. 2	3.0, 3.7	86	100	118	-	120	71	80	6×9	M4	2.6	3.5 mm <sup>2</sup> min.
	3G3AX-DL2055		5.5	111	100	210	-	110	95	80	7×11	M5	3.6	8 mm <sup>2</sup> min.
	3G3AX-DL2075		7.5	111	100	212	-	120	95	80	7×11	M6	3.9	14 mm <sup>2</sup> min.
	3G3AX-DL2110		11	146	120	252	-	110	124	96	7×11	M6	6.5	22 mm <sup>2</sup> min.
	3G3AX-DL2150		15	146	120	256	-	120	124	96	7×11	M8	7.0	38 mm <sup>2</sup> min.
3G3AX-DL2220	Fig. 3	18.5	120	175	356	140	145	98	151	7×11	M8	9.0	60 mm <sup>2</sup> min.	
3-phase 400 VAC	3G3AX-DL4004	Fig. 1	0.4	66	90	98	-	85	56	72	5.2×8	M4	0.8	1.25 mm <sup>2</sup> min.
	3G3AX-DL4007		0.75	66	90	98	-	95	56	72	5.2×8	M4	1.1	1.25 mm <sup>2</sup> min.
	3G3AX-DL4015		1.5	66	90	98	-	115	56	72	5.2×8	M4	1.6	2 mm <sup>2</sup> min.
	3G3AX-DL4022		2.2	86	100	116	-	105	71	80	6×9	M4	2.1	2 mm <sup>2</sup> min.
	3G3AX-DL4037		3.0	86	100	116	-	120	71	80	6×9	M4	2.6	2 mm <sup>2</sup> min.
	3G3AX-DL4055	Fig. 2	5.5	111	100	138	-	110	95	80	7×11	M4	3.6	3.5 mm <sup>2</sup> min.
	3G3AX-DL4075		7.5	111	100	138	-	115	95	80	7×11	M4	3.9	3.5 mm <sup>2</sup> min.
	3G3AX-DL4110		11	146	120	250	-	105	124	96	7×11	M5	5.2	5.5 mm <sup>2</sup> min.
	3G3AX-DL4150		15	146	120	252	-	120	124	96	7×11	M6	7.0	14 mm <sup>2</sup> min.
	3G3AX-DL4220		Fig. 3	18.5	120	175	352	140	145	98	151	7×11	M6	9.5

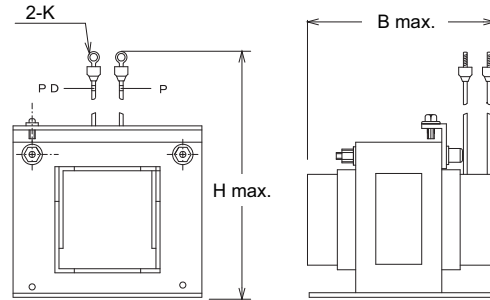
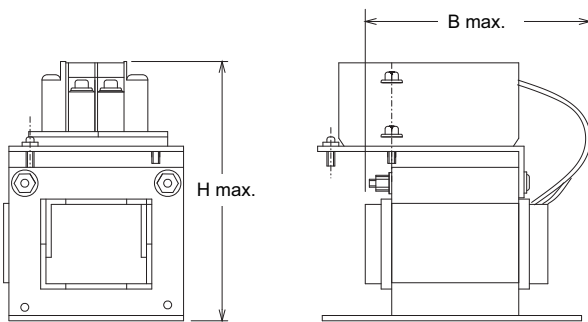
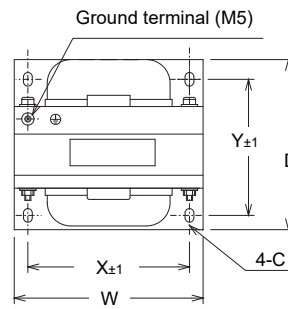
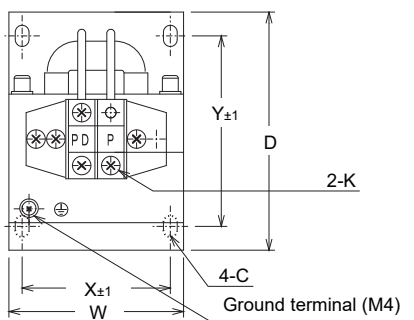


Fig. 1

Fig. 2



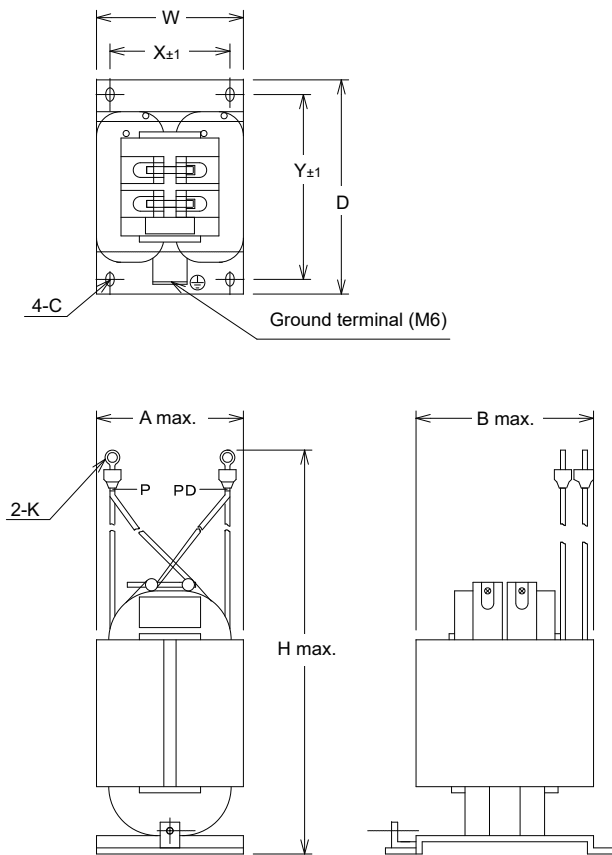
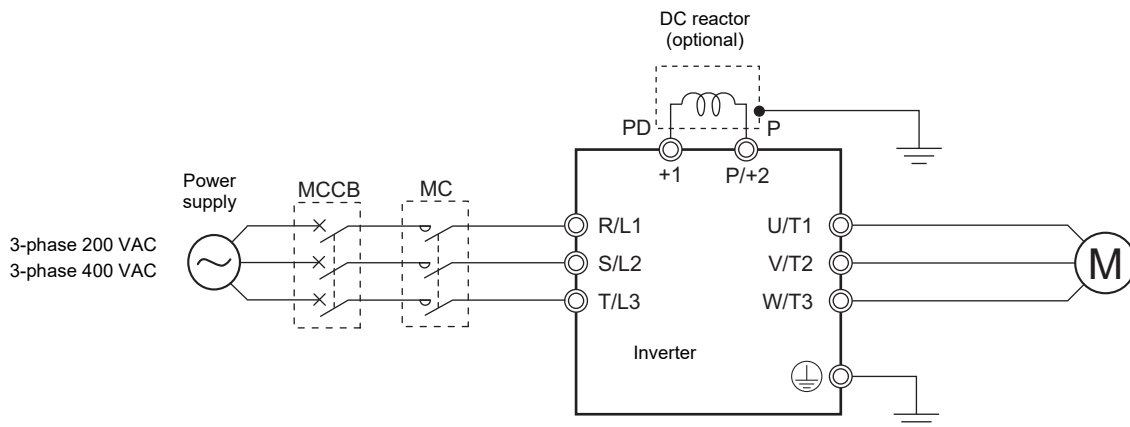


Fig. 3

## Connection Examples



### DC Reactor Connection Terminals (+1, P/+2)

- These terminals are used to connect the optional DC reactor for power factor improvement.
- By factory setting, a short-circuit bar is connected between the terminals +1 and P/+2. Before connecting the DC reactor, remove this short-circuit bar.
- The length of the DC reactor connection cable must be 5 m or shorter.
- The DC reactor has no polarity.

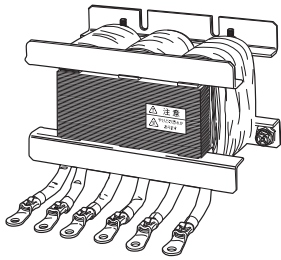
**Note 1.** Remove the short-circuit bar only if you connect the DC reactor for use.

If you remove the short-circuit bar with the DC reactor unconnected, the inverter cannot operate because no power is supplied to its main circuit.

# Multi-function Compact Inverter **MX2-Series V2 type**

## AC Reactor (3G3AX-AL□□□□)

Use these reactors to suppress harmonics generated from the inverter.



### Specifications

Inverter						AC reactor specifications							
Voltage class	Max. applicable motor capacity [kW]	Model	Normal/Light load mode	Max. applicable motor capacity [kW]	Rated input current [A]	Model	Inductance [mH]	Heat generation [W]	Operating ambient temperature/humidity	Location			
3-phase 200-V class	0.1	3G3MX2-A2001-V2	Normal load	0.1	1.0	3G3AX-AL2025	2.8	12	-10 to 50°C 20% to 90%	At an altitude of 1,000 m max.; indoors (without corrosive gases or dust)			
			Light load	0.2	1.2								
	0.2	3G3MX2-A2002-V2	Normal load	0.2	1.6								
			Light load	0.4	1.9								
	0.4	3G3MX2-A2004-V2	Normal load	0.4	3.3								
			Light load	0.75	3.9								
	0.75	3G3MX2-A2007-V2	Normal load	0.75	6.0								
			Light load	1.1	7.2								
	1.5	3G3MX2-A2015-V2	Normal load	1.5	9.0								
			Light load	2.2	10.8								
	2.2	3G3MX2-A2022-V2	Normal load	2.2	12.7						3G3AX-AL2055	0.88	25
			Light load	3.0	13.9								
	3.7	3G3MX2-A2037-V2	Normal load	3.7	20.5						3G3AX-AL2110	0.35	50
			Light load	5.5	23.0								
5.5	3G3MX2-A2055-V2	Normal load	5.5	30.8									
		Light load	7.5	37.0									
7.5	3G3MX2-A2075-V2	Normal load	7.5	39.6	3G3AX-AL2220	0.18	50						
		Light load	11	48.0									
11	3G3MX2-A2110-V2	Normal load	11	57.1									
		Light load	15	68.0									
15	3G3MX2-A2150-V2	Normal load	15	62.6	3G3AX-AL2330	0.09	85						
		Light load	18.5	72.0									
Single-phase 200-V Class	0.1	3G3MX2-AB001-V2	Normal load	0.1	1.3	3G3AX-AL2025	2.8	12	-10 to 50°C 20% to 90%	At an altitude of 1,000 m max.; indoors (without corrosive gases or dust)			
			Light load	0.2	2.0								
	0.2	3G3MX2-AB002-V2	Normal load	0.2	3.0								
			Light load	0.4	3.6								
	0.4	3G3MX2-AB004-V2	Normal load	0.4	6.3								
			Light load	0.55	7.3								
	0.75	3G3MX2-AB007-V2	Normal load	0.75	11.5						3G3AX-AL2055	0.88	25
			Light load	1.1	13.8								
	1.5	3G3MX2-AB015-V2	Normal load	1.5	16.8						3G3AX-AL2110	0.35	50
			Light load	2.2	20.2								
2.2	3G3MX2-AB022-V2	Normal load	2.2	22.0									
		Light load	3.0	24.0									

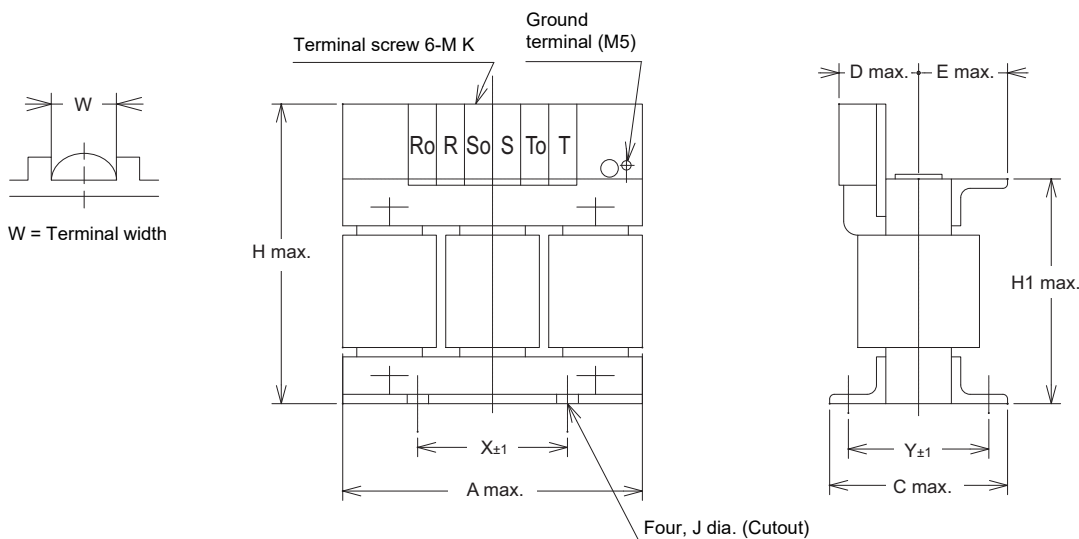
# Multi-function Compact Inverter MX2-Series V2 type

Inverter						AC reactor specifications				
Voltage class	Max. applicable motor capacity [kW]	Model	Normal/Light load mode	Max. applicable motor capacity [kW]	Rated input current [A]	Model	Inductance [mH]	Heat generation [W]	Operating ambient temperature/humidity	Location
3-phase 400-V class	0.4	3G3MX2-A4004-V2	Normal load	0.4	1.8	3G3AX-AL4025	7.7	12	-10 to 50°C 20% to 90%	At an altitude of 1,000 m max.; indoors (without corrosive gases or dust)
			Light load	0.75	2.1					
	0.75	3G3MX2-A4007-V2	Normal load	0.75	3.6					
			Light load	1.5	4.3					
	1.5	3G3MX2-A4015-V2	Normal load	1.5	5.2					
			Light load	2.2	5.9					
	2.2	3G3MX2-A4022-V2	Normal load	2.2	6.5	3G3AX-AL4055	3.5	25		
			Light load	3.0	8.1					
	3.0	3G3MX2-A4030-V2	Normal load	3.0	7.7	3G3AX-AL4110	1.3	50		
			Light load	4.0	9.4					
	4.0	3G3MX2-A4040-V2	Normal load	4.0	11.0					
			Light load	5.5	13.3					
	5.5	3G3MX2-A4055-V2	Normal load	5.5	16.9					
			Light load	7.5	20.0					
	7.5	3G3MX2-A4075-V2	Normal load	7.5	18.8	3G3AX-AL4220	0.74	60		
			Light load	11	24.0					
	11	3G3MX2-A4110-V2	Normal load	11	29.4	3G3AX-AL4330	0.36	90		
			Light load	15	38.0					
15	3G3MX2-A4150-V2	Normal load	15	35.9						
		Light load	18.5	44.0						

## Dimensions (Unit: mm)

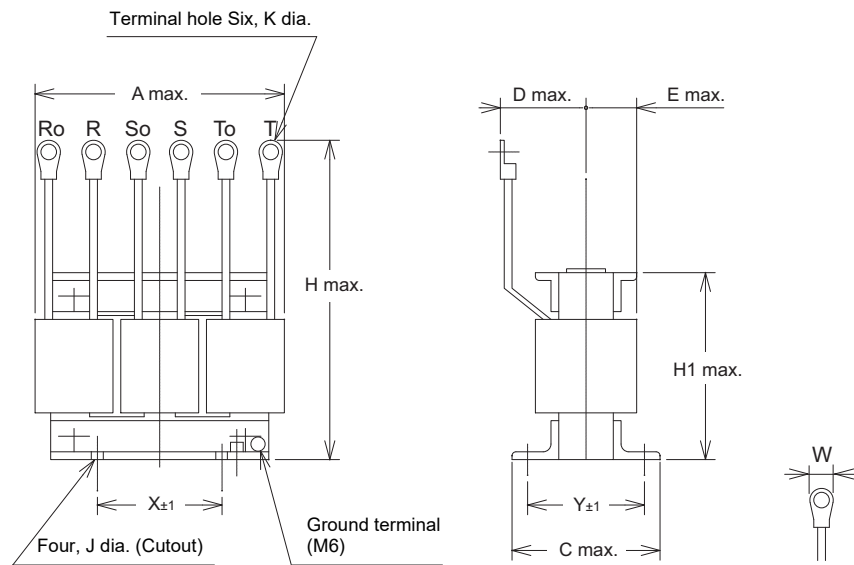
Inverter input power supply	Model	Applicable motor capacity [kW]	Dimensions [mm]											Weight [kg]
			A	C	D	E	H	H1	X	Y	J	K	W	
3-phase 200 VAC (Single-phase 200 VAC)	3G3AX-AL2025	0.1 to 1.5	120	82	60	40	150	94	50	67	6	4	9.5	2.8
	3G3AX-AL2055	2.2 to 3.7	120	98	60	40	150	94	50	75	6	4	9.5	4.0
	3G3AX-AL2110	5.5, 7.5	150	103	70	55	170	108	60	80	6	5.3	12.0	5.0
	3G3AX-AL2220	11, 15	180	113	75	55	190	140	90	90	6	8.4	16.5	10.0
	3G3AX-AL2330	18.5	180	113	85	60	230	140	125	90	6	8.4	22.0	11.0
3-phase 400 VAC	3G3AX-AL4025	0.4 to 1.5	130	82	60	40	150	94	50	67	6	4	9.5	2.7
	3G3AX-AL4055	2.2, 3.7	130	98	60	40	150	94	50	75	6	5	12.5	4.0
	3G3AX-AL4110	5.5, 7.5	150	116	75	55	170	106	60	98	6	5	12.5	6.0
	3G3AX-AL4220	11, 15	180	103	75	55	190	140	100	80	6	5.3	12.0	10.0
	3G3AX-AL4330	18.5	180	123	85	60	230	140	100	100	6	6.4	16.5	11.5

## 3G3AX-AL2025/AL2055/AL4025/AL4055/AL4110

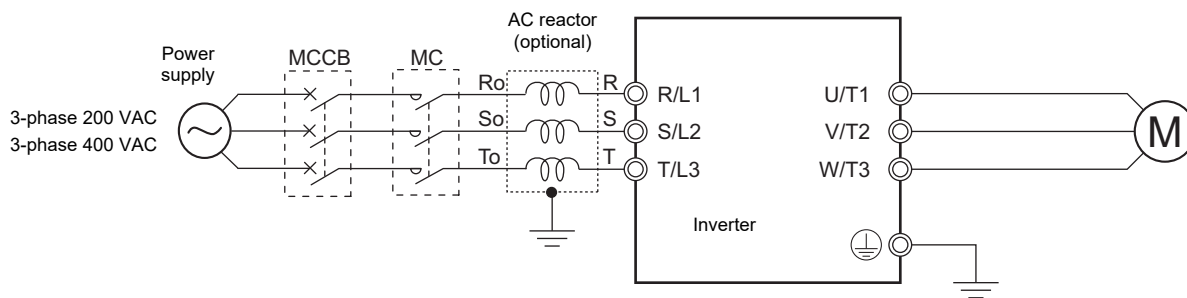


# Multi-function Compact Inverter **MX2-Series V2 type**

**3G3AX-AL2110/AL2220/AL2330/AL4220/AL4330**

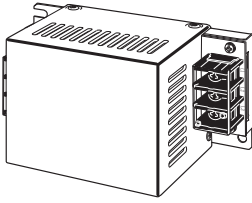


## Connection Examples



## Input Noise Filter (3G3AX-NFI□□)

Use this filter to reduce the conductive noise generated in the inverter and transmitted to power supply lines.



### Specifications

Inverter						Input noise filter specifications					
Voltage class	Max. applicable motor capacity [kW]	Model	Normal/Light load mode	Max. applicable motor capacity [kW]	Rated input current [A]	Model	Max. input voltage	Rated input current (at 50°C)	Heat generation [W]	Leakage current (at 60 Hz)	
3-phase 200-V Class	0.1	3G3MX2-A2001-V2	Normal load	0.1	1.0	3G3AX-NFI21	250 VAC +10%	6 A	3	1.5 mA max. (250 VAC)	
			Light load	0.2	1.2						
	0.2	3G3MX2-A2002-V2	Normal load	0.2	1.6						
			Light load	0.4	1.9						
	0.4	3G3MX2-A2004-V2	Normal load	0.4	3.3						3G3AX-NFI22
			Light load	0.75	3.9						
	0.75	3G3MX2-A2007-V2	Normal load	0.75	6.0						
			Light load	1.1	7.2						
	1.5	3G3MX2-A2015-V2	Normal load	1.5	9.0	3G3AX-NFI23					
			Light load	2.2	10.8						
	2.2	3G3MX2-A2022-V2	Normal load	2.2	12.7	3G3AX-NFI24					
			Light load	3.0	13.9						
	3.7	3G3MX2-A2037-V2	Normal load	3.7	20.5	3G3AX-NFI25					
			Light load	5.5	23.0						
	5.5	3G3MX2-A2055-V2	Normal load	5.5	30.8	3G3AX-NFI26					
			Light load	7.5	37.0						
	7.5	3G3MX2-A2075-V2	Normal load	7.5	39.6	3G3AX-NFI27					
			Light load	11	48.0						
11	3G3MX2-A2110-V2	Normal load	11	57.1	3G3AX-NFI27						
		Light load	15	68.0							
15	3G3MX2-A2150-V2	Normal load	15	62.6							
		Light load	18.5	72.0							
Single-phase 200-V Class	0.1	3G3MX2-AB001-V2	Normal load	0.1	1.3	3G3AX-NFI21	250 VAC +10%	6 A	3	1.5 mA max. (250 VAC)	
			Light load	0.2	2.0						
	0.2	3G3MX2-AB002-V2	Normal load	0.2	3.0						
			Light load	0.4	3.6						
	0.4	3G3MX2-AB004-V2	Normal load	0.4	6.3						3G3AX-NFI22
			Light load	0.55	7.3						
	0.75	3G3MX2-AB007-V2	Normal load	0.75	11.5	3G3AX-NFI23					
			Light load	1.1	13.8						
	1.5	3G3MX2-AB015-V2	Normal load	1.5	16.8	3G3AX-NFI24					
			Light load	2.2	20.2						
	2.2	3G3MX2-AB022-V2	Normal load	2.2	22.0						
			Light load	3.0	24.0						

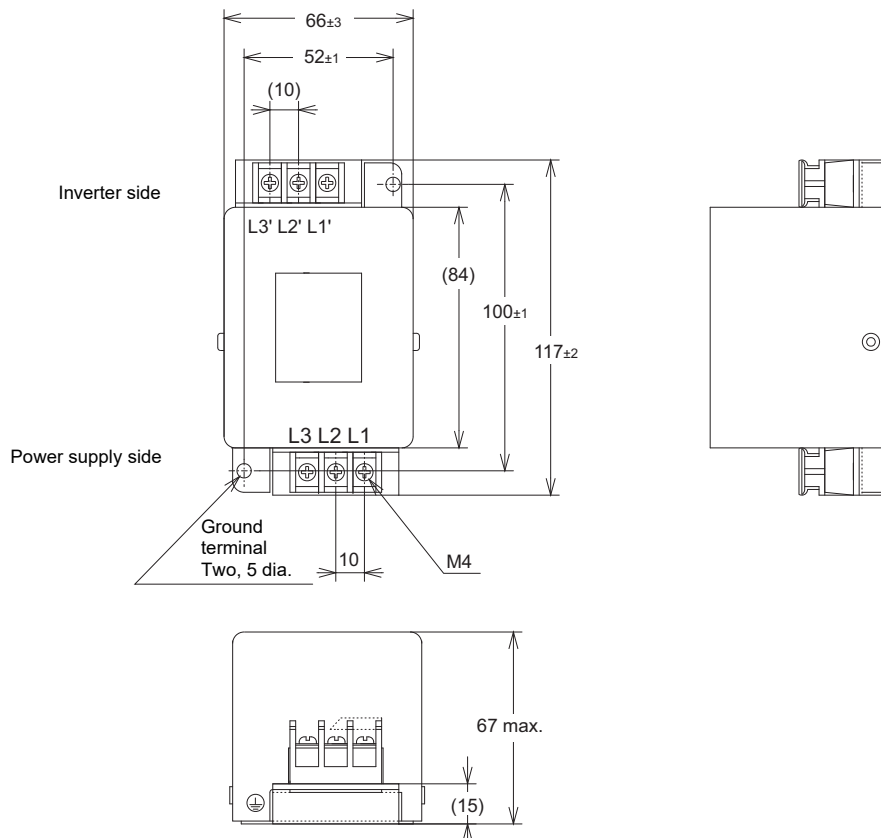
# Multi-function Compact Inverter MX2-Series V2 type

Inverter						Input noise filter specifications					
Voltage class	Max. applicable motor capacity [kW]	Model	Normal/Light load mode	Max. applicable motor capacity [kW]	Rated input current [A]	Model	Max. input voltage	Rated input current (at 50°C)	Heat generation [W]	Leakage current (at 60 Hz)	
3-phase 400-V class	0.4	3G3MX2-A4004-V2	Normal load	0.4	1.8	3G3AX-NFI41	480 VAC +10%	7 A	2	7.5 mA max. (480 VAC)	
			Light load	0.75	2.1						
	0.75	3G3MX2-A4007-V2	Normal load	0.75	3.6						
			Light load	1.5	4.3						
	1.5	3G3MX2-A4015-V2	Normal load	1.5	5.2						3G3AX-NFI42
			Light load	2.2	5.9						
	2.2	3G3MX2-A4022-V2	Normal load	2.2	6.5	3G3AX-NFI43					
			Light load	3.0	8.1						
	3.0	3G3MX2-A4030-V2	Normal load	3.0	7.7	3G3AX-NFI44					
			Light load	4.0	9.4						
	4.0	3G3MX2-A4040-V2	Normal load	4.0	11.0	3G3AX-NFI45					
			Light load	5.5	13.3						
	5.5	3G3MX2-A4055-V2	Normal load	5.5	16.9	3G3AX-NFI46					
			Light load	7.5	20.0						
	7.5	3G3MX2-A4075-V2	Normal load	7.5	18.8						
			Light load	11	24.0						
	11	3G3MX2-A4110-V2	Normal load	11	29.4						
			Light load	15	38.0						
15	3G3MX2-A4150-V2	Normal load	15	35.9							
		Light load	18.5	44.0							

## Dimensions (Unit: mm)

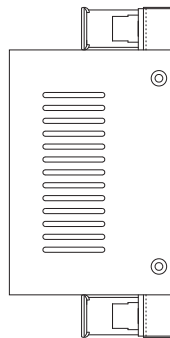
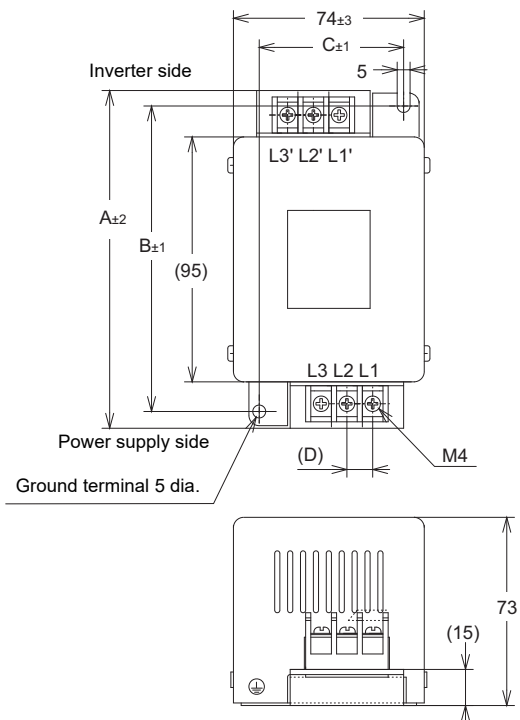
Model	Case, enclosure rating	Terminal size	Wire diameter	Weight [kg]
3G3AX-NFI21	Plastic, IP00	M4	1.25 mm <sup>2</sup>	0.5
3G3AX-NFI22	Plastic, IP00	M4	2 mm <sup>2</sup>	0.6
3G3AX-NFI23	Plastic, IP00	M4	2 mm <sup>2</sup> , 3.5 mm <sup>2</sup>	0.7
3G3AX-NFI24	Plastic, IP00	M4	5.5 mm <sup>2</sup>	0.8
3G3AX-NFI25	Plastic, IP00	M5	8 mm <sup>2</sup>	1.4
3G3AX-NFI26	Plastic, IP00	M5	14 mm <sup>2</sup>	1.8
3G3AX-NFI27	Metal, IP00	M6	22 mm <sup>2</sup>	3.6
3G3AX-NFI41	Plastic, IP00	M4	1.25 mm <sup>2</sup> , 2 mm <sup>2</sup>	0.7
3G3AX-NFI42	Plastic, IP00	M4	2 mm <sup>2</sup>	0.7
3G3AX-NFI43	Plastic, IP00	M4	2 mm <sup>2</sup> , 3.5 mm <sup>2</sup>	0.7
3G3AX-NFI44	Plastic, IP00	M4	5.5 mm <sup>2</sup>	0.8
3G3AX-NFI45	Plastic, IP00	M5	8 mm <sup>2</sup>	1.4
3G3AX-NFI46	Plastic, IP00	M5	14 mm <sup>2</sup>	1.6

### 3G3AX-NFI21/NFI22



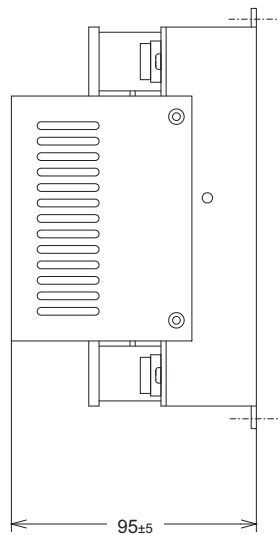
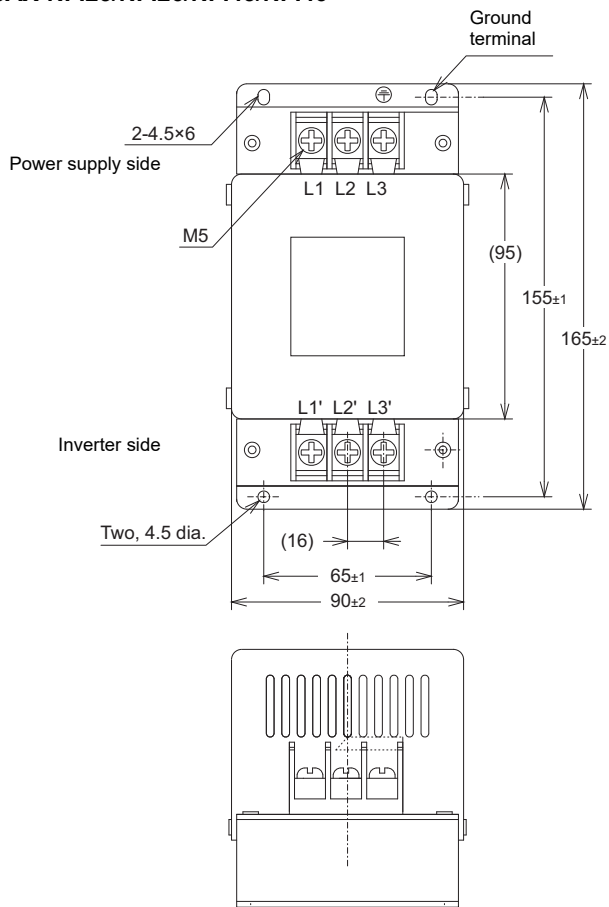
# Multi-function Compact Inverter MX2-Series V2 type

## 3G3AX-NFI23/NFI24/NFI41/NFI42/NFI43/NFI44



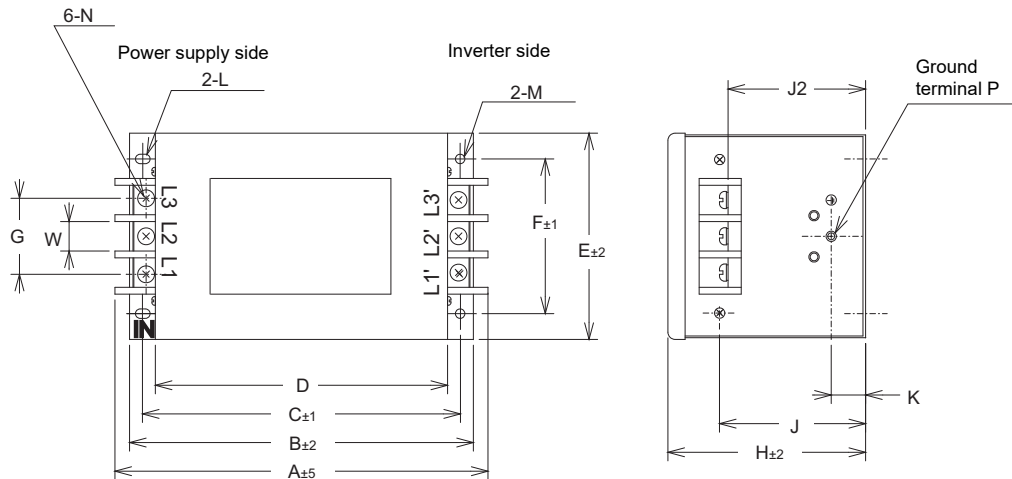
Model	Dimensions [mm]			
	A	B	C	D
3G3AX-NFI23	128	118	56	10
3G3AX-NFI24	144	130	56	11
3G3AX-NFI41	144	130	56	11
3G3AX-NFI42	144	130	56	11
3G3AX-NFI43	144	130	56	11
3G3AX-NFI44	144	130	56	11

## 3G3AX-NFI25/NFI26/NFI45/NFI46



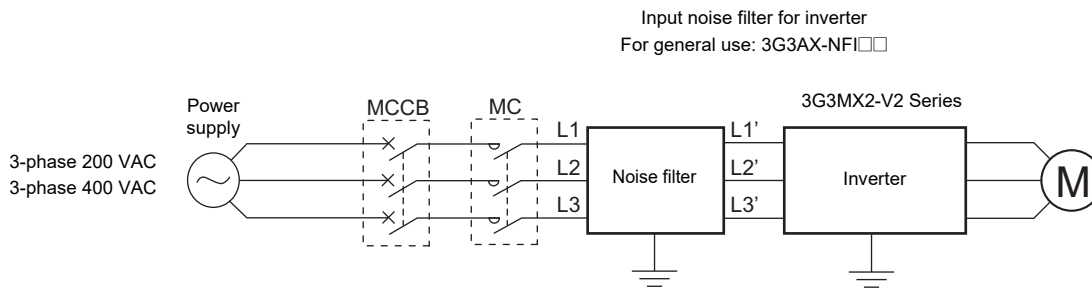


## 3G3AX-NFI27



Model	Dimensions [mm]															
	A	B	C	D	E	F	G	H	J	J2	K	L	M	N	P	W
3G3AX-NFI27	217	200	185	170	120	90	44	115	85	82	20	R2.75 Length 7	5.5 dia.	M6	M4	17

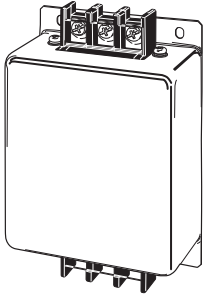
## Connection Examples



# Multi-function Compact Inverter MX2-Series V2 type

## Output Noise Filter (3G3AX-NFO□□)

Use this filter to reduce the conductive noise generated in the inverter and transmitted to the motor side wires.



### Specifications

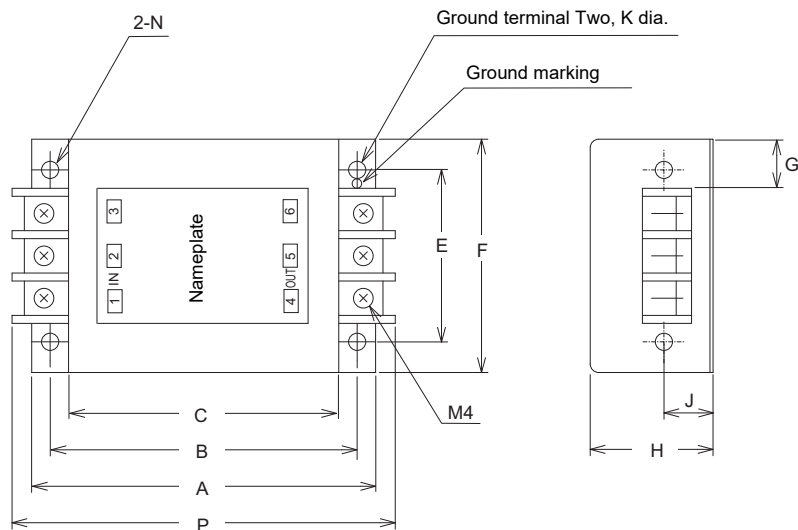
Inverter						Output noise filter specifications			
Voltage class	Max. applicable motor capacity [kW]	Model	Normal/Light load mode	Max. applicable motor capacity [kW]	Rated output current [A]	Model	Rated voltage	Rated input current [A]	Weight [kg]
3-phase 200-V class	0.1	3G3MX2-A2001-V2	Normal load	0.1	1.0	3G3AX-NFO01	500 VAC	6	0.7
			Light load	0.2	1.2				
	0.2	3G3MX2-A2002-V2	Normal load	0.2	1.6				
			Light load	0.4	1.9				
	0.4	3G3MX2-A2004-V2	Normal load	0.4	3.0				
			Light load	0.75	3.5				
	0.75	3G3MX2-A2007-V2	Normal load	0.75	5.0				
			Light load	1.1	6.0				
	1.5	3G3MX2-A2015-V2	Normal load	1.5	8.0				
			Light load	2.2	9.6				
	2.2	3G3MX2-A2022-V2	Normal load	2.2	11.0				
			Light load	3.0	12.0				
	3.7	3G3MX2-A2037-V2	Normal load	3.7	17.5				
			Light load	5.5	19.6				
	5.5	3G3MX2-A2055-V2	Normal load	5.5	25.0				
			Light load	7.5	30.0				
	7.5	3G3MX2-A2075-V2	Normal load	7.5	33.0				
			Light load	11	40.0				
11	3G3MX2-A2110-V2	Normal load	11	47.0					
		Light load	15	56.0					
15	3G3MX2-A2150-V2	Normal load	15	60.0					
		Light load	18.5	69.0					
Single-phase 200-V class	0.1	3G3MX2-AB001-V2	Normal load	0.1	1.0	3G3AX-NFO01	500 VAC	6	0.7
			Light load	0.2	1.2				
	0.2	3G3MX2-AB002-V2	Normal load	0.2	1.6				
			Light load	0.4	1.9				
	0.4	3G3MX2-AB004-V2	Normal load	0.4	3.0				
			Light load	0.55	3.5				
	0.75	3G3MX2-AB007-V2	Normal load	0.75	5.0				
			Light load	1.1	6.0				
	1.5	3G3MX2-AB015-V2	Normal load	1.5	8.0				
			Light load	2.2	9.6				
	2.2	3G3MX2-AB022-V2	Normal load	2.2	11.0				
			Light load	3.0	12.0				

**Note: 1.** The maximum frequency for the Output Noise Filter is 400 Hz.

# Multi-function Compact Inverter MX2-Series V2 type

Inverter						Output noise filter specifications			
Voltage class	Max. applicable motor capacity [kW]	Model	Normal/ Light load mode	Max. applicable motor capacity [kW]	Rated output current [A]	Model	Rated voltage	Rated input current [A]	Weight [kg]
3-phase 400-V class	0.4	3G3MX2-A4004-V2	Normal load	0.4	1.8	3G3AX-NFO01	500 VAC	6	0.7
			Light load	0.75	2.1				
	0.75	3G3MX2-A4007-V2	Normal load	0.75	3.4				
			Light load	1.5	4.1				
	1.5	3G3MX2-A4015-V2	Normal load	1.5	4.8				
			Light load	2.2	5.4				
	2.2	3G3MX2-A4022-V2	Normal load	2.2	5.5	3G3AX-NFO02			
			Light load	3.0	6.9				
	3.0	3G3MX2-A4030-V2	Normal load	3.0	7.2				
			Light load	4.0	8.8				
	4.0	3G3MX2-A4040-V2	Normal load	4.0	9.2	3G3AX-NFO03			
			Light load	5.5	11.1				
	5.5	3G3MX2-A4055-V2	Normal load	5.5	14.8				
			Light load	7.5	17.5				
	7.5	3G3MX2-A4075-V2	Normal load	7.5	18.0				
			Light load	11	23.0				
	11	3G3MX2-A4110-V2	Normal load	11	24.0	3G3AX-NFO04			
			Light load	15	31.0				
15	3G3MX2-A4150-V2	Normal load	15	31.0					
		Light load	18.5	38.0					

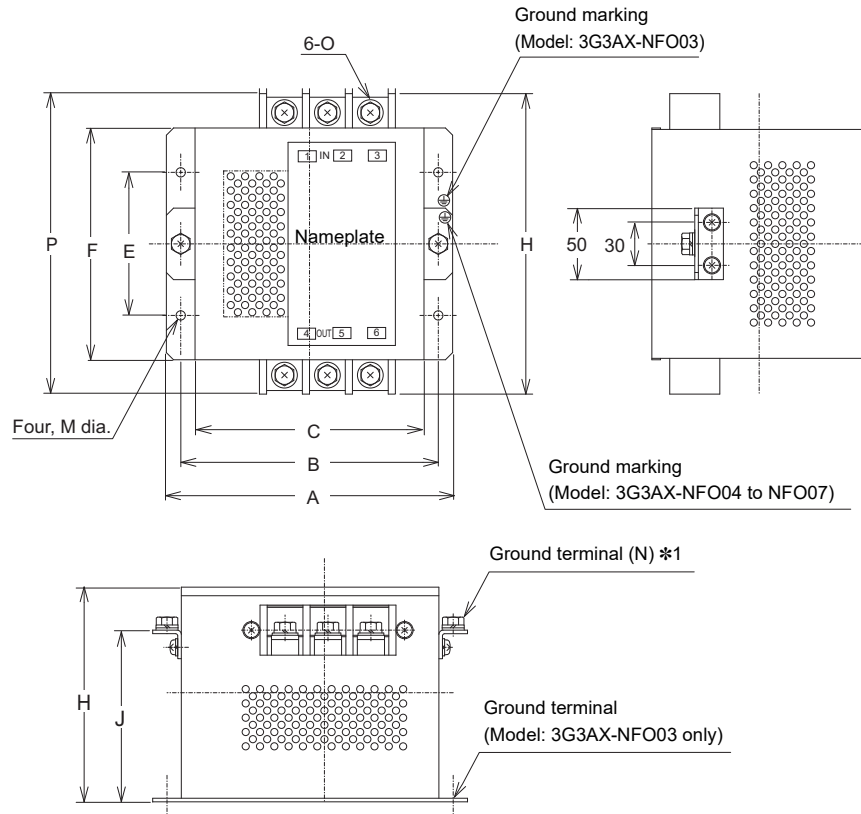
## Dimensions (Unit: mm) 3G3AX-NFO01/NFO02



Model	Dimensions [mm]										
	A	B	C	E	F	G	H	J	K	P	N
3G3AX-NFO01	140	125	110	70	95	22	50	20	4.5	156	2-R2.25 Length 6
3G3AX-NFO02	160	145	130	80	110	30	70	25	5.5	176	2-R2.75 Length 7

# Multi-function Compact Inverter MX2-Series V2 type

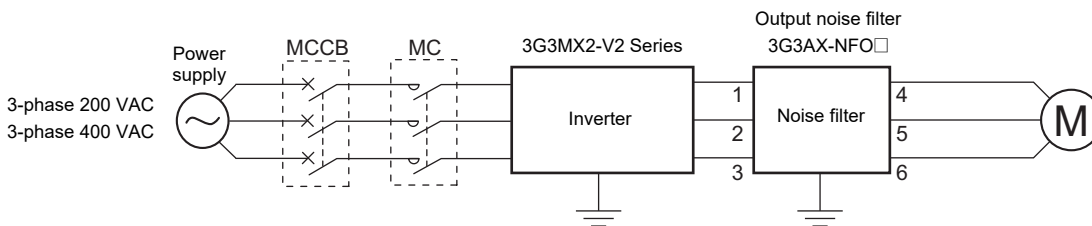
## 3G3AX-NFO03/NFO04/NFO05



\*1. For 3G3AX-NFO03, this ground terminal is not provided. The mounting hole is used also for grounding

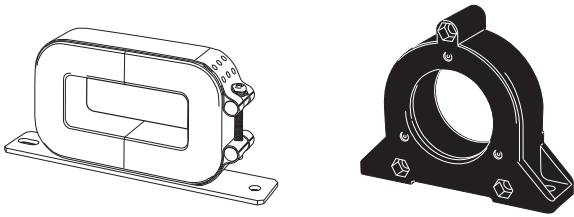
Model	Dimensions [mm]										
	A	B	C	E	F	H	J	M	N	O	P
3G3AX-NFO03	160	145	130	80	112	120	-	6.5 dia.	-	M4	154
3G3AX-NFO04	200	180	160	100	162	150	120	6.5 dia.	M5	M5	210
3G3AX-NFO05	220	200	180	100	182	170	140	6.5 dia.	M6	M6	230

## Connection Examples



## Radio Noise Filter (3G3AX-ZCL□)

Use this filter to reduce the radiated noise generated in the inverter and emitted from the power-supply line side and motor side wires.



### Specifications

Select the radio noise filter according to the maximum applicable motor capacity for the normal/light load mode of the Inverter.

- The recommended number of turns is 4. If it is not possible to wind the wire 4 turns due to the limitation of the wire size, decrease the number to 3, 2, and so on. When the wire can be wound only a single turn, use 4 or more filters side by side, with each wire wound in the same direction.
- The number of turns should be limited to approximately 8, although the filtering effect is larger with a larger number of turns. Exceeding this limit may cause negative effects.

#### 3G3AX-ZCL1

Applicable motor capacity [kW]	200-V class				400-V class			
	Input side		Output side		Input side		Output side	
	Quantity	No. of turns	Quantity	No. of turns	Quantity	No. of turns	Quantity	No. of turns
0.2	1	4	1	4	No applicable model		No applicable model	
0.4	1	4	1	4	1	4	1	4
0.75	1	4	1	4	1	4	1	4
1.5	1	4	1	4	1	4	1	4
2.2	1	4	1	4	1	4	1	4
3.0	1	4	1	4	1	4	1	4
3.7	1	4	1	4	No applicable model		No applicable model	
4.0	No applicable model		No applicable model		1	4	1	4
5.5	1	4	1	4	1	4	1	4
7.5	1	4	1	4	1	4	1	4
11	1	3	1	3	1	4	1	4
15	1	2	1	2	1	4	1	4

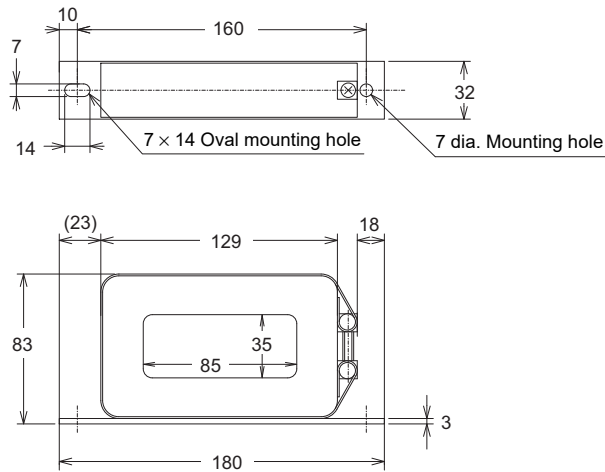
#### 3G3AX-ZCL2

Applicable motor capacity [kW]	200-V class				400-V class			
	Input side		Output side		Input side		Output side	
	Quantity	No. of turns	Quantity	No. of turns	Quantity	No. of turns	Quantity	No. of turns
0.1	1	4	1	4	No applicable model		No applicable model	
0.2	1	4	1	4				
0.4	1	4	1	4	1	4	1	4
0.75	1	4	1	4	1	4	1	4
1.5	1	4	1	4	1	4	1	4
2.2	1	4	1	4	1	4	1	4
3.0	1	4	1	4	1	4	1	4
3.7	1	4	1	4	No applicable model		No applicable model	
4.0	No applicable model		No applicable model		1	4	1	4
5.5	1	3	1	3	1	4	1	4
7.5	1	2	1	2	1	4	1	4

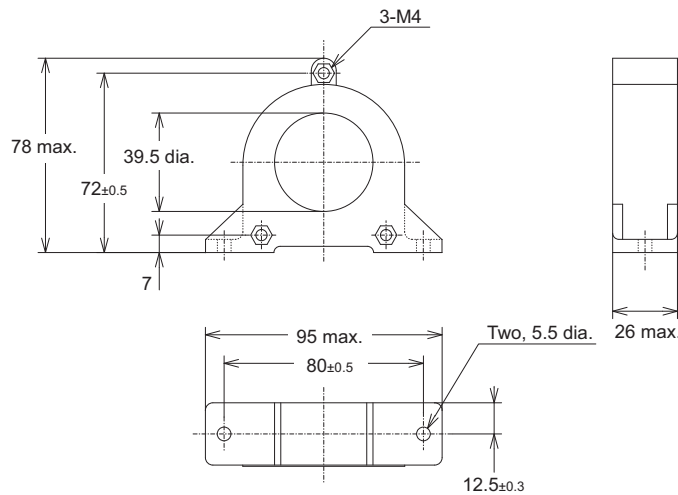
# Multi-function Compact Inverter **MX2-Series V2 type**

## Dimensions (Unit: mm)

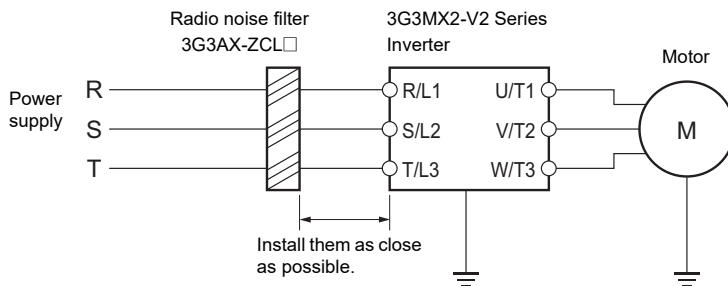
### 3G3AX-ZCL1



### 3G3AX-ZCL2



## Connection Examples



**Note: 1.** Wind the phase-R/S/T wire in the same direction.

**Note: 2.** This noise filter can be used in the same manner on both the input and output side of the inverter.

## EMC Noise Filter

Use this filter to reduce the conductive noise generated in the inverter and transmitted to power supply lines for compliance with European EU Directives.

For information on EMC noise filters that support the 3G3MX2-V2 Series Inverter, contact your OMRON sales representative.

## Optional Digital Operator (3G3AX-OP01)

In addition to the Digital Operator as standard equipment, the following Optional Digital Operator products are also available. This LED Digital Operator has a volume control to adjust frequency reference.



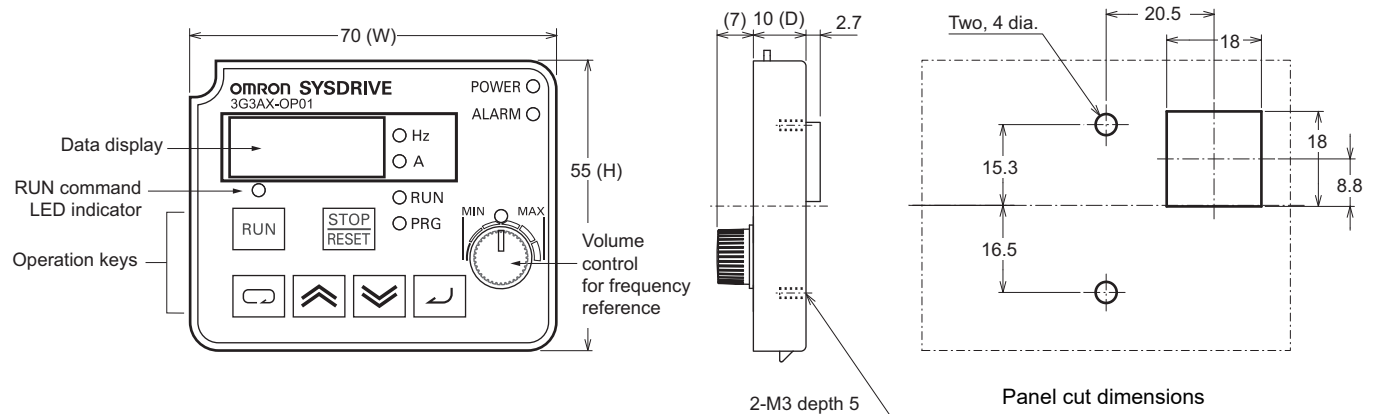
### Specifications

#### 3G3AX-OP01

Item	Specifications
Display	LED digital display
External Dimensions	55 (H) × 70 (W) × 10 (D) mm
Weight	100 g max.
Operating ambient temperature	-10 to 50°C
Operating ambient humidity	20% to 90% (with no condensation)
Storage ambient temperature	-20 to 65°C
Location	At a maximum altitude of 1,000 m (without corrosive gases or dust)
Others	Built-in volume control for frequency setting

### Dimensions (Unit: mm)

#### 3G3AX-OP01

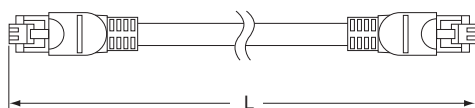


## Digital Operator Cable (3G3AX-OPCN□)

### Specifications

Item	Specifications
Connector	RJ45 connector
Cable	EIA568-compliant cable (UTP category 5)

### Dimensions



Model	Cable length [m]
3G3AX-OPCN1	1
3G3AX-OPCN3	3





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# Ordering Information

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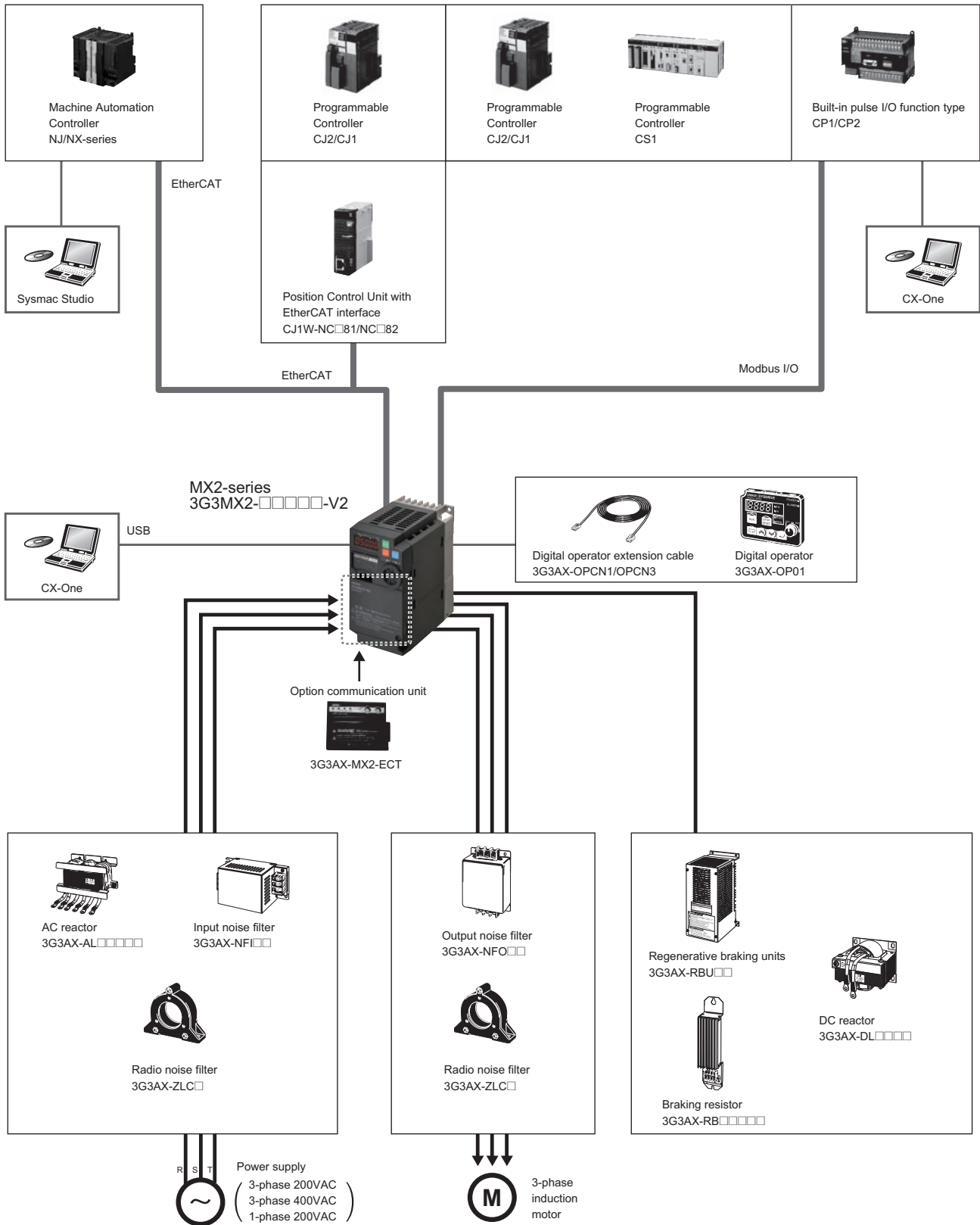
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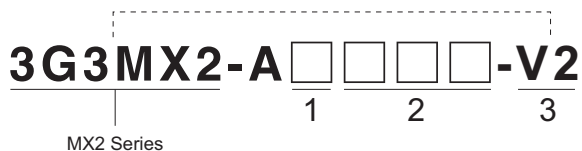
The product photographs and figures that are used in this catalog may vary somewhat from the actual products.

# Multi-function Compact Inverter MX2-Series V2 type

## System Configuration



## Interpreting Model Numbers



1) Voltage class

B	1-phase 200 VAC (200-V class)
2	3-phase 200 VAC (200-V class)
4	3-phase 400 VAC (400-V class)

2) Max. applicable motor capacity  
(Normal-load rating)

001	0.1 kW
002	0.2 kW
004	0.4 kW
007	0.75 kW
015	1.5 kW
022	2.2 kW
030	3.0 kW
037	3.7 kW
040	4.0 kW
055	5.5 kW
075	7.5 kW
110	11 kW
150	15 kW

3) Area

-V2	Japan and areas other than Europe
-EV2	Europe

## Ordering Information

### 3G3MX2 Inverter Models

**Note:** Inverters with model numbers ending in "-V2" are designed to be used in areas other than Europe.  
Refer to the *Interpreting Model Numbers* for the model numbers for Europe.

Rated voltage	Enclosure ratings	Max. applicable motor capacity		Model
		ND: Normal load	LD: Light load	
3-phase 200 VAC	IP20	0.1kW	0.2 kW	3G3MX2-A2001-V2
		0.2 kW	0.4 kW	3G3MX2-A2002-V2
		0.4 kW	0.75 kW	3G3MX2-A2004-V2
		0.75 kW	1.1 kW	3G3MX2-A2007-V2
		1.5 kW	2.2 kW	3G3MX2-A2015-V2
		2.2 kW	3.0 kW	3G3MX2-A2022-V2
		3.7 kW	5.5 kW	3G3MX2-A2037-V2
		5.5 kW	7.5 kW	3G3MX2-A2055-V2
		7.5 kW	11 kW	3G3MX2-A2075-V2
		11 kW	15 kW	3G3MX2-A2110-V2
3-phase 400 VAC	IP20	15 kW	18.5 kW	3G3MX2-A2150-V2
		0.4 kW	0.75 kW	3G3MX2-A4004-V2
		0.75 kW	1.5 kW	3G3MX2-A4007-V2
		1.5 kW	2.2 kW	3G3MX2-A4015-V2
		2.2 kW	3.0 kW	3G3MX2-A4022-V2
		3.0 kW	4.0 kW	3G3MX2-A4030-V2
		4.0 kW	5.5 kW	3G3MX2-A4040-V2
		5.5 kW	7.5 kW	3G3MX2-A4055-V2
		7.5 kW	11 kW	3G3MX2-A4075-V2
1-phase 200 VAC	IP20	11 kW	15 kW	3G3MX2-A4110-V2
		15 kW	18.5 kW	3G3MX2-A4150-V2
		0.1 kW	0.2 kW	3G3MX2-AB001-V2
		0.2 kW	0.4 kW	3G3MX2-AB002-V2
		0.4 kW	0.55 kW	3G3MX2-AB004-V2
		0.75 kW	1.1 kW	3G3MX2-AB007-V2
		1.5 kW	2.2 kW	3G3MX2-AB015-V2
		2.2 kW	3.0 kW	3G3MX2-AB022-V2

### Communication Unit

Name	Model
EtherCAT Communication Unit	3G3AX-MX2-ECT

### Related Options

Name	Specifications		Model
Regenerative Braking Units	3-phase 200 VAC	General purpose with Braking resistor	3G3AX-RBU21
		High Regeneration purpose with Braking resistor	3G3AX-RBU22
	3-phase 400 VAC	General purpose with Braking resistor	3G3AX-RBU41
Braking Resistor	Compact type	Resistor 120 W, 180 Ω	3G3AX-RBA1201
		Resistor 120 W, 100 Ω	3G3AX-RBA1202
		Resistor 120 W, 5 Ω	3G3AX-RBA1203
		Resistor 120 W, 35 Ω	3G3AX-RBA1204
	Standard type	Resistor 200 W, 180 Ω	3G3AX-RBB2001
		Resistor 200 W, 100 Ω	3G3AX-RBB2002
		Resistor 300 W, 50 Ω	3G3AX-RBB3001
		Resistor 400 W, 35 Ω	3G3AX-RBB4001
	Medium capacity type	Resistor 400 W, 50 Ω	3G3AX-RBC4001
		Resistor 600 W, 35 Ω	3G3AX-RBC6001
		Resistor 1200 W, 17 Ω	3G3AX-RBC12001

### Regenerative Braking Unit and Braking Resistor Combination

A table that lists the available combinations of the inverter with the regenerative braking unit and braking resistor is provided on the next page.

Below is the meaning of each header item of this combination table. Choose the combination appropriate to your inverter.

If the usage rate exceeds 10% ED, or if you need a torque larger than the approximate braking torque, refer to the *Multi-function Compact Inverter 3G3MX2-V2 User's Manual* (Cat. No. I666).

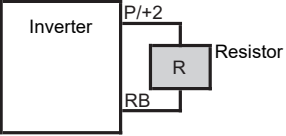
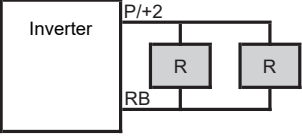
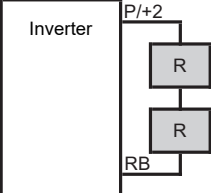
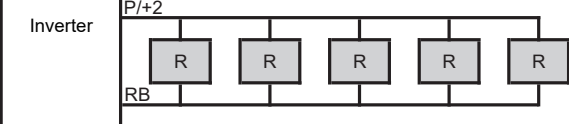
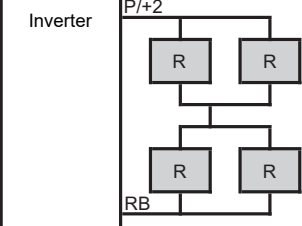
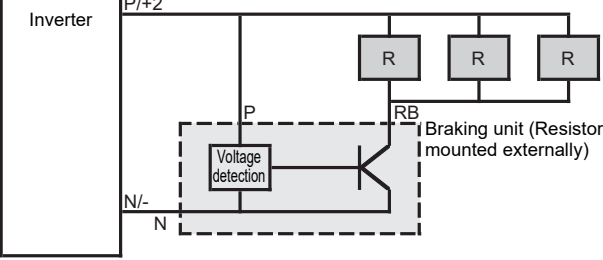
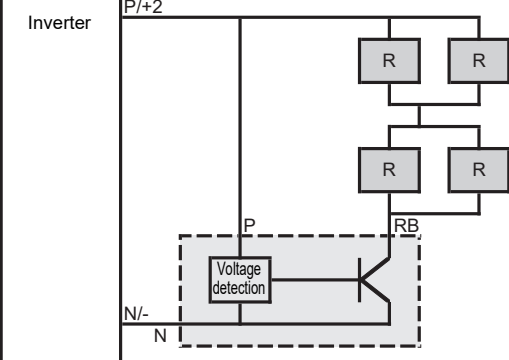
Inverter		Operating condition		Braking unit		Braking resistor		Connection form	Restriction		
Voltage class	Max. applicable motor capacity [kW]	Model	%ED [%]	Approximate braking torque [%*1]	Model	No. of units	Model		No. of units	Allowable continuous ON time [s]	Min. connection resistance [Ω]
200-V class	0.1	3G3MX2-A2001-V2 3G3MX2-AB001-V2	3.0%	220%	Built into unit	-	3G3AX-RBA1201	1	1	20	100
			10.0%	220%		-	3G3AX-RBB2001	1	1	30	100
	0.2	3G3MX2-A2002-V2 3G3MX2-AB002-V2	3.0%	220%	Built into unit	-	3G3AX-RBA1201	1	1	20	100
			10.0%	220%		-	3G3AX-RBB2001	1	1	30	100
	0.4	3G3MX2-A2004-V2 3G3MX2-AB004-V2	3.0%	220%	Built into unit	-	3G3AX-RBA1201	1	1	20	100
			10.0%	220%		-	3G3AX-RBB2001	1	1	30	100
	0.75	3G3MX2-A2007-V2 3G3MX2-AB007-V2	3.0%	120%	Built into unit	-	3G3AX-RBA1201	1	1	20	50
			10.0%	120%		-	3G3AX-RBB2001	1	1	30	50
	1.5	3G3MX2-A2015-V2 3G3MX2-AB015-V2	2.5%	110%	Built into unit	-	3G3AX-RBA1202	1	1	12	50
			10.0%	215%		-	3G3AX-RBC4001	1	1	10	50
	2.2	3G3MX2-A2022-V2 3G3MX2-AB022-V2	3.0%	150%	Built into unit	-	3G3AX-RBB3001	1	1	30	35
			10.0%	150%		-	3G3AX-RBC4001	1	1	10	35
	3.7	3G3MX2-A2037-V2	3.0%	125%	Built into unit	-	3G3AX-RBB4001	1	1	20	35
			10.0%	125%		-	3G3AX-RBC6001	1	1	10	35
	5.5	3G3MX2-A2055-V2	3.0%	120%	Built into unit	-	3G3AX-RBB3001	2	2	30	20
			10.0%	120%		-	3G3AX-RBC4001	2	2	10	20
7.5	3G3MX2-A2075-V2	3.0%	125%	Built into unit	-	3G3AX-RBB4001	2	2	20	17	
		10.0%	125%		-	3G3AX-RBC6001	2	2	10	17	
11	3G3MX2-A2110-V2	3.0%	90%	Built into unit	-	3G3AX-RBC12001	1	1	10	17	
		10.0%	90%		-	3G3AX-RBC12001	1	1	10	17	
		10.0%	125%	3G3AX-RBU23	1	3G3AX-RBC6001	3	6	10	4	
15	3G3MX2-A2150-V2	3.0%	110%	Built into unit	-	3G3AX-RBB3001	5	4	30	10	
		10.0%	110%		-	3G3AX-RBC4001	5	4	10	10	
400-V class	0.4	3G3MX2-A4004-V2	3.0%	220%	Built into unit	-	3G3AX-RBA1201	2	3	20	180
			10.0%	220%		-	3G3AX-RBB2001	2	3	30	180
	0.75	3G3MX2-A4007-V2	3.0%	220%	Built into unit	-	3G3AX-RBA1201	2	3	20	180
			10.0%	220%		-	3G3AX-RBB2001	2	3	30	180
	1.5	3G3MX2-A4015-V2	3.0%	120%	Built into unit	-	3G3AX-RBA1201	2	3	20	180
			10.0%	120%		-	3G3AX-RBB2001	2	3	30	180
	2.2	3G3MX2-A4022-V2	2.5%	150%	Built into unit	-	3G3AX-RBA1202	2	3	12	100
			10.0%	220%		-	3G3AX-RBC4001	2	3	10	100
	3.0	3G3MX2-A4030-V2	2.5%	110%	Built into unit	-	3G3AX-RBA1202	2	3	12	100
			10.0%	215%		-	3G3AX-RBC4001	2	3	10	100
	4.0	3G3MX2-A4040-V2	3.0%	165%	Built into unit	-	3G3AX-RBB3001	2	3	30	100
			10.0%	165%		-	3G3AX-RBC4001	2	3	10	100
	5.5	3G3MX2-A4055-V2	3.0%	120%	Built into unit	-	3G3AX-RBB3001	2	3	30	70
			10.0%	120%		-	3G3AX-RBC4001	2	3	10	70
	7.5	3G3MX2-A4075-V2	3.0%	125%	Built into unit	-	3G3AX-RBB4001	2	3	20	70
			10.0%	125%		-	3G3AX-RBC6001	2	3	10	70
11	3G3MX2-A4110-V2	3.0%	85%	Built into unit	-	3G3AX-RBB4001	2	3	20	70	
		10.0%	85%		-	3G3AX-RBC6001	2	3	10	70	
		10.0%	120%	3G3AX-RBU41 *2	1	3G3AX-RBC4001	4	7	10	34	
15	3G3MX2-A4150-V2	3.0%	125%	Built into unit	-	3G3AX-RBB4001	4	5	20	35	
		10.0%	125%		-	3G3AX-RBC6001	4	5	10	35	

\*1. This is shown in units of percentage as 100% of the rated torque of the motor.

\*2. Remove the built-in resistor.

# Multi-function Compact Inverter MX2-Series V2 type

## Connection Form Table

No.		Connection form
1	1 resistor unit	
2	2 resistor units connected in parallel	
3	2 resistor units connected in series	
4	5 resistor units connected in parallel	
5	2 groups of 2 parallel resistor units are series-connected	
6	1 braking unit and 3 resistor units connected in parallel	
7	1 braking unit and 2 groups of 2 parallel resistor units are series-connected	

# Multi-function Compact Inverter MX2-Series V2 type

Name	Model
Radio Noise Filter	3G3AX-ZCL2
	3G3AX-ZCL1

Name	Inverter						Model		
	Voltage class	Max. applicable motor capacity [kW]	Model	Normal/ Light load mode	Max. applicable motor capacity [kW]	Rated input current [A]			
Input Noise Filter	3-phase 200-V Class	0.1	3G3MX2-A2001-V2	Normal load	0.1	1.0	3G3AX-NFI21		
				Light load	0.2	1.2			
		0.2	3G3MX2-A2002-V2	Normal load	0.2	1.6			
				Light load	0.4	1.9			
		0.4	3G3MX2-A2004-V2	Normal load	0.4	3.3			
				Light load	0.75	3.9			
		0.75	3G3MX2-A2007-V2	Normal load	0.75	6.0		3G3AX-NFI22	
				Light load	1.1	7.2			
		1.5	3G3MX2-A2015-V2	Normal load	1.5	9.0			
				Light load	2.2	10.8			
		2.2	3G3MX2-A2022-V2	Normal load	2.2	12.7		3G3AX-NFI23	
				Light load	3.0	13.9			
		3.7	3G3MX2-A2037-V2	Normal load	3.7	20.5			
				Light load	5.5	23.0			
		5.5	3G3MX2-A2055-V2	Normal load	5.5	30.8			
				Light load	7.5	37.0			
		7.5	3G3MX2-A2075-V2	Normal load	7.5	39.6		3G3AX-NFI26	
				Light load	11	48.0			
		11	3G3MX2-A2110-V2	Normal load	11	57.1			
				Light load	15	68.0			
		15	3G3MX2-A2150-V2	Normal load	15	62.6		3G3AX-NFI27	
				Light load	18.5	72.0			
		Single-phase 200-V Class	0.1	3G3MX2-AB001-V2	Normal load	0.1		1.3	3G3AX-NFI21
					Light load	0.2		2.0	
	0.2		3G3MX2-AB002-V2	Normal load	0.2	3.0			
				Light load	0.4	3.6			
	0.4		3G3MX2-AB004-V2	Normal load	0.4	6.3	3G3AX-NFI22		
				Light load	0.55	7.3			
	0.75		3G3MX2-AB007-V2	Normal load	0.75	11.5			
				Light load	1.1	13.8			
	1.5		3G3MX2-AB015-V2	Normal load	1.5	16.8			
				Light load	2.2	20.2			
	2.2		3G3MX2-AB022-V2	Normal load	2.2	22.0	3G3AX-NFI24		
				Light load	3.0	24.0			
	3-phase 400-V class	0.4	3G3MX2-A4004-V2	Normal load	0.4	1.8	3G3AX-NFI41		
				Light load	0.75	2.1			
		0.75	3G3MX2-A4007-V2	Normal load	0.75	3.6			
				Light load	1.5	4.3			
		1.5	3G3MX2-A4015-V2	Normal load	1.5	5.2			
				Light load	2.2	5.9			
		2.2	3G3MX2-A4022-V2	Normal load	2.2	6.5			
				Light load	3.0	8.1			
		3.0	3G3MX2-A4030-V2	Normal load	3.0	7.7		3G3AX-NFI42	
				Light load	4.0	9.4			
		4.0	3G3MX2-A4040-V2	Normal load	4.0	11.0			
				Light load	5.5	13.3			
		5.5	3G3MX2-A4055-V2	Normal load	5.5	16.9			
				Light load	7.5	20.0			
7.5		3G3MX2-A4075-V2	Normal load	7.5	18.8				
			Light load	11	24.0				
11		3G3MX2-A4110-V2	Normal load	11	29.4	3G3AX-NFI44			
			Light load	15	38.0				
15	3G3MX2-A4150-V2	Normal load	15	35.9					
		Light load	18.5	44.0					

# Multi-function Compact Inverter MX2-Series V2 type

Name	Inverter						Model
	Voltage class	Max. applicable motor capacity [kW]	Model	Normal/ Light load mode	Max. applicable motor capacity [kW]	Rated output current [A]	
Output Noise Filter	3-phase 200-V class	0.1	3G3MX2-A2001-V2	Normal load	0.1	1.0	3G3AX-NFO01
				Light load	0.2	1.2	
		0.2	3G3MX2-A2002-V2	Normal load	0.2	1.6	
				Light load	0.4	1.9	
		0.4	3G3MX2-A2004-V2	Normal load	0.4	3.0	
				Light load	0.75	3.5	
		0.75	3G3MX2-A2007-V2	Normal load	0.75	5.0	
				Light load	1.1	6.0	
		1.5	3G3MX2-A2015-V2	Normal load	1.5	8.0	
				Light load	2.2	9.6	
		2.2	3G3MX2-A2022-V2	Normal load	2.2	11.0	
				Light load	3.0	12.0	
		3.7	3G3MX2-A2037-V2	Normal load	3.7	17.5	
				Light load	5.5	19.6	
		5.5	3G3MX2-A2055-V2	Normal load	5.5	25.0	
				Light load	7.5	30.0	
		7.5	3G3MX2-A2075-V2	Normal load	7.5	33.0	
				Light load	11	40.0	
	11	3G3MX2-A2110-V2	Normal load	11	47.0		
			Light load	15	56.0		
	15	3G3MX2-A2150-V2	Normal load	15	60.0		
			Light load	18.5	69.0		
	Single-phase 200-V class	0.1	3G3MX2-AB001-V2	Normal load	0.1	1.0	3G3AX-NFO01
				Light load	0.2	1.2	
		0.2	3G3MX2-AB002-V2	Normal load	0.2	1.6	
				Light load	0.4	1.9	
		0.4	3G3MX2-AB004-V2	Normal load	0.4	3.0	
				Light load	0.55	3.5	
		0.75	3G3MX2-AB007-V2	Normal load	0.75	5.0	
				Light load	1.1	6.0	
		1.5	3G3MX2-AB015-V2	Normal load	1.5	8.0	
				Light load	2.2	9.6	
		2.2	3G3MX2-AB022-V2	Normal load	2.2	11.0	
				Light load	3.0	12.0	
	3-phase 400-V class	0.4	3G3MX2-A4004-V2	Normal load	0.4	1.8	3G3AX-NFO01
				Light load	0.75	2.1	
0.75		3G3MX2-A4007-V2	Normal load	0.75	3.4		
			Light load	1.5	4.1		
1.5		3G3MX2-A4015-V2	Normal load	1.5	4.8		
			Light load	2.2	5.4		
2.2		3G3MX2-A4022-V2	Normal load	2.2	5.5		
			Light load	3.0	6.9		
3.0		3G3MX2-A4030-V2	Normal load	3.0	7.2		
			Light load	4.0	8.8		
4.0		3G3MX2-A4040-V2	Normal load	4.0	9.2		
			Light load	5.5	11.1		
5.5		3G3MX2-A4055-V2	Normal load	5.5	14.8		
			Light load	7.5	17.5		
7.5		3G3MX2-A4075-V2	Normal load	7.5	18.0		
			Light load	11	23.0		
11		3G3MX2-A4110-V2	Normal load	11	24.0		
			Light load	15	31.0		
15	3G3MX2-A4150-V2	Normal load	15	31.0			
		Light load	18.5	38.0			

Note: 1. The maximum frequency for the Output Noise Filter is 400 Hz.



# Multi-function Compact Inverter MX2-Series V2 type

Name	Inverter						Model
	Voltage class	Max. applicable motor capacity [kW]	Model	Normal/Light load mode	Max. applicable motor capacity [kW]	Rated input current [A]	
DC Reactor	3-phase 200-V class	0.1	3G3MX2-A2001-V2	Normal load *1	0.1	1.0	3G3AX-DL2002
				Light load	0.2	1.2	
		0.2	3G3MX2-A2002-V2	Normal load *1	0.2	1.6	3G3AX-DL2004
				Light load	0.4	1.9	
		0.4	3G3MX2-A2004-V2	Normal load *1	0.4	3.3	3G3AX-DL2007
				Light load	0.75	3.9	
		0.75	3G3MX2-A2007-V2	Normal load *1	0.75	6.0	3G3AX-DL2015
				Light load	1.1	7.2	
		1.5	3G3MX2-A2015-V2	Normal load *1	1.5	9.0	3G3AX-DL2022
				Light load	2.2	10.8	
		2.2	3G3MX2-A2022-V2	Normal load *1	2.2	12.7	3G3AX-DL2037
				Light load	3.0	13.9	
		3.7	3G3MX2-A2037-V2	Normal load *1	3.7	20.5	3G3AX-DL2055
				Light load	5.5	23.0	
		5.5	3G3MX2-A2055-V2	Normal load *1	5.5	30.8	3G3AX-DL2075
				Light load	7.5	37.0	
		7.5	3G3MX2-A2075-V2	Normal load *1	7.5	39.6	3G3AX-DL2110
				Light load	11	48.0	
		11	3G3MX2-A2110-V2	Normal load *1	11	57.1	3G3AX-DL2150
				Light load	15	68.0	
	15	3G3MX2-A2150-V2	Normal load *1	15	62.6	3G3AX-DL2220	
			Light load	18.5	72.0		
	Single-phase 200-V Class	0.1	3G3MX2-AB001-V2	Normal load *1	0.1	1.3	3G3AX-DL2002
				Light load	0.2	2.0	
		0.2	3G3MX2-AB002-V2	Normal load *1	0.2	3.0	3G3AX-DL2004
				Light load	0.4	3.6	
		0.4	3G3MX2-AB004-V2	Normal load *1	0.4	6.3	3G3AX-DL2007
				Light load	0.55	7.3	
		0.75	3G3MX2-AB007-V2	Normal load *1	0.75	11.5	3G3AX-DL2015
				Light load	1.1	13.8	
		1.5	3G3MX2-AB015-V2	Normal load *1	1.5	16.8	3G3AX-DL2022
				Light load	2.2	20.2	
		2.2	3G3MX2-AB022-V2	Normal load *1	2.2	22.0	3G3AX-DL2037
				Light load	3.0	24.0	
	3-phase 400-V class	0.4	3G3MX2-A4004-V2	Normal load *1	0.4	1.8	3G3AX-DL4004
				Light load	0.75	2.1	
		0.75	3G3MX2-A4007-V2	Normal load *1	0.75	3.6	3G3AX-DL4007
				Light load	1.5	4.3	
		1.5	3G3MX2-A4015-V2	Normal load *1	1.5	5.2	3G3AX-DL4015
				Light load	2.2	5.9	
		2.2	3G3MX2-A4022-V2	Normal load *1	2.2	6.5	3G3AX-DL4022
				Light load	3.0	8.1	
3.0		3G3MX2-A4030-V2	Normal load *1	3.0	7.7	3G3AX-DL4037	
			Light load	4.0	9.4		
4.0		3G3MX2-A4040-V2	Normal load *1	4.0	11.0	3G3AX-DL4055	
			Light load	5.5	13.3		
5.5		3G3MX2-A4055-V2	Normal load *1	5.5	16.9	3G3AX-DL4075	
			Light load	7.5	20.0		
7.5		3G3MX2-A4075-V2	Normal load *1	7.5	18.8	3G3AX-DL4110	
			Light load	11	24.0		
11		3G3MX2-A4110-V2	Normal load *1	11	29.4	3G3AX-DL4150	
			Light load	15	38.0		
15	3G3MX2-A4150-V2	Normal load *1	15	35.9	3G3AX-DL4220		
		Light load	18.5	44.0			

\*1. The DC reactor model for the normal load mode is selected with reference to the rated current value of a general-purpose motor, which is 85% of the rated output current of the Inverter. If you intend to constantly drive a motor whose rated current value exceeds 85% of the rated output current of the inverter, use the DC reactor model selected for the light-load mode.

# Multi-function Compact Inverter MX2-Series V2 type




Name	Inverter						Model		
	Voltage class	Max. applicable motor capacity [kW]	Model	Normal/ Light load mode	Max. applicable motor capacity [kW]	Rated input current [A]			
AC Reactor	3-phase 200-V class	0.1	3G3MX2-A2001-V2	Normal load	0.1	1.0	3G3AX-AL2025		
				Light load	0.2	1.2			
		0.2	3G3MX2-A2002-V2	Normal load	0.2	1.6			
				Light load	0.4	1.9			
		0.4	3G3MX2-A2004-V2	Normal load	0.4	3.3			
				Light load	0.75	3.9			
		0.75	3G3MX2-A2007-V2	Normal load	0.75	6.0			
				Light load	1.1	7.2			
		1.5	3G3MX2-A2015-V2	Normal load	1.5	9.0			
				Light load	2.2	10.8			
		2.2	3G3MX2-A2022-V2	Normal load	2.2	12.7		3G3AX-AL2055	
				Light load	3.0	13.9			
		3.7	3G3MX2-A2037-V2	Normal load	3.7	20.5			
				Light load	5.5	23.0			
		5.5	3G3MX2-A2055-V2	Normal load	5.5	30.8		3G3AX-AL2110	
				Light load	7.5	37.0			
		7.5	3G3MX2-A2075-V2	Normal load	7.5	39.6			
				Light load	11	48.0			
		11	3G3MX2-A2110-V2	Normal load	11	57.1		3G3AX-AL2220	
				Light load	15	68.0			
		15	3G3MX2-A2150-V2	Normal load	15	62.6			
				Light load	18.5	72.0		3G3AX-AL2330	
		Single-phase 200-V Class	0.1	3G3MX2-AB001-V2	Normal load	0.1		1.3	3G3AX-AL2025
					Light load	0.2		2.0	
	0.2		3G3MX2-AB002-V2	Normal load	0.2	3.0			
				Light load	0.4	3.6			
	0.4		3G3MX2-AB004-V2	Normal load	0.4	6.3			
				Light load	0.55	7.3			
	0.75		3G3MX2-AB007-V2	Normal load	0.75	11.5	3G3AX-AL2055		
				Light load	1.1	13.8			
	1.5		3G3MX2-AB015-V2	Normal load	1.5	16.8			
				Light load	2.2	20.2			
	2.2		3G3MX2-AB022-V2	Normal load	2.2	22.0	3G3AX-AL2110		
				Light load	3.0	24.0			
	3-phase 400-V class	0.4	3G3MX2-A4004-V2	Normal load	0.4	1.8	3G3AX-AL4025		
				Light load	0.75	2.1			
		0.75	3G3MX2-A4007-V2	Normal load	0.75	3.6			
				Light load	1.5	4.3			
		1.5	3G3MX2-A4015-V2	Normal load	1.5	5.2			
				Light load	2.2	5.9			
		2.2	3G3MX2-A4022-V2	Normal load	2.2	6.5	3G3AX-AL4055		
				Light load	3.0	8.1			
3.0		3G3MX2-A4030-V2	Normal load	3.0	7.7				
			Light load	4.0	9.4				
4.0		3G3MX2-A4040-V2	Normal load	4.0	11.0	3G3AX-AL4110			
			Light load	5.5	13.3				
5.5		3G3MX2-A4055-V2	Normal load	5.5	16.9				
			Light load	7.5	20.0				
7.5		3G3MX2-A4075-V2	Normal load	7.5	18.8				
			Light load	11	24.0				
11		3G3MX2-A4110-V2	Normal load	11	29.4	3G3AX-AL4220			
			Light load	15	38.0				
15	3G3MX2-A4150-V2	Normal load	15	35.9					
		Light load	18.5	44.0	3G3AX-AL4330				

Name	Cable length (m)	Model
Digital Operator	–	3G3AX-OP01
Connection cable	1m	3G3AX-OPCN1
	3m	3G3AX-OPCN3

## Recommended EtherCAT Communications Cables

Use Straight STP (shielded twisted-pair) cable of category 5 or higher with double shielding (braiding and aluminum foil tape) for EtherCAT.

### Cable with Connectors

Item	Appearance	Recommended manufacturer	Cable length (m) *1	Model
Cable with Connectors on Both Ends (RJ45/RJ45) Standard RJ45 plugs type *1 Wire Gauge and Number of Pairs: AWG26, 4-pair cable Cable Sheath material: PUR Cable color: Yellow *2		OMRON	0.3	XS6W-6PUR8SS30CM-YF
			0.5	XS6W-6PUR8SS50CM-YF
			1	XS6W-6PUR8SS100CM-YF
			2	XS6W-6PUR8SS200CM-YF
			3	XS6W-6PUR8SS300CM-YF
Cable with Connectors on Both Ends (RJ45/RJ45) Rugged RJ45 plugs type *1 Wire Gauge and Number of Pairs: AWG22, 2-pair cable Cable color: Light blue		OMRON	0.3	XS5W-T421-AMD-K
			0.5	XS5W-T421-BMD-K
			1	XS5W-T421-CMD-K
			2	XS5W-T421-DMD-K
			5	XS5W-T421-GMD-K
Cable with Connectors on Both Ends (M12 Straight/RJ45) Shield Strengthening Connector cable *3 M12/Smartclick Connectors Rugged RJ45 plugs type Wire Gauge and Number of Pairs: AWG22, 2-pair cable Cable color: Black		OMRON	0.5	XS5W-T421-BMC-SS
			1	XS5W-T421-CMC-SS
			2	XS5W-T421-DMC-SS
			3	XS5W-T421-EMC-SS
			5	XS5W-T421-GMC-SS
			10	XS5W-T421-JMC-SS

\*1. Standard type cables length 0.2, 0.3, 0.5, 1, 1.5, 2, 3, 5, 7.5, 10, 15 and 20 m are available.

Rugged type cables length 0.3, 0.5, 1, 2, 3, 5, 10 and 15 m are available.

For details, refer to Cat.No.G019.

\*2. Cables colors are available in blue, yellow, or Green.

\*3. For details, contact your OMRON representative.


### Cables / Connectors

#### Wire Gauge and Number of Pairs: AWG24, 4-pair Cable

Item	Appearance	Recommended manufacturer	Model
Cables	–	Kuramo Electric Co.	KETH-SB *
RJ45 Connectors	–	Panduit Corporation	MPS588-C *

\* We recommend you to use above cable and connector together.

#### Wire Gauge and Number of Pairs: AWG22, 2-pair Cable

Item	Appearance	Recommended manufacturer	Model
Cables	–	Kuramo Electric Co.	KETH-PSB-OMR *
	–	JMACS Japan Co., Ltd.	PNET/B *
RJ45 Assembly Connector		OMRON	XS6G-T421-1 *

\* We recommend you to use above cable and connector together.

## Multi-function Compact Inverter **MX2-Series V2 type**

### Software

#### How to Select Required Support Software for Your Controller

The required Support Software depends on the Controller to connect. Please check the following table when purchasing the Support Software.

Item	Omron PLC System	Omron Machine Automation Controller System
<b>Controller</b>	CS, CJ, CP, and other series	NJ/NX-series
<b>Inverter</b>	Inverter MX2-series V2 type Inverter MX2-series V1 type with EtherCAT Communication Unit (Applicable to the CJ series only.)	Inverter MX2-series V2 type Inverter MX2-series V1 type with EtherCAT Communication Unit
<b>Software</b>	FA Integrated Tool Package CX-One (CX-Drive Ver. 3.02 or higher)	Automation Software Sysmac Studio (Ver. 1.55 or higher)

#### FA Integrated Tool Package CX-One

Product name	Specifications			Model	Standards
		Number of licenses	Media		
<b>FA Integrated Tool Package CX-One Ver. 4.□</b>	The CX-One is a comprehensive software package that integrates Support Software for OMRON PLCs and components.  CX-One Version.4.□ includes CX-Drive Ver.3.□.	1 license *1	DVD	<b>CXONE-AL01D-V4</b>	–

\*1. Multi licenses (3, 10, 30, or 50 licenses) and DVD media without licenses are also available for the CX-One.

**Note: 1.** For details, refer to the *CX-One Catalog* (Cat. No. R134), visit your local OMRON website.

#### Automation Software Sysmac Studio

The Sysmac Studio is the software that provides an integrated environment for setting, programming, debugging and maintenance of machine automation controllers including the NJ/NX-series CPU Units, NY-series Industrial PC, EtherCAT Slave, and the HMI.

For details, refer to your local OMRON website and Sysmac Studio Catalog (Cat. No. P138).

**Related Manuals**

Man. No.	Model	Manual
I666	3G3MX2-□□□□□-V2	Multi-function Compact Inverter MX2 series V2 type USER'S MANUAL
I580		Drive Programming USER'S MANUAL
I574	3G3AX-MX2-ECT	MX2 series / MX2 series V1 type/ RX series V1 type EtherCAT Communication Unit USER'S MANUAL
I563	3G3AX-RBU□□	Regenerative Braking Unit 3G3AX-RBU□□ User's Manual
W463	CXONE-AL□□D-V□	CX-One FA Integrated Tool Package Setup Manual
W453	CXONE-AL□D-V□/WS02-DRVC01	CX-Drive OPERATION MANUAL
W504	SYSMAC-SE2□□□	Sysmac Studio Version 1 Operation Manual

## Terms and Conditions Agreement

### Read and understand this catalog.

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