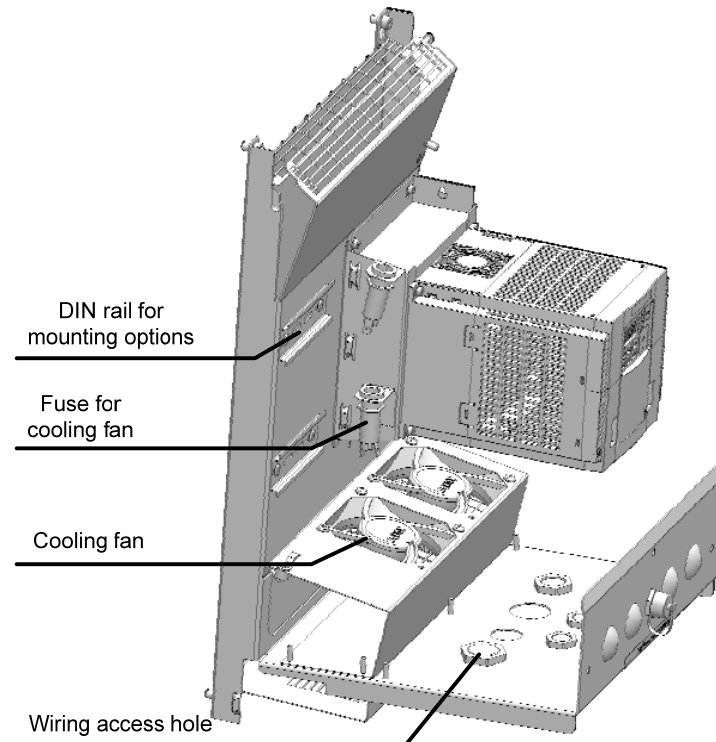
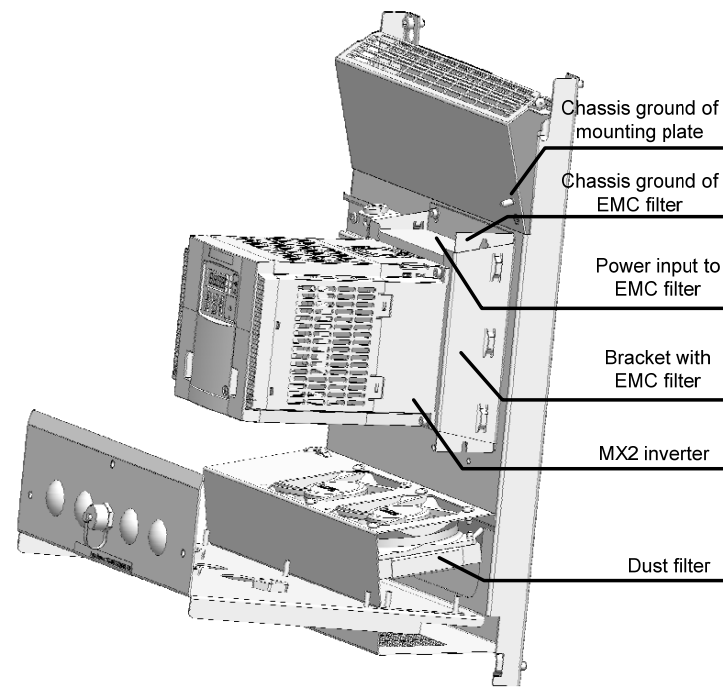
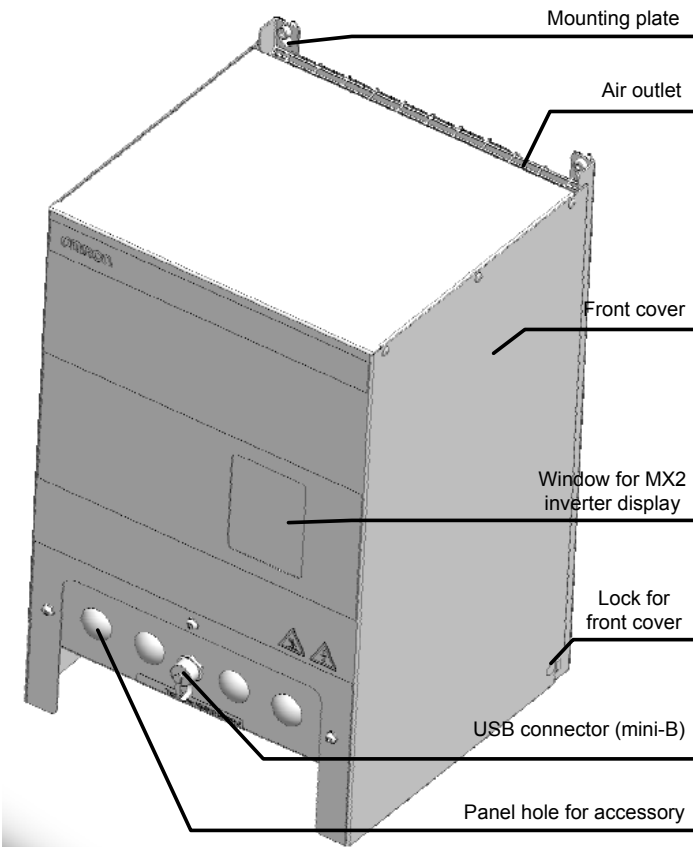


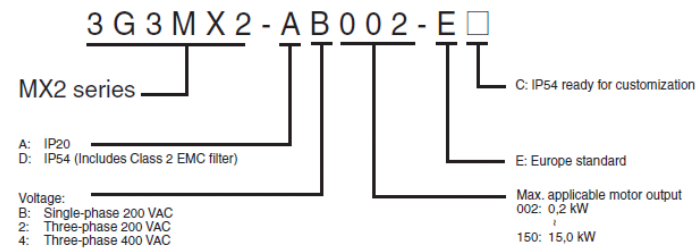
**INSTRUCTION SHEET**

Thank you for purchasing an OMRON product. Read this thoroughly and familiarize yourself with the functions and characteristics of the product before using it. Keep this instruction sheet for future reference.

**Names of Parts**



**Model Identification**

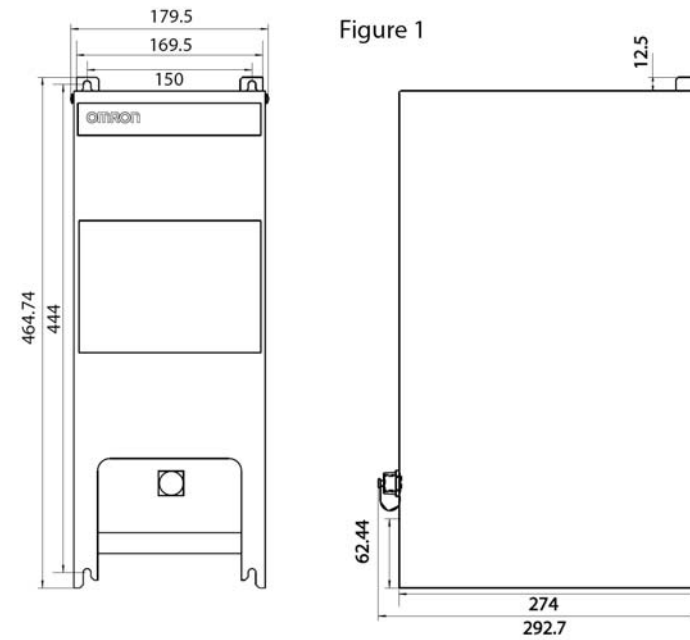


**Installation and Wiring**

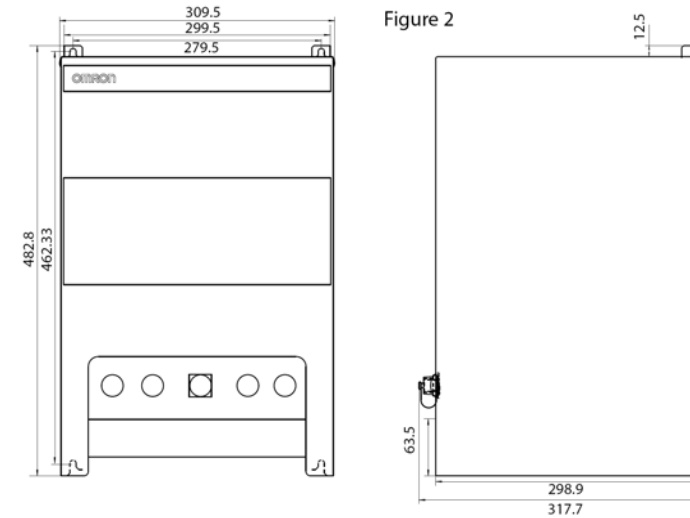
**Dimensions**

All dimensions are in mm.

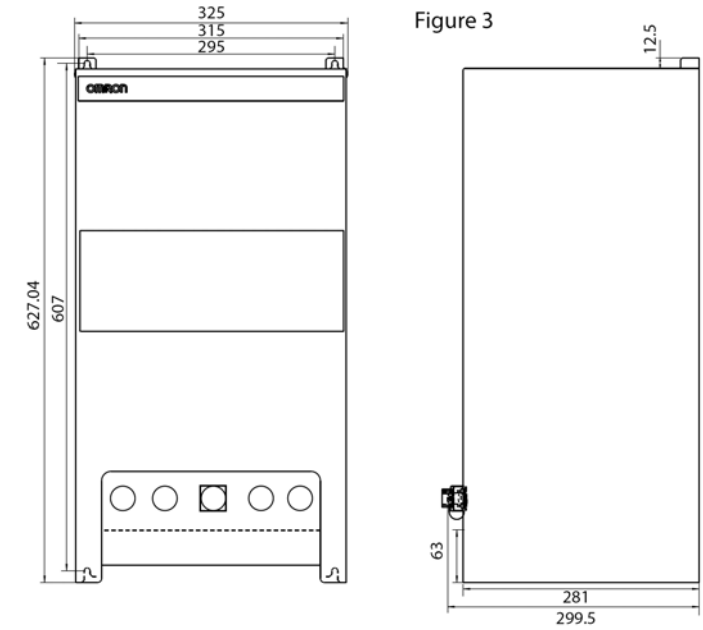
**Housing Type 1**



**Housing Type 2**



**Housing Type 3**



**Housing Type 4**

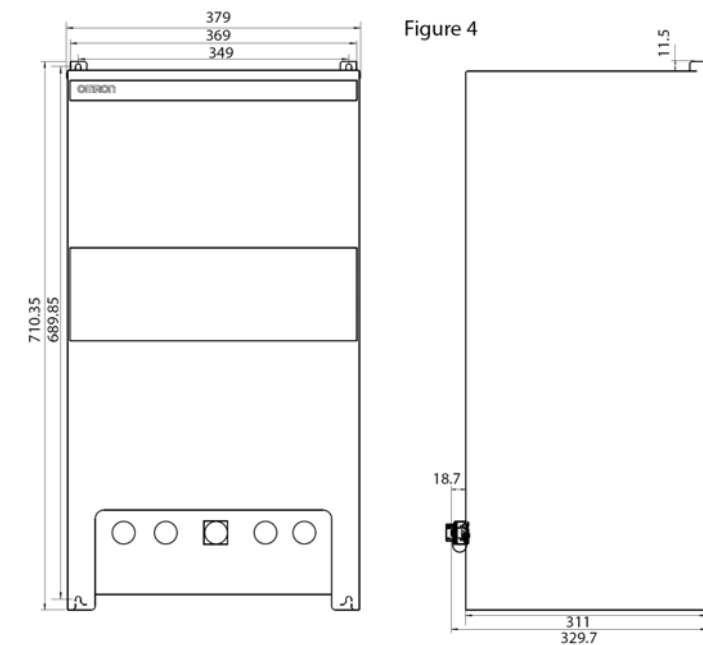
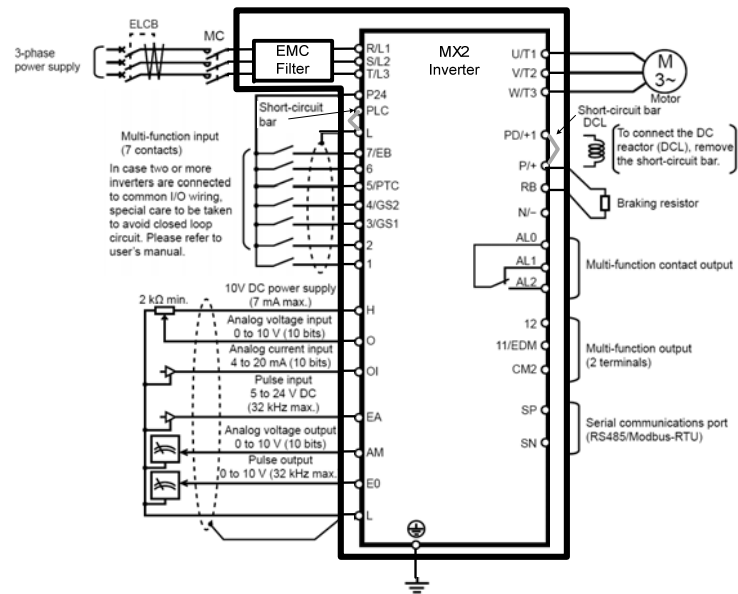


Figure 1	Figure 2
3G3MX2-DB001-E	3G3MX2-DB001-EC
3G3MX2-DB002-E	3G3MX2-DB002-EC
3G3MX2-DB004-E	3G3MX2-DB004-EC
3G3MX2-D2001-E	3G3MX2-DB007-EC
3G3MX2-D2002-E	3G3MX2-DB015-EC
3G3MX2-D2004-E	3G3MX2-DB022-EC
3G3MX2-D2007-E	3G3MX2-D2001-EC
	3G3MX2-D2002-EC
	3G3MX2-D2004-EC
	3G3MX2-D2007-EC
	3G3MX2-D2015-EC
	3G3MX2-D2022-EC
	3G3MX2-D2037-EC
	3G3MX2-D4004-EC
	3G3MX2-D4007-EC
	3G3MX2-D4015-EC
	3G3MX2-D4022-EC
	3G3MX2-D4030-EC
	3G3MX2-D4040-EC

Figure 3	Figure 4
3G3MX2-D2055-EC	3G3MX2-D2110-EC
3G3MX2-D2075-EC	3G3MX2-D2150-EC
3G3MX2-D4055-EC	3G3MX2-D4110-EC
3G3MX2-D4075-EC	3G3MX2-D4150-EC

## Standard Connection Diagram



## Installation Steps

1. Choose installation location.
2. Check housing dimensions for footprint and mounting hole locations.
3. Remove the front cover.
4. Mount the mounting plate of the MX2 IP54 housing
5. Connect all wiring.
6. Check your installation.
7. Attach the front cover.

## Installation Locations

**Note:** Do not store or use the MX2 IP54 housing in locations subject to condensation. Doing so can result in damaging the unit.

## Mounting Orientation and Spacing

Always install the housing in an upright position. The housing must be levelled for proper water drainage. Leave 10cm space above and below the housing for proper cooling. Leave 10cm space to the left and to the right for replacement of the dust filter.

## Removing the Front Cover



**Warning** Turn off the power supply before removing the cover. Not doing so may result in a serious injury due to an electric shock.

1. Loosen the three screws that hold the front cover.
2. Pull the bottom of the front cover for about 5cm.
3. Move the front cover upwards to remove.



**Caution** Only authorized people should be allowed to open the cover.



**Caution** Do not touch the cover during the power supply and for some time after the power shutdown. Doing so might result in a moderate burn.

## Mounting MX2 IP54 Mounting Plate

Dimensions for the mounting holes are given in figures 1-4. All dimensions are in mm.

All housings use four M6 mounting screws. Be sure to use lock washers or other means to ensure screws do not loosen due to vibration.

## Wiring

Connect all wiring via wiring access holes (in the bottom of the MX2 IP54 mounting plate).

Connect the AC power supply voltage to the EMC filter.

Connect the three phase motor to the motor output terminals of the MX2 inverter.

To prevent electric shock, be sure to ground the MX2 EMC filter, the motor, and the MX2 IP54 mounting plate. Use a star ground (single-point) arrangement, and never daisy-chain the grounds (point-to-point).

Connect other wiring if applicable (wiring for I/O, wiring for network communication).



**Warning** Connect the chassis ground terminal of mounting plate to earth ground. Not doing so might result in an electric shock



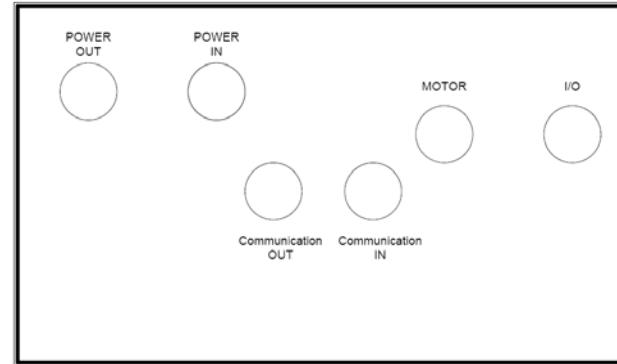
**Warning** Connect the chassis ground terminal of the MX2 EMC filter to earth ground. Not doing so might result in an electric shock

**Note:** Check all wiring before turning inverter ON. Not doing so might result in damaging the unit.

**Note:** Use shielded cables to avoid electrical interference. Not doing so might result in unexpected behaviour of the unit.

## Wiring Access Holes

Layout of cable access holes at the bottom of the MX2 IP54 mounting plate. A blinding plug is used for POWER OUT, I/O and Communication IN/OUT access holes.



Cable gland diameters for wiring access holes:

Housing Type	Power IN/OUT	Motor	I/O	Communication IN/OUT
1	M16	M25	M20	M16
2	M25	M32	M20	M16
3	M32	M40	M20	M16
4	M40	M50	M20	M16

**Note:** Use IP54 or better cable glands to prevent moisture from entering the unit. Not doing so might result in damaging the unit.

**Note:** Use cable glands of right size to prevent moisture from entering the unit. Not doing so might result in damaging the unit.

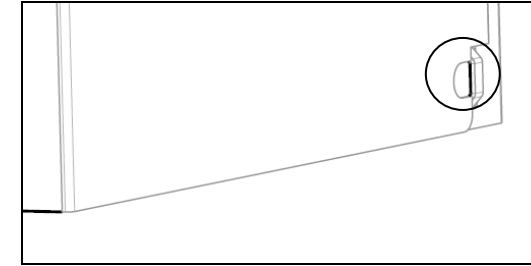
**Note:** Use EMC cable gland for shielded motor wiring or use the cable bracket supplied with the MX2 IP54 housing. Not doing so might result in unexpected behaviour of the unit due to electrical interference.



**Note:** Moisture can enter the enclosure when the blinding plug is removed. Do not remove the blinding plug when the wiring access hole is not used. Not doing so might result in damaging the unit.

## Attaching the Front Cover

1. Move front cover downwards over the mounting plate till the top of the front cover is blocked.
2. Pull the bottom of the front cover forward for about 5cm and then put the cover backward such that the front cover is locked to the mounting plate on the left side and on the right side.



3. Fasten the screws, using the screws and knurled rings supplied with the housing. Screw type = hexogen socket head screw, M5 number 3, tightening torque = 3Nm.



**Caution** Always use the screws and the knurled rings supplied with the housing to attach the front cover. Not doing so may result in electric shock when the front cover is touched.

**Note:** Always fasten the front cover and lock the cover in the correct way to prevent moisture from entering the unit. Not doing so might result in damaging the unit.

## Cooling Fans

The MX2 IP54 housing has one or two built-in cooling fans.

Housing Type	Size Cooling Fans [mm x mm x mm]	Max Air Flow [m <sup>3</sup> /min]	Quantity
1	92 x 92 x 25	0.8	1
2	92 x 92 x 25	0.8	2
3	119 x 119 x 38	2.7	2
4	119 x 119 x 38	2.7	2

In MX2 IP54 housings with single-phase inverters, the cooling fans are powered between L1 and N. The cooling fans are protected by a fuse.

In MX2 IP54 housings with three-phase inverters, the cooling fans are powered between R/L1 and S/L2. The cooling fans are protected by two fuses (one to each phase).

Used fuse type: Ø6.3\*32mm, 1A F.

**Note:** Do not block the air inlet for the fans at the bottom of the enclosure and don't block the air outlet for the fans at the top of the enclosure. Not doing so can result in excessive temperature of the MX2 inverter, resulting in turning the inverter output OFF.

## Dust Filters

Each cooling fan of the MX2 IP54 housing has a dust filter. Check and clean the dust filter regularly. Filter type is S-PPI 2001/R.

Housing Type	Size Dust Filter [mm x mm x mm]	Quantity
1	94 x 94 x 15	1
2	94 x 94 x 15	2
3	120 x 120 x 15	2
4	120 x 120 x 15	2

## Options for Customization

The MX2 IP54 housings with options for customization have four panel holes, of Ø22.3mm, for mounting accessories like indicators, pushbutton, switches. The MX2 IP54 housings are delivered with the panel holes covered by IP54 blinding plugs.

The MX2 IP54 housings with options for customization have two or three DIN rails for mounting accessories like safety relay, motor contactor, etc.

## USB Connector

The MX2 IP54 housing has a USB connector (mini-USB) for using PC communication with the MX2 inverter. USB connector type is the same type as is used by the MX2 inverter.

## Ambient Temperature Derating Curves

Derating curves for MX2 inverters are specified in MX2 Users Manual [I570], section 1-2-4.

For 11kW and 15kW MX2 inverters, the carrier frequency must be limited to 2kHz maximum.

For all other MX2 inverter models, the curves for individual mounting (ambient temperature 40°C max) are applicable.

## General Specifications

Item	Specifications
Protective housing	IP54
Ambient operating temperature	-10 °C to 40 °C
Ambient operating humidity	20% to 90% (non-condensing)
Storage temperature	-20 °C to 65 °C
Vibration	5.9m/s <sup>2</sup> (0.6G), 10 to 55 Hz
Altitude	1000m max
Location	Indoors (no corrosive gases)

## Conformance to EC Directives

The MX2 IP54 housing uses an EMC filter to comply with EMC directive EN61800-3. For earthing, selection of cable, and any other conditions for EMC compliance, please refer to the manual for installation.

## References

To ensure the safe operation, please be sure to read the safety precautions provided in this document along with all the instruction and user manuals for the inverter. Please be sure you are using the most recent version of the manuals.

Name	Cat No.
MX2 Instruction Manual	NT321X
MX2 User's Manual	I570

## SUITABILITY FOR USE

OMRON shall not be responsible for conformity with any standards, codes, or regulations that apply to the combination of products in the customer's application or use of the products. Take all necessary steps to determine the suitability of the product for the systems, machines, and equipment with which it will be used. Please know and observe all prohibitions of use applicable to the products. NEVER USE THE PRODUCTS FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCTS ARE PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM. See also product catalogs for Warranty and Limitations of Liability.

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Note: Specification is subject to change without notice