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You can read the recommendations in the user guide, the technical guide or the installation guide for OMRON MX2. You'll find the answers to all your questions on the OMRON MX2 in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

**User manual OMRON MX2**  
**User guide OMRON MX2**  
**Operating instructions OMRON MX2**  
**Instructions for use OMRON MX2**  
**Instruction manual OMRON MX2**

Cat. No. B7012-D1X



## **MX2**

Born to drive machines

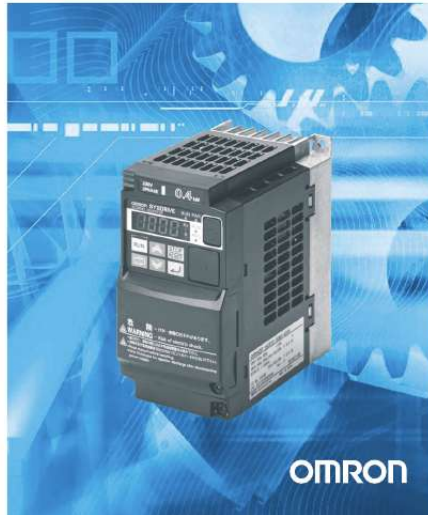
Model: MX2

200 V Class Three-Phase Input 0.1 to 15 kW

200 V Class Single-Phase Input 0.1 to 2.2 kW

400 V Class Three-Phase Input 0.4 to 15 kW

## **USER'S MANUAL**



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**Manual abstract:**

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DIMENSIONS AND WEIGHTS Dimensions and weights are nominal and are not to be used for manufacturing purposes, even when tolerances are shown.

PERFORMANCE DATA Performance data given in this manual is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of OMRON's test conditions, and the users must correlate it to actual application requirements. Actual performance is subject to the OMRON Warranty and Limitations of Liability. ERRORS AND OMISSIONS The information in this manual has been carefully checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical, or proofreading errors, or omissions. iv Table of contents Safety

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*!HIGH VOLTAGE Dangerous voltage exists until power light is OFF. Wait at least ten (10) minutes after input power is disconnected before performing maintenance. !WARNING This equipment has high leakage current and must be permanently (fixed) hard-wire to earth ground via two independent cables. viii General Precautions - Read These First! 2 !WARNING Rotating shafts and above-ground electrical potentials can be hazardous.*

*Therefore, make sure that all electrical work conform to the National Electrical Codes and local regulations. Installation, alignment and maintenance must be performed only by qualified personnel. !Caution a) Class I motor must be connected to earth ground via low resistive path (<0.1) b) Any motor used must be of a suitable rating. c) Motors may have hazardous moving path. In this event suitable protection must be provided. !Caution Alarm connection may contain hazardous live voltage even when inverter is disconnected. When removing the front cover for maintenance or inspection, confirm that incoming power for alarm connection is completely disconnected. !Caution Hazardous (main) terminals for any interconnection (motor, contact breaker, filter, etc.) must be inaccessible in the final installation.*

*!Caution The equipment is intended for installation in a cabinet. The end application must be in accordance with BS EN60204-1. Refer to the section "Choosing a Mounting Location" on page 27. The diagram dimensions are to be suitably amended for your application. !Caution Connection to field wiring terminals must be reliably fixed having two independent means of mechanical support.*

*Use a termination with cable support (figure below), or strain relief, cable clamp, etc. !Caution A double-pole disconnection device must be fitted to the incoming main power supply close to the inverter. Additionally, a protection device meet IEC947-1/ IEC947-3 must be fitted at this point (protection device data shown in 2-3-6 Determining Wire and Fuse Sizes on page 37). Note The above instructions, together with any other requirements highlighted in this manual, must be followed for continue LVD (European Low Voltage Directive) compliance. ix Index to Warnings and Cautions in This Manual 3 3 Index to Warnings and Cautions in This Manual Cautions and Warnings for Orientation and Mounting Procedures !HIGH VOLTAGE Hazard of electrical shock. Disconnect incoming power before changing wiring, put on or take off optional devices or replace cooling fans. Wait ten (10) minutes before removing the front cover. ....*

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*..... 22 !HIGH VOLTAGE Hazard of electrical shock.*

*Never touch the naked PCB (printed circuit board) portions while the unit is powered up. Even for switch portion, the inverter must be powered OFF before you change. ...*

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*..... 27 !WARNING In the cases below involving a general-purpose inverter, a large peak current may flow on the power supply side, sometimes destroying the converter module: ....*

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*27 1. The unbalance factor of the power supply is 3% or higher. 2. The power supply capacity is at least 10 times greater than the inverter capacity (or the power supply capacity is 500kVA or more). a) Abrupt power supply changes are expected, due to the conditions such as: b) Several inverters are interconnected with a short bus. c) A thyristor converter and an inverter are interconnected with a short bus. d) An installed phase advance capacitor opens and closes. !Caution Be sure to install the unit on flame-resistant material such as a steel plate. Otherwise, there is the danger of fire. .*

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..... 27 !Caution Be sure not to place any flammable materials near the inverter. Otherwise, there is the danger of fire. ..

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... 27 !Caution Be sure not to let the foreign matter enter vent openings in the inverter housing, such as wire clippings, spatter from welding, metal shavings, dust, etc. Otherwise, there is the danger of fire.

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.. 28 !Caution Be sure to install the inverter in a place that can bear the weight according to the specifications in the text (Chapter 1, Specifications Tables). Otherwise, it may fall and cause injury to personnel. .

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..... 28 !Caution Be sure to install the unit on a perpendicular wall that is not subject to vibration. Otherwise, it may fall and cause injury to personnel. ....

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..... 28 !Caution Be sure not to install or operate an inverter that is damaged or has missing parts. Otherwise, it may cause injury to personnel. 2-9Be sure to install the inverter in a well-ventilated room that does not have direct exposure to sunlight, a tendency for high temperature, high humidity or dew condensation, high levels of dust, corrosive gas, explosive gas, inflammable gas, grindingfluid mist, salt damage, etc. Otherwise, there is the danger of fire. ....

.... 28 !Caution Be sure to maintain the specified clearance area around the inverter and to provide adequate ventilation. Otherwise, the inverter may overheat and cause equipment damage or fire. ....

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29 x Index to Warnings and Cautions in This Manual Wiring - Warnings for Electrical Practice and Wire Specifications 3 !WARNING "USE 60/75 C Cu wire only" or equivalent. For models MX2-AB004, -AB007, -AB022, -A2015, -A2022, -A2037, -A2055, -A2075L. ...

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37 !WARNING "USE 75 C Cu wire only" or equivalent. For models MX2-AB002, -AB004, A2002, -A2004, -A2007, -A4022, -A4030, -A4040, -A4055, -A4075.

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..... 37 !WARNING "USE 60 C Cu wire only" or equivalent. For models MX2-A4004, -A4007, and -A4015. ...

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... 37 !WARNING "Open Type Equipment." .....

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... 38 !WARNING "Suitable for use on a circuit capable of delivering not more than 100k rms symmetrical amperes, 240V maximum when protected by Class CC, G, J or R fuses or circuit breaker having an interrupting rating not less than 100,000 rms symmetrical amperes, 240 volts maximum". For 200V models

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... 36 !WARNING "Suitable for use on a circuit capable of delivering not more than 100k rms symmetrical amperes, 480V maximum when protected by Class CC, G, J or R fuses or circuit breaker having an interrupting rating not less than 100,000 rms symmetrical amperes, 480 volts maximum." For 400V models .

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... 36 !HIGH VOLTAGE Be sure to ground the unit. Otherwise, there is a danger of electric shock and/ or fire. ....

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. 36 !HIGH VOLTAGE Wiring work shall be carried out only by qualified personnel. Otherwise, there is a danger of electric shock and/or fire. ....

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. 36 !HIGH VOLTAGE Implement wiring after checking that the power supply is OFF. Otherwise, you may incur electric shock and/or fire. ...  
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. 36 !HIGH VOLTAGE Do not connect wiring to an inverter operate an inverter that is not mounted according to the instructions given in this manual. ...  
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..... 36 Otherwise, there is a danger of electric shock and/or injury to personnel. !WARNING Make sure the input power to the inverter is OFF. If the drive has been powered, leave it OFF for ten minutes before continuing ..  
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... 44. xi Index to Warnings and Cautions in This Manual Wiring - Cautions for Electrical Practice 3 !Caution Fasten the screws with the specified fastening torque in the table provided.



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Check for any loose screws. Otherwise, there is danger of fire....

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..... 38 !Caution Be sure that the input voltage matches the inverter specifications; · Single phase 200V to 240V 50/60Hz (up to 2.2kW) for "AB" model · Three phase 200V to 240V 50/60Hz (up to 15kW) for "A2" model · Three phase 380V to 480V 50/60Hz (up to 15kW) for "A4" model ...

.... 41 !Caution Be sure not to power a three-phase-only inverter with single phase power. Otherwise, there is the possibility of damage to the inverter and the danger of fire. 41 !Caution Be sure not to connect an AC power supply to the output terminals. Otherwise, there is the possibility of damage to the inverter and the danger of injury and/or fire. ..

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.. 42 MX2 Inverter Power Input Output to Motor !Caution Be sure to use a specified type of braking resistor/regenerative braking unit. In case of a braking resistor, install a thermal relay that monitors the temperature of the resistor. Not doing so might result in a moderate burn due to the heat generated in the braking resistor/regenerative braking unit.

Configure a sequence that enables the inverter power to turn off when unusual overheating is detected in the braking resistor/regenerative braking unit.

Transporting and Installation · Do not drop or apply strong impact on the product. Doing so may result in damaged parts or malfunction. · Do not hold by the terminal block cover, but hold by the fins during transportation. · Do not connect any load other than a three-phase inductive motor to the U, V and W output terminals. xii Index to Warnings and Cautions in This Manual 3 !Caution Remarks for using ground fault interrupter breakers in the main power supply:

Adjustable frequency inverter with integrated CE-filters and shielded (screened) motor cables have a higher leakage current toward earth GND. Especially at the moment of switching ON this can cause an inadvertent trip of ground fault interrupters. Because of the rectifier on the input side of the inverter there is the possibility to stall the switch-off function through small amounts of DC current. ..

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.. 42 Please observe the following: · Use only short time-invariant and pulse current-sensitive ground fault interrupters with higher trigger current. · Other components should be secured with separate ground fault interrupters. · Ground fault interrupters in the power input wiring of an inverter are not an absolute protection against electric shock.

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.. 42 !Caution Be sure to install a fuse in each phase of the main power supply to the inverter. Otherwise, there is the danger of fire. ....

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.. 42 !Caution For motor leads, ground fault interrupter breakers and electromagnetic contactors, be sure to size these components properly (each must have the capacity for rated current and voltage). Otherwise, there is the danger of fire. .



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. 42 Powerup Test Caution Messages !Caution The heat sink fins will have a high temperature. Be careful not to touch them. Otherwise, there is the danger of getting burned. .

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..... 45 !Caution The operation of the inverter can be easily changed from low speed to high speed. Be sure to check the capability and limitations of the motor and machine before operating the inverter.

Otherwise, there is the danger of injury. ....

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..... 45 !Caution If you operate a motor at a frequency higher than the inverter standard default setting (50Hz/60Hz), be sure to check the motor and machine specifications with the respective manufacturer. Only operate the motor at elevated frequencies after getting their approval.

Otherwise, there is the danger of equipment damage and/or injury. ....

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.. 45 !Caution Check the following before and during the Powerup test. Otherwise, there is the danger of equipment damage. · Is the shorting bar between the [+1] and [+] terminals installed? DO NOT power or operate the inverter if the jumper is removed. · Is the direction of the motor rotation correct? · Did the inverter trip during acceleration or deceleration? · Were the rpm and frequency meter readings as expected? · Were there any abnormal motor vibration or noise? ....

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.... 166 Warnings for Operations and Monitoring !WARNING Be sure to turn ON the input power supply only after closing the front case. While the inverter is energized, be sure not to open the front case. Otherwise, there is the danger of electric shock. ...

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... 166 xiii Index to Warnings and Cautions in This Manual 3 !WARNING Be sure not to operate electrical equipment with wet hands. Otherwise, there is the danger of electric shock.....

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. 166 !WARNING While the inverter is energized, be sure not to touch the inverter terminals even when the motor is stopped. Otherwise, there is the danger of electric shock. ....

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...166 !WARNING If the retry mode is selected, the motor may suddenly restart after a trip stop. Be sure to stop the inverter before approaching the machine (be sure to design the machine so that safety for personnel is secure even if it restarts. ) Otherwise, it may cause injury to personnel. ....

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..... 166 !WARNING If the power supply is cut OFF for a short period of time, the inverter may restart operating after the power supply recovers if the Run command is active. If a restart may pose danger to personnel, so be sure to use a lock-out circuit so that it will not restart after power recovery. Otherwise, it may cause injury to personnel.

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.....166 !WARNING The Stop Key is effective only when the stop function is enabled. Be sure to enable the Stop Key separately from the emergency stop. Otherwise, it may cause injury to personnel. ..

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.. 166 !WARNING WARNING: During a trip event, if the alarm reset is applied and the Run command is present, the inverter will automatically restart. Be sure to apply the alarm reset only after verifying the Run command is OFF. Otherwise, it may cause injury to personnel. ....

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..... 166 !WARNING Be sure not to touch the inside of the energized inverter or to put any conductive object into it. Otherwise, there is a danger of electric shock and/or fire. ....

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..... 166 !WARNING If power is turned ON when the Run command is already active, the motor will automatically start and injury may result. Before turning ON the power, confirm that the RUN command is not present. .

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.....166 !WARNING When the Stop key function is disabled, pressing the Stop key does not stop the inverter, nor will it reset a trip alarm. ...

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*Be careful not to touch them. Otherwise, there is the danger of getting burned. ....*

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*.... 45 xiv Index to Warnings and Cautions in This Manual 3 !Caution The operation of the inverter can be easily changed from low speed to high speed. Be sure to check the capability and limitations of the motor and machine before operating the inverter. Otherwise, it may cause injury to personnel. ...*

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*165 !Caution If you operate a motor at a frequency higher than the inverter standard default setting (50Hz/60Hz), be sure to check the motor and machine specifications with the respective manufacturer. Only operate the motor at elevated frequencies after getting their approval. Otherwise, there is the danger of equipment damage. ....*

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*.... 165 !Caution It is possible to damage the inverter or other devices if your application exceeds the maximum current or voltage characteristics of a connection point.*

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*. 167 !Caution Be sure to turn OFF power to the inverter before changing the short circuit bar position to change SR/SK. Otherwise, damage to the inverter circuitry may occur. ...*

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..... 175 !Caution Be careful not to turn PID clear ON and reset the integrator sum when the inverter is in Run mode (output to motor is ON). Otherwise, this could cause the motor to decelerate rapidly, resulting in a trip.

**!HIGH VOLTAGE** When set RDY function ON, there will be a voltage appear at motor output terminals U, V and W even if the motor is in stop mode. So never touch the inverter power terminal even the motor is not running !Caution CAUTION: The digital outputs (relay and/or open collector) available on the drive must not be considered as safety related signals. The outputs of the external safety relay must be used for integration into a safety related control/command circuit. **!HIGH VOLTAGE** Dangerous voltage exists even after the Safe Stop is activated. It does NOT mean that the main power has been removed. Warnings and Cautions for Troubleshooting and Maintenance !WARNING Wait at least ten (10) minutes after turning OFF the input power supply before performing maintenance or an inspection. Otherwise, there is the danger of electric shock. !WARNING Make sure that only qualified personnel will perform maintenance, inspection, and part replacement. Before starting to work, remove any metallic objects from your person (wristwatch, bracelet, etc.). Be sure to use tools with insulated handles. Otherwise, there is a danger of electric shock and/or injury to personnel. !WARNING Never remove connectors by pulling on its wire leads (wires for cooling fan and logic P.C.board).

Otherwise, there is a danger of fire due to wire breakage and/or injury to personnel. !Caution Do not connect the megger to any control terminals such as intelligent I/O, analog terminals, etc. Doing so could cause damage to the inverter. !Caution Never test the withstand voltage (HIPOT) on the inverter. The inverter has a surge protector between the main circuit terminals above and the chassis ground.  
xv General Warnings and Cautions 4 !Caution Do not connect the megger to any control circuit terminals such as intelligent I/O, analog terminals, etc. Doing so could cause damage to the inverter. !Caution Never test the withstand voltage (HIPOT) on the inverter. The inverter has a surge protector between the main circuit terminals above and the chassis ground. !Caution The life of the capacitor depends on ambient temperatures. Refer to the diagram of product life specified in the manual. When the capacitor stops operating at the end of the product's life, the inverter must be replaced. **!HIGH VOLTAGE** Be careful not to touch wiring or connector terminals when working with the inverters and taking measurements. Be sure to place the measurement circuitry components above in an insulated housing before using them 4 General Warnings and Cautions !WARNING Never modify the unit. Otherwise, there is a danger of electric shock and/or injury.

!Caution Withstand voltage test and insulation resistance tests (HIPOT) are executed before the units are shipped, so there is no need to conduct these tests before operation. !Caution Do not attach or remove wiring or connectors when power is applied. Also, do not check signals during operation. !Caution Be sure to connect the grounding terminal to earth ground. !Caution When inspecting the unit, be sure to wait ten minutes after turning OFF the power supply before opening the cover. xvi General Warnings and Cautions 4 !Caution Do not stop operation by switching OFF electromagnetic contactors on the primary or secondary side of the inverter. Ground fault interrupter Power Input Inverter L1, L2, L3 U, V, W PCS Motor FW When there has been a sudden power failure while an operation instruction is active, then the unit may restart operation automatically after the power failure has ended. If there is a possibility that such an occurrence may harm humans, then install an electromagnetic contactor (Mgo) on the power supply side, so that the circuit does not allow automatic restarting after the power supply recovers. If the optional remote operator is used and the retry function has been selected, this will also cause automatic restarting when a Run command is active. So, please be careful.

!Caution Do not insert leading power factor capacitors or surge absorbers between the output terminals of the inverter and motor. Ground fault interrupter Power Input Inverter Surge absorber L1, L2, L3 U, V, W Motor GND lug Leading power factor capacitor When there has been a sudden power failure while an operation instruction is active, then the unit may restart operation automatically after the power failure has ended. If there is a possibility that such an occurrence may harm humans, then install an electromagnetic contactor (Mgo) on the power supply side, so that the circuit does not allow automatic restarting after the power supply recovers. If the optional remote operator is used and the retry function has been selected, this will also cause automatic restarting when a Run command is active. So, please be careful.

!Caution **MOTOR TERMINAL SURGE VOLTAGE SUPPRESSION FILTER** (For the 400 V CLASS) In a system using an inverter with the voltage control PWM system, a voltage surge caused by the cable constants such as the cable length (especially when the distance between the motor and the inverter is 10m or more) and cabling method may occur at the motor terminals. A dedicated filter of the 400 V class for suppressing this voltage surge is available. Be sure to install a filter in this situation. xvii General Warnings and Cautions !Caution **EFFECTS OF POWER DISTRIBUTION SYSTEM ON INVERTER** 4 In the case below involving a general-purpose inverter, a large peak current can flow on the power supply side, sometimes destroying the converter module: 1. The unbalance factor of the power supply is 3% or higher.

2. the power supply capacity is at least 10 times greater than the inverter capacity (or the power supply capacity is 500 kVA or more).



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3. Abrupt power supply changes are expected, due to conditions such as: a) Several inverters are interconnected with a short bus. b) A thyristor converter and an inverter are interconnected with a short bus. c) An installed phase advance capacitor opens and closes. Where these conditions exist or when the connected equipment must be highly reliable, you MUST install an input side AC-reactor of 3% (at a voltage drop at rated current) with respect to the supply voltage on the power supply side. Also, where the effects of an indirect lightning strike are possible, install a lightning conductor. !Caution SUPPRESSION FOR NOISE INTERFERENCE FROM INVERTER The inverter uses many semiconductor switching elements such as transistors and IGBTs. Thus, a radio receiver or measuring instrument located near the inverter is susceptible to noise interference.

To protect the instruments from erroneous operation due to noise interference, they should be used well away from the inverter. It is also effective to shield the whole inverter structure. The addition of an EMI filter on the input side of the inverter also reduces the effect of noise from the commercial power line on external devices. Note that the external dispersion of noise from the power line can be minimized by connecting an EMI filter on the primary side of the inverter. EMI Filter R1 S1 T1 R2 S2 T2 Inverter L1 L2 L3 U V W Motor noise EMI Filter Inverter Motor Completely ground the enclosure panel, metal screen, etc. with as short a wire as possible. Remote Operator Grounded frame Conduit or shielded cable -- to be grounded !Caution When the EEPROM error E08 occurs, be sure to confirm the setting values again. xviii UL® Cautions, Warnings and Instructions 5 !Caution When using normally closed active state settings (C011 to C017) for externally commanded Forward or Reverse terminals [FW] or [RV], the inverter may start automatically when the external system is powered OFF or disconnected from the inverter! So do not use normally closed active state settings for Forward or Reverse terminals [FW] or [RV] unless your system design protects against unintended motor operation. !Caution In all the instrumentations in this manual, covers and safety devices are occasionally removed to describe the details. While operating the product, make sure that the covers and safety devices are placed as they were specified originally and operate it according to the instruction manual.

!Caution Do not discard the inverter with household waste. Contact an industrial waste management company in your area who can treat industrial waste without polluting the environment. 5 UL® Cautions, Warnings and Instructions Warnings and Cautions for Troubleshooting and Maintenance The warnings and instructions in this section summarizes the procedures necessary to ensure an inverter installation complies with Underwriters Laboratories guidelines. !WARNING Use 60/75 C Cu wire only. (for models: MX2-A2001, A2002, A2004, A2007, AB015, AB022, A4004, A4007, A4015, A4022, A4030) !WARNING Use 75 C Cu wire only.

(for models: MX2-AB001, -AB002, -AB004, -AB007, -A2015, -A2022, -A2037, -A2055, -A2075, -A2110, -A2150, -A4040, -A4055, A4075, -A4110 and -A4150) !WARNING Suitable for use on a circuit capable of delivering not more than 100,000 rms Symmetrical Amperes, 240 or 480V maximum. !WARNING When protected by CC, G, J, or R class Fuses, or when Protected By A Circuit Breaker Having An Interrupting Rating Not Less Than 100,000 rms Symmetrical Amperes, 240 or 480 Volts Maximum. !WARNING Install device in pollution degree 2 environment. !WARNING Maximum Surrounding Air Temperature 50°C !WARNING Solid state motor overload protection is provided in each model !WARNING Integral solid state short circuit protection does not provide branch circuit protection. Branch circuit protection must be provided in accordance with the National Electric Code and any additional local codes xix UL® Cautions, Warnings and Instructions Terminal symbols and Screw size Inverter Model MX2-AB001, MX2-AB002, MX2-AB004 MX2-AB007 MX2-AB015, MX2-AB022 MX2-A2001, MX2-A2002, MX2-A2004, MX2-A2007 MX2-A2015 MX2-A2022 MX2-A2037 MX2-A2055, MX2-A2075 MX2-A2110 MX2-A2150 MX2-A4004, MX2-A4007, MX2-A4015 MX2-A4022, MX2-A4030 MX2-A4040 MX2-A4055, MX2-A4075 MX2-A4110, MX2-A4150 Screw Size M4 Required Torque (N-m) 1.

0 Wire range AWG16 (1.3mm2) 5 M4 M4 M4 1.4 1.4 1.0 AWG12 (3.3mm2) AWG10 (5.3mm2) AWG16 (1.3mm2) M4 M4 M4 M5 M6 M8 M4 1.4 1.4 1.

4 3.0 5.9 to 8.8 5.9 to 8.8 1.4 AWG14 (2.1mm2) AWG12 (3.3mm2) AWG10 (5.3mm2) AWG6 (13mm2) AWG4 (21mm2) AWG2 (34mm2) AWG16 (1.3mm2) M4 M4 M5 M6 1.4 1.4 3.0 5.9 to 8.

8 AWG14 (2.1mm2) AWG12 (3.3mm2) AWG10 (5.3mm2) AWG6 (13mm2) xx Fuse Sizes 6 6 Fuse Sizes The inverter shall be connected with a UL Listed Cartridge Nonrenewable fuse, rated 600Vac with the current ratings as shown in the table below. Inverter Model MX2-AB001, MX2-AB002, MX2-AB004 MX2-AB007 MX2-AB015 MX2-AB022 MX2-A2001, MX2-A2002, MX2-A2004, MX2-A2007, MX2-A2015 MX2-A2022 MX2-A2037, MX2-A2055 MX2-A2075 MX2-A2110 MX2-A2150 MX2-A4004, MX2-A4007, MX2-A4015, MX2-A4022 MX2-A4030, MX2-A4040, MX2-A4055 MX2-A4075 MX2-A4110 MX2-A4150 Type Class J Rating 10A, AIC 200kA 15A, AIC 200kA 30A, AIC 200kA 10A, AIC 200kA 15A, AIC 200kA 20A, AIC 200kA 30A, AIC 200kA 40A, AIC 200kA 80A, AIC 200kA 10A, AIC 200kA 15A, AIC 200kA 20A, AIC 200kA 40A, AIC 200kA xxi Fuse Sizes 6 xxii SECTION 1 Getting Started 1-1 1-1-1 Introduction Main Features Congratulations on your purchase of an MX2 Series Omron inverter! This inverter drive features state-of-the-art circuitry and components to provide high performance.

The housing footprint is exceptionally small, given the size of the corresponding motor. The Omron MX2 product line includes more than a dozen inverter models to cover motor sizes from 1/8 horsepower to 20 horsepower, in either 240 VAC or 480 VAC power input versions. The main features are: · 200 V and 400 V class, 0.1 to 15 kW inverters having dual rating · EzSQ (simple programming function) integrated · Built-in RS485 MODBUS RTU as standard, other FieldBus optional · New current suppressing function · Sixteen programmable speed levels · PID control adjusts motor speed automatically to maintain a process variable value · Password protection to avoid unexpected parameter change Additionally the products produced in November 09 or later includes these new features: · Permanent magnet motor control · 5 line LCD support with Read and Write capability (Copy function) and Real Time Clock Trip History The design in Omron inverters overcomes many of the traditional trade-offs between speed, torque and efficiency. The performance characteristics are: · High starting torque of 200% at 0.5 Hz · Continuous operation at 100% torque within a 1:10 speed range (6/60 Hz/ 5/50 Hz) without motor derating.



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· Fan has ON/OFF selection to provide longer life for cooling fan. A full line of accessories from Omron is available to complete your motor application: · Integrated USB port for PC communication · Digital remote operator keypad · Integrated brake chopper · EMC filter (footprint type C1) optional 1 Introduction Section 1-1 1-1-2 Inverter Specification Label The Omron MX2 inverters have product labels located on the right side of the housing, as pictured below. Be sure to verify that the specifications on the labels match your power source, and application safety requirements. The model number for a specific inverter contains useful information about its operating characteristics.

Refer to the model number legend below: MX2AB002-E MX2 series A: Standard specs E: Europe standard Max. applicable motor output 001: 0,1 kW 150: 15,0 kW ~ Voltage: B: Single-phase 200 VAC 2: Three-phase 200 VAC 4: Three-phase 400 VAC 2 MX2 Inverter Specifications Section 1-2 1-2 1-2-1 MX2 Inverter Specifications Model-specific tables for 200 V and 400 V class inverters The following tables are specific to MX2 inverters for the 200 V and 400 V class model groups. Note that General Specifications on page 7 in this chapter apply to both voltage class groups. Footnotes for all specification tables follow the table below. Item MX2 inverters, 200 V models Applica- kW VT ble motor CT size \*2 HP VT CT Rated 200 V VT capacity CT (kVA) 240 V VT CT Rated input voltage Rated output voltage \*3 Rated output current VT (A) CT Starting torque \*6 Braking Without resistor With resistor DC braking Weight kg lb Single-phase 200 V class Specifications AB001 AB002 AB004F AB007 AB015 0.2 0.4 0.75 1.1 2.2 0.

1 0.2 0.4 0.75 1.5 1/4 1/2 3/4 1.  
5 3 1/8 1/4 1/2 1 2 0.4 0.6 1.2 2.0 3.  
3 0.2 0.5 1.0 1.7 2.7 0.4 0.7 1.4 2.4 3.

9 0.3 0.6 1.2 2.0 3.3 Single-phase: 200 V-15% to 240 V+10%, 50/60 Hz±5% 3-phase: 200 to 240 V (proportional to input voltage) 1.2 1.9 3.5 6.0 9.  
6 1.0 1.6 3.0 5.0 8.

0 200% at 0.5 Hz 100%: 50 Hz 70%: 50 Hz 50%: 60 Hz 50%: 60 Hz 150% Variable operating frequency, time, and braking force 1.0 1.0 1.1 1.  
4 1.8 2.2 2.2 2.4 3.1 4.0 AB022 3.0 2.2 4 3 4 1 3.

8 4.9 4.5 12.0 11.0 20%: 50 Hz 20%: 60 Hz 100% 1.8 4.0 Footnotes for the preceding table and the tables that follow: Note 1 Note 2 The protection method conforms to JEM 1030. The applicable motor refers to a standard 3-phase motor (4p). When using other motors, care must be taken to prevent the rated motor current (50/ 60 Hz) from exceeding the rated output current of the inverter. The output voltage decreases as the main supply voltage decreases (except when using the AVR function).

In any case, the output voltage cannot exceed the input power supply voltage. To operate the motor beyond 50/60 Hz, consult the motor manufacturer for the maximum allowable rotation speed. For achieving approved input voltage rating categories: · 460 to 480 VAC - Over-voltage category 2 · 380 to 460 VAC - Over-voltage category 3 To meet the Over-voltage category 3, insert an EN or IEC standard compliant isolation transformer that is earth grounded and star connected (for Low Voltage Directive). Note 6 Note 7 At the rated voltage when using a standard 3-phase, 4-pole motor. The braking torque via capacitive feedback is the average deceleration torque at the shortest deceleration (stopping from 50/60 Hz as indicated).

It is not continuous regenerative braking torque. The average deceleration torque varies with motor loss. This value decreases when operating beyond 50 Hz. If a Note 3 Note 4 Note 5 3 MX2 Inverter Specifications Section 1-2 large regenerative torque is required, the optional regenerative braking unit and a resistor should be used. Note 8 The frequency command is the maximum frequency at 9.

8 V for input voltage 0 to 10 VDC, or at 19.6 mA for input current 4 to 20 mA. If this characteristic is not satisfactory for your application, contact your Omron representative. If the inverter is operated outside the region shown in the graph in the derating curve, the inverter may be damaged or its service life may be shortened. Set B083 Carrier Frequency Adjustment in accordance with the expected output current level. See derating curve section for the detailed information of the inverter operating range. Note 9 Note 10 The storage temperature refers to the short-term temperature during transportation. Note 11 Conforms to the test method specified in JIS C0040 (1999). For the model types excluded in the standard specifications, contact your Omron sales representative. Note 12 Watt losses are calculated values based on specification of main semi-conductors.

You must take suitable margin when designing cabinet based on these values. Otherwise there is a possibility of heating trouble. 4 MX2 Inverter Specifications Item MX2 inverters, 200 V models Applica- kW VT ble motor CT size \*2 HP VT CT Rated 200 V VT capacity CT (kVA) 240 V VT CT Rated input voltage Rated output voltage \*3 Rated output current VT (A) CT Starting torque \*6 Braking Without resistor With resistor DC braking Weight kg lb Section 1-2 Three-phase 200V class Specifications A2001 A2002 A2004 A2007 A2015 0.2 0.4 0.75 1.1 2.2 0.1 0.2 0.

4 0.75 1.5 1/4 1/2 1 1.5 3 1/8 1/4 1/2 1 2 0.4 0.  
6 1.2 2.0 3.3 0.2 0.  
5 1.0 1.7 2.7 0.4 0.7 1.4 2.4 3.9 0.3 0.

6 1.2 2.0 3.3 Three-phase: 200 V-15% to 240 V+10%, 50/60 Hz±5% Three-phase: 200 to 240 V (proportional to input voltage) 1.2 1.9 3.5 6.0 9.6 1.0 1.  
6 3.0 5.0 8.0 200% at 0.5 Hz 100%: 50 Hz 70%: 50 Hz 50%: 60 Hz 50%: 60 Hz 150% Variable operating frequency, time, and braking force 1.  
0 1.0 1.1 1.2 1.6 2.

2 2.2 2.4 2.6 3.5 Three-phase 200V class Specifications A2037 A2055 A2075 A2110 5.5 7.5 11 15 3.7 5.5 7.5 11 7.

5 10 15 20 5 7.5 10 15 6.7 10.3 13.8 19.3 6.0 8.6 11.4 16.2 8.  
1 12.4 16.6 23.2 7.2 10.

3 13.7 19.5 Single-phase: 200 V-15% to 240 V+10%, 50/60 Hz±5% Three-phase: 200 to 240 V (proportional to input voltage) 19.6 30.0 40.  
0 56.0 17.5 25.0 33.0 47.0 200% at 0.5 Hz 100%: 50 Hz 50%: 60 Hz 150% Variable operating frequency, time, and braking force 2.0 3.3 3.4 5.

1 4.4 7.3 7.5 11.2 A2022 3.0 2.2 4 3 4.1 3.8 4.9 4.

5 12.0 11.0 1.8 4.0 Item MX2 inverters, 200 V models VT Applica- kW ble motor CT size \*2 HP VT CT 200 V VT Rated capacity CT (kVA) 240 V VT CT Rated input voltage Rated output voltage \*3 Rated output current VT (A) CT Starting torque \*6 Braking Without resistor With resistor DC braking Weight kg lb A2150 18.

5 15 25 20 20.7 20.7 24.9 24.9 69.

0 60.0 70%: 50 Hz 50%: 60 Hz 7.4 16.3 5 MX2 Inverter Specifications Item MX2 inverters, 400 V models Applica- kW VT ble motor CT size \*2 HP VT CT Rated 380 V VT capacity CT (kVA) 480 V VT CT Rated input voltage Rated output voltage \*3 Rated output current VT (A) CT Starting torque \*6 Braking Without resistor With resistor DC braking Weight kg lb Section 1-2 Three-phase 400V class Specifications A4004 A4007 A4015 A4022 A4030 0.75 1.5 2.2 3.0



4.0 0.4 0.

75 1.5 2.2 3.0 1 2 3 4 5 1/2 1 2 3 4 1.3 2.6 3.5 4.5 5.7 1.1 2.

2 3.1 3.6 4.7 1.7 3.

4 4.4 5.7 7.3 1.4 2.

8 3.9 4.5 5.9 *Three-phase: 380 V-15% to 480 V+10%, 50/60 Hz±5%* *Three-phase: 380 to 480 V (proportional to input voltage) 2.*



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1 4.1 5.4 6.9 8.8 1.8 3.

4 4.8 5.5 7.2 200% at 0.5 Hz 100%: 50 Hz 70%: 50 Hz 50%: 60 Hz 50%: 60 Hz 150% Variable operating frequency, time, and braking force 1.5 1.6 1.8 1.9 1.9 3.

3 3.5 4.0 4.2 4.2 Three-phase 400V class Specifications A4055 A4075 A4110 A4150 7.

5 11 15 18.5 5.5 7.5 11 15 10 15 20 25 7.5 10 15 20 11.

5 15.1 20.4 25.0 9.7 11.8 15.7 20.4 14.5 19.1 25.

7 31.5 12.3 14.9 19.9 25.7 Three-phase: 380 V-15% to 480 V+10%, 50/60 Hz±5% Three-phase: 380 to 480 V (proportional to input voltage) 17.5 23.0 31.0 38.0 14.

8 18.0 24.0 31.0 200% at 0.5 Hz 100%: 50 Hz 50%: 60 Hz 150% Variable operating frequency, time, and braking force 3.

5 3.5 4.7 5.2 7.7 7.

7 10.4 11.5 A4040 5.5 4.0 7.5 5 7.3 6.0 9.2 7.6 11.

1 9.2 2.1 4.6 Item MX2 inverters, 200 V models VT Applica- kW ble motor CT size \*2 HP VT CT 380 V VT Rated capacity CT (kVA) 480 V VT CT Rated input voltage Rated output voltage \*3 Rated output current VT (A) CT Starting torque \*6 Braking Without resistor With resistor DC braking Weight kg lb 6 MX2 Inverter Specifications Section 1-2 1-2-2 General Specifications The following table applies to all MX2 inverters. General Specifications IP 20 Sinusoidal Pulse Width Modulation (PWM) control 2 kHz to 15 kHz (derating required depending on the model) 0.1 to 1000 Hz Digital command: 0.01% of the maximum frequency Analog command: 0.2% of the maximum frequency (25°C ±10°C) Digital: 0.01 Hz; Analog: max. frequency/1000 V/f control (constant torque, reduced torque, free-V/f): base freq.

30 Hz ~1000 Hz ad-justable Sensorless vector control, Closed loop control with motor encoder feedback: base freq. 30 Hz ~ 400 Hz ad-justable Dual rating: CT(Heavy duty) : 60 sec. @150% VT(Normal duty) : 60 sec. @120% 0.01 to 3600 seconds, linear and S-curve accel/decel, second accel/decel setting available 200% @0.

5 Hz (sensorless vector control) Up and Down keys / Value settings 0 to 10 VDC (input impedance 10 k Ohms), 4 to 20 mA (input impedance 100 Ohms), Potentiometer (1 k to 2 k Ohms, 2 W) RS485 ModBus RTU, other network option Run/Stop (Forward/Reverse run change by command) Forward run/stop, Reverse run/stop RS485 ModBus RTU, other network option FW (forward run command), RV (reverse run command), CF1~CF4 (multistage speed setting), JG (jog command), DB (external braking), SET (set second motor), 2CH (2-stage accel./decel. command), FRS (free run stop command), EXT (external trip), USP (startup function), CS (commercial power switchover), SFT (soft lock), AT (analog input selection), RS (reset), PTC (thermistor thermal protection), STA (start), STP (stop), F/R (forward/ reverse), PID (PID disable), PIDC (PID reset), UP (remote control up function), DWN (remote control down function), UDC (remote control data clear), OPE (operator control), SF1~SF7 (multi-stage speed setting; bit operation), OLR (overload restriction), TL (torque limit enable), TRQ1 (torque limit changeover1), TRQ2 (torque limit changeover2), BOK (Braking confirmation), LAC (LAD cancellation), PCLR (position deviation clear), ADD (add frequency enable), F-TM (force terminal mode), ATR (permission of torque command input), KHC (Cumulative power clear), M11~M17 (general purpose inputs for EzSQ), AHD (analog command hold), CP1~CP3 (multistage-position switches), ORL (limit signal of zero-return), ORC (trigger signal of zero-return), SPD (speed/position changeover), GSI,GS2 (STO inputs, safety related signals), 485 (Starting communication signal), PRG (executing EzSQ program), HLD (retain output frequency), ROK (permission of run command), EB (rotation direction detection of B-phase), DISP (display limitation), NO (no function) Item Protective housing Control method Carrier frequency Output frequency range \*4 Frequency accuracy Frequency setting resolution Volt./Freq. characteristic Overload capacity Acceleration/deceleration time Starting torque Input signal Freq.

setting FWD/REV run Operator panel External signal \*8 Via network Operator panel External signal Via network Intelligent input terminal Seven terminals, sink/source changeable by a short bar 68 functions assignable 7 MX2 Inverter Specifications Item Output signal Intelligent output terminal 48 functions assignable General Specifications Section 1-2 Monitor output (analog) Pulse train output (0~10 Vdc, 32 kHz max.) Alarm output contact Alarm output contact Other functions Protective function Operating environment Temperature Humidity Vibration \*11 Location RUN (run signal), FA1~FA5 (frequency arrival signal), OL,OL2 (overload advance notice signal), OD (PID deviation error signal), AL (alarm signal), OTQ (over/under torque threshold), UV (under-voltage), TRQ (torque limit signal), RNT (run time expired), ONT (power ON time expired), THM (thermal warning), BRK (brake release), BER (brake error), ZS (0Hz detection), DSE (speed deviation excessive), POK (positioning completion), ODc (analog voltage input disconnection), OIdc (analog current input disconnection), FBV (PID second stage output), Ndc (network disconnect detection), LOG1~LOG3 (Logic output signals), WAC (capacitor life warning), WAF (cooling fan warning), FR (starting contact), OHF (heat sink overheat warning), LOC (Low load), MO1~MO3 (general outputs for EzSQ), IRDY (inverter ready), FWR (forward operation), RVR (reverse operation), MJA (major failure), WCO (window comparator O), WCOI (window comparator OI), FREF (frequency command source), REF (run command source), SETM (second motor in operation), EDM (STO (safe torque off) performance monitor), OP (option control signal), NO (no function) Output freq., output current, output torque, output voltage, input power, thermal load ratio, LAD freq., heat sink temperature, general output (EzSQ) [PWM output] Output freq., output current, output torque, output voltage, input power, thermal load ratio, LAD freq., heat sink temperature, general output (EzSQ) [Pulse train output] Output frequency, output current, pulse train input monitor ON for inverter alarm (1c contacts, both normally open or closed available.) ON for inverter alarm (1c contacts, both normally open or closed available.) Free-V/f, manual/automatic torque boost, output voltage gain adjustment, AVR function, reduced voltage start, motor data selection, auto-tuning, motor stabilization control, reverse running protection, simple position control, simple torque control, torque limiting, automatic carrier frequency reduction, energy saving operation, PID function, non-stop operation at instantaneous power failure, brake control, DC injection braking, dynamic braking (BRD), frequency upper and lower limiters, jump frequencies, curve accel and decel (S, U, inversed U,EL-S), 16-stage speed profile, fine adjustment of start frequency, accel and decel stop, process jogging, frequency calculation, frequency addition, 2-stage accel/decel, stop mode selection, start/end freq., analog input filter, window comparators, input terminal response time, output signal delay/hold function, rotation direction restriction, stop key selection, software lock, safe stop function, scaling function, display restriction, password function, user parameter, initialization, initial display selection, cooling fan control, warning, trip retry, frequency pull-in restart, frequency matching, overload restriction, over current restriction, DC bus voltage AVR Over-current, over-voltage, under-voltage, overload, brake resistor overload, CPU error, memory error, external trip, USP error, ground fault detection at power on, temperature error, internal communication error, driver error, thermistor error, brake error, safe stop, overload at low speed, modbus communication error, option error, encoder disconnection, speed excessive, EzSQ command error, EzSQ nesting error, EzSQ execution error, EzSQ user trip Operating (ambient): -10 to 40°C (\*10), / Storage: -20 to 65°C (\*11) 20 to 90% humidity (non-condensing) 5.

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9m/s<sup>2</sup> (0.

6G), 10 to 55 Hz Altitude 1,000m or less, indoors (no corrosive gasses or dust) Black Remote operator unit, cables for the units, braking unit, braking resistor, AC reactor, DC reactor, EMC filter, fieldbus Coating color Options 8 MX2 Inverter Specifications Section 1-2 1-2-3 Signal Ratings Detailed ratings are in . Signal / Contact Built-in power for inputs Discrete logic inputs Discrete logic outputs Analog output Analog input, current Analog input, voltage +10 V analog reference Alarm relay contacts Ratings 24V DC, 30 mA maximum 27 VDC maximum 50 mA maximum ON state current, 27 VDC maximum OFF state voltage 10bit / 0 to 10 VDC, 1 mA 4 to 19.6 mA range, 20 mA nominal 0 to 9.8 VDC range, 10 VDC nominal, input impedance 10 k 10 VDC nominal, 10 mA maximum 250 VAC, 2.5 A (R load) max., 0.2 A (I load, P.F. = 0.4) max.

100 VAC, 10 mA min 30 VDC, 3.0 A (R load) max., 0.7 A (I load, P.F.

= 0.4) max.) 5 VDC, 100 mA min. 1-2-4 Derating Curves The maximum available inverter current output is limited by the carrier frequency and ambient temperature. Choosing a higher carrier frequency tends to decrease audible noise, but it also increases the internal heating of the inverter, thus decreasing (derating) the maximum current output capability.

Ambient temperature is the temperature just outside the inverter housing such as inside the control cabinet where the inverter is mounted. A higher ambient temperature decreases (derates) the inverter's maximum current output capacity. An inverter up to 4.0 kW may be mounted individually in an enclosure or side-by-side with other inverter(s) as shown below. Side-by-side mounting causes greater derating than mounting inverters separately. Graphs for either mounting methods are included in this section. Refer to Installation Environment clearance on page 28 for minimum clearance dimensions for both mounting configurations. Individual mounting Enclosure Side-by-side mounting Enclosure 9 MX2 Inverter Specifications The following table shows which models need derating. 1-ph 200V class MX2-AB001 MX2-AB002 MX2-AB004 MX2-AB007 MX2-AB015 MX2-AB022 Derating O 3-ph 200V class MX2-A2001 MX2-A2002 MX2-A2004 MX2-A2007 MX2-A2015 MX2-A2022 MX2-A2037 MX2-A2055 MX2-A2075 MX2-A2110 MX2-A2150 Derating O O O O O Section 1-2 3-ph 400V class MX2-A4004 MX2-A4007 MX2-A4015 MX2-A4022 MX2-A4030 MX2-A4040 MX2-A4055 MX2-A4075 MX2-A4110 MX2-A4150 Derating O O O O Note O: Need derating : Need no derating Use the following derating curves to help determine the optimal carrier frequency setting for your inverter and find the output current derating. Be sure to use the proper curve for your particular MX2 inverter model number.

Legend for Graphs: Ambient temperature 40°C max., individual mounting Ambient temperature 50°C max., individual mounting Ambient temperature 40°C max., side-by-side mounting Derating curves : CT 100% 80% % of rated 60% output current 40% 20% 0 MX2-A2002 2.0 40°C individual 40°C side-by-side 1.5 output current 1.0 1.0 1.5 2 4 6 8 10 12 100% 80% 60% 40% 20% 14 16 kHz 0 2 4 6 8 10 12 14 kHz VT Carrier frequency CT (1.6 A) 2.

0 Carrier frequency VT (1.9 A) 40°C individual 40°C side-by-side 0 2 4 6 8 10 12 14 16 kHz 0 2 4 6 8 10 12 14 kHz Carrier frequency Carrier frequency 10 MX2 Inverter Specifications MX2-AB004 3.6 3.0 CT (3.0 A) 3.

6 3.0 Section 1-2 VT (3.5 A) output current 2.0 2.0 1.

0 0 2 4 6 8 10 12 14 16 kHz 1.0 0 2 4 6 8 10 12 14 kHz Carrier frequency MX2-A2004 3.6 3.0 40°C individual 40°C side-by-side 50°C individual CT (3.0 A) 3.6 3.0 Carrier frequency VT (3.5 A) 40°C individual 40°C side-by-side output current 2.0 2.0 1.

0 0 2 4 6 8 10 12 14 16 kHz 1.0 0 2 4 6 8 10 12 14 kHz Carrier frequency MX2-A4007 4.4 4.0 CT (3.4 A) 4.4 4.0 Carrier frequency VT (4.1 A) output current 3.0 40°C Side-by-side 50°C Normal installation 3.0 2.

0 0 MX2-A2037 20 19 18 17 output current 16 15 14 0 2 4 6 8 10 12 Carrier frequency 14 16 kHz 2 4 6 8 10 12 14 16 kHz Carrier frequency CT (17.5 A) 2.0 0 2 4 6 8 10 12 14 kHz Carrier frequency VT (19.6 A) 20 19 18 17 16 15 14 0 2 4 6 8 10 12 14 kHz Carrier frequency 11 MX2 Inverter Specifications MX2-A4040 12 11 10 9 output current 8 7 6 0 MX2-A2075 42 40 38 output current 36 34 32 30 0 MX2-A4075 26 24 22 output current 20 18 16 14 0 MX2-A2110 60 55 50 output current 45 40 35 30 0 2 4 6 8 10 12 14 16 kHz 40°C individual 40°C side-by-side 2 4 6 8 10 12 14 16 kHz 2 4 6 8 10 12 14 16 kHz 2 4 6 8 10 12 14 16 kHz 40°C individual 40°C side-by-side CT (9.2 A) 12 11 10 9 8 7 6 0 2 4 6 Section 1-2 VT (11.

1 A) 40°C individual 40°C side-by-side 8 10 12 14 kHz Carrier frequency CT (33.0 A) 42 40 38 36 34 32 30 0 2 Carrier frequency VT (40.0 A) 40°C individual 40°C side-by-side 4 6 8 10 12 14 kHz Carrier frequency CT (18.0 A) 26 24 22 20 18 16 14 0 2 Carrier frequency VT (23.0 A) 40°C individual 50°C individual 4 6 8 10 12 14 kHz Carrier frequency CT (47.

0 A) 60 55 50 45 40 35 30 0 2 Carrier frequency VT (56.0 A) 40°C individual 40°C side-by-side 4 6 8 10 12 14 kHz Carrier frequency Carrier frequency 12 MX2 Inverter Specifications MX2-A4110 32 30 28 output current 26 24 22 20 0 MX2-A2150 75 70 65 output current 60 55 50 45 0 MX2-A4150 40 35 30 25 output current 20 15 10 0 2 4 6 8 10 12 14 16 kHz 20 15 10 0 2 4 6 2 4 6 8 10 12 14 16 kHz 50°C individual 40°C side-by-side 2 4 6 8 10 12 14 16 kHz CT (24.0

A) 32 30 28 26 24 22 20 0 2 4 6 Section 1-2 VT (31.0 A) 50°C individual 40°C side-by-side 8 10 12 14 kHz Carrier frequency CT (60.0 A) 75 70 65 60 55 50 45 0 2 Carrier frequency VT (69.0 A) 50°C individual 40°C side-by-side 4 6 8 10 12 14 kHz Carrier frequency CT (31.0 A) 40 35 30 25 Carrier frequency VT

(38.0 A) 50°C individual 40°C side-by-side 8 10 12 14 kHz Carrier frequency Carrier frequency 13 Introduction to Variable-Frequency Drives Section 1-3 1-3 1-3-1 Introduction to Variable-Frequency Drives The Purpose of Motor Speed Control for Industry Omron inverters provide speed control for 3-phase AC induction motors. You connect AC power to the inverter, and connect the inverter to the motor. Many applications benefit from a motor with variable speed, in several ways: · Energy savings - HVAC · Need to coordinate speed with an adjacent process - textile and printing presses · Need to control acceleration and deceleration (torque) · Sensitive loads - elevators, food processing, pharmaceuticals 1-3-2 What is an Inverter The term inverter and variable-frequency drive are related and somewhat interchangeable.



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