

# 3G3MX2

## Designed With Machine Automation in Mind

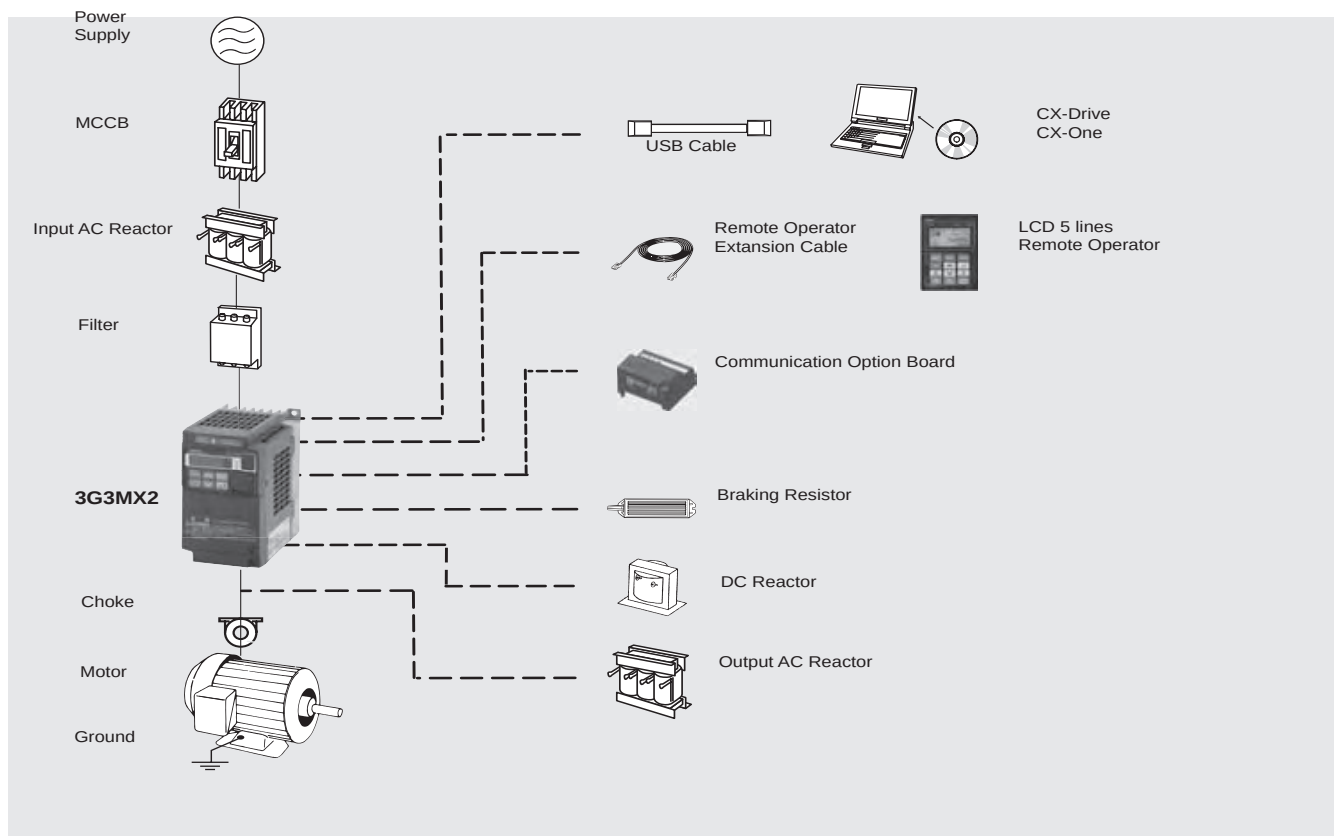
- Current vector control
- High starting torque: 200% at 0.5Hz
- Double rating VT 120%/1min and CT 150%/1min
- Speed range up to 1000 Hz
- IM & PM motor control
- Torque control in open loop vector
- Positioning functionality
- Built-in application functionality (i.e. Brake control)
- User programmable as standard
- Safety embedded compliant with ISO13849-1 (double input circuit and external device monitor EDM)
- USB port for PC programming
- 24 VDC backup supply for control board
- Fieldbus communications: Modbus, DeviceNet, Profibus, Comconet, Ethercat, ML-II and CanOpen
- PC configuration tool: CX-Drive
- RoHS, CE, cULus

## Ratings

- 200 V Class single-phase 0.2 to 2.2 kW (1/8 to 3.0 HP)
- 200 V Class three-phase 0.2 to 15.0 kW (1/8 to 20 HP)
- 400 V Class three-phase 0.4 to 15.0 kW (1/2 to 20 HP)

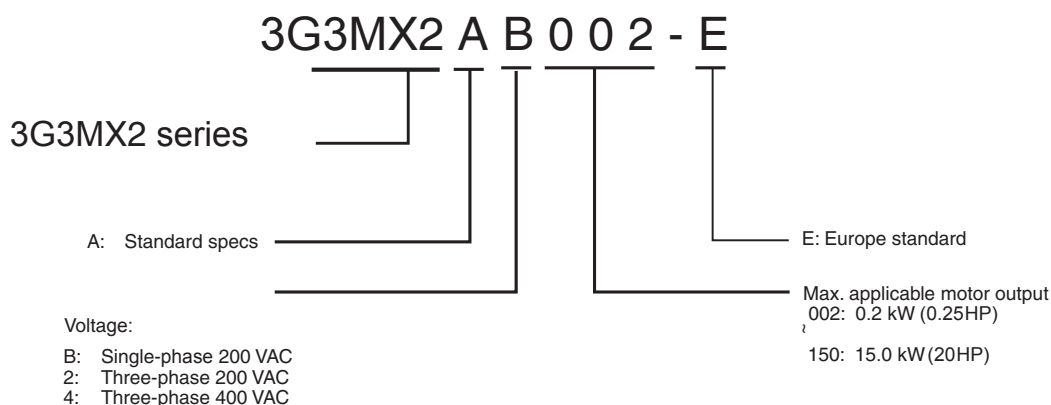


## System configuration



## Specifications

### Type designation



### 200 V class 3G3MX-A

| Single-phase: MX2□        |                                   |                                                     | AB001                                                           | AB002 | AB004 | AB007 <sup>1</sup> | AB015                          | AB022      | -     | -     | -     | -     |       |
|---------------------------|-----------------------------------|-----------------------------------------------------|-----------------------------------------------------------------|-------|-------|--------------------|--------------------------------|------------|-------|-------|-------|-------|-------|
| Three-phase: MX2□         |                                   |                                                     | A2001                                                           | A2002 | A2004 | A2007              | A2015                          | A2022      | A2037 | A2055 | A2075 | A2011 | A2150 |
| Motor<br>kW <sup>2</sup>  | For VT setting                    |                                                     | 0.2                                                             | 0.4   | 0.55  | 1.1                | 2.2                            | 3.0        | 5.5   | 7.5   | 11    | 15    | 18.5  |
|                           | For CT setting                    |                                                     | 0.1                                                             | 0.2   | 0.4   | 0.75               | 1.5                            | 2.2        | 3.7   | 5.5   | 7.5   | 11    | 15    |
| Output<br>characteristics | Inverter capacity kVA             | 200 VT                                              | 0.4                                                             | 0.6   | 1.2   | 2.0                | 3.3                            | 4.1        | 6.7   | 10.3  | 13.8  | 19.3  | 23.9  |
|                           |                                   | 200 CT                                              | 0.2                                                             | 0.5   | 1.0   | 1.7                | 2.7                            | 3.8        | 6.0   | 8.6   | 11.4  | 16.2  | 20.7  |
|                           |                                   | 240 VT                                              | 0.4                                                             | 0.7   | 1.4   | 2.4                | 3.9                            | 4.9        | 8.1   | 12.4  | 16.6  | 23.2  | 28.6  |
|                           |                                   | 240 CT                                              | 0.3                                                             | 0.6   | 1.2   | 2.0                | 3.3                            | 4.5        | 7.2   | 10.3  | 13.7  | 19.5  | 24.9  |
|                           | Rated output current (A) at VT    |                                                     | 1.2                                                             | 1.9   | 3.5   | 6.0                | 9.6                            | 12.0       | 19.6  | 30.0  | 40.0  | 56.0  | 69.0  |
|                           | Rated output current (A) at CT    |                                                     | 1.0                                                             | 1.6   | 3.0   | 5.0                | 8.0                            | 11.0       | 17.5  | 25.0  | 33.0  | 47.0  | 60.0  |
|                           | Max. output voltage               |                                                     | Proportional to input voltage: 0..240 V                         |       |       |                    |                                |            |       |       |       |       |       |
|                           | Max. output frequency             |                                                     | 1000 Hz <sup>3</sup>                                            |       |       |                    |                                |            |       |       |       |       |       |
| Power<br>supply           | Rated input voltage and frequency |                                                     | Single-phase 200..240 V 50/60 Hz<br>3-phase 200..240 V 50/60 Hz |       |       |                    |                                |            |       |       |       |       |       |
|                           | Allowable voltage fluctuation     |                                                     | -15%..+10%                                                      |       |       |                    |                                |            |       |       |       |       |       |
|                           | Allowable frequency fluctuation   |                                                     | 5%                                                              |       |       |                    |                                |            |       |       |       |       |       |
| Braking torque            |                                   | At short-time deceleration<br>At capacitor feedback | 100%: <50Hz<br>50%: <60Hz                                       |       |       |                    | 70%:<br><50Hz<br>50%:<br><60Hz | Approx 20% |       | -     |       |       |       |
| Cooling method            |                                   |                                                     | Self cooling                                                    |       |       |                    | Forced-air-cooling             |            |       |       |       |       |       |

- Single phase model use forced air cooling but three phase model is self cooling.
- Based on a standard 3-Phase standard motor.
- Above 400Hz with some function limitation.

### 400 V class 3G3MX-A4

| Three-phase: MX2□         |                                   |                                                                   | A4004                                   | A4007 | A4015 | A4022 | A4030                          | A4040 | A4055 | A4075 | A4110 | A4150 |
|---------------------------|-----------------------------------|-------------------------------------------------------------------|-----------------------------------------|-------|-------|-------|--------------------------------|-------|-------|-------|-------|-------|
| Motor<br>kW <sup>1</sup>  | For VT setting                    |                                                                   | 0.75                                    | 1.5   | 2.2   | 3.0   | 4.0                            | 5.5   | 7.5   | 11    | 15    | 18.5  |
|                           | For CT setting                    |                                                                   | 0.4                                     | 0.75  | 1.5   | 2.2   | 3.0                            | 4.0   | 5.5   | 7.5   | 11    | 15    |
| Output<br>characteristics | Inverter capacity kVA             | 380 VT                                                            | 1.3                                     | 2.6   | 3.5   | 4.5   | 5.7                            | 7.3   | 11.5  | 15.1  | 20.4  | 25.0  |
|                           |                                   | 380 CT                                                            | 1.1                                     | 2.2   | 3.1   | 3.6   | 4.7                            | 6.0   | 9.7   | 11.8  | 15.7  | 20.4  |
|                           |                                   | 480 VT                                                            | 1.7                                     | 3.4   | 4.4   | 5.7   | 7.3                            | 9.2   | 14.5  | 19.1  | 25.7  | 31.5  |
|                           |                                   | 480 CT                                                            | 1.4                                     | 2.8   | 3.9   | 4.5   | 5.9                            | 7.6   | 12.3  | 14.9  | 19.9  | 25.7  |
|                           | Rated output current (A) at VT    |                                                                   | 2.1                                     | 4.1   | 5.4   | 6.9   | 8.8                            | 11.1  | 17.5  | 23.0  | 31.0  | 38.0  |
|                           | Rated output current (A) at CT    |                                                                   | 1.8                                     | 3.4   | 4.8   | 5.5   | 7.2                            | 9.2   | 14.8  | 18.0  | 24.0  | 31.0  |
|                           | Max. output voltage               |                                                                   | Proportional to input voltage: 0..480 V |       |       |       |                                |       |       |       |       |       |
|                           | Max. output frequency             |                                                                   | 1000 Hz <sup>2</sup>                    |       |       |       |                                |       |       |       |       |       |
| Power<br>supply           | Rated input voltage and frequency |                                                                   | 3-phase 380..480 V 50/60 Hz             |       |       |       |                                |       |       |       |       |       |
|                           | Allowable voltage fluctuation     |                                                                   | -15%..+10%                              |       |       |       |                                |       |       |       |       |       |
|                           | Allowable frequency fluctuation   |                                                                   | 5%                                      |       |       |       |                                |       |       |       |       |       |
| Braking torque            |                                   | At short-time deceleration <sup>+3</sup><br>At capacitor feedback | 100%: <50Hz<br>50%: <60Hz               |       |       |       | 70%:<br><50Hz<br>50%:<br><60Hz | -     |       |       |       |       |
| Cooling method            |                                   |                                                                   | Forced-air-cooling                      |       |       |       |                                |       |       |       |       |       |

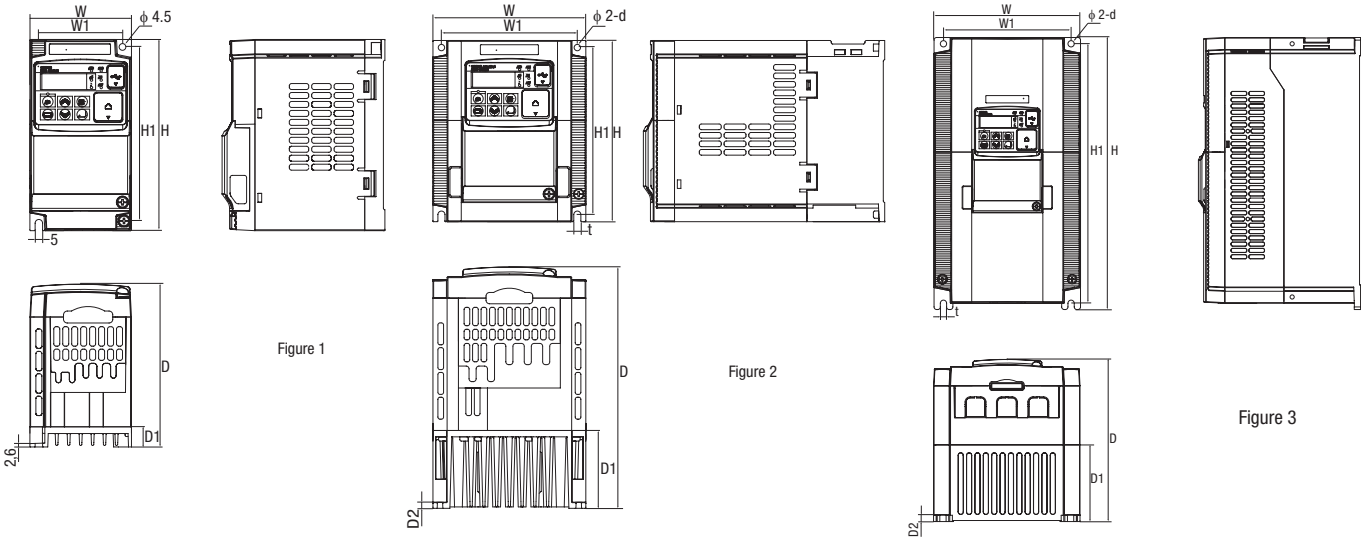
- Based on a standard 3-Phase standard motor.
- Above 400Hz with some function limitation.

# Specifications

## Common specifications

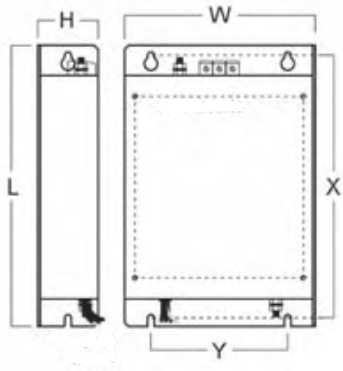
| Model number<br>3G3MX□ |                                   | Specifications                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------------|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Control functions      | Control methods                   | Phase-to-phase sinusoidal pulse with modulation PWM (Sensorless vector control, close loop vector with motor feedback, V/F)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                        | Output frequency range            | 0.10..1000.00 Hz (with restrictions above 400Hz)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                        | Frequency precision               | Digital set value: $\pm 0.01\%$ of the max. frequency<br>Analogue set value: $\pm 0.2\%$ of the max. frequency (25 $\pm 10$ °C)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                        | Resolution of frequency set value | Digital set value: 0.01 Hz<br>Analogue set value: 1/1000 of maximum frequency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|                        | Resolution of output frequency    | 0.01Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                        | Starting torque                   | 200% / 0.5Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                        | Overload capability               | Dual rating:<br>Heavy duty (CT): 150% for 1 minute<br>Normal Duty (VT): 120% for 1 minute                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                        | Frequency set value               | 0 to 10 VDC (10K $\Omega$ ), 4 to 20mA (100 $\Omega$ ), RS485 Modbus, Network options                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|                        | V/f Characteristics               | Constant/ reduced torque, free V/f                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Functionality          | Inputs signals                    | FW (forward run command), RV (reverse run command), CF1~CF4 (multi-stage 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), MI1~MI7 (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), GS1~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), OP (option control signal), NO (no function) |
|                        | Output signals                    | 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)                                                                                                                                                                                                                                                                                                                                                                                                |
|                        | Standard functions                | 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, inverted 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                                                                                                                                                                                                                                                                                     |
|                        | Analogue inputs                   | 2 analogue inputs 0 to 10V (10K $\Omega$ ), 4 to 20mA (100 $\Omega$ )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|                        | Pulse train input terminal        | 0 to 10V (up to 24V), up to 32KHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                        | Accel/Decel times                 | 0.01 to 3600.0s (line/curve selection), 2nd accel/decel setting available                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                        | Display                           | Status indicator LED's Run, Program, Alarm, Power, Hz, Amps<br>Digital operator: Available to monitor 32 items: frequency reference, output current, output frequency...                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                        | Motor overload protection         | Electronic Thermal overload relay and PTC thermistor input                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                        | Instantaneous overcurrent         | 200% of rated current                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Protection functions   | Overload                          | Dual rating:<br>Heavy duty (CT): 150% for 1 minute<br>Normal Duty (VT): 120% for 1 minute                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                        | Overvoltage                       | 800V for 400V type and 400V for 200V type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                        | Undervoltage                      | 345V for 400V type and 172.5V for 200V type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                        | Momentary power loss              | Following items are selectable: Alarm, decelerates to stop, decelerates to stop with DC bus controlled, restart                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                        | Cooling fin overheat              | Temperature monitor and error detection                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                        | Stall prevention level            | Stall prevention during acceleration/deceleration and constant speed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|                        | Ground fault                      | Detection at power-on                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|                        | Power charge indication           | On when power is supplied to the control part                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|                        | Degree of protection              | IP20, Varnish coating on PCB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Ambient conditions     | Ambient humidity                  | 90% RH or less (without condensation)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|                        | Storage temperature               | -20 °C..+65 °C (short-term temperature during transportation)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|                        | Ambient temperature               | -10°C to 40°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|                        | Installation                      | Indoor (no corrosive gas, dust, etc.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|                        | Installation height               | Max. 1000 m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Vibration              | Vibration                         | 5.9 m/s <sup>2</sup> (0.6G), 10 to 55 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

# Dimensions



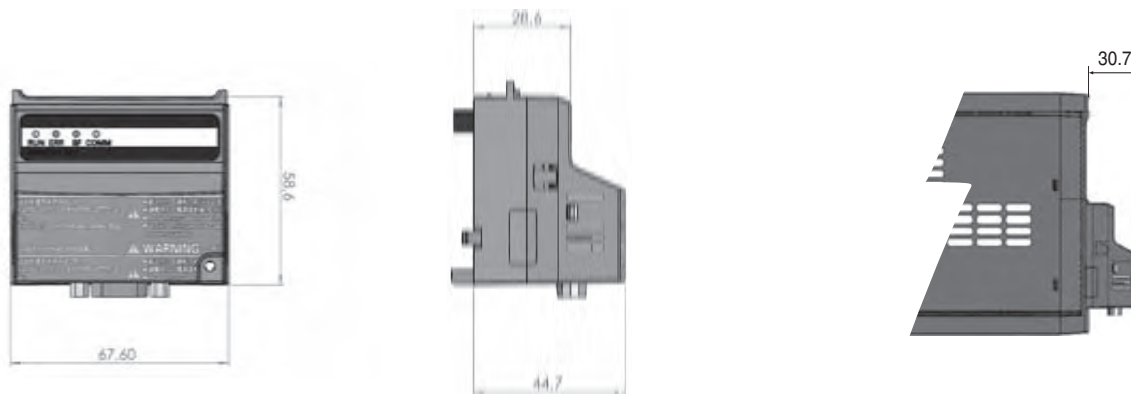
| Voltage class         | Inverter model | MX2□ | Figure | Dimensions in mm |     |     |     |     |       |      |     |     | Weight (KG) |
|-----------------------|----------------|------|--------|------------------|-----|-----|-----|-----|-------|------|-----|-----|-------------|
|                       |                |      |        | W                | W1  | H   | H1  | t   | D     | D1   | D2  | d   |             |
| Single-phase<br>200 V | AB001          |      | 1      | 68               | 56  | 128 | 118 | -   | 109   | 13.5 | -   | -   | 1.0         |
|                       | AB002          |      | 1      |                  |     |     |     |     | 123   | 27   |     |     | 1.0         |
|                       | AB004          |      | 1      |                  |     |     |     |     | 123   | 27   |     |     | 1.1         |
|                       | AB007          |      | 2      | 108              | 96  | 128 | 118 |     | 170.5 | 55   | 4.4 | 4.5 | 1.4         |
|                       | AB015          |      | 2      |                  |     |     |     |     |       |      |     |     | 1.8         |
|                       | AB022          |      | 2      |                  |     |     |     |     |       |      |     |     | 1.8         |
| Three-phase<br>200 V  | A2001          |      | 1      | 68               | 56  | 128 | 118 | -   | 109   | 13.5 | -   | -   | 1.0         |
|                       | A2002          |      | 1      |                  |     |     |     |     | 113   | 27   |     |     | 1.0         |
|                       | A2004          |      | 1      |                  |     |     |     |     | 146   | 50   |     |     | 1.1         |
|                       | A2007          |      | 1      |                  |     |     |     |     | 146   | 50   |     |     | 1.2         |
|                       | A2015          |      | 2      | 108              | 96  | 128 | 118 | -   | 170.5 | 55   | 4.4 | 4.5 | 1.6         |
|                       | A2022          |      | 2      |                  |     |     |     |     | 170.5 | 55   |     |     | 1.8         |
|                       | A2037          |      | 3      | 140              | 128 | 128 | 118 | 5   | 170.5 | 55   | 4.4 | 2.0 |             |
|                       | A2055          |      | 3      | 140              | 122 | 260 | 248 | 6   | 155   | 73.3 | 6   | 6   | 3.0         |
|                       | A2075          |      | 3      |                  |     |     |     |     |       |      |     |     | 3.4         |
|                       | A2110          |      | 3      | 180              | 160 | 296 | 284 | 7   | 175   | 97   | 5   | 7   | 5.1         |
| A2150                 |                | 3    | 220    | 192              | 350 | 336 | 7   | 175 | 84    | 5    | 7   | 7.4 |             |
| Three-phase<br>400 V  | A4004          |      | 2      | 108              | 96  | 128 | 118 | -   | 144   | 28   | -   | -   | 1.5         |
|                       | A4007          |      | 2      |                  |     |     |     |     | 1.6   |      |     |     |             |
|                       | A4015          |      | 2      |                  |     |     |     |     | 1.8   |      |     |     |             |
|                       | A4022          |      | 2      |                  |     |     |     |     | 1.9   |      |     |     |             |
|                       | A4030          |      | 2      |                  |     |     |     |     | 1.9   |      |     |     |             |
|                       | A4040          |      | 3      | 140              | 128 | 128 | 118 | 5   | 171   | 55   | 4.4 | 4.5 | 2.1         |
|                       | A4055          |      | 3      |                  | 122 | 260 | 248 | 6   | 155   | 73.3 | 6   | 6   | 3.5         |
|                       | A4075          |      | 3      | 3.5              |     |     |     |     |       |      |     |     |             |
|                       | A4110          |      | 3      | 180              | 160 | 296 | 284 | 7   | 175   | 97   | 5   | 7   | 4.7         |
| A4150                 |                | 3    | 5.2    |                  |     |     |     |     |       |      |     |     |             |

## Rasmi footprint Filters 3G3AX-FIM



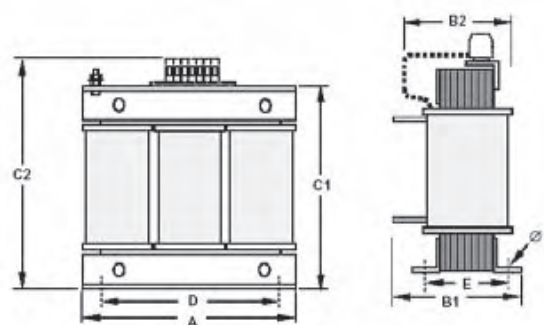
| Rasmi model |               | Dimensions in mm  |    |     |     |     |    |
|-------------|---------------|-------------------|----|-----|-----|-----|----|
|             |               | W                 | H  | L   | X   | Y   | M  |
| 1x200 V     | AX-FIM1010-RE | 71                | 45 | 169 | 156 | 51  | M4 |
|             | AX-FIM1014-RE | 111               | 50 | 169 | 156 | 91  | M4 |
|             | AX-FIM1024-RE | 111               | 50 | 169 | 156 | 91  | M4 |
| 3x200 V     | AX-FIM2010-RE | Under development |    |     |     |     |    |
|             | AX-FIM2020-RE |                   |    |     |     |     |    |
|             | AX-FIM2030-RE |                   |    |     |     |     |    |
|             | AX-FIM2060-RE |                   |    |     |     |     |    |
|             | AX-FIM2080-RE |                   |    |     |     |     |    |
|             | AX-FIM2100-RE |                   |    |     |     |     |    |
| 3x400 V     | AX-FIM3005-RE | 111               | 45 | 169 | 156 | 91  | M4 |
|             | AX-FIM3010-RE | 111               | 45 | 169 | 156 | 91  | M4 |
|             | AX-FIM3014-RE | 144               | 50 | 174 | 161 | 120 | M4 |
|             | AX-FIM3030-RE | 150               | 52 | 306 | 290 | 122 | M5 |
|             | AX-FIM3050-RE | 182               | 62 | 357 | 330 | 160 | M5 |

## Option board



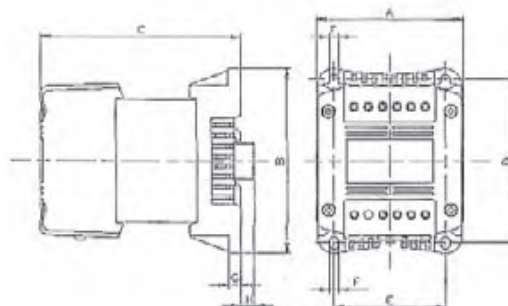
## Input AC Reactor 3G3AX-RAI

| Voltage | Reference         | Dimensions in mm |    |     |     |    |     | Weight Kg |
|---------|-------------------|------------------|----|-----|-----|----|-----|-----------|
|         |                   | A                | B2 | C2  | D   | E  | F   |           |
| 200V    | AX-RAI02800080-DE | 120              | 70 | 120 | 80  | 52 | 5.5 | 1.78      |
|         | AX-RAI00880200-DE | 120              | 80 | 120 | 80  | 62 | 5.5 | 2.35      |
|         | AX-RAI00350335-DE | 180              | 85 | 190 | 140 | 55 | 6   | 5.5       |
|         | AX-RAI00180670-DE | 180              | 85 | 190 | 140 | 55 | 6   | 5.5       |
| 400V    | AX-RAI07700050-DE | 120              | 70 | 120 | 80  | 52 | 5.5 | 1.78      |
|         | AX-RAI03500100-DE | 120              | 80 | 120 | 80  | 62 | 5.5 | 2.35      |
|         | AX-RAI01300170-DE | 120              | 80 | 120 | 80  | 62 | 5.5 | 2.50      |
|         | AX-RAI00740335-DE | 180              | 85 | 190 | 140 | 55 | 6   | 5.5       |



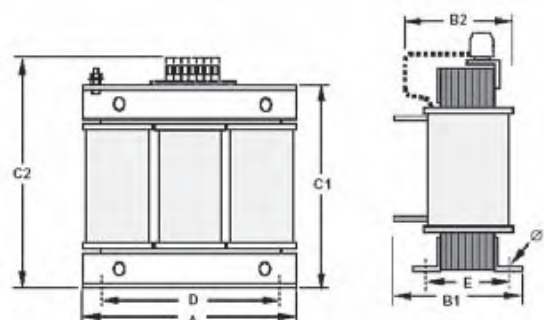
## DC Reactor 3G3ZX-RC

| Voltage          | Reference        | Dimensions in mm |     |       |     |     |     |      |      | Weight Kg |      |
|------------------|------------------|------------------|-----|-------|-----|-----|-----|------|------|-----------|------|
|                  |                  | A                | B   | C     | D   | E   | F   | G    | H    |           |      |
| 200V             | AX-RC21400016-RE | 84               | 113 | 96    | 101 | 66  | 5   | 7.5  | 2    | 1.22      |      |
|                  | AX-RC10700032-RE |                  |     | 105   |     |     |     |      |      | 1.60      |      |
|                  | AX-RC06750061-RE |                  |     |       |     |     |     |      |      | 116       | 1.95 |
|                  | AX-RC03510093-RE |                  |     |       |     |     |     |      |      |           |      |
|                  | AX-RC02510138-RE | 108              | 135 | 124   | 120 | 82  | 6.5 | 9.5  | 9.5  | 3.20      |      |
|                  | AX-RC01600223-RE | 120              | 152 | 136   | 135 | 94  | 7   |      | -    | 5.20      |      |
|                  | AX-RC01110309-RE |                  |     | 146   |     |     |     | 6.00 |      |           |      |
|                  | AX-RC00840437-RE |                  |     | 160   |     |     |     | 11.4 |      |           |      |
|                  | AX-RC00590614-RE | 150              | 177 | 182.6 | 160 | 115 | 2   | -    | 14.3 |           |      |
| AX-RC00440859-RE |                  |                  |     |       |     |     |     |      |      |           |      |
| 400V             | AX-RC43000020-RE | 84               | 113 | 96    | 101 | 66  | 5   | 7.5  | 2    | 1.22      |      |
|                  | AX-RC27000030-RE |                  |     | 105   |     |     |     |      |      | 1.60      |      |
|                  | AX-RC14000047-RE |                  |     |       |     |     |     |      |      | 116       | 1.95 |
|                  | AX-RC10100069-RE |                  |     |       |     |     |     |      |      |           | 133  |
|                  | AX-RC06400116-RE | 108              | 135 | 133   | 120 | 82  | 6.5 | 9.5  | 9.5  | 5.20      |      |
|                  | AX-RC04410167-RE | 120              | 152 | 136   | 135 | 94  | 7   |      | -    | 6.00      |      |
|                  | AX-RC03350219-RE |                  |     | 146   |     |     |     | 11.4 |      |           |      |
|                  | AX-RC02330307-RE |                  |     | 150   |     |     |     | 177  |      | 160       | 160  |
|                  | AX-RC01750430-RE | 182.6            |     |       |     |     |     |      |      |           |      |



## Output AC Reactor 3G3AX-RAO

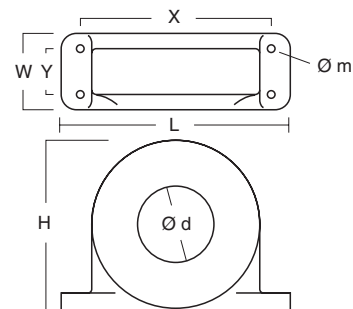
| Voltage | Reference         | Dimensions in mm |    |     |     |    |     | Weight Kg |
|---------|-------------------|------------------|----|-----|-----|----|-----|-----------|
|         |                   | A                | B2 | C2  | D   | E  | F   |           |
| 200V    | AX-RAO11500026-DE | 120              | 70 | 120 | 80  | 52 | 5.5 | 1.78      |
|         | AX-RAO07600042-DE | 120              | 70 | 120 | 80  | 52 | 5.5 | 1.78      |
|         | AX-RAO04100075-DE | 120              | 80 | 120 | 80  | 62 | 5.5 | 2.35      |
|         | AX-RAO03000105-DE | 120              | 80 | 120 | 80  | 62 | 5.5 | 2.35      |
|         | AX-RAO01830180-DE | 180              | 85 | 190 | 140 | 55 | 6   | 5.5       |
|         | AX-RAO01150220-DE | 180              | 85 | 190 | 140 | 55 | 6   | 5.5       |
|         | AX-RAO00950320-DE | 180              | 85 | 205 | 140 | 55 | 6   | 6.5       |
|         | AX-RAO00630430-DE | 180              | 95 | 205 | 140 | 65 | 6   | 9.1       |
|         | AX-RAO00490640-DE | 180              | 95 | 205 | 140 | 65 | 6   | 9.1       |



| Voltage | Reference         | Dimensions in mm |     |     |     |    |     | Weight Kg |
|---------|-------------------|------------------|-----|-----|-----|----|-----|-----------|
|         |                   | A                | B2  | C2  | D   | E  | F   |           |
| 400V    | AX-RAO16300038-DE | 120              | 70  | 120 | 80  | 52 | 5.5 | 1.78      |
|         | AX-RAO11800053-DE | 120              | 80  | 120 | 80  | 52 | 5.5 | 2.35      |
|         | AX-RAO07300080-DE | 120              | 80  | 120 | 80  | 62 | 5.5 | 2.35      |
|         | AX-RAO04600110-DE | 180              | 85  | 190 | 140 | 55 | 6   | 5.5       |
|         | AX-RAO03600160-DE | 180              | 85  | 205 | 140 | 55 | 6   | 6.5       |
|         | AX-RAO02500220-DE | 180              | 95  | 205 | 140 | 55 | 6   | 9.1       |
|         | AX-RAO02000320-DE | 180              | 105 | 205 | 140 | 85 | 6   | 11.7      |

### Chokes 3G3AX-FEJ

| Reference     | D diameter | Motor KW | Dimensions in mm |    |     |     |    |   | Weight Kg |
|---------------|------------|----------|------------------|----|-----|-----|----|---|-----------|
|               |            |          | L                | W  | H   | X   | Y  | m |           |
| AX-FEJ2102-RE | 21         | < 2.2    | 85               | 22 | 46  | 70  | -  | 5 | 0.1       |
| AX-FEJ2515-RE | 25         | < 15     | 105              | 25 | 62  | 90  | -  | 5 | 0.2       |
| AX-FEJ5045-RE | 50         | < 45     | 150              | 50 | 110 | 125 | 30 | 5 | 0.7       |



### Resistor Dimensions 3G3AX-REM

AX-REM00K1200

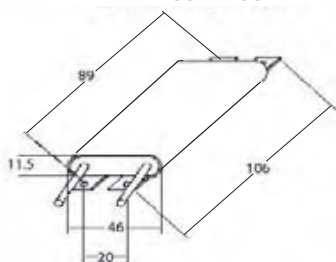


Fig 2

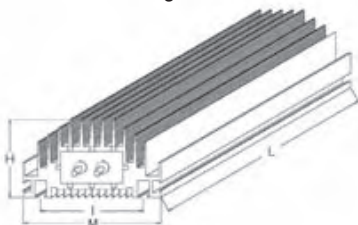


Fig 1

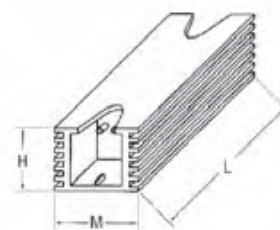


Fig 3

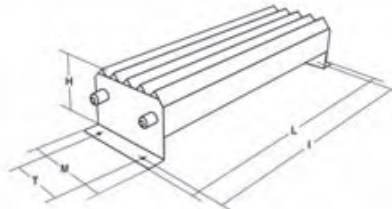
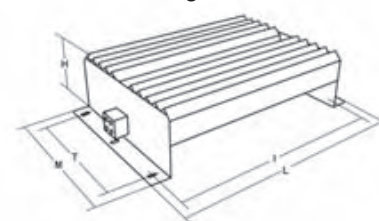


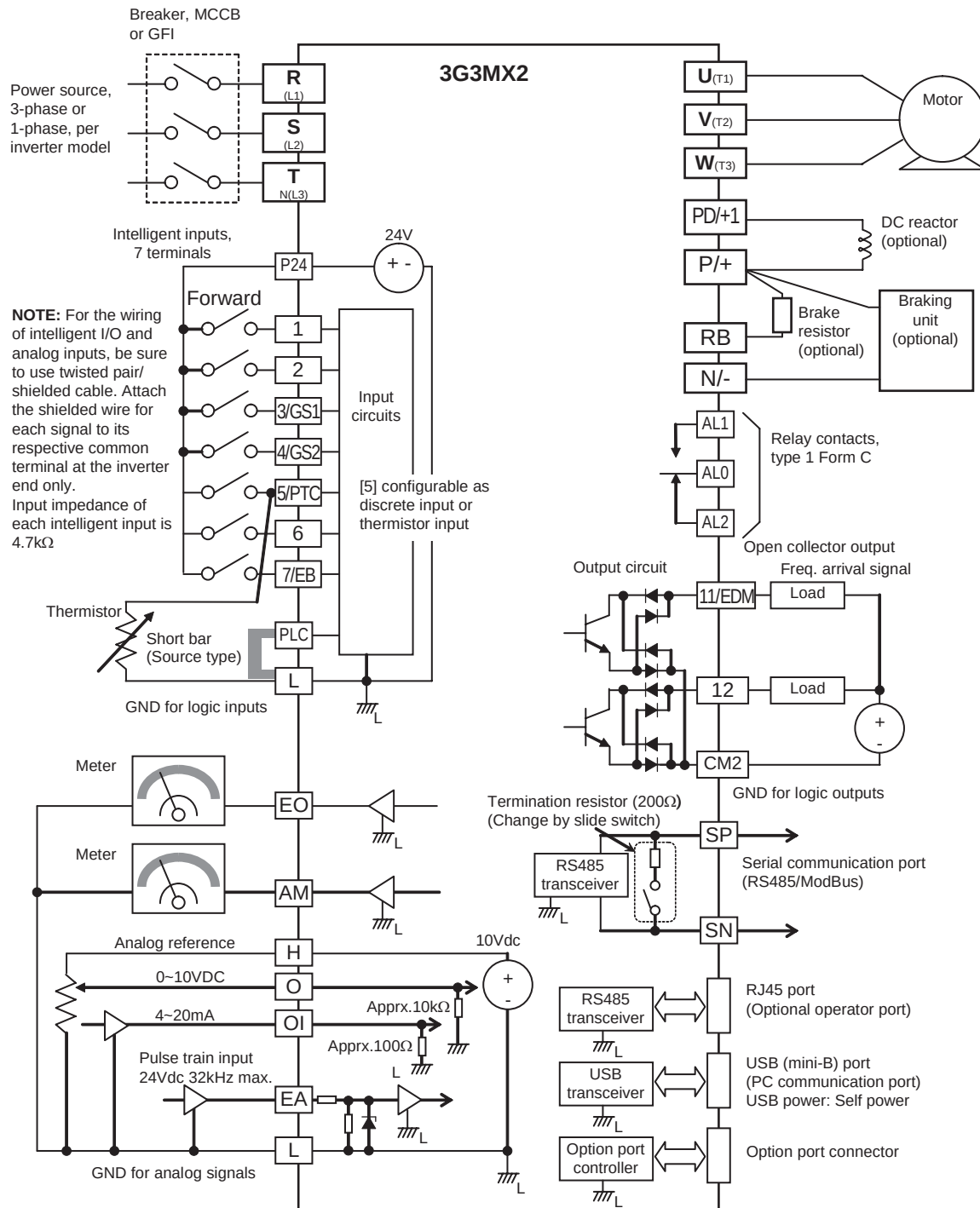
Fig 4



| Type             | Fig. | Dimensions in mm |     |     |     |     | Weight KG |
|------------------|------|------------------|-----|-----|-----|-----|-----------|
|                  |      | L                | H   | M   | I   | T   |           |
| AX-REM00K1400-IE | 1    | 105              | 27  | 36  | 94  | -   | 0.2       |
| AX-REM00K2070-IE |      |                  |     |     |     |     |           |
| AX-REM00K2120-IE |      |                  |     |     |     |     |           |
| AX-REM00K2200-IE |      | 200              | 27  | 36  | 189 | -   | 0.425     |
| AX-REM00K4075-IE |      |                  |     |     |     |     |           |
| AX-REM00K4035-IE |      |                  |     |     |     |     |           |
| AX-REM00K4030-IE |      | 260              | 27  | 36  | 249 | -   | 0.58      |
| AX-REM00K5120-IE |      |                  |     |     |     |     |           |
| AX-REM00K6100-IE |      |                  |     |     |     |     |           |
| AX-REM00K6035-IE | 2    | 320              | 27  | 36  | 309 | -   | 0.73      |
| AX-REM00K9070-IE |      |                  |     |     |     |     |           |
| AX-REM00K9017-IE |      |                  |     |     |     |     |           |
| AX-REM01K9070-IE | 3    | 200              | 62  | 100 | 74  | -   | 1.41      |
| AX-REM01K9017-IE |      |                  |     |     |     |     |           |
| AX-REM02K1070-IE | 4    | 365              | 73  | 105 | 350 | 70  | 4         |
| AX-REM02K1017-IE |      |                  |     |     |     |     |           |
| AX-REM03K5035-IE |      | 310              | 100 | 240 | 295 | 210 | 7         |
| AX-REM03K5010-IE |      |                  |     |     |     |     |           |



## Standard connections



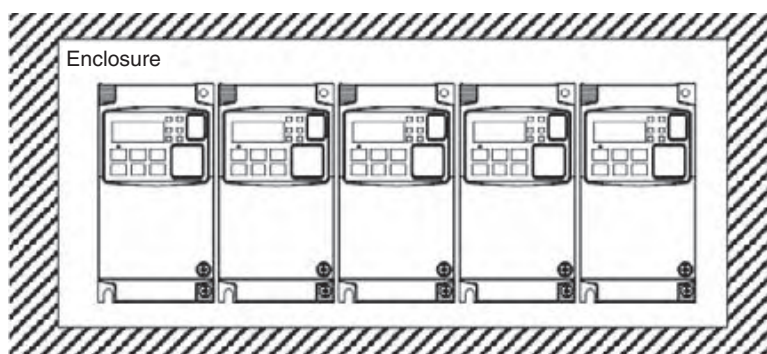
## Terminal Block Specifications

| Terminal         | Name                               | Function (signal level)                                                                                                                                                     |
|------------------|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| R/L1, S/L2, T/L3 | Main circuit power supply input    | Used to connect line power to the drive.<br>Drives with single-phase 200 V input power use only terminals R/L1 and N (T/L3); terminal S/L2 is not available for these units |
| U/T1, V/T2, W/T3 | Inverter output                    | Used to connect the motor                                                                                                                                                   |
| PD/+1, P/+       | External DC reactor terminal       | Normally connected by the short-circuit bar. Remove the short-circuit bar between +1 and P/+2 when a DC reactor is connected.                                               |
| P/+, N/-         | Regenerative braking unit terminal | Connect optional regenerative braking units (If a braking torque is required)                                                                                               |
| P/+, RB          | Braking resistor terminals         | Connect option braking resistor (if a braking torque is required)                                                                                                           |
| ⊕                | Grounding                          | For grounding (grounding should conform to the local grounding code.)                                                                                                       |

## Control Circuit

| Type                   | No.    | Signal name                                             | Function                                                                                                         | Signal level                                                                |
|------------------------|--------|---------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| Digital input signals  | PLC    | Intelligent input common                                | Source type: connecting [P24] to [1]-[7] turns inputs ON<br>Sink type: connecting [L] to [1]-[7] turns inputs ON | -                                                                           |
|                        | P24    | Internal 24 VDC                                         | 24 VDC, 30mA                                                                                                     | 24VDC, 30mA                                                                 |
|                        | 1      | Multi-function Input selection 1                        | Factory setting: Forward/ Stop                                                                                   | 27 VDC max                                                                  |
|                        | 2      | Multi-function Input selection 2                        | Factory setting: Reverse/ Stop                                                                                   |                                                                             |
|                        | 3/ST1  | Multi-function Input selection 3 / safe stop input 1    | Factory setting: External trip                                                                                   |                                                                             |
|                        | 4/ST2  | Multi-function Input selection 4 / safe stop input 2    | Factory setting: Reset                                                                                           |                                                                             |
|                        | 5/PTC  | Multi-function Input selection 5 / PTC thermistor input | Factory setting: Multi-step speed reference 1                                                                    |                                                                             |
|                        | 6      | Multi-function input selection 6                        | Factory setting: Multi-step speed reference 2                                                                    |                                                                             |
|                        | 7/EB   | Multi-function input selection 7 / Pulse train input B  | Factory setting: Jog                                                                                             |                                                                             |
|                        | L      | Multi-function Input selection common (in upper row)    | --                                                                                                               | --                                                                          |
| Pulse train            | EA     | Pulse train input A                                     | Factory setting: Speed reference                                                                                 | 32KHz max<br>5 to 24VDC                                                     |
|                        | EO     | Pulse train output                                      | LAD frequency                                                                                                    | 10VDC 2mA<br>32KHz max                                                      |
| Analog input signal    | H      | Frequency reference power supply                        | 10 V DC 10mA max                                                                                                 |                                                                             |
|                        | O      | Voltage frequency reference signal                      | 0 to 10V DC (10KΩ)                                                                                               |                                                                             |
|                        | OI     | Current frequency reference signal                      | 4 to 20mA (250Ω)                                                                                                 |                                                                             |
|                        | L      | Frequency reference common (bottom row)                 | --                                                                                                               |                                                                             |
| Digital output signals | 11/EDM | Discrete logic output 1 / EDM output                    | Factory setting: During Run                                                                                      | 27 VDC, 50mA max<br>EDM based on<br>ISO13849-1                              |
|                        | 12     | Discrete logic output 2                                 | Factory setting: Frequency arrival type 1                                                                        |                                                                             |
|                        | CMD    | GND logic output                                        | --                                                                                                               |                                                                             |
|                        | AL0    | Relay common contact                                    | Factory setting: Alarm signal<br>Under normal operation<br>AL1 - AL0 Closed<br>AL2 - AL0 Open                    | R load<br>250VAC 2.5A<br>30VDC 3.0 A<br>I load<br>250VAC 0.2A<br>30VDC 0.7A |
|                        | AL1    | Relay contact, normally open                            |                                                                                                                  |                                                                             |
|                        | AL2    | Relay contact, normally closed                          |                                                                                                                  |                                                                             |
| Monitor Signal         | AM     | Analog voltage output                                   | Factory setting: LAD frequency                                                                                   | 0 to 10VDC 1mA                                                              |
| Comms                  | SP     | Serial communication terminal                           | RS485 Modbus communication                                                                                       |                                                                             |
|                        | SN     |                                                         |                                                                                                                  |                                                                             |

## Side by side mounting



## Inverter heat loss

### Three-phase 200 V class

| Model 3G3MX2             |        | A2001        | A2002 | A2004 | A2007 | A2015 | A2022              | A2037 | A2055 | A2075 | A2110 | A2150 |
|--------------------------|--------|--------------|-------|-------|-------|-------|--------------------|-------|-------|-------|-------|-------|
| Inverter capacity<br>kVA | 200 VT | 0.4          | 0.6   | 1.2   | 2.0   | 3.3   | 4.1                | 6.7   | 10.3  | 13.8  | 19.3  | 23.9  |
|                          | 200 CT | 0.2          | 0.5   | 1.0   | 1.7   | 2.7   | 3.8                | 6.0   | 8.6   | 11.4  | 16.2  | 20.7  |
|                          | 240 VT | 0.4          | 0.7   | 1.4   | 2.4   | 3.9   | 4.9                | 8.1   | 12.4  | 16.6  | 23.2  | 28.6  |
|                          | 240 CT | 0.3          | 0.6   | 1.2   | 2.0   | 3.3   | 4.5                | 7.2   | 10.3  | 13.7  | 19.5  | 24.9  |
| Rated current (A) VT     |        | 1.2          | 1.9   | 3.4   | 6.0   | 9.6   | 12.0               | 19.6  | 30.0  | 40.0  | 56.0  | 69.0  |
| Rated current (A) CT     |        | 1.0          | 1.6   | 3.0   | 5.0   | 8.0   | 11.0               | 17.5  | 25.0  | 33.0  | 47.0  | 60.0  |
| Total heat loss          |        | 12           | 22    | 30    | 48    | 79    | 104                | 154   | 229   | 313   | 458   | 625   |
| Efficiency at rated load |        | 89.5         | 90    | 93    | 94    | 95    | 95.5               | 96    | 96    | 96    | 96    | 96    |
| Cooling Method           |        | Self cooling |       |       |       |       | Forced-air-cooling |       |       |       |       |       |



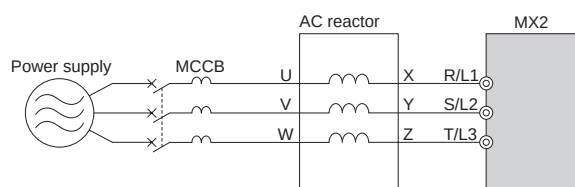
# Single-phase 200 V class 3G3MX2-AB

| Model MX2                |         | AB001        | AB002 | AB004 | AB007              | AB015 | AB022 |
|--------------------------|---------|--------------|-------|-------|--------------------|-------|-------|
| Inverter capacity kVA    | 200V VT | 0.4          | 0.6   | 1.2   | 2.0                | 3.3   | 4.1   |
|                          | 200V CT | 0.2          | 0.5   | 1.0   | 1.7                | 2.7   | 3.8   |
|                          | 240V VT | 0.4          | 0.7   | 1.4   | 2.4                | 3.9   | 4.9   |
|                          | 240V CT | 0.3          | 0.6   | 1.2   | 2.0                | 3.3   | 4.5   |
| Rated current (A) VT     |         | 1.2          | 1.9   | 3.4   | 6.0                | 9.6   | 12.0  |
| Rated current (A) CT     |         | 1.0          | 1.6   | 3.0   | 5.0                | 8.0   | 11.0  |
| Total heat loss          |         | 12           | 22    | 30    | 48                 | 79    | 104   |
| Efficiency at rated load |         | 89.5         | 90    | 93    | 94                 | 95    | 95.5  |
| Cooling Method           |         | Self cooling |       |       | Forced-air-cooling |       |       |

# Three-phase 400 V class 3G3MX2-A4

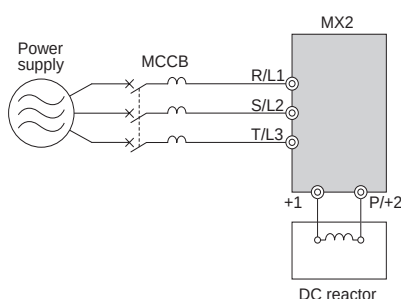
| Model MX2                |         | A4004        | A4007 | A4015 | A4022              | A4030 | A4040 | A4055 | A4075 | A4110 | A4150 |
|--------------------------|---------|--------------|-------|-------|--------------------|-------|-------|-------|-------|-------|-------|
| Inverter capacity kVA    | 380V VT | 1.3          | 2.6   | 3.5   | 4.5                | 5.7   | 7.3   | 11.5  | 15.1  | 20.4  | 25.0  |
|                          | 380V CT | 1.1          | 2.2   | 3.1   | 3.6                | 4.7   | 6.0   | 9.7   | 11.8  | 15.7  | 20.4  |
|                          | 480V VT | 1.7          | 3.4   | 4.4   | 5.7                | 7.3   | 9.2   | 14.5  | 19.1  | 25.7  | 31.5  |
|                          | 480V CT | 1.4          | 2.8   | 3.9   | 4.5                | 5.9   | 7.6   | 12.3  | 14.9  | 19.9  | 25.7  |
| Rated current (A) VT     |         | 2.1          | 4.1   | 5.4   | 6.9                | 8.8   | 11.1  | 17.5  | 23.0  | 31.0  | 38.0  |
| Rated current (A) CT     |         | 1.8          | 3.4   | 4.8   | 5.5                | 7.2   | 9.2   | 14.8  | 18.0  | 24.0  | 31.0  |
| Total heat loss          |         | 35           | 56    | 96    | 116                | 125   | 167   | 229   | 296   | 411   | 528   |
| Efficiency at rated load |         | 92           | 93    | 94    | 95                 | 96    | 96    | 96    | 96.2  | 96.4  | 96.6  |
| Cooling Method           |         | Self cooling |       |       | Forced-air-cooling |       |       |       |       |       |       |

# Input AC Reactor 3G3AX-RAI



| 3 phase 200 V class             |                   |                 |               | 400 V class                     |                   |                 |               |
|---------------------------------|-------------------|-----------------|---------------|---------------------------------|-------------------|-----------------|---------------|
| Max. applicable motor output kW | Reference         | Current value A | Inductance mH | Max. applicable motor output kW | Reference         | Current value A | Inductance mH |
| 1.5                             | AX-RAI02800080-DE | 8.0             | 2.8           | 1.5                             | AX-RAI07700050-DE | 5.0             | 7.7           |
| 3.7                             | AX-RAI00880200-DE | 20.0            | 0.88          | 4.0                             | AX-RAI03500100-DE | 10.0            | 3.5           |
| 7.5                             | AX-RAI00350335-DE | 33.5            | 0.35          | 7.5                             | AX-RAI01300170-DE | 17.0            | 1.3           |
| 15                              | AX-RAI00180670-DE | 67.0            | 0.18          | 15                              | AX-RAI00740335-DE | 33.5            | 0.74          |

# DC Reactor 3G3AX-RC

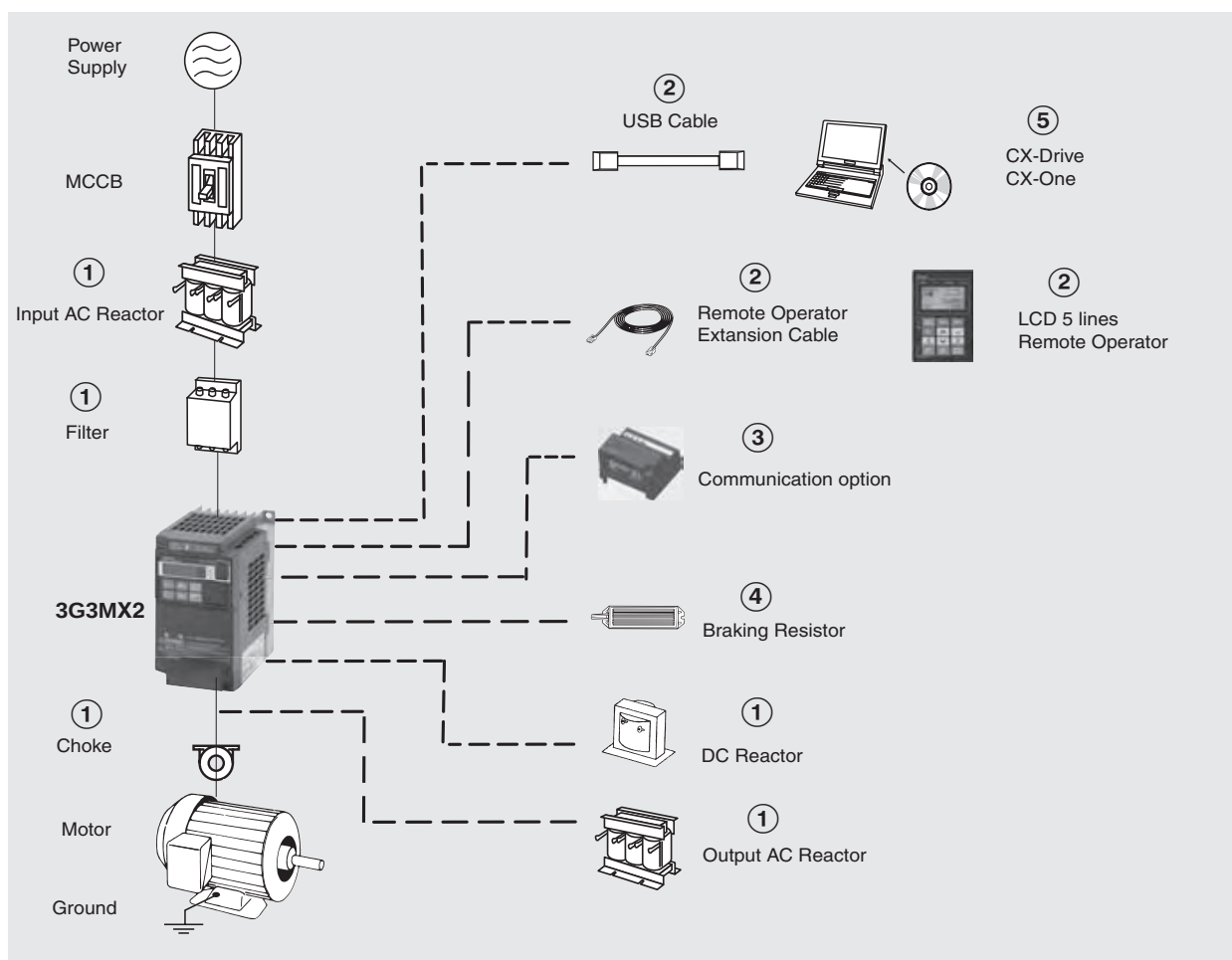


| 200 V class                     |                  |                 |               | 400 V class                     |                  |                 |               |
|---------------------------------|------------------|-----------------|---------------|---------------------------------|------------------|-----------------|---------------|
| Max. applicable motor output kW | Reference        | Current value A | Inductance mH | Max. applicable motor output kW | Reference        | Current value A | Inductance mH |
| 0.2                             | AX-RC21400016-RE | 1.6             | 21.4          | 0.4                             | AX-RC43000020-RE | 2.0             | 43.0          |
| 0.4                             | AX-RC10700032-RE | 3.2             | 10.7          | 0.7                             | AX-RC27000030-RE | 3.0             | 27.0          |
| 0.7                             | AX-RC06750061-RE | 6.1             | 6.75          | 1.5                             | AX-RC14000047-RE | 4.7             | 14.0          |
| 1.5                             | AX-RC03510093-RE | 9.3             | 3.51          | 2.2                             | AX-RC10100069-RE | 6.9             | 10.1          |
| 2.2                             | AX-RC02510138-RE | 13.8            | 2.51          | 3.0                             | AX-RC08250093-RE | 9.3             | 8.25          |
| 3.7                             | AX-RC01600223-RE | 22.3            | 1.60          | 4.0                             | AX-RC06400116-RE | 11.6            | 6.40          |
| 5.5                             | AX-RC01110309-RE | 30.9            | 1.11          | 5.5                             | AX-RC04410167-RE | 16.7            | 4.41          |
| 7.5                             | AX-RC00840437-RE | 43.7            | 0.84          | 7.5                             | AX-RC03350219-RE | 21.9            | 3.35          |
| 11.0                            | AX-RC00590614-RE | 61.4            | 0.59          | 11.0                            | AX-RC02330307-RE | 30.7            | 2.33          |
| 15.0                            | AX-RC00440859-RE | 85.9            | 0.44          | 15.0                            | AX-RC01750430-RE | 43.0            | 1.75          |

# Output AC Reactor 3G3AX-RAO

| 200 V class                     |                   |                 |               | 400 V class                     |                   |                 |               |
|---------------------------------|-------------------|-----------------|---------------|---------------------------------|-------------------|-----------------|---------------|
| Max. applicable motor output kW | Reference         | Current value A | Inductance mH | Max. applicable motor output kW | Reference         | Current value A | Inductance mH |
| 0.4                             | AX-RAO11500026-DE | 2.6             | 11.50         | 1.5                             | AX-RAO16300038-DE | 3.8             | 16.30         |
| 0.75                            | AX-RAO07600042-DE | 4.2             | 7.60          |                                 |                   |                 |               |
| 1.5                             | AX-RAO04100075-DE | 7.5             | 4.10          |                                 |                   |                 |               |
| 2.2                             | AX-RAO03000105-DE | 10.5            | 3.00          |                                 |                   |                 |               |
| 3.7                             | AX-RAO01830160-DE | 16.0            | 1.83          | 2.2                             | AX-RAO11800053-DE | 5.3             | 11.80         |
| 5.5                             | AX-RAO01150220-DE | 22.0            | 1.15          | 4.0                             | AX-RAO07300080-DE | 8.0             | 7.30          |
| 7.5                             | AX-RAO00950320-DE | 32.0            | 0.95          | 5.5                             | AX-RAO04600110-DE | 11.0            | 4.60          |
| 11                              | AX-RAO00630430-DE | 43.0            | 0.63          | 7.5                             | AX-RAO03600160-DE | 16.0            | 3.60          |
| 15                              | AX-RAO00490640-DE | 64.0            | 0.49          | 11                              | AX-RAO02500220-DE | 22.0            | 2.50          |
|                                 |                   |                 |               | 15                              | AX-RAO02000320-DE | 32.0            | 2.00          |

## Ordering information



### 3G3MX2

| Voltage class      | Specifications  |                 |                 |                 | Model          |
|--------------------|-----------------|-----------------|-----------------|-----------------|----------------|
|                    | Constant torque |                 | Variable torque |                 | Standard       |
|                    | Max motor kW    | Rated current A | Max motor kW    | Rated current A |                |
| Single-phase 200 V | 0.1             | 1.0             | 0.2             | 1.2             | 3G3MX2-AB001-E |
|                    | 0.2             | 1.6             | 0.4             | 1.9             | 3G3MX2-AB002-E |
|                    | 0.4             | 3.0             | 0.55            | 3.5             | 3G3MX2-AB004-E |
|                    | 0.75            | 5.0             | 1.1             | 6.0             | 3G3MX2-AB007-E |
|                    | 1.5             | 8.0             | 2.2             | 9.6             | 3G3MX2-AB015-E |
|                    | 2.2             | 11.0            | 3.0             | 12.0            | 3G3MX2-AB022-E |
| Three-phase 200 V  | 0.1             | 1.0             | 0.2             | 1.2             | 3G3MX2-A2001-E |
|                    | 0.2             | 1.6             | 0.4             | 1.9             | 3G3MX2-A2002-E |
|                    | 0.4             | 3.0             | 0.55            | 3.5             | 3G3MX2-A2004-E |
|                    | 0.75            | 5.0             | 1.1             | 6.0             | 3G3MX2-A2007-E |
|                    | 1.5             | 8.0             | 2.2             | 9.6             | 3G3MX2-A2015-E |
|                    | 2.2             | 11.0            | 3.0             | 12.0            | 3G3MX2-A2022-E |
|                    | 3.7             | 17.5            | 5.5             | 19.6            | 3G3MX2-A2037-E |
|                    | 5.5             | 25.0            | 7.5             | 30.0            | 3G3MX2-A2055-E |
|                    | 7.5             | 33.0            | 11              | 40.0            | 3G3MX2-A2075-E |
|                    | 11              | 47.0            | 15              | 56.0            | 3G3MX2-A2110-E |
| Three-phase 400 V  | 0.4             | 1.8             | 0.75            | 2.1             | 3G3MX2-A4004-E |
|                    | 0.75            | 3.4             | 1.5             | 4.1             | 3G3MX2-A4007-E |
|                    | 1.5             | 4.8             | 2.2             | 5.4             | 3G3MX2-A4015-E |
|                    | 2.2             | 5.5             | 3.0             | 6.9             | 3G3MX2-A4022-E |
|                    | 3.0             | 7.2             | 4.0             | 8.8             | 3G3MX2-A4030-E |
|                    | 4.0             | 9.2             | 5.5             | 11.1            | 3G3MX2-A4040-E |
|                    | 5.5             | 14.8            | 7.5             | 17.5            | 3G3MX2-A4055-E |
|                    | 7.5             | 18.0            | 11              | 23.0            | 3G3MX2-A4075-E |
|                    | 11              | 24.0            | 15              | 31.0            | 3G3MX2-A4110-E |
|                    | 15              | 31.0            | 18.5            | 38.0            | 3G3MX2-A4150-E |

# ① Line filters

| Inverter        |                               | Line filter Rasmi |                   |
|-----------------|-------------------------------|-------------------|-------------------|
| Voltage         | Model MX2-□                   | Reference         | Rated current (A) |
| 1-Phase 200 VAC | AB001 / AB002 / AB004         | AX-FIM1010-RE     | 10                |
|                 | AB007                         | AX-FIM1014-RE     | 14                |
|                 | AB015 / AB022                 | AX-FIM1024-RE     | 24                |
| 3-Phase 200 VAC | A2001 / A2002 / A2004 / A2007 | AX-FIM2010-RE     | 10                |
|                 | A2015 / A2022                 | AX-FIM2020-RE     | 20                |
|                 | A2037                         | AX-FIM2030-RE     | 30                |
|                 | A2055 / A2075                 | AX-FIM2060-RE     | 60                |
|                 | A2110                         | AX-FIM2080-RE     | 80                |
|                 | A2150                         | AX-FIM2100-RE     | 100               |
| 3-Phase 400 VAC | A4004 / A4007                 | AX-FIM3005-RE     | 5                 |
|                 | A4015 / A4022 / A4030         | AX-FIM3010-RE     | 10                |
|                 | A4040                         | AX-FIM3014-RE     | 14                |
|                 | A4055 / A4075                 | AX-FIM3030-RE     | 23                |
|                 | A4110 / A4150                 | AX-FIM3050-RE     | 50                |

# ① Input AC Reactors

| Inverter        |                       | AC Reactor        |
|-----------------|-----------------------|-------------------|
| Voltage         | Model MX2-□           | Reference         |
| 3-Phase 200 VAC | A2002 / A2004 / A2007 | AX-RAI02800080-DE |
|                 | A2015 / A2022 / A2037 | AX-RAI00880200-DE |
|                 | A2055 / A2075         | AX-RAI00350335-DE |
|                 | A2110 / A2150         | AX-RAI00180670-DE |
| 1-Phase 200 VAC | AB002 / AB004         | Under development |
|                 | AB007                 |                   |
|                 | AB015 / AB022         |                   |
| 3-Phase 400 VAC | A4004 / A4007 / A4015 | AX-RAI07700050-DE |
|                 | A4022 / A4030 / A4040 | AX-RAI03500100-DE |
|                 | A4055 / A4075         | AX-RAI01300170-DE |
|                 | A4110 / A4150         | AX-RAI00740335-DE |

# ① DC Reactors

| 200V single phase |                  | 200V 3-phase |                  | 400V 3-phase |                  |
|-------------------|------------------|--------------|------------------|--------------|------------------|
| Inverter          | DC Reactor       | Inverter     | DC Reactor       | Inverter     | DC Reactor       |
| MX2-AB001         | AX-RC10700032-RE | MX2-A2001    | AX-RC21400016-RE | MX2-A4004    | AX-RC43000020-RE |
| MX2-AB002         |                  | MX2-A2002    |                  | MX2-A4007    | AX-RC27000030-RE |
| MX2-AB004         | AX-RC06750061-RE | MX2-A2004    | AX-RC10700032-RE | MX2-A4015    | AX-RC14000047-RE |
| MX2-AB007         | AX-RC03510093-RE | MX2-A2007    | AX-RC06750061-RE | MX2-A4022    | AX-RC10100069-RE |
| MX2-AB015         | AX-RC02510138-RE | MX2-A2015    | AX-RC03510093-RE | MX2-A4030    | AX-RC08250093-RE |
| MX2-AB022         | AX-RC01600223-RE | MX2-A2022    | AX-RC02510138-RE | MX2-A4040    | AX-RC06400116-RE |
| -                 |                  | MX2-A2037    | AX-RC01600223-RE | MX2-A4055    | AX-RC04410167-RE |
|                   |                  | MX2-A2055    | AX-RC01110309-RE | MX2-A4075    | AX-RC03350219-RE |
|                   |                  | MX2-A2075    | AX-RC00840437-RE | MX2-A4011    | AX-RC02330307-RE |
|                   |                  | MX2-A2011    | AX-RC00590614-RE | MX2-A4015    | AX-RC01750430-RE |
|                   |                  | MX2-A2015    | AX-RC00440859-RE | -            |                  |

# ① Chokes

| Model         | Diameter | Description                |
|---------------|----------|----------------------------|
| AX-FEJ2102-RE | 21       | For 2.2 KW motors or below |
| AX-FEJ2515-RE | 25       | For 15 KW motors or below  |
| AX-FEJ5045-RE | 50       | For 45 KW motors or below  |

# ① Output AC Reactor

| Inverter |                                                | AC Reactor        |
|----------|------------------------------------------------|-------------------|
| Voltage  | Model MX2-□                                    | Reference         |
| 200 VAC  | A2001 / A2002 / A2004<br>AB001 / AB002 / AB004 | AX-RAO11500026-DE |
|          | A2007/AB007                                    | AX-RAO07600042-DE |
|          | A2015 / AB015                                  | AX-RAO04100075-DE |
|          | A2022 / AB022                                  | AX-RAO03000105-DE |
|          | A2037                                          | AX-RAO01830160-DE |
|          | A2055                                          | AX-RAO01150220-DE |
|          | A2075                                          | AX-RAO00950320-DE |
| 400 VAC  | A4004 / A4007 / A4015                          | AX-RAO16300038-DE |
|          | A4022                                          | AX-RAO11800053-DE |
|          | A4030 / A4040                                  | AX-RAO07300080-DE |
|          | A4055                                          | AX-RAO04600110-DE |
|          | A4075                                          | AX-RAO03600160-DE |

# ② Accessories

| Types            | Model             | Description            | Functions                                                            |
|------------------|-------------------|------------------------|----------------------------------------------------------------------|
| Digital operator | 3G3AX-OP05        | LCD remote operator    | 5 Line LCD remote operator with copy function, cable length max. 3m. |
|                  | 3G3AX-CAJOP300-EE | Remote operator cable  | 3 meters cable for connecting remote operator                        |
| Accessories      | AX-PCUSB-E        | PC configuration cable | Mini USB to USB connector cable                                      |

### ③ Communication option boards

| Types                 | Model          | Description                 | Functions                                                                                                                                                                                                                          |
|-----------------------|----------------|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Communication options | 3G3AX-MX2-PRT  | Profibus option card        | Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through Profibus communications with the host controller.<br><br>Under development |
|                       | 3G3AX-MX2-DRT  | DeviceNet option card       |                                                                                                                                                                                                                                    |
|                       | 3G3AX-MX2-ERT  | EtherCAT option card        |                                                                                                                                                                                                                                    |
|                       | 3G3AX-MX2-CRT  | CompoNet option card        |                                                                                                                                                                                                                                    |
|                       | 3G3AX-MX2-ML2  | Mechatrolink-II option card |                                                                                                                                                                                                                                    |
|                       | 3G3AX-MX2-CORT | CanOpen option card         |                                                                                                                                                                                                                                    |

### ④ Braking unit, braking resistor unit

| Inverter                    |               |               |         | Braking resistor unit         |                                           |               |                  |                                           |          |                  |     |
|-----------------------------|---------------|---------------|---------|-------------------------------|-------------------------------------------|---------------|------------------|-------------------------------------------|----------|------------------|-----|
| Voltage                     | Max. motor kW | Inverter MX2□ |         | Connectable min. resistance Ω | Inverter mounted type (3 %ED, 10 sec max) |               | Braking torque % | Inverter mounted type (10%ED, 10 sec max) |          | Braking torque % |     |
|                             |               | 3-phase       | 1-phase |                               | Type AX-                                  | Resist Ω      |                  | Type AX-                                  | Resist Ω |                  |     |
| 200 V (single-/three-phase) | 0.12          | 2001          | B001    | 100                           | REM00K1400-IE                             | 400           | 200              | REM00K1400-IE                             | 400      | 200              |     |
|                             | 0.25          | 2002          | B002    |                               |                                           |               | 180              |                                           |          | 180              |     |
|                             | 0.55          | 2004          | B004    |                               | REM00K1200-IE                             | 200           | 180              | REM00K1200-IE                             | 200      | 180              |     |
|                             | 1.1           | 2007          | B007    | 100                           |                                           |               | REM00K2070-IE    | 70                                        | 200      |                  |     |
|                             | 1.5           | 2015          | B015    | 140                           |                                           |               | REM00K4075-IE    | 75                                        | 130      |                  |     |
|                             | 2.2           | 2022          | B022    | REM00K2070-IE                 | 70                                        | 90            | REM00K4035-IE    | 35                                        | 180      |                  |     |
|                             | 4.0           | 2037          | -       |                               |                                           | 50            | REM00K6035-IE    | 35                                        | 100      |                  |     |
|                             | 5.5           | 2055          | —       |                               |                                           | 20            | 75               | REM00K9017-IE                             | 17       | 150              |     |
|                             | 7.5           | 2075          | —       | 17                            | 55                                        | REM01K9017-IE | 17               | 110                                       |          |                  |     |
|                             | 11            | 2110          | -       |                               | 40                                        | REM02K1017-IE | 17               | 75                                        |          |                  |     |
|                             | 15            | 2150          | -       | 10                            | 55                                        | REM03K5010-IE | 10               | 95                                        |          |                  |     |
| 400 V (three-phase)         | 0.55          | 4004          | —       | 180                           | REM00K1400-IE                             | 400           | 200              | REM00K1400-IE                             | 400      | 200              |     |
|                             | 1.1           | 4007          | —       |                               |                                           |               | 200              |                                           |          | 200              |     |
|                             | 1.5           | 4015          | —       |                               | 190                                       | REM00K2200-IE | 200              | 190                                       |          |                  |     |
|                             | 2.2           | 4022          | —       | 100                           | REM00K2200-IE                             | 200           | 130              | REM00K5120-IE                             | 120      | 200              |     |
|                             | 3.0           | 4030          | —       |                               |                                           |               | 160              |                                           |          |                  | 160 |
|                             | 4.0           | 4040          | —       |                               | 120                                       | REM00K2120-IE | 120              |                                           |          | REM00K6100-IE    | 100 |
|                             | 5.5           | 4055          | —       | 70                            | REM00K4075-IE                             | 75            | 140              | REM00K9070-IE                             | 70       | 150              |     |
|                             | 7.5           | 4075          | —       |                               |                                           |               | 100              | REM01K9070-IE                             | 70       | 110              |     |
|                             | 11            | 4110          | -       |                               | 50                                        | REM02K1070-IE | 70               | 75                                        |          |                  |     |
|                             |               | 15            | 4150    | -                             | 35                                        | 55            | REM03K5035-IE    | 35                                        | 110      |                  |     |

### ⑤ Computer software

| Types    | Model    | Description       | Installation                               |
|----------|----------|-------------------|--------------------------------------------|
| Software | CX-Drive | Computer software | Configuration and monitoring software tool |
|          | CX-One   | Computer software | Configuration and monitoring software tool |

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.



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