

# 3G3JX

## Compact & Complete

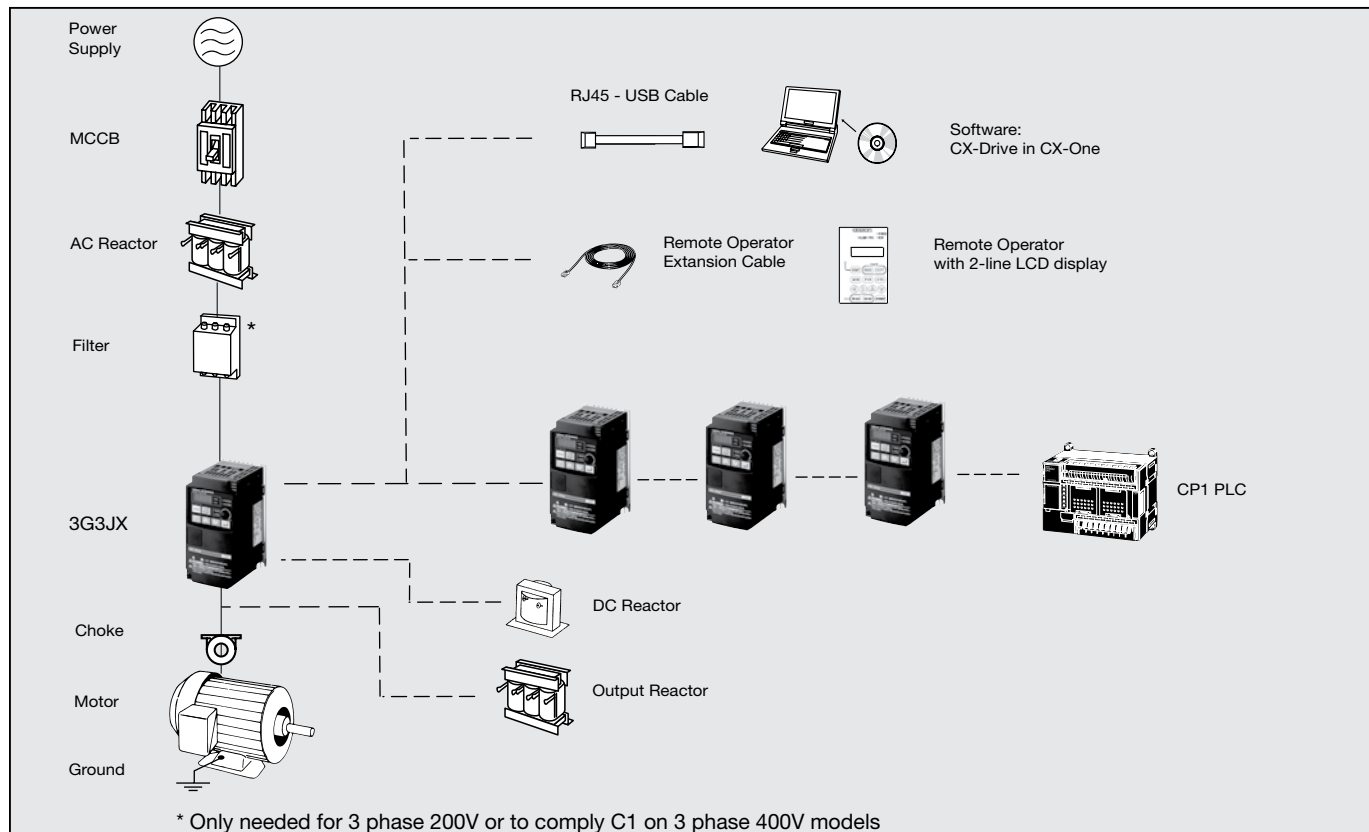
- V/f controlled AC Drive
- Side by side mounting
- Built-in EMC filter
- Built-in RS-485 Modbus
- Overload detection function (150% during 60s)
- PID
- Micro-surge voltage suppression
- Automatic energy saving
- Emergency shut-off
- Second motor setting
- Auto carrier-frequency reduction
- PTC thermistor input
- Cooling fan switch control
- PC configuration tool: CX-Drive
- CE, UL, cUL, RoHS

## Ratings

- 200 V Class single-phase, 0.2 to 2.2 kW (1/4 to 3 HP)
- 200 V Class three-phase, 0.2 to 7.5 kW (1/4 to 10 HP)
- 400 V Class three-phase, 0.4 to 7.5 kW (1/2 to 10 HP)

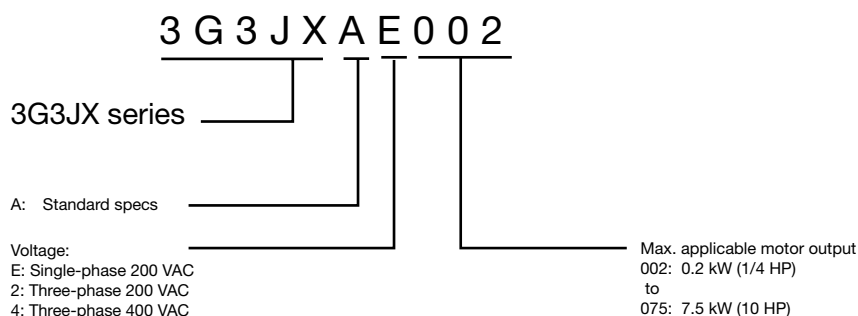


## System Configuration



# Specifications

## Type Designation



## 200 V class

|                                        |                                                     |       |                                           |       |       |                                                |                               |       |            |       |
|----------------------------------------|-----------------------------------------------------|-------|-------------------------------------------|-------|-------|------------------------------------------------|-------------------------------|-------|------------|-------|
| Single-phase 3G3JX-□                   |                                                     |       | AE002                                     | AE004 | AE007 | AE015                                          | AE022                         | —     | —          | —     |
| Three-phase 3G3JX-□                    |                                                     |       | A2002                                     | A2004 | A2007 | A2015                                          | A2022                         | A2037 | A2055      | A2075 |
| Applicable motor capacity <sup>1</sup> | kW                                                  |       | 0.2                                       | 0.4   | 0.75  | 1.5                                            | 2.2                           | 3.7   | 5.5        | 7.5   |
|                                        | HP                                                  |       | 1/4                                       | 1/2   | 1     | 2                                              | 3                             | 5     | 7 1/2      | 10    |
| Output characteristics                 | Inverter capacity kVA                               | 200 V | 0.4                                       | 0.9   | 1.3   | 2.4                                            | 3.4                           | 5.5   | 8.3        | 11.0  |
|                                        |                                                     | 240 V | 0.5                                       | 1.0   | 1.6   | 2.9                                            | 4.1                           | 6.6   | 9.9        | 13.3  |
|                                        | Rated output current (A)                            |       | 1.4                                       | 2.6   | 4     | 7.1                                            | 10                            | 15.9  | 24         | 32    |
|                                        | Max. output voltage                                 |       | Proportional to input voltage: 0 to 240 V |       |       |                                                |                               |       |            |       |
|                                        | Max. output frequency                               |       | 400 Hz                                    |       |       |                                                |                               |       |            |       |
| Power supply                           | Rated input voltage and frequency                   |       | Single-phase 200 to 240 V 50/60 Hz        |       |       |                                                | 3-phase 200 to 240 V 50/60 Hz |       |            |       |
|                                        | Rated input current (A)                             |       | 1.8                                       | 3.4   | 5.2   | 9.3                                            | 13.0                          | 20.0  | 30.0       | 40.0  |
|                                        | Allowable voltage fluctuation                       |       | -15% to +10%                              |       |       |                                                |                               |       |            |       |
|                                        | Allowable frequency fluctuation                     |       | +5%                                       |       |       |                                                |                               |       |            |       |
| Built-in filter                        |                                                     |       | EMC filter (C1 single phase)              |       |       |                                                |                               |       |            |       |
| Braking torque                         | At short-time deceleration<br>At capacitor feedback |       | Approx. 50%                               |       |       | 50% for<br>3-phase<br>20 to 40% for<br>1-phase | Approx 20% to 40%             |       | Approx 20% |       |
| Cooling method                         |                                                     |       | Self cooling                              |       |       | Forced-air-cooling                             |                               |       |            |       |

Note: 1. Based on a standard 3-Phase standard motor.

## 400 V class

|                                        |                                                     |       |                                           |       |                    |       |       |            |       |
|----------------------------------------|-----------------------------------------------------|-------|-------------------------------------------|-------|--------------------|-------|-------|------------|-------|
| Three-phase 3G3JX-□                    |                                                     |       | A4004                                     | A4007 | A4015              | A4022 | A4037 | A4055      | A4075 |
| Applicable motor capacity <sup>1</sup> | kW                                                  |       | 0.4                                       | 0.75  | 1.5                | 2.2   | 3.7   | 5.5        | 7.5   |
|                                        | HP                                                  |       | 1/2                                       | 1     | 2                  | 3     | 5     | 7 1/2      | 10    |
| Output characteristics                 | Inverter capacity kVA                               | 380 V | 0.9                                       | 1.6   | 2.5                | 3.6   | 5.6   | 8.5        | 10.5  |
|                                        |                                                     | 480 V | 1.2                                       | 2.0   | 3.1                | 4.5   | 7.1   | 10.8       | 13.3  |
|                                        | Rated output current (A)                            |       | 1.5                                       | 2.5   | 3.8                | 5.5   | 8.6   | 13.0       | 16.0  |
|                                        | Max. output voltage                                 |       | Proportional to input voltage: 0 to 480 V |       |                    |       |       |            |       |
|                                        | Max. output frequency                               |       | 400 Hz                                    |       |                    |       |       |            |       |
| Power supply                           | Rated input voltage and frequency                   |       | 3-phase 380 to 480 V 50/60 Hz             |       |                    |       |       |            |       |
|                                        | Rated input current (A)                             |       | 2.0                                       | 3.3   | 5.0                | 7.0   | 11.0  | 16.5       | 20.0  |
|                                        | Allowable voltage fluctuation                       |       | -15% to +10%                              |       |                    |       |       |            |       |
|                                        | Allowable frequency fluctuation                     |       | +5%                                       |       |                    |       |       |            |       |
| Built-in filter                        |                                                     |       | EMC filter C2 class                       |       |                    |       |       |            |       |
| Braking torque                         | At short-time deceleration<br>At capacitor feedback |       | Approx. 50%                               |       | Approx 20% to 40%  |       |       | Approx 20% |       |
| Cooling method                         |                                                     |       | Self cooling                              |       | Forced-air-cooling |       |       |            |       |

Note: 1. Based on a standard 3-Phase standard motor.

# Specifications

## Common specifications

| Model number 3G3JX-□ |                                   | Specifications                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Control functions    | Control methods                   | Phase-to-phase sinusoidal modulation PWM (V/f)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                      | Output frequency range            | 0.5 to 400 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                      | Frequency precision               | Digital set value: $\pm 0.01\%$ of the max. frequency<br>Analog set value: $\pm 0.4\%$ of the max. frequency ( $25 \pm 10^\circ\text{C}$ )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                      | Resolution of frequency set value | Digital set value: 0.1 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                      |                                   | Analog set value: 1/1000 of maximum frequency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                      | Resolution of output frequency    | 0.1 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                      | Overload capability               | 150% rated output current for one minute                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                      | Frequency set value               | 0 to 10 VDC (10K $\Omega$ ), 4 to 20mA (250 $\Omega$ ), frequency setting volume (selectable), RS485 Modbus                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|                      | V/f Characteristics               | Constant/ reduced torque                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Functionality        | Inputs signals                    | FW (forward), RV (reverse), CF1 to CF4 (multi-step speed), JG (jogging), DB (external DC injection braking), SET (2nd function), 2CH (2-step acceleration/deceleration), FRS (free run), EXT (external trip), USP (USP function), SFT (soft lock), AT (analog current input function selection), RS (reset), PTC (thermistor input), STA (3-wire startup), STP (3-wire stop), F/R (3-wire forward/reverse), PID (PID selection), PIDC (PID integral reset), UP (UP of UP/DWN function), DWN (DWN of UP/DWN function), UDC (data clear of UP/DWN function), OPE (forced OPE mode), ADD (frequency addition), F-TM (forced terminal block), RDY (operation ready), SP-SET (special setting), EMR (emergency shutoff) |
|                      | Output signals                    | RUN (signal during operation), FA1 (frequency arrival signal 1), FA2 (frequency arrival signal 2), OL (overload warning signal), OD (PID excess deviation signal), AL (alarm signal), DC (analog input disconnection detection signal), FBV (PID FB status output), NDc (network error), LOG (logical operation result), ODc (communication option disconnected), LOC (light load signal)                                                                                                                                                                                                                                                                                                                          |
|                      | Standard functions                | AVR function, V/f characteristic selection, upper/lower limit, 16-step speeds, starting frequency adjustment, jogging operation, carrier frequency adjustment, PID control, frequency jump, analog gain/bias adjustment, S-shape acceleration/deceleration, electronic thermal characteristics/level adjustment, retry function, simplified torque boost, trip monitor, soft lock function, frequency conversion display, USP function, 2nd control function, motor rotation speed UP/DOWN, overcurrent suppression function                                                                                                                                                                                       |
|                      | Analog inputs                     | 2 analog inputs 0 to 10V (20K $\Omega$ ), 4 to 20mA (250 $\Omega$ )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                      | Accel/Decel times                 | 0.01 to 3000s (line/curve selection), 2nd accel/decel setting available                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                      | Display                           | Status indicator LED's Run, Program, Power, Alarm, Power, Hz, Amps, Volume Led indicator<br>Digital operator: Available to monitor frequency reference, output current, output frequency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Protection functions | Motor overload protection         | Electronic Thermal overload relay and PTC thermistor input                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                      | Instantaneous overcurrent         | 180% of rated current                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                      | Overload                          | 150% for 1 minute                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                      | Overvoltage                       | 790V for 400V type and 395V for 200V type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                      | Momentary power loss              | Following items are selectable: Alarm, 0 Hz start, frequency output at interruption, maximum frequency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                      | Cooling fin overheat              | Temperature monitor and error detection                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                      | Stall prevention level            | Selectable level applicable only at constant speed or during acceleration and constant speed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|                      | Ground fault                      | Detected at power-on                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|                      | Power charge indication           | On when power is supplied to the control part                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Ambient conditions   | Degree of protection              | IP20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|                      | Ambient humidity                  | 90% RH or less (without condensation)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                      | Storage temperature               | -20°C to +65°C (short-term temperature during transportation)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                      | Ambient temperature               | -10°C to 50°C (Both the carrier frequency and output current need to be reduced at over 40°C.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                      | Installation                      | Indoor (no corrosive gas, dust, etc.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                      | Installation height               | Max. 1000 m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|                      | Vibration                         | 5.9 m/s <sup>2</sup> (0.6G), 10 to 55 Hz (Complies with the test method specified in JIS C0040 (1999).)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

Figure 1

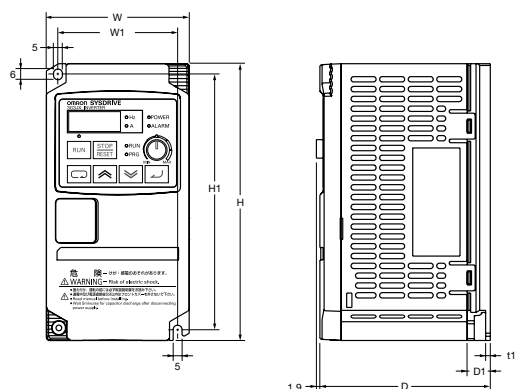
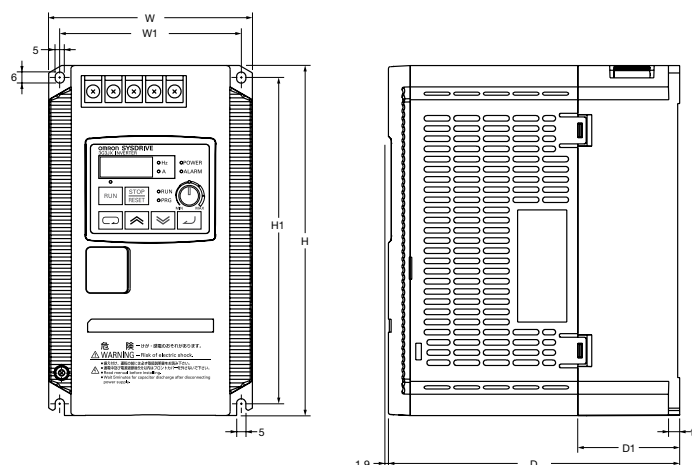


Figure 2

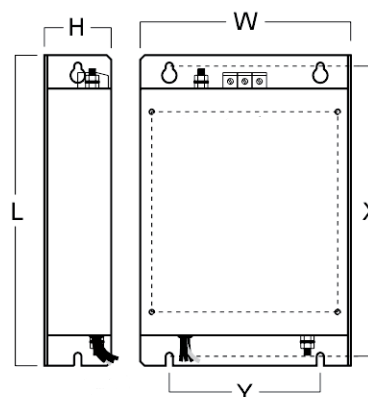


| Voltage class         | Max. applicable motor output |          | Inverter model | Figure | Dimensions (Unit: mm) |     |     |     |       |     |      | Weight (kg) |
|-----------------------|------------------------------|----------|----------------|--------|-----------------------|-----|-----|-----|-------|-----|------|-------------|
|                       | kW                           | HP       |                |        | W1                    | H1  | W   | H   | D     | t1  | D1   |             |
| Single-phase<br>200 V | 0.2 kW                       | 1/4 HP   | 3G3JX-AE002    | 1      | 67                    | 143 | 80  | 155 | 95.5  | 2.6 | 13   | 0.8         |
|                       | 0.4 kW                       | 1/2 HP   | 3G3JX-AE004    | 1      |                       |     |     |     | 109.5 |     | 27   | 0.9         |
|                       | 0.75 kW                      | 1 HP     | 3G3JX-AE007    | 2      |                       |     |     |     | 130.5 |     | 28   | 1.5         |
|                       | 1.5 kW                       | 2 HP     | 3G3JX-AE015    | 2      | 98                    | 176 | 110 | 189 | 157.5 | 6   | 55   | 2.3         |
|                       | 2.2 kW                       | 3 HP     | 3G3JX-AE022    | 2      |                       |     |     |     | 157.5 |     | 55   | 2.4         |
| Three-phase<br>200 V  | 0.2 kW                       | 1/4 HP   | 3G3JX-A2002    | 1      | 67                    | 143 | 80  | 155 | 95.5  | 2.6 | 13   | 0.8         |
|                       | 0.4 kW                       | 1/2 HP   | 3G3JX-A2004    | 1      |                       |     |     |     | 109.5 |     | 27   | 0.9         |
|                       | 0.75 kW                      | 1 HP     | 3G3JX-A2007    | 1      |                       |     |     |     | 132.5 |     | 50   | 1.1         |
|                       | 1.5 kW                       | 2 HP     | 3G3JX-A2015    | 2      | 98                    | 176 | 110 | 189 | 157.5 | 6   | 66   | 2.2         |
|                       | 2.2 kW                       | 3 HP     | 3G3JX-A2022    | 2      |                       |     |     |     | 157.5 |     | 66   | 2.4         |
|                       | 3.7 kW                       | 5 HP     | 3G3JX-A2037    | 2      | 164                   | 235 | 180 | 250 | 167.5 | 1.6 | 77.5 | 4.2         |
|                       | 5.5 kW                       | 7 1/2 HP | 3G3JX-A2055    | 2      |                       |     |     |     | 167.5 |     | 77.5 | 4.2         |
| Three-phase<br>400 V  | 0.4 kW                       | 1/2 HP   | 3G3JX-A4004    | 2      | 98                    | 176 | 110 | 189 | 130.5 | 2.6 | 28   | 1.5         |
|                       | 0.75 kW                      | 1 HP     | 3G3JX-A4007    | 2      |                       |     |     |     | 130.5 |     | 28   | 2.3         |
|                       | 1.5 kW                       | 2 HP     | 3G3JX-A4015    | 2      |                       |     |     |     | 157.5 | 6   | 55   | 2.4         |
|                       | 2.2 kW                       | 3 HP     | 3G3JX-A4022    | 2      | 164                   | 235 | 180 | 250 | 157.5 |     | 55   | 2.4         |
|                       | 3.7 kW                       | 5 HP     | 3G3JX-A4037    | 2      |                       |     |     |     | 157.5 | 6   | 55   | 2.4         |
|                       | 5.5 kW                       | 7 1/2 HP | 3G3JX-A4055    | 2      |                       |     |     |     | 167.5 | 1.6 | 77.5 | 4.2         |
|                       | 7.5 kW                       | 10 HP    | 3G3JX-A4075    | 2      |                       |     |     |     | 167.5 |     | 77.5 | 4.2         |

## Line Filters, Footprint Type

| Rasmi line filter model |                  | Dimensions (Unit: mm) |    |     |     |     |    | Weight (kg) |
|-------------------------|------------------|-----------------------|----|-----|-----|-----|----|-------------|
|                         |                  | W                     | H  | L   | X   | Y   | M  |             |
| 1x200 V                 | 3G3AX-FIJ1006-RE | 81                    | 40 | 193 | 183 | 57  | M4 | 0.5         |
|                         | 3G3AX-FIJ1010-RE | 112                   | 47 | 226 | 216 | 88  | M4 | 0.6         |
|                         | 3G3AX-FIJ1026-RE | 112                   | 47 | 226 | 216 | 88  | M4 | 0.8         |
| 3x200 V                 | 3G3AX-FIJ2006-RE | 81                    | 50 | 193 | 183 | 57  | M4 | 1.0         |
|                         | 3G3AX-FIJ2020-RE | 112                   | 50 | 226 | 216 | 88  | M4 | 1.3         |
|                         | 3G3AX-FIJ2040-RE | 182                   | 55 | 289 | 279 | 150 | M5 | 2.3         |
| 3x400 V                 | 3G3AX-FIJ3005-RE | 112                   | 45 | 226 | 216 | 88  | M4 | 0.9         |
|                         | 3G3AX-FIJ3011-RE | 112                   | 45 | 226 | 216 | 88  | M4 | 1.1         |
|                         | 3G3AX-FIJ3020-RE | 182                   | 45 | 289 | 279 | 150 | M4 | 1.7         |

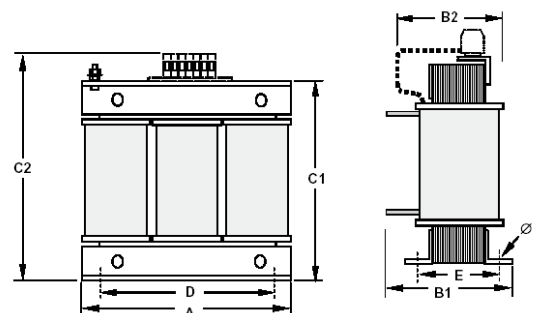
Note: Filter only needed by the 1-phase 200V or 3-phase 400V to comply with C1 EMC class.



## Dimensions

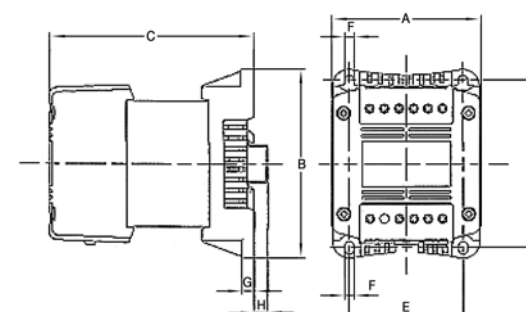
### Input AC Reactor

| Voltage class | Model 3G3AX-□  | Dimensions (Unit: mm) |    |     |     |    |     | Weight (kg) |
|---------------|----------------|-----------------------|----|-----|-----|----|-----|-------------|
|               |                | A                     | B2 | C2  | D   | E  | F   |             |
| 200 V         | RAI02800080-DE | 120                   | 70 | 120 | 80  | 52 | 5.5 | 1.78        |
|               | RAI00880175-DE | 120                   | 80 | 120 | 80  | 62 | 5.5 | 2.35        |
|               | RAI00350335-DE | 180                   | 85 | 190 | 140 | 55 | 6   | 5.5         |
| 400 V         | RAI07700042-DE | 120                   | 70 | 120 | 80  | 52 | 5.5 | 1.78        |
|               | RAI03500090-DE | 120                   | 80 | 120 | 80  | 62 | 5.5 | 2.35        |
|               | RAI01300170-DE | 120                   | 80 | 120 | 80  | 62 | 5.5 | 2.50        |



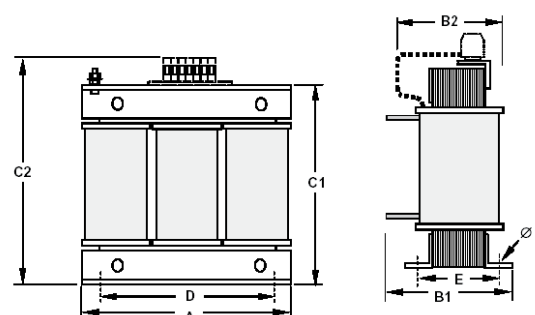
### DC Reactor

| Voltage class | Model 3G3AX-□ | Dimensions (Unit: mm) |      |     |     |    |     |      |      | Weight (kg) |
|---------------|---------------|-----------------------|------|-----|-----|----|-----|------|------|-------------|
|               |               | A                     | B    | C   | D   | E  | F   | G    | H    |             |
| 200 V         | RC21400016-DE | 84                    | 113  | 96  | 101 | 66 | 5   | 7.5  | 2    | 1.22        |
|               | RC10700032-DE |                       |      | 105 |     |    |     |      |      | 1.60        |
|               | RC06750061-DE |                       |      |     |     |    |     |      |      |             |
|               | RC03510093-DE |                       |      |     |     |    |     |      |      |             |
|               | RC02510138-DE | 116                   | 1.95 |     |     |    |     |      |      |             |
|               | RC01600223-DE | 108                   | 135  | 124 | 120 | 82 | 6.5 | 9.5  | 3.20 |             |
|               | RC01110309-DE | 120                   | 152  | 136 | 135 | 94 | 7   |      | 9.5  | 5.20        |
| RC00840437-DE | 146           |                       |      | –   |     |    |     | 6.00 |      |             |
| 400 V         | RC43000020-DE | 84                    | 113  | 96  | 101 | 66 | 5   | 7.5  | 2    | 1.22        |
|               | RC27000030-DE |                       |      | 105 |     |    |     |      |      | 1.60        |
|               | RC14000047-DE |                       |      |     |     |    |     |      |      |             |
|               | RC10100069-DE |                       |      |     |     |    |     |      |      |             |
|               | RC06400116-DE | 108                   | 135  | 133 | 120 | 82 | 6.5 | 9.5  | 3.70 |             |
|               | RC04410167-DE | 120                   | 152  | 136 | 135 | 94 | 7   |      | 9.5  | –           |
|               | RC03350219-DE |                       |      | 146 |     |    |     | 6.00 |      |             |



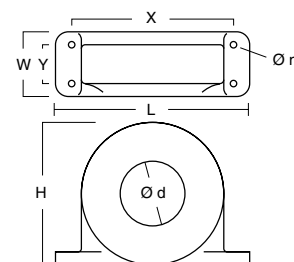
### Output AC Reactor

| Voltage class | Model 3G3AX-□  | Dimensions (Unit: mm) |    |     |     |    |     | Weight (kg) |
|---------------|----------------|-----------------------|----|-----|-----|----|-----|-------------|
|               |                | A                     | B2 | C2  | D   | E  | F   |             |
| 200 V         | RAO11500026-DE | 120                   | 70 | 120 | 80  | 52 | 5.5 | 1.78        |
|               | RAO07600042-DE | 120                   | 70 | 120 | 80  | 52 | 5.5 | 1.78        |
|               | RAO04100075-DE | 120                   | 80 | 120 | 80  | 62 | 5.5 | 2.35        |
|               | RAO03000105-DE | 120                   | 80 | 120 | 80  | 62 | 5.5 | 2.35        |
|               | RAO01830180-DE | 180                   | 85 | 190 | 140 | 55 | 6   | 5.5         |
|               | RAO01150220-DE | 180                   | 85 | 190 | 140 | 55 | 6   | 5.5         |
|               | RAO00950320-DE | 180                   | 85 | 205 | 140 | 55 | 6   | 6.5         |
| 400 V         | RAO16300038-DE | 120                   | 70 | 120 | 80  | 52 | 5.5 | 1.78        |
|               | RAO11800053-DE | 120                   | 80 | 120 | 80  | 52 | 5.5 | 2.35        |
|               | RAO07300080-DE | 120                   | 80 | 120 | 80  | 62 | 5.5 | 2.35        |
|               | RAO04600110-DE | 180                   | 85 | 190 | 140 | 55 | 6   | 5.5         |
|               | RAO03600160-DE | 180                   | 85 | 205 | 140 | 55 | 6   | 6.5         |

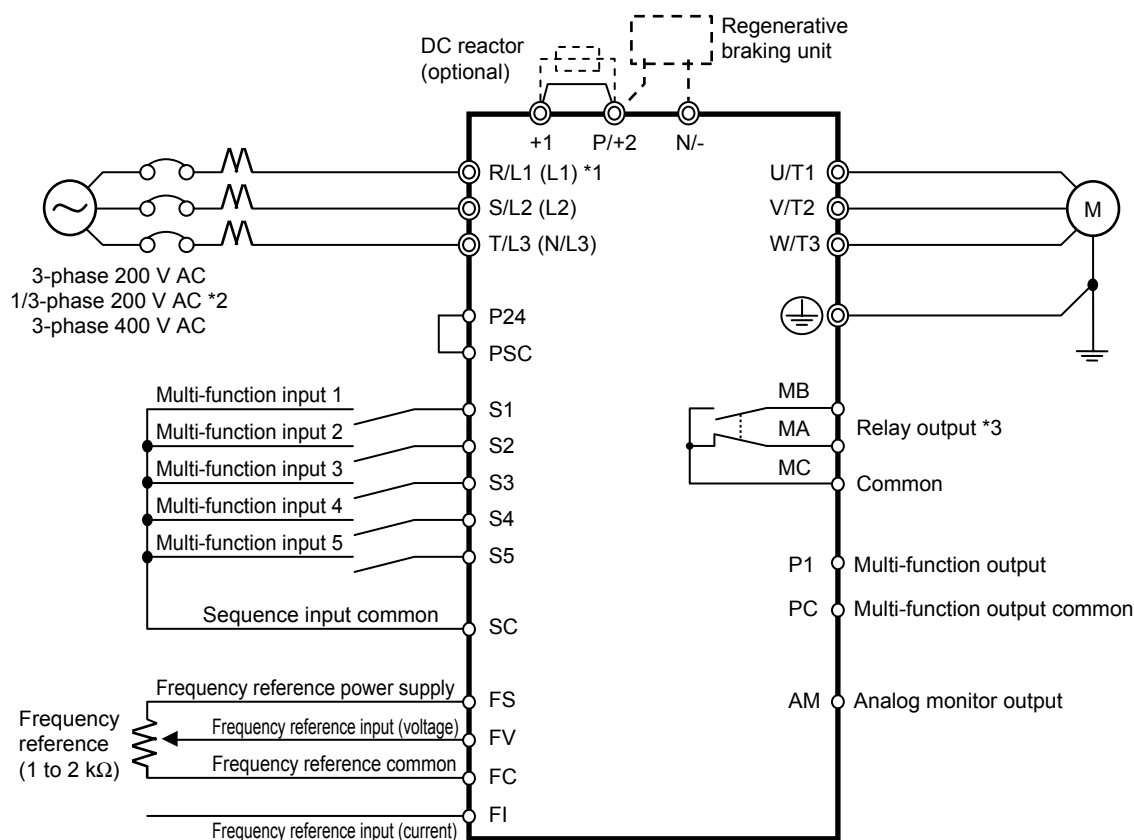


### Chokes

| Model 3G3AX-□ | Diameter | Motor Rating     | Dimensions (Unit: mm) |    |    |    |   |   | Weight (kg) |
|---------------|----------|------------------|-----------------------|----|----|----|---|---|-------------|
|               | d        |                  | L                     | W  | H  | X  | Y | m |             |
| FER2102-RE    | 21       | < 2.2 kW (3 HP)  | 85                    | 22 | 46 | 70 | - | 5 | 0.1         |
| FER2515-RE    | 25       | < 7.5 kW (10 HP) | 105                   | 25 | 62 | 90 | - | 5 | 0.2         |



# Standard Connections



\*1. The items in parentheses indicate terminal symbols for 3G3JX-AE□□□□.

\*2. Connect a single-phase 200-V AC input to terminals L1 and N/L3.

\*3. By factory default, MA is set to NC contact, and MB to NO contact in the relay output (MA, MB) contact selection (C036).

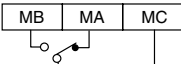
## Main Circuit Terminals

| Terminal symbol   | Terminal name                                 | Function                                                                                                                      | Connection example                                                                                                                             |
|-------------------|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| R/L1, S/L2, T/L3* | Main power supply input terminal              | Connect the input power supply.                                                                                               | <p>Power supply</p> <p>Motor</p> <p>ELB</p> <p>Do not remove the short-circuit bar between +1 and P/+2 when a DC reactor is not connected.</p> |
| U/T1, V/T2, W/T3  | Inverter output terminal                      | Connect to the motor.                                                                                                         |                                                                                                                                                |
| +1, P/+2          | 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/+2, N/-         | Regenerative braking unit connection terminal | Connect optional regenerative braking units. (If a braking torque is required)                                                |                                                                                                                                                |
| ⏏                 | Ground terminal                               | Ground (Connect to ground to prevent electric shock and reduce noise.)                                                        |                                                                                                                                                |

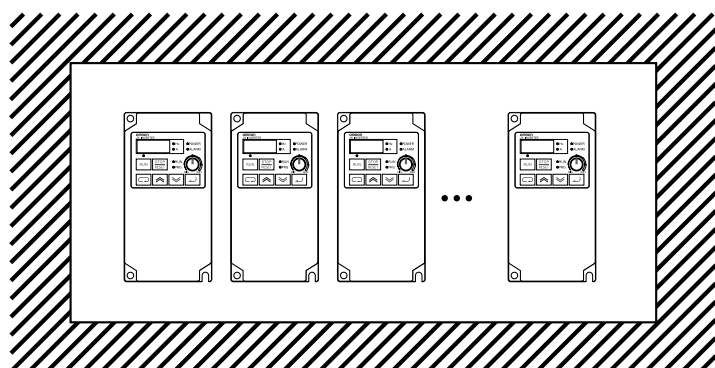
Note: \*For 3G3JX-AE□□□□'s terminal symbols, R/L1 corresponds to L1, S/L2 to L2, and T/L3 to N/L3.

Connect a single-phase 200-V AC input to terminals L1 and N/L3.

# Control Circuit Terminals

| Terminal symbol           |     | Terminal name and function                                                                                                                                                                                                          | Default setting                              |                  | Note                                                                                                  |                         |
|---------------------------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|------------------|-------------------------------------------------------------------------------------------------------|-------------------------|
| Input signal              | PSC | External power supply terminal for input signal (input)<br>...At sink logic<br>Internal power supply output terminal for input signal (output)<br>...At source logic                                                                | -                                            |                  | 24 V DC ±10% 30 mA max.                                                                               |                         |
|                           | S1  | Multi-function input terminals S1 to S5<br>Select 5 functions among the 31 functions and allocate them to from terminals S1 to S5.<br>The terminal allocation is changed automatically when the emergency shutoff function is used. | Forward/Stop                                 |                  | Contact input                                                                                         |                         |
|                           | S2  |                                                                                                                                                                                                                                     | Reverse/Stop                                 |                  | Close: ON (Start)                                                                                     |                         |
|                           | S3  |                                                                                                                                                                                                                                     | Fault reset                                  |                  | Open: OFF (Stop)                                                                                      |                         |
|                           | S4  |                                                                                                                                                                                                                                     | Emergency stop fault                         |                  | Minimum ON time: 12 ms min.                                                                           |                         |
|                           | S5  |                                                                                                                                                                                                                                     | Multi-step speed reference 1                 |                  |                                                                                                       |                         |
|                           | SC  | Input signal common                                                                                                                                                                                                                 | -                                            |                  |                                                                                                       |                         |
| Monitor signal            | AM  | Analog frequency monitor/Analog output current monitor                                                                                                                                                                              | Analog frequency monitor                     |                  |                                                                                                       |                         |
| Frequency reference input | FS  | Frequency reference power supply                                                                                                                                                                                                    | -                                            |                  |                                                                                                       |                         |
|                           | FV  | Voltage frequency reference signal                                                                                                                                                                                                  | -                                            |                  | 10 V DC, 10 mA max.                                                                                   |                         |
|                           | FI  | Current frequency reference signal                                                                                                                                                                                                  | -                                            |                  | 0 to 10 V DC; Input impedance 10 kΩ; When installing variable resistors at FS, FV, and FC (1 to 2 kΩ) |                         |
|                           | FC  | Frequency reference common                                                                                                                                                                                                          | -                                            |                  | 4 to 20 mA DC; Input impedance 250 Ω                                                                  |                         |
| Output signal             | P1  | Multi-function output terminal; Select the status of the Inverter and allocate it to terminal P1.                                                                                                                                   | Frequency arrival signal at a constant speed |                  |                                                                                                       |                         |
|                           | PC  | Output signal common                                                                                                                                                                                                                | -                                            |                  | 27 V DC; 50 mA max.                                                                                   |                         |
| Relay output signal       | MA  | Factory default relay settings                                                                                                                                                                                                      | Output terminal                              | Contact capacity | Resistance load                                                                                       | Inductive load          |
|                           | MB  | Under normal operation: MA-MC Closed                                                                                                                                                                                                | MA-MC                                        | Max.             | AC250V 2.5A, DC30V 3A                                                                                 | AC250V 0.2A, DC30V 0.7A |
|                           | MC  |                                                                                                                                                  |                                              | Min.             | AC100V 10mA, DC5V 100mA                                                                               |                         |
|                           |     |                                                                                                                                                                                                                                     | MB-MC                                        | Max.             | AC250V 1A, DC30V 1A                                                                                   | AC250V 0.2A, DC30V 0.2A |
|                           |     |                                                                                                                                                                                                                                     |                                              | Min.             | AC100V 10mA, DC5V 100mA                                                                               |                         |

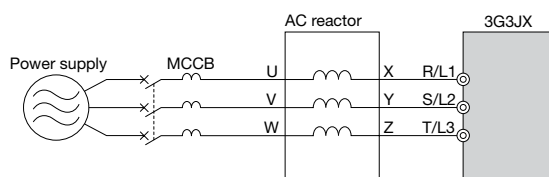
## Side by side mounting



# Reactors

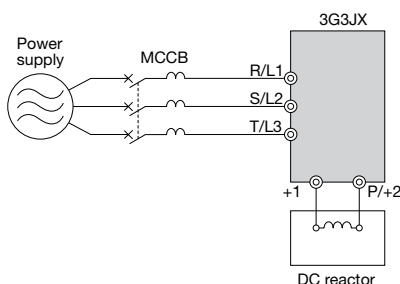
## Input AC Reactor

| 3-phase 200 V class            |                |               |               | 3-phase 400 V class            |                |               |               |
|--------------------------------|----------------|---------------|---------------|--------------------------------|----------------|---------------|---------------|
| Max. applicable motor output   | Model 3G3AX-□  | Current value | Inductance mH | Max. applicable motor output   | Model 3G3AX-□  | Current value | Inductance mH |
| 0.1 to 1.5 kW (1/8 to 2 HP)    | RAI02800080-DE | 8.0 A         | 2.8           | 0.4 to 1.5 kW (1/2 to 2 HP)    | RAI07700042-DE | 4.2 A         | 7.7           |
| 2.2 to 3.7 kW (3 to 5 HP)      | RAI00880175-DE | 17.5 A        | 0.88          | 2.2 to 3.7 kW (3 to 5 HP)      | RAI03500090-DE | 9.0 A         | 3.5           |
| 5.5 to 7.5 kW (7 1/2 to 10 HP) | RAI00350335-DE | 33.5 A        | 0.35          | 5.5 to 7.5 kW (7 1/2 to 10 HP) | RAI01300170-DE | 17.0 A        | 1.3           |



## DC Reactor

| 3-phase 200 V class          |               |               |            | 3-phase 400 V class          |               |               |            |
|------------------------------|---------------|---------------|------------|------------------------------|---------------|---------------|------------|
| Max. applicable motor output | Model 3G3AX-□ | Current value | Inductance | Max. applicable motor output | Model 3G3AX-□ | Current value | Inductance |
| 0.2 kW (1/4 HP)              | RC21400016-DE | 1.6 A         | 21.4       | —                            | —             | —             | —          |
| 0.4 kW (1/2 HP)              | RC10700032-DE | 3.2 A         | 10.7       | 0.4 kW (1/2 HP)              | RC43000020-DE | 2.0 A         | 43         |
| 0.75 kW (1 HP)               | RC06750061-DE | 6.1 A         | 6.75       | 0.75 kW (1 HP)               | RC27000030-DE | 3.0 A         | 27         |
| 1.5 kW (2 HP)                | RC03510093-DE | 9.3 A         | 3.51       | 1.5 kW (2 HP)                | RC14000047-DE | 4.7 A         | 14         |
| 2.2 kW (3 HP)                | RC02510138-DE | 13.8 A        | 2.51       | 2.2 kW (3 HP)                | RC10100069-DE | 6.9 A         | 10.1       |
| 3.7 kW (5 HP)                | RC01600223-DE | 22.3 A        | 1.6        | 3.7 kW (5 HP)                | RC06400116-DE | 11.6 A        | 6.4        |
| 5.5 kW (7 1/2 HP)            | RC01110309-DE | 30.9 A        | 1.11       | 5.5 kW (7 1/2 HP)            | RC04410167-DE | 16.7 A        | 4.41       |
| 7.5 kW (10 HP)               | RC00840437-DE | 43.7 A        | 0.84       | 7.5 kW (10 HP)               | RC03350219-DE | 21.9 A        | 3.35       |

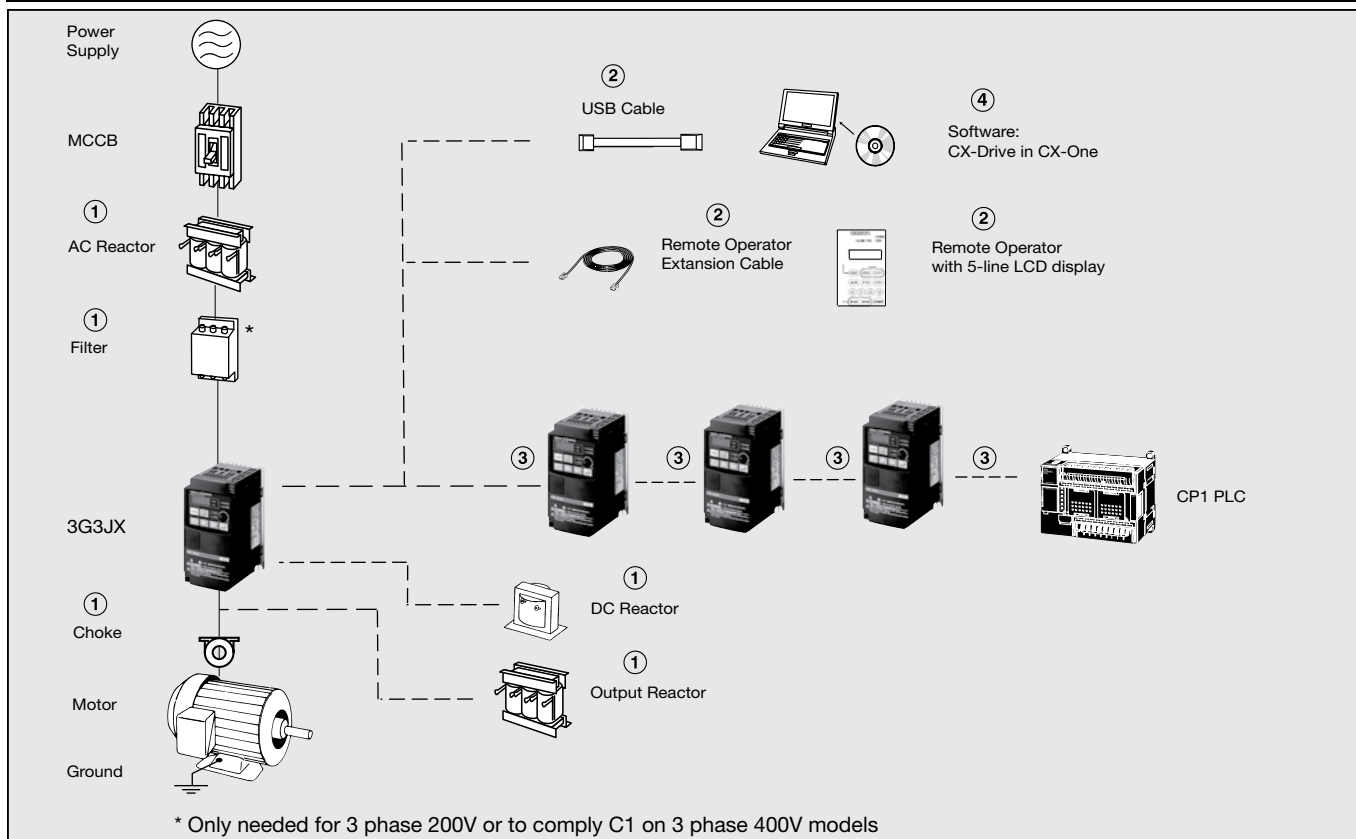


## Output AC Reactor

| 3-phase 200 V class           |                |               |            | 3-phase 400 V class          |                |               |            |
|-------------------------------|----------------|---------------|------------|------------------------------|----------------|---------------|------------|
| Max. applicable motor output  | Model 3G3AX-□  | Current value | Inductance | Max. applicable motor output | Model 3G3AX-□  | Current value | Inductance |
| 0.1 to 0.4 kW (1/8 to 1/2 HP) | RAO11500026-DE | 2.6 A         | 11.5       | 0.4 to 1.5 kW (1/2 to 2 HP)  | RAO16300038-DE | 3.8 A         | 16.3       |
| 0.75 kW (1 HP)                | RAO07600042-DE | 4.2 A         | 7.6        | 2.2 kW (3 HP)                | RAO11800053-DE | 5.3 A         | 11.8       |
| 1.5 kW (2 HP)                 | RAO04100075-DE | 7.5 A         | 4.1        | 3.7 kW (5 HP)                | RAO07300080-DE | 8 A           | 7.3        |
| 2.2 kW (3 HP)                 | RAO03000105-DE | 10.5 A        | 3          | 5.5 kW (7 1/2 HP)            | RAO04600110-DE | 11 A          | 4.6        |
| 3.7 kW (5 HP)                 | RAO01830160-DE | 16 A          | 1.83       | 7.5 kW (10 HP)               | RAO03600160-DE | 16 A          | 3.6        |
| 5.5 kW (7 1/2 HP)             | RAO01150220-DE | 22 A          | 1.15       |                              |                |               |            |
| 7.5 kW (10 HP)                | RAO00950320-DE | 32 A          | 0.95       |                              |                |               |            |



# Ordering Information



## 3G3JX AC Drives

| Specifications     |                              |                      | Model       |
|--------------------|------------------------------|----------------------|-------------|
| Voltage class      | Max. applicable motor output | Rated output current | Standard    |
| Single-phase 200 V | 0.2 kW (1/4 HP)              | 1.4 A                | 3G3JX-AE002 |
|                    | 0.4 kW (1/2 HP)              | 2.6 A                | 3G3JX-AE004 |
|                    | 0.75 kW (1 HP)               | 4 A                  | 3G3JX-AE007 |
|                    | 1.5 kW (2 HP)                | 7.1 A                | 3G3JX-AE015 |
|                    | 2.2 kW (3 HP)                | 10 A                 | 3G3JX-AE022 |
| Three-phase 200 V  | 0.2 kW (1/4 HP)              | 1.4 A                | 3G3JX-A2002 |
|                    | 0.4 kW (1/2 HP)              | 2.6 A                | 3G3JX-A2004 |
|                    | 0.75 kW (1 HP)               | 4 A                  | 3G3JX-A2007 |
|                    | 1.5 kW (2 HP)                | 7.1 A                | 3G3JX-A2015 |
|                    | 2.2 kW (3 HP)                | 10 A                 | 3G3JX-A2022 |
|                    | 3.7 kW (5 HP)                | 15.9 A               | 3G3JX-A2037 |
|                    | 5.5 kW (7 1/2 HP)            | 24 A                 | 3G3JX-A2055 |
|                    | 7.5 kW (10 HP)               | 32 A                 | 3G3JX-A2075 |
| Three-phase 400 V  | 0.4 kW (1/2 HP)              | 1.5 A                | 3G3JX-A4004 |
|                    | 0.75 kW (1 HP)               | 2.5 A                | 3G3JX-A4007 |
|                    | 1.5 kW (2 HP)                | 3.8 A                | 3G3JX-A4015 |
|                    | 2.2 kW (3 HP)                | 5.5 A                | 3G3JX-A4022 |
|                    | 3.7 kW (5 HP)                | 8.6 A                | 3G3JX-A4037 |
|                    | 5.5 kW (7 1/2 HP)            | 13 A                 | 3G3JX-A4055 |
|                    | 7.5 kW (10 HP)               | 16 A                 | 3G3JX-A4075 |

## ① Line Filters

| Inverter        |                       | Line filter Rasmi |                   | Weight (kg) |
|-----------------|-----------------------|-------------------|-------------------|-------------|
| Voltage         | Model 3G3JX-□         | Model 3G3AX-□     | Rated current (A) |             |
| 1-phase 200 VAC | AE002 / AE004         | FIJ1006-RE        | 6                 | 0.5         |
|                 | AE007                 | FIJ1010-RE        | 10                | 0.6         |
|                 | AE015 / AE022         | FIJ1026-RE        | 26                | 0.8         |
| 3-phase 200 VAC | A2002 / A2004 / A2007 | FIJ2006-RE        | 6                 | 1           |
|                 | A2015 / A2022 / A2037 | FIJ2020-RE        | 20                | 1.3         |
|                 | A2055 / A2075         | FIJ2040-RE        | 40                | 2.3         |
| 3-phase 400 VAC | A4004 / A4007 / A4015 | FIJ3005-RE        | 5                 | 0.9         |
|                 | A4022 / A4037         | FIJ3011-RE        | 11                | 1.1         |
|                 | A4055 / A4075         | FIJ3020-RE        | 20                | 1.7         |

## Ordering Information

## ① Input AC Reactors

| Inverter        |                       | AC Reactor        |
|-----------------|-----------------------|-------------------|
| Voltage         | Model 3G3JX-□         | Model 3G3AX-□     |
| 1-phase 200 VAC | AE002 / AE004         | Under development |
|                 | AE007                 |                   |
|                 | AE015 / AE022         |                   |
| 3-phase 200 VAC | A2002 / A2004 / A2007 | RAI02800080-DE    |
|                 | A2015 / A2022 / A2037 | RAI00880175-DE    |
|                 | A2055 / A2075         | RAI00350335-DE    |
| 3-phase 400 VAC | A4004 / A4007 / A4015 | RAI07700042-DE    |
|                 | A4022 / A4037         | RAI03500090-DE    |
|                 | A4055 / A4075         | RAI01300170-DE    |

## ① DC Reactors

| 1-phase 200 VAC |                     | 3-phase 200 VAC |                     | 3-phase 400 VAC |                     |
|-----------------|---------------------|-----------------|---------------------|-----------------|---------------------|
| Inverter        | DC Reactor          | Inverter        | DC Reactor          | Inverter        | DC Reactor          |
| 3G3JX-AB002     | 3G3AX-RC10700032-DE | 3G3JX-A2002     | 3G3AX-RC21400016-DE | -               | -                   |
| 3G3JX-AB004     | 3G3AX-RC06750061-DE | 3G3JX-A2004     | 3G3AX-RC10700032-DE | 3G3JX-A4004     | 3G3AX-RC43000020-DE |
| 3G3JX-AB007     | 3G3AX-RC03510093-DE | 3G3JX-A2007     | 3G3AX-RC06750061-DE | 3G3JX-A4007     | 3G3AX-RC27000030-DE |
| 3G3JX-AB015     | 3G3AX-RC02510138-DE | 3G3JX-A2015     | 3G3AX-RC03510093-DE | 3G3JX-A4015     | 3G3AX-RC14000047-DE |
| 3G3JX-AB022     | 3G3AX-RC01600223-DE | 3G3JX-A2022     | 3G3AX-RC02510138-DE | 3G3JX-A4022     | 3G3AX-RC10100069-DE |
| -               | -                   | 3G3JX-A2037     | 3G3AX-RC01600223-DE | 3G3JX-A4037     | 3G3AX-RC06400116-DE |
| -               | -                   | 3G3JX-A2055     | 3G3AX-RC01110309-DE | 3G3JX-A4055     | 3G3AX-RC04410167-DE |
| -               | -                   | 3G3JX-A2075     | 3G3AX-RC00840437-DE | 3G3JX-A4075     | 3G3AX-RC03350219-DE |

## ① Chokes

| Model            | Diameter (mm) | Description                        |
|------------------|---------------|------------------------------------|
| 3G3AX-FER2102-RE | 21            | For 2.2 kW (3 HP) motors or below  |
| 3G3AX-FER2515-RE | 25            | For 7.5 kW (10 HP) motors or below |

## ① Output AC Reactor

| Inverter |                               | AC Reactor     |
|----------|-------------------------------|----------------|
| Voltage  | Model 3G3JX-□                 | Model 3G3AX-□  |
| 200 VAC  | A2002 / A2004 / AE002 / AE004 | RAO11500026-DE |
|          | A2007 / AE007                 | RAO07600042-DE |
|          | A2015 / AE015                 | RAO04100075-DE |
|          | A2022 / AE022                 | RAO03000105-DE |
|          | A2037                         | RAO01830160-DE |
|          | A2055                         | RAO01150220-DE |
|          | A2075                         | RAO00950320-DE |
| 400 VAC  | A4004 / A4007 / A4015         | RAO16300038-DE |
|          | A4022                         | RAO11800053-DE |
|          | A4037                         | RAO07300080-DE |
|          | A4055                         | RAO04600110-DE |
|          | A4075                         | RAO03600160-DE |

## ② Accessories

| Types            | Model             | Description               | Functions                                                            |
|------------------|-------------------|---------------------------|----------------------------------------------------------------------|
| Digital operator | 3G3AX-OP05        | LCD remote operator       | 2 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      | 3G3AX-CONV1       | USB converter / USB cable | RJ45 to USB connection cable                                         |

## ⑤ Computer Software

| Item     | Description                         | Functions                                                                                                                                                               |
|----------|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CX-Drive | AC Drive/Servo Programming software | Set, transfer and compare parameters; perform test runs and adjustment; perform monitoring and data tracing for Omron inverters and servos included in CX-One software. |
| CX-One   | All-in-one Automation software      | Program, configure and simulate operations for PLCs, HMIs, networks, motion control systems, temperature and process controllers.                                       |

Note: Software runs on the following OS: Windows 2000 (Service Pack 3a or higher), XP, Vista or Windows 7.

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

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

Specifications are subject to change without notice.

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**Note:** This datasheet is provided as a guideline for selecting products. Do not use this document to operate the Unit.

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