

## JX INVERTER

Compact and complete



» Quality & reliability you can depend on

» Communications built-in

» Cost and eco-friendly

# The smallest gets integrated...

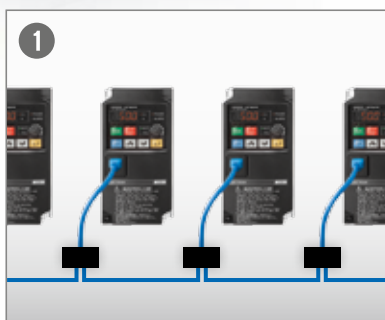
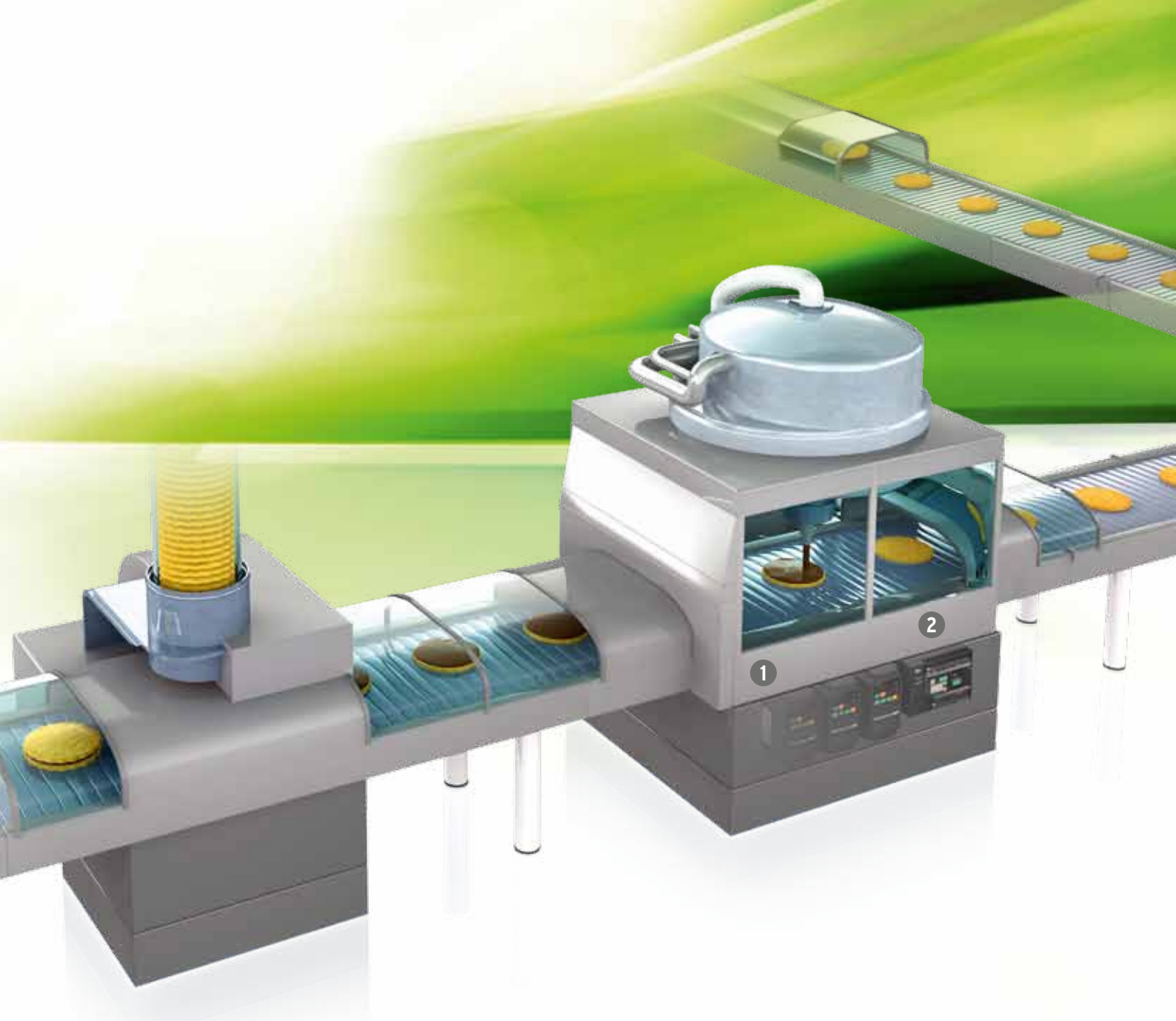
*Omron fully understands your needs, which is why we put quality and reliability first. And we keep listening, so our products come with new features and functionality that save you time and money.*

*With the RFI filter built-in, and the communications integrated as standard, the JX provides a compact and complete solution to a whole range of simple applications, such as conveyor control.*

## Key features include:

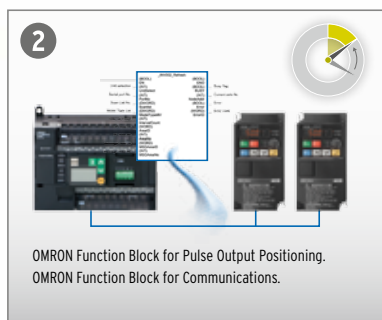
- Ratings up to 7.5 kW
- RS485 Modbus built-in
- Side-by-side mounting
- EMC filter built-in
- PID function
- Micro-surge voltage suppression
- Automatic energy saving
- Emergency shut-off
- Second motor setting
- Auto carrier-frequency reduction
- PTC thermistor input
- Cooling fan switch control
- RoHS





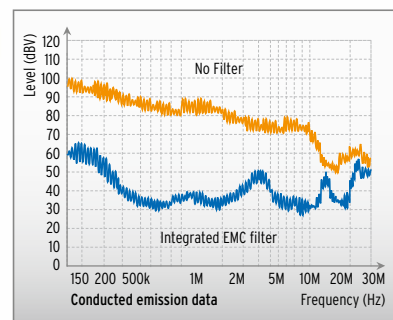
### Easy network integration

The RS485 Modbus is built into the RJ45 port in the inverter front, making it very easy to add inverters into the network without any extra option boards. Therefore, saving money and space.



### Easy communications setting

Modbus commands are implemented even in low end CP1 PLC family by Modbus-RTU Easy Master functionality, making it easier than ever to integrate the inverters into the network.

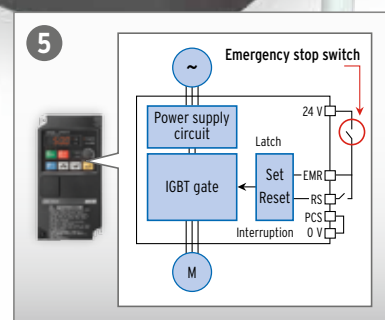
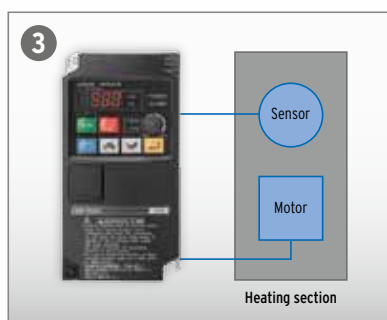


### Space and cost saving

The new JX has a built-in EMC filter that saves on costs and space compared with the standard external filter solution.

1 ph : EN61800-3 cat. C1  
3 ph : EN61800-3 cat. C2

# Everything on-board for your application



## No additional devices required

Even advanced functionality such as PID control is standard with the JX inverter making it a convenient solution for applications such as pumps & fans where pressure, flow and other processes need controlling.

## Convenient and efficient

The parameter settings of two different motors can be stored, allowing the inverter to drive different motors with a unique inverter. The two motors are never working at the same time.

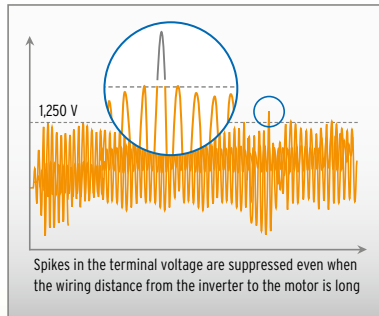
## Reliable emergency shutdown

The IGBT's output is directly switched off from the external input, assuring no energy is supplied to the motor. This hardware-based solution is more reliable than other CPU dependent solutions.



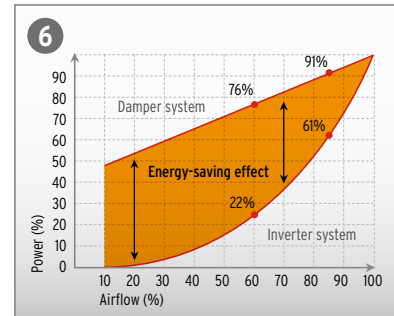
### Silent operation

Depending on the inverter temperature, switching off the fan creates a noise-free atmosphere and prolongs the life time of the product.



### Maximise motor life

Advanced PWM control is used to suppress micro-surge voltages that sometimes cause malfunction in 400 V motors. The motor is thus protected and its life is prolonged.



### Automatic energy saving

The Inverter always adopts the optimum energy-saving setting for cost savings in such applications as fans and pumps. The inverter can reduce energy consumption by 61% compared with standard mechanical systems.

4



### Reliability with environmental responsibility

Omron is renowned for the reliability of its products. Moreover, Omron's policy is to offer environmentally safe products free from any banned substances.



# JX

## Compact & Complete

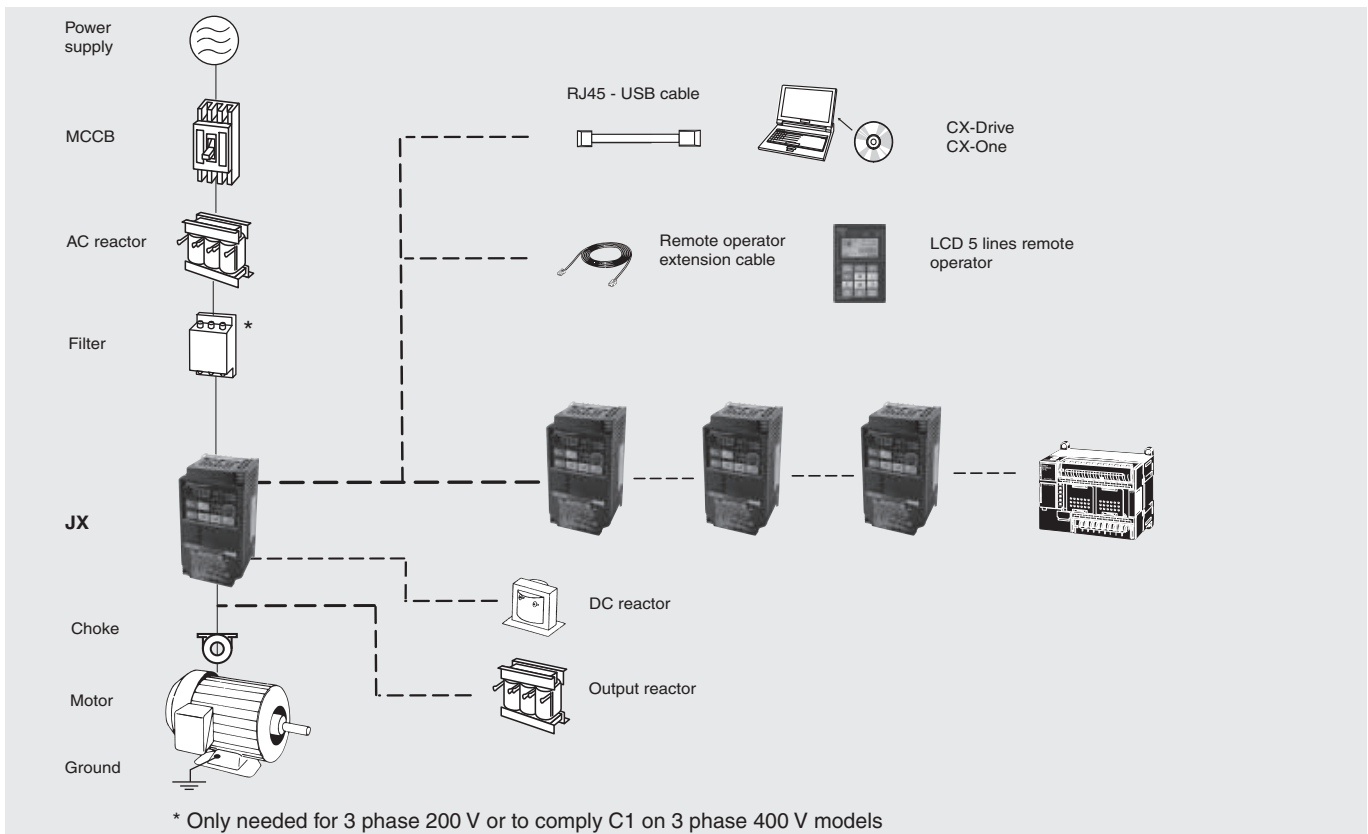
- V/f controlled inverter
- Side by side mounting
- Built-in EMC filter
- Built-in RS-485 Modbus
- Overload detection function (150% during 60s)
- PID
- Micro-surge voltage suppression
- Automatic energy saving
- Emergency shut-off
- Second motor setting
- Auto carrier-frequency reduction
- PTC thermistor 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
- 200 V Class three-phase 0.2 to 7.5 kW
- 400 V Class three-phase 0.4 to 7.5 kW

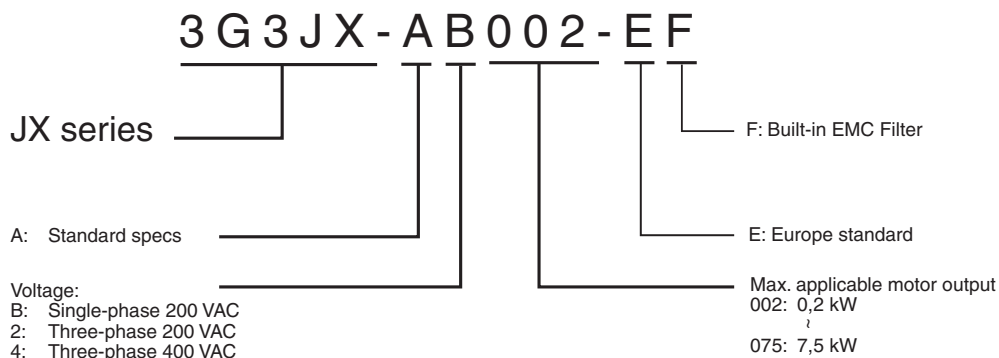


## System configuration



## Specifications

### Type designation



### 200 V class

| Single-phase: 3G3JX□      |                                            |                                                     | AB002                                                             | AB004 | AB007 | AB015                                    | AB022             | -     | -          | -     |
|---------------------------|--------------------------------------------|-----------------------------------------------------|-------------------------------------------------------------------|-------|-------|------------------------------------------|-------------------|-------|------------|-------|
| Three-phase: 3G3JX□       |                                            |                                                     | A2002                                                             | A2004 | A2007 | A2015                                    | A2022             | A2037 | A2055      | A2075 |
| Motor<br>kW <sup>*1</sup> | Applicable motor capacity                  |                                                     | 0.2                                                               | 0.4   | 0.75  | 1.5                                      | 2.2               | 3.7   | 5.5        | 7.5   |
|                           | 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   | 4.0   | 7.1                                      | 10.0              | 15.9  | 24.0       | 32.0  |
|                           | Max. output voltage                        |                                                     | Proportional to input voltage: 0...240 V                          |       |       |                                          |                   |       |            |       |
|                           | Max. output frequency                      |                                                     | 400 Hz                                                            |       |       |                                          |                   |       |            |       |
| 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 |       |       |                                          |                   |       |            |       |
|                           | Rated input current (A) Three-phase 200 V  |                                                     | 1.8                                                               | 3.4   | 5.2   | 9.3                                      | 13.0              | 20.0  | 30.0       | 40.0  |
|                           | Rated input current (A) Single-phase 200 V |                                                     | 3.1                                                               | 5.8   | 9.0   | 16.0                                     | 22.5              | —     | —          | —     |
|                           | Allowable voltage fluctuation              |                                                     | -15%...+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 3-phase<br>20 to 40% for 1-phase | Approx 20% to 40% |       | Approx 20% |       |
| Cooling method            |                                            |                                                     | Self cooling                                                      |       |       | Forced-air-cooling                       |                   |       |            |       |

<sup>\*1</sup> Based on a standard 3-Phase standard motor.

### 400 V class

| Three-phase: 3G3JX□       |                                   |                                                     | A4004                                    | A4007 | A4015              | A4022 | A4040 | A4055       | A4075 |
|---------------------------|-----------------------------------|-----------------------------------------------------|------------------------------------------|-------|--------------------|-------|-------|-------------|-------|
| Motor<br>kW <sup>*1</sup> | Applicable motor capacity         |                                                     | 0.4                                      | 0.75  | 1.5                | 2.2   | 4.0   | 5.5         | 7.5   |
| Output<br>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...480 V |       |                    |       |       |             |       |
|                           | Max. output frequency             |                                                     | 400 Hz                                   |       |                    |       |       |             |       |
| Power<br>supply           | Rated input voltage and frequency |                                                     | 3-phase 380...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%...+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 |       |       |             |       |

<sup>\*1</sup> Based on a standard 3-Phase standard motor.

## Specifications

### Common specifications

| Model number<br>3G3JX□ |                                   | Specifications                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Control functions      | Control methods                   | Phase-to-phase sinusoidal modulation PWM (V/f)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                        | Output frequency range            | 0.5..400 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|                        | Frequency precision               | Digital set value: $\pm 0.01\%$ of the max. frequency<br>Analogue 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<br>Analogue 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 (10 k $\Omega$ ), 4 to 20 mA (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                                                                                                                                                                                       |
|                        | Analogue inputs                   | 2 analogue inputs 0 to 10 V (20 k $\Omega$ ), 4 to 20 mA (250 $\Omega$ )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                        | Accel/Decel times                 | 0.01 to 3000 s (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                       | 790 V for 400 V type and 395 for 200 V 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Ambient conditions     | Power charge indication           | On when power is supplied to the control part                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                        | Degree of protection              | IP20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|                        | Ambient humidity                  | 90% RH or less (without condensation)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                        | Storage temperature               | -20°C..+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> (0.6 G), 10 to 55 Hz (Complies with the test method specified in JIS C0040 (1999).)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

## Dimensions

IP 20 type 0.2 to 7.5 kW

Figure 1

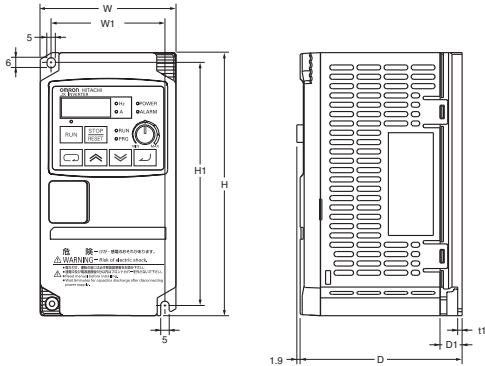
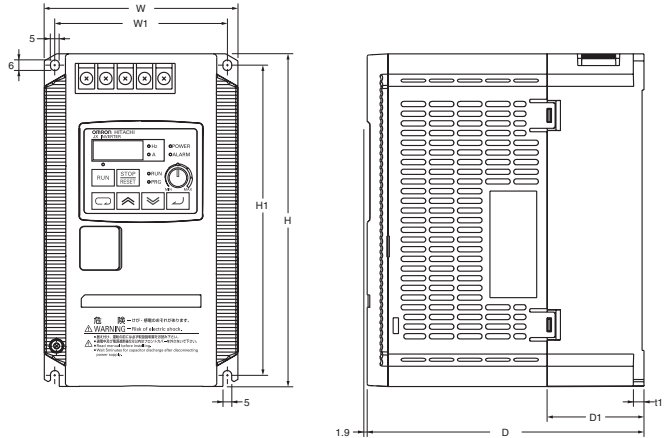


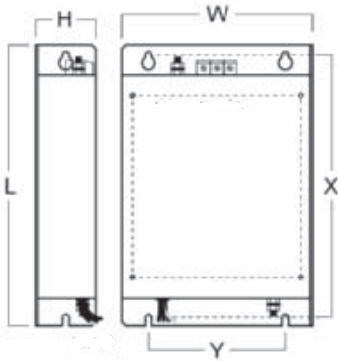
Figure 2



| Voltage class      | Max. applicable motor output kW | Inverter model 3G3JX□ | Figure | Dimensions in mm |     |     |     |       |     |      |
|--------------------|---------------------------------|-----------------------|--------|------------------|-----|-----|-----|-------|-----|------|
|                    |                                 |                       |        | W1               | H1  | W   | H   | D     | t1  | D1   |
| Single-phase 200 V | 0.2                             | AB002                 | 1      | 67               | 143 | 80  | 155 | 95.5  | 2.6 | 13   |
|                    | 0.4                             | AB004                 | 1      |                  |     |     |     | 109.5 |     | 27   |
|                    | 0.75                            | AB007                 | 2      |                  |     |     |     | 130.5 |     | 28   |
|                    | 1.5                             | AB015                 | 2      | 98               | 176 | 110 | 189 | 157.5 | 6   | 55   |
|                    | 2.2                             | AB022                 | 2      |                  |     |     |     | 157.5 |     | 55   |
| Three-phase 200 V  | 0.2                             | A2002                 | 1      | 67               | 143 | 80  | 155 | 95.5  | 2.6 | 13   |
|                    | 0.4                             | A2004                 | 1      |                  |     |     |     | 109.5 |     | 27   |
|                    | 0.75                            | A2007                 | 1      |                  |     |     |     | 132.5 |     | 50   |
|                    | 1.5                             | A2015                 | 2      | 98               | 176 | 110 | 189 | 157.5 | 6   | 55   |
|                    | 2.2                             | A2022                 | 2      |                  |     |     |     | 157.5 |     | 55   |
|                    | 3.7                             | A2037                 | 2      | 164              | 235 | 180 | 250 | 167.5 | 1.6 | 77.5 |
|                    | 5.5                             | A2055                 | 2      |                  |     |     |     | 167.5 |     | 77.5 |
| Three-phase 400 V  | 0.4                             | A4004                 | 2      | 98               | 176 | 110 | 189 | 130.5 | 2.6 | 28   |
|                    | 0.75                            | A4007                 | 2      |                  |     |     |     | 130.5 |     | 28   |
|                    | 1.5                             | A4015                 | 2      |                  |     |     |     | 130.5 |     | 28   |
|                    | 2.2                             | A4022                 | 2      | 98               | 176 | 110 | 189 | 157.5 | 6   | 55   |
|                    | 4.0                             | A4040                 | 2      |                  |     |     |     | 157.5 |     | 55   |
|                    | 5.5                             | A4055                 | 2      | 164              | 235 | 180 | 250 | 167.5 | 1.6 | 77.5 |
|                    | 7.5                             | A4075                 | 2      |                  |     |     |     | 167.5 |     | 77.5 |

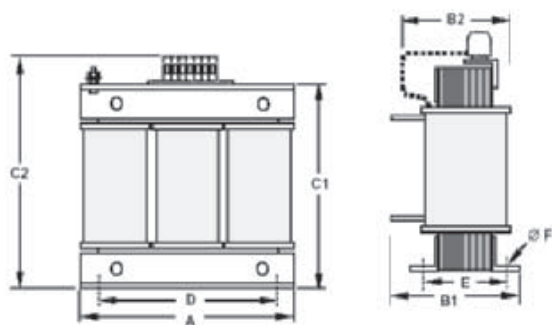
## Rasmi footprint Filters

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



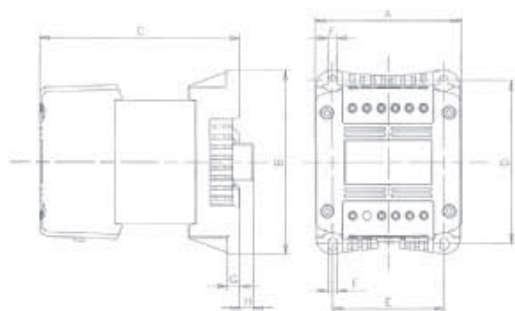
| Rasmi model |               | Dimensions |    |     |     |     |    | Weight kg |
|-------------|---------------|------------|----|-----|-----|-----|----|-----------|
|             |               | W          | H  | L   | X   | Y   | M  |           |
| 1x200 V     | AX-FIJ1006-RE | 81         | 40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

## Input AC Reactor



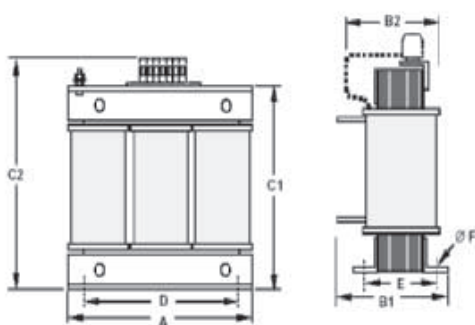
| Voltage | Reference         | Dimensions |    |     |     |    |     | Weight<br>kg |
|---------|-------------------|------------|----|-----|-----|----|-----|--------------|
|         |                   | A          | B2 | C2  | D   | E  | F   |              |
| 200 V   | AX-RAI02800080-DE | 120        | 70 | 120 | 80  | 52 | 5.5 | 1.78         |
|         | AX-RAI00880175-DE | 120        | 80 | 120 | 80  | 62 | 5.5 | 2.35         |
|         | AX-RAI00350335-DE | 180        | 85 | 190 | 140 | 55 | 6   | 5.5          |
| 400 V   | AX-RAI07700042-DE | 120        | 70 | 120 | 80  | 52 | 5.5 | 1.78         |
|         | AX-RAI03500090-DE | 120        | 80 | 120 | 80  | 62 | 5.5 | 2.35         |
|         | AX-RAI01300170-DE | 120        | 80 | 120 | 80  | 62 | 5.5 | 2.50         |

## DC Reactor



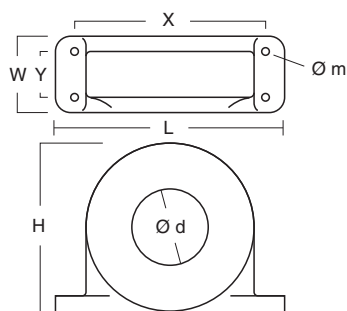
| Voltage | Reference        | Dimensions |     |     |     |    |     |     |   | Weight<br>kg |
|---------|------------------|------------|-----|-----|-----|----|-----|-----|---|--------------|
|         |                  | A          | B   | C   | D   | E  | F   | G   | H |              |
| 200 V   | AX-RC21400016-DE | 84         | 113 | 96  | 101 | 66 | 5   | 7.5 | 2 | 1.22         |
|         | AX-RC10700032-DE |            |     | 105 |     |    |     |     |   | 1.60         |
|         | AX-RC06750061-DE |            |     | 105 |     |    |     |     |   | 1.95         |
|         | AX-RC03510093-DE |            |     | 116 |     |    |     |     |   | 1.95         |
|         | AX-RC02510138-DE |            |     | 116 |     |    |     |     |   | 1.95         |
|         | AX-RC01600223-DE | 108        | 135 | 124 | 120 | 82 | 6.5 | 9.5 | - | 3.20         |
|         | AX-RC01110309-DE | 120        | 152 | 136 | 135 | 94 | 7   | 9.5 | - | 5.20         |
| 400 V   | AX-RC00840437-DE | 120        | 152 | 146 | 135 | 94 | 7   | 9.5 | - | 6.00         |
|         | AX-RC43000020-DE | 84         | 113 | 96  | 101 | 66 | 5   | 7.5 | 2 | 1.22         |
|         | AX-RC27000030-DE |            |     | 105 |     |    |     |     |   | 1.60         |
|         | AX-RC14000047-DE |            |     | 105 |     |    |     |     |   | 1.60         |
|         | AX-RC10100069-DE |            |     | 116 |     |    |     |     |   | 1.95         |
|         | AX-RC06400116-DE | 108        | 135 | 133 | 120 | 82 | 6.5 | 9.5 | - | 3.70         |
|         | AX-RC04410167-DE | 120        | 152 | 136 | 135 | 94 | 7   | 9.5 | - | 5.20         |
|         | AX-RC03350219-DE | 120        | 152 | 146 | 135 | 94 | 7   | 9.5 | - | 6.00         |

## Output AC Reactor



| Voltage | Reference         | Dimensions |    |     |     |    |     | Weight<br>kg |
|---------|-------------------|------------|----|-----|-----|----|-----|--------------|
|         |                   | A          | B2 | C2  | D   | E  | F   |              |
| 200 V   | 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          |
| 400 V   | 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          |

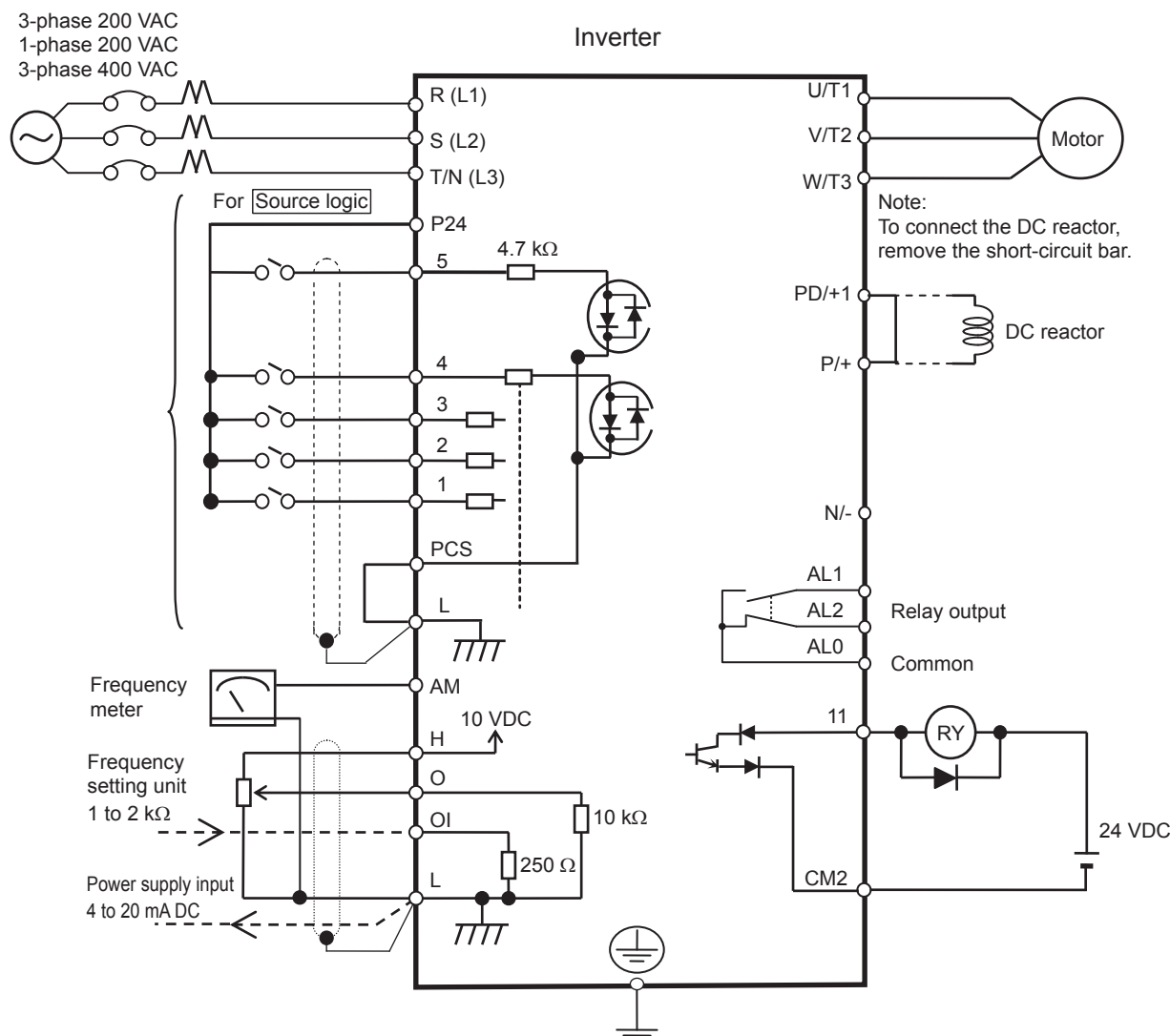
## Chokes



| Reference     | D<br>diameter | Motor<br>KW | Dimensions |    |    |    |   |   | Weight<br>kg |
|---------------|---------------|-------------|------------|----|----|----|---|---|--------------|
|               |               |             | L          | W  | H  | X  | Y | m |              |
| AX-FER2102-RE | 21            | < 2.2       | 85         | 22 | 46 | 70 | - | 5 | 0.1          |
| AX-FER2515-RE | 25            | < 15        | 105        | 25 | 62 | 90 | - | 5 | 0.2          |

# Installation

## Standard connections



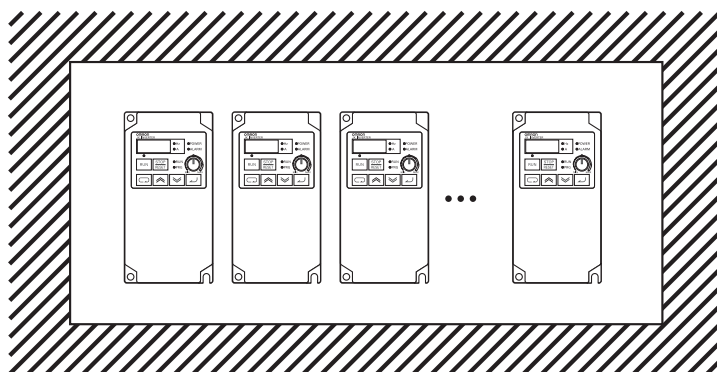
## Terminal Block Specifications

| Terminal           | Name                                          | Function (signal level)                                                                                                                                                  |
|--------------------|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| R/L1, S/L2, T/N/L3 | Main circuit power supply input               | Used to connect line power to the drive. 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 connection terminal | Connect optional regenerative braking units (If a braking torque is required)                                                                                            |
| ⊕                  | Grounding                                     | For grounding (grounding should conform to the local grounding code.)                                                                                                    |

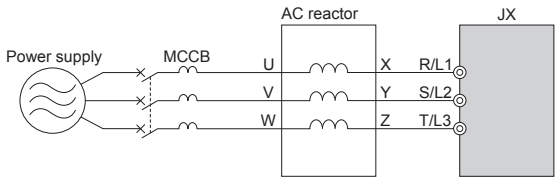
## Control Circuit

| Type                   | No. | Signal name                                            | Function                                                                                                                                                             | Signal level                |
|------------------------|-----|--------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| Digital input signals  | PCS | Input power supply                                     | 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 VDC $\pm 10\%$           |
|                        | P24 | Internal 24 VDC                                        | 24 VDC internal power supply                                                                                                                                         | 24 VDC $\pm 10\%$ 100 mA    |
|                        | 1   | Multi-function Input selection 1                       | Factory setting: Forward/ Stop                                                                                                                                       |                             |
|                        | 2   | Multi-function Input selection 2                       | Factory setting: Reverse/ Stop                                                                                                                                       |                             |
|                        | 3   | Multi-function Input selection 3                       | Factory setting: Fault reset                                                                                                                                         |                             |
|                        | 4   | Multi-function Input selection 4                       | Factory setting: Emergency stop fault                                                                                                                                |                             |
|                        | 5   | Multi-function Input selection 5                       | Factory setting: Multi-step speed reference 1                                                                                                                        |                             |
|                        | L   | Multi-function Input selection common                  | --                                                                                                                                                                   | --                          |
| Analog input signal    | H   | Frequency reference power supply                       | 10 VDC 10 mA max                                                                                                                                                     |                             |
|                        | O   | Voltage frequency reference signal                     | 0 to 10 VDC (10 K $\Omega$ )                                                                                                                                         |                             |
|                        | OI  | Current frequency reference signal                     | 4 to 20 mA (250 $\Omega$ )                                                                                                                                           |                             |
|                        | L   | Frequency reference common                             | --                                                                                                                                                                   |                             |
| Digital output signals | AL2 | NC output                                              | Factory default relay settings<br>Under normal operation: AL2-AL0 Closed<br>Under abnormal operation or power shutdown: AL1-AL0 Open                                 | 250 VAC 2.5 A<br>30 VDC 3 A |
|                        | AL1 | NO output                                              |                                                                                                                                                                      | 250 VAC 1 A<br>30 VDC 1 A   |
|                        | AL0 | Relay Output common                                    |                                                                                                                                                                      |                             |
|                        | 11  | Multi-function output terminal                         | Factory setting: Frequency arrival signal at a constant speed                                                                                                        | 27 VDC<br>50 mA max         |
|                        | CM2 | Output signal common                                   | --                                                                                                                                                                   |                             |
| Monitor Signal         | AM  | Analog frequency monitor/Analog output current monitor | Factory setting: Analog frequency monitor                                                                                                                            | 0 to 10 VDC 1 mA            |

## Side by side mounting

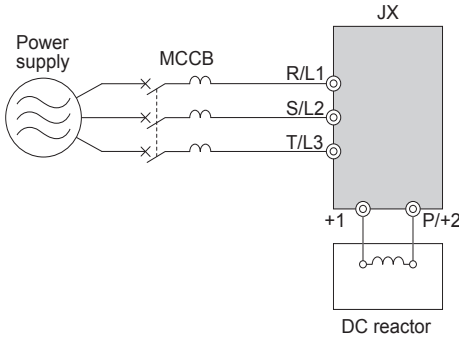


# Input AC Reactor



| 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 |
| 0.1 to 1.5                      | AX-RAI02800080-DE | 8.0             | 2.8           | 0.4 to 1.5                      | AX-RAI07700042-DE | 4.2             | 7.7           |
| 2.2 to 3.7                      | AX-RAI00880175-DE | 17.5            | 0.88          | 2.2 to 4.0                      | AX-RAI03500090-DE | 9.0             | 3.5           |
| 5.5 to 7.5                      | AX-RAI00350335-DE | 33.5            | 0.35          | 5.5 to 7.5                      | AX-RAI01300170-DE | 17.0            | 1.3           |

# DC Reactor

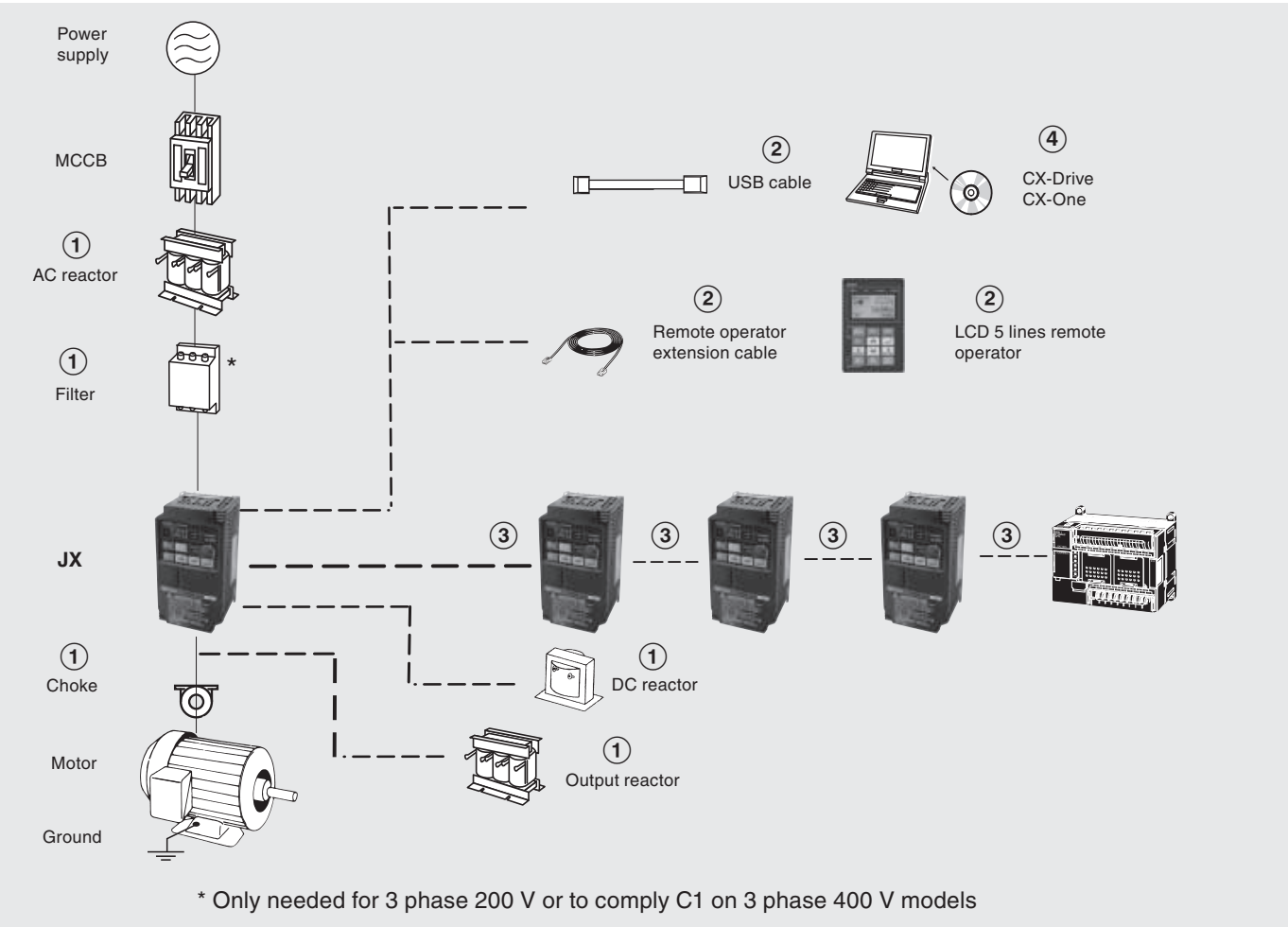


| 200 V class                     |                  |                 |               | 400 V class                     |                  |                 |               |
|---------------------------------|------------------|-----------------|---------------|---------------------------------|------------------|-----------------|---------------|
| 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-DE | 1.6             | 21.4          | -                               | -                | -               | -             |
| 0.4                             | AX-RC10700032-DE | 3.2             | 10.7          | 0.4                             | AX-RC43000020-DE | 2.0             | 43.0          |
| 0.7                             | AX-RC06750061-DE | 6.1             | 6.75          | 0.7                             | AX-RC27000030-DE | 3.0             | 27.0          |
| 1.5                             | AX-RC03510093-DE | 9.3             | 3.51          | 1.5                             | AX-RC14000047-DE | 4.7             | 14.0          |
| 2.2                             | AX-RC02510138-DE | 13.8            | 2.51          | 2.2                             | AX-RC10100069-DE | 6.9             | 10.1          |
| 3.7                             | AX-RC01600223-DE | 22.3            | 1.60          | 4.0                             | AX-RC06400116-DE | 11.6            | 6.40          |
| 5.5                             | AX-RC01110309-DE | 30.9            | 1.11          | 5.5                             | AX-RC04410167-DE | 16.7            | 4.41          |
| 7.5                             | AX-RC00840437-DE | 43.7            | 0.84          | 7.5                             | AX-RC03350219-DE | 21.9            | 3.35          |

# Output AC Reactor

| 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 |
| 0.1 to 0.4                      | AX-RAO11500026-DE | 2.6             | 11.50         | 0.4 to 1.5                      | AX-RAO16300038-DE | 3.8             | 16.30         |
| 0.75                            | AX-RAO07600042-DE | 4.2             | 7.60          | 2.2                             | AX-RAO11800053-DE | 5.3             | 11.80         |
| 1.5                             | AX-RAO04100075-DE | 7.5             | 4.10          | 4.0                             | AX-RAO07300080-DE | 8.0             | 7.30          |
| 2.2                             | AX-RAO03000105-DE | 10.5            | 3.00          | 5.5                             | AX-RAO04600110-DE | 11.0            | 4.60          |
| 3.7                             | AX-RAO01830160-DE | 16.0            | 1.83          | 7.5                             | AX-RAO03600160-DE | 16.0            | 3.60          |
| 5.5                             | AX-RAO01150220-DE | 22.0            | 1.15          | -                               | -                 | -               | -             |
| 7.5                             | AX-RAO00950320-DE | 32.0            | 0.95          | -                               | -                 | -               | -             |

Ordering information



3G3JX

| Specifications     |                                 |                          | Model          |
|--------------------|---------------------------------|--------------------------|----------------|
| Voltage class      | Max. applicable motor output kW | Rated output current (A) | Standard       |
| Single-phase 200 V | 0.2                             | 1.4                      | 3G3JX-AB002-EF |
|                    | 0.4                             | 2.6                      | 3G3JX-AB004-EF |
|                    | 0.75                            | 4                        | 3G3JX-AB007-EF |
|                    | 1.5                             | 7.1                      | 3G3JX-AB015-EF |
|                    | 2.2                             | 10                       | 3G3JX-AB022-EF |
| Three-phase 200 V  | 0.2                             | 1.4                      | 3G3JX-A2002-E  |
|                    | 0.4                             | 2.6                      | 3G3JX-A2004-E  |
|                    | 0.75                            | 4                        | 3G3JX-A2007-E  |
|                    | 1.5                             | 7.1                      | 3G3JX-A2015-E  |
|                    | 2.2                             | 10                       | 3G3JX-A2022-E  |
|                    | 3.7                             | 15.9                     | 3G3JX-A2037-E  |
|                    | 5.5                             | 24                       | 3G3JX-A2055-E  |
|                    | 7.5                             | 32                       | 3G3JX-A2075-E  |
| Three-phase 400 V  | 0.4                             | 1.5                      | 3G3JX-A4004-EF |
|                    | 0.75                            | 2.5                      | 3G3JX-A4007-EF |
|                    | 1.5                             | 3.8                      | 3G3JX-A4015-EF |
|                    | 2.2                             | 5.5                      | 3G3JX-A4022-EF |
|                    | 4.0                             | 8.6                      | 3G3JX-A4040-EF |
|                    | 5.5                             | 13                       | 3G3JXA4055-EF  |
|                    | 7.5                             | 16                       | 3G3JXA4075-EF  |

① Line filters

| Inverter        |                       | Line filter Rasmi |                   |             |
|-----------------|-----------------------|-------------------|-------------------|-------------|
| Voltage         | Model 3G3JX-□         | Reference         | Rated current (A) | Weight (kg) |
| 1-Phase 200 VAC | AB002 / AB004         | AX-FIJ1006-RE     | 6                 | 0.5         |
|                 | AB007                 | AX-FIJ1010-RE     | 10                | 0.6         |
|                 | AB015 / AB022         | AX-FIJ1026-RE     | 26                | 0.8         |
| 3-Phase 200 VAC | A2002 / A2004 / A2007 | AX-FIJ2006-RE     | 6                 | 1.0         |
|                 | A2015 / A2022 / A2037 | AX-FIJ2020-RE     | 20                | 1.3         |
|                 | A2055 / A2075         | AX-FIJ2040-RE     | 40                | 2.3         |
| 3-Phase 400 VAC | A4004 / A4007 / A4015 | AX-FIJ3005-RE     | 5                 | 0.9         |
|                 | A4022 / A4040         | AX-FIJ3011-RE     | 11                | 1.1         |
|                 | A4055 / A4075         | AX-FIJ3020-RE     | 20                | 1.7         |

① Input AC Reactors

| Inverter        |                       | AC Reactor        |
|-----------------|-----------------------|-------------------|
| Voltage         | Model 3G3JX-□         | Reference         |
| 3-Phase 200 VAC | A2002 / A2004 / A2007 | AX-RAI02800080-DE |
|                 | A2015 / A2022 / A2037 | AX-RAI00880175-DE |
|                 | A2055 / A2075         | AX-RAI00350335-DE |
| 1-Phase 200 VAC | AB002 / AB004         | Under development |
|                 | AB007                 |                   |
|                 | AB015 / AB022         |                   |
| 3-Phase 400 VAC | A4004 / A4007 / A4015 | AX-RAI07700042-DE |
|                 | A4022 / A4040         | AX-RAI03500090-DE |
|                 | A4055 / A4075         | AX-RAI01300170-DE |

① DC Reactors

| 200V single phase |                  | 200V 3-phase |                  | 400V 3-phase |                  |
|-------------------|------------------|--------------|------------------|--------------|------------------|
| Inverter          | DC Reactor       | Inverter     | DC Reactor       | Inverter     | DC Reactor       |
| 3G3JX-AB002       | AX-RC10700032-DE | 3G3JX-A2002  | AX-RC21400016-DE | -            | -                |
| 3G3JX-AB004       | AX-RC06750061-DE | 3G3JX-A2004  | AX-RC10700032-DE | 3G3JX-A4004  | AX-RC43000020-DE |
| 3G3JX-AB007       | AX-RC03510093-DE | 3G3JX-A2007  | AX-RC06750061-DE | 3G3JX-A4007  | AX-RC27000030-DE |
| 3G3JX-AB015       | AX-RC02510138-DE | 3G3JX-A2015  | AX-RC03510093-DE | 3G3JX-A4015  | AX-RC14000047-DE |
| 3G3JX-AB022       | AX-RC01600223-DE | 3G3JX-A2022  | AX-RC02510138-DE | 3G3JX-A4022  | AX-RC10100069-DE |
| -                 | -                | 3G3JX-A2037  | AX-RC01600223-DE | 3G3JX-A4040  | AX-RC06400116-DE |
|                   |                  | 3G3JX-A2055  | AX-RC01110309-DE | 3G3JX-A4055  | AX-RC04410167-DE |
|                   |                  | 3G3JX-A2075  | AX-RC00840437-DE | 3G3JX-A4075  | AX-RC03350219-DE |

① Chokes

| Model         | Diameter | Description                |
|---------------|----------|----------------------------|
| AX-FER2102-RE | 21       | For 2.2 KW motors or below |
| AX-FER2515-RE | 25       | For 7.5 KW motors or below |

① Output AC Reactors

| Inverter |                                                | AC Reactor        |
|----------|------------------------------------------------|-------------------|
| Voltage  | Model 3G3JX-□                                  | 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 |
|          | A4040                                          | AX-RAO07300080-DE |
|          | A4055                                          | AX-RAO04600110-DE |
|          | A4075                                          | AX-RAO03600160-DE |

② Accessories

| Types            | Model             | Description                   | Functions                                                               |
|------------------|-------------------|-------------------------------|-------------------------------------------------------------------------|
| Digital operator | AX-OP05-E         | LCD remote operator           | 5 Line LCD remote operator with copy function, *1 cable length max. 3m. |
|                  | 3G3AX-CAJOP300-EE | Remote operator cable         | 3 meters cable for connecting remote operator                           |
|                  | 3G3AX-OP01        | LED remote operator           | LED remote operator, cable length max. 3m                               |
|                  | 4X-KITMINI        | Mounting kit for LED operator | Mounting kit for LED operator on panel                                  |
| Accessories      | 3G3AX-PCACN2      | USB converter / USB cable     | RJ45 to USB connection cable                                            |
|                  | 3G3AX-CTB020-EE   | RJ45 T-Branch cable           | T cable for RS-422 connection                                           |
|                  | 3G3AX-CTR150-EE   | RJ45 Terminator resistor      | Terminator resistor for RS-422 connection                               |

\*1 Please note, for 3G3JX inverters models, the operator will only display 2 lines of text.

④ 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  |
|          | €Saver   | Computer software | Software tool for Energy Saving calculation |

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

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

**OMRON EUROPE B.V.** Wegalaan 67-69, NL-2132 JD, Hoofddorp, The Netherlands. Tel: +31 (0) 23 568 13 00 Fax: +31 (0) 23 568 13 88 [www.industrial.omron.eu](http://www.industrial.omron.eu)

**Austria**

Tel: +43 (0) 2236 377 800  
[www.industrial.omron.at](http://www.industrial.omron.at)

**Belgium**

Tel: +32 (0) 2 466 24 80  
[www.industrial.omron.be](http://www.industrial.omron.be)

**Czech Republic**

Tel: +420 234 602 602  
[www.industrial.omron.cz](http://www.industrial.omron.cz)

**Denmark**

Tel: +45 43 44 00 11  
[www.industrial.omron.dk](http://www.industrial.omron.dk)

**Finland**

Tel: +358 (0) 207 464 200  
[www.industrial.omron.fi](http://www.industrial.omron.fi)

**France**

Tel: +33 (0) 1 56 63 70 00  
[www.industrial.omron.fr](http://www.industrial.omron.fr)

**Germany**

Tel: +49 (0) 2173 680 00  
[www.industrial.omron.de](http://www.industrial.omron.de)

**Hungary**

Tel: +36 1 399 30 50  
[www.industrial.omron.hu](http://www.industrial.omron.hu)

**Italy**

Tel: +39 02 326 81  
[www.industrial.omron.it](http://www.industrial.omron.it)

**Netherlands**

Tel: +31 (0) 23 568 11 00  
[www.industrial.omron.nl](http://www.industrial.omron.nl)

**Norway**

Tel: +47 (0) 22 65 75 00  
[www.industrial.omron.no](http://www.industrial.omron.no)

**Poland**

Tel: +48 (0) 22 458 66 66  
[www.industrial.omron.pl](http://www.industrial.omron.pl)

**Portugal**

Tel: +351 21 942 94 00  
[www.industrial.omron.pt](http://www.industrial.omron.pt)

**Russia**

Tel: +7 495 648 94 50  
[www.industrial.omron.ru](http://www.industrial.omron.ru)

**South Africa**

Tel: +27 (0)11 579 2600  
[www.industrial.omron.co.za](http://www.industrial.omron.co.za)

**Spain**

Tel: +34 913 777 900  
[www.industrial.omron.es](http://www.industrial.omron.es)

**Sweden**

Tel: +46 (0) 8 632 35 00  
[www.industrial.omron.se](http://www.industrial.omron.se)

**Switzerland**

Tel: +41 (0) 41 748 13 13  
[www.industrial.omron.ch](http://www.industrial.omron.ch)

**Turkey**

Tel: +90 212 467 30 00  
[www.industrial.omron.com.tr](http://www.industrial.omron.com.tr)

**United Kingdom**

Tel: +44 (0) 870 752 08 61  
[www.industrial.omron.co.uk](http://www.industrial.omron.co.uk)

**More Omron representatives**  
[www.industrial.omron.eu](http://www.industrial.omron.eu)

**Automation Systems**

- Programmable logic controllers (PLC) • Human machine interfaces (HMI) • Remote I/O
- Industrial PC's • Software

**Motion & Drives**

- Motion controllers • Servo systems • Inverters • Robots

**Control Components**

- Temperature controllers • Power supplies • Timers • Counters • Programmable relays
- Digital panel indicators • Electromechanical relays • Monitoring products • Solid-state relays
- Limit switches • Pushbutton switches • Low voltage switch gear

**Sensing & Safety**

- Photoelectric sensors • Inductive sensors • Capacitive & pressure sensors
- Cable connectors • Displacement & width-measuring sensors • Vision systems
- Safety networks • Safety sensors • Safety units/relay units • Safety door/guard lock switches