

JZ

# J1000

### The basic drive

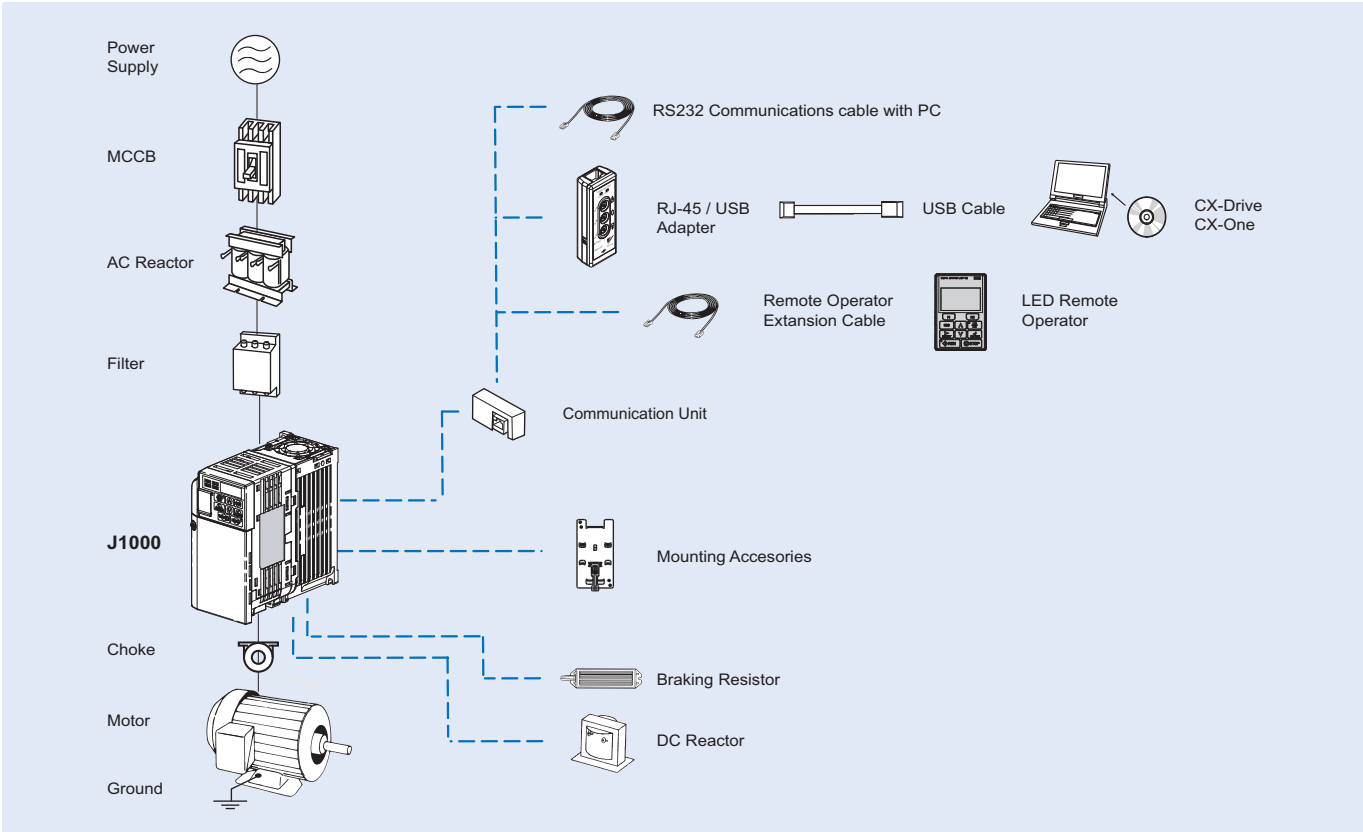
- V/f controlled drive
- Good torque performance (150% / 3 Hz)
- Double rating ND 120%/1min and HD 150%/1 min
- Overload detection function (150% during 60s)
- Motor thermal function
- Freely configurable V/f curve
- 5 programmable digital input
- 1 programmable digital output
- 1 programmable analog output
- Optional RS-232C/485 communication - Modbus, CE, UL, cUL and TUV, RoHS

### Ratings

- 200 V Class single-phase 0.1 to 1.5 kW
- 200 V Class three-phase 0.1 to 4.0 kW
- 400 V Class three-phase 0.2 to 4.0 kW

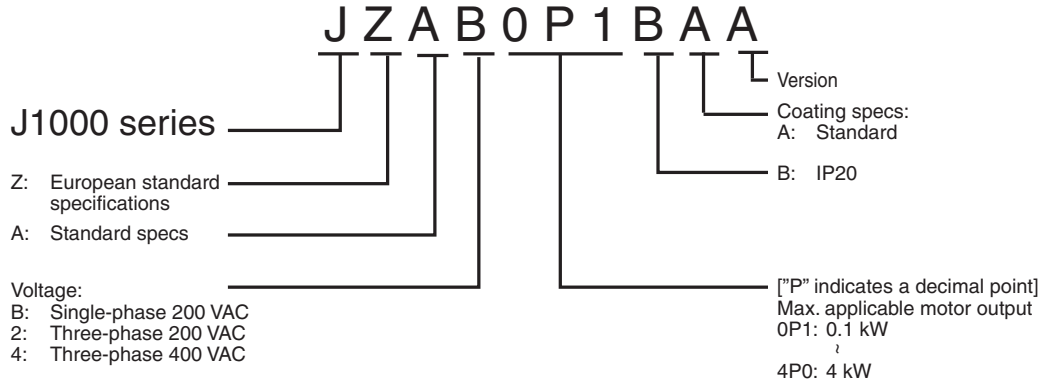


## System configuration



Specifications

Type designation



200 V class

| Single-phase: JZA□        |                                   | B0P1  | B0P2 | B0P4 | B0P7 | B1P5 | -    | -    |
|---------------------------|-----------------------------------|---|------|------|------|------|------|------|
| Three-phase: JZA□         |                                   | 20P1  | 20P2 | 20P4 | 20P7 | 21P5 | 22P2 | 24P0 |
| Motor<br>kW <sup>1</sup>  | For HD setting                    | 0.1   | 0.2  | 0.4  | 0.75 | 1.5  | 2.2  | 4.0  |
|                           | For ND setting                    | 0.2   | 0.4  | 0.75 | 1.1  | 2.2  | 3.0  | 5.5  |
| Output<br>characteristics | Drive capacity kVA at HD          | 0.3   | 0.6  | 1.1  | 1.9  | 3.0  | 4.2  | 6.7  |
|                           | Drive capacity kVA at ND          | 0.5   | 0.7  | 1.3  | 2.3  | 3.7  | 4.6  | 7.5  |
|                           | Rated output current (A) at HD    | 0.8   | 1.6  | 3.0  | 5.0  | 8.0  | 11.0 | 17.5 |
|                           | Rated output current (A) at ND    | 1.2   | 1.9  | 3.5  | 6.0  | 9.6  | 12.0 | 19.6 |
|                           | 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 |      |      |      |      |      |      |
|                           | Allowable voltage fluctuation     | -15%..+10%  |      |      |      |      |      |      |
|                           | Allowable frequency fluctuation   | +5%   |      |      |      |      |      |      |

1. Based on a standard 4-pole motor for maximum applicable motor output:  
Heavy Duty (HD) mode with a 150% overload capacity  
Normal Duty (ND) mode with a 120% overload capacity

400 V class

| Three-phase: JZA□         |                                   | 40P2                                    | 40P4 | 40P7 | 41P5 | 42P2 | 43P0 | 44P0 |
|---------------------------|-----------------------------------|---|------|------|------|------|------|------|
| Motor<br>kW <sup>1</sup>  | For HD setting                    | 0.2                                     | 0.4  | 0.75 | 1.5  | 2.2  | 3.0  | 4.0  |
|                           | For ND setting                    | 0.4                                     | 0.75 | 1.5  | 2.2  | 3.0  | 3.7  | 5.5  |
| Output<br>characteristics | Drive capacity kVA at HD          | 0.9                                     | 1.4  | 2.6  | 3.7  | 4.2  | 5.5  | 7.0  |
|                           | Drive capacity kVA at ND          | 0.9                                     | 1.6  | 3.1  | 4.1  | 5.3  | 6.7  | 8.5  |
|                           | Rated output current (A) at HD    | 1.2                                     | 1.8  | 3.4  | 4.8  | 5.5  | 7.2  | 9.2  |
|                           | Rated output current (A) at ND    | 1.2                                     | 2.1  | 4.1  | 5.4  | 6.9  | 8.8  | 11.1 |
|                           | Max. output voltage               | 0..480V (proportional to input voltage) |      |      |      |      |      |      |
|                           | Max. output frequency             | 400 Hz                                  |      |      |      |      |      |      |
| Power<br>supply           | Rated input voltage and frequency | 3-phase 380..480 VAC, 50/60 Hz          |      |      |      |      |      |      |
|                           | Allowable voltage fluctuation     | -15%..+10%                              |      |      |      |      |      |      |
|                           | Allowable frequency fluctuation   | +5%                                     |      |      |      |      |      |      |

1. Based on a standard 4-pole motor for maximum applicable motor output:  
Heavy Duty (HD) mode with a 150% overload capacity  
Normal Duty (ND) mode with a 120% overload capacity

Specifications

Common specifications

| Model number<br>JZA□ |   | Specifications  |
|----------------------|---|---|
| Control functions    | Control methods   | V/f control   |
|                      | Output frequency range  | 0.1..400 Hz   |
|                      | Frequency tolerance   | Digital set value: ±0.01% (-10..+50 °C)<br>Analogue set value: ±0.1% (25 ±10 °C)  |
|                      | Resolution of frequency set value   | Digital set value: 0.01 Hz (<100 Hz), 0.1 Hz (>100 Hz)<br>Analogue set value: 1/1000 of maximum frequency   |
|                      | Resolution of output frequency  | 0.01 Hz   |
|                      | Overload capability   | Heavy duty use: 150% rated output current for one minute<br>Normal duty use: 120% rated output current for one minute   |
|                      | Frequency set value   | 0..10 V (20 kΩ), 4..20 mA (250 Ω), 0..20 mA (250 Ω)<br>Frequency setting value (selectable)   |
|                      | Braking torque<br>(short term peak torque)  | Short-term average deceleration torque: 150% (up 1.5 kW), 100% (for 1.5 kW), 50% (for 2.2 kW), 20% (for bigger size)<br>Continuous regenerative torque: Approx 20% (125% with optional braking resistor, 10%ED, 10 s, braking transistor built in)  |
|                      | V/f Characteristics   | Possible to program any V/f pattern   |
| Functionality        | Inputs signals  | Five of the following input signals are selectable: Forward/reverse run (3-wire sequence), fault reset, external fault (NO/NC contact input), multi-step speed operation, Jog command, accel/decel time select, external baseblock, speed search command, UP/DOWN command, accel/decel hold command, LOCAL/REMOTE selection, emergency stop fault, emergency stop alarm, self test  |
|                      | Output signals  | Following output signals are selectable (NO/NC contact output, MA, MB and MC relay: Fault, running, zero speed, speed agree, frequency detection (output frequency <= or => set value), undervoltage detection, minor error, during baseblock, operation mode, drive run ready, during fault retry, reverse running, during speed search.   |
|                      | Standard functions  | Full-range automatic torque boost, slip compensation, 9-step speed operation (max.), restart after momentary power loss, DC injection braking current at stop/start (50% of drive rated current, 0.5 sec, or less), frequency reference bias/gain, ME-MOBUS communications (Option), fault retry, speed search, frequency upper/lower limit setting, overtorque detection, frequency jump, accel/decel time switch, accel/decel prohibited, S-curve accel/decel |
|                      | Analogue inputs   | 1 analogue input, 0..10 V, 4..20 mA, 0..20 mA   |
|                      | Braking/acceleration times  | 0.01..6000 s  |
|                      | Display   | Optionally frequency, current or set value<br>Error and status LED  |
| Protection functions | Motor overload protection   | Electronic thermal overload relay   |
|                      | Instantaneous overcurrent   | Motor coasts to a stop at approx. 250% of drive rated current   |
|                      | Overload  | Heavy Duty: Motor coasts to a stop after 1 minute at 150% of drive rated output current<br>Normal Duty: Motor coasts to a stop after 1 minute at 120% of drive rated output current   |
|                      | Overvoltage   | Motor coasts to a stop if DC bus voltage exceed 410 V (double for 400 V class)  |
|                      | Undervoltage  | Stops when DC bus voltage is approx. 190 V or less (double for 400 V class)<br>(approx. 150 V or less for single-phase series)  |
|                      | Momentary power loss  | Following items are selectable: not provided (stop if power loss is 15 ms or longer), continuous operation if power loss is approx. 0.5 s or shorter, continuous operation  |
|                      | Cooling fin overheat  | Protected by thermister   |
|                      | Stall prevention level  | Stall prevention during acceleration/deceleration and constant speed operation  |
|                      | Ground fault  | Protected by electronic circuit (operation level is approx. 250% of rated output current)   |
|                      | Power charge indication   | Indicates until the main circuit voltage reaches 50 V.  |
| Ambient conditions   | Degree of protection  | IP20, NEMA1   |
|                      | Cooling   | Cooling fan is provided for 200 V (3-phase) 0.75 kW (1HP) to 4.0 KW, 200V (single-phase) 1.5 KW<br>400 V 1.5 kW (2HP) to 4.0 KW, others are self-cooling  |
|                      | Ambient humidity  | 95% RH or less (without condensation)   |
|                      | Storage temperature   | -20 °C..+60 °C (short-term temperature during transportation)   |
|                      | Installation  | Indoor (no corrosive gas, dust, etc.)   |
|                      | Installation height   | Max. 1000 m   |
| Vibration            | Up to 9.8 m/s <sup>2</sup> at 10 to less than 20 Hz, Up to 6.37 m/s <sup>2</sup> at 20 to 50 Hz |   |

Dimensions

IP 20 type 0.1 to 4 kW

Figure 1

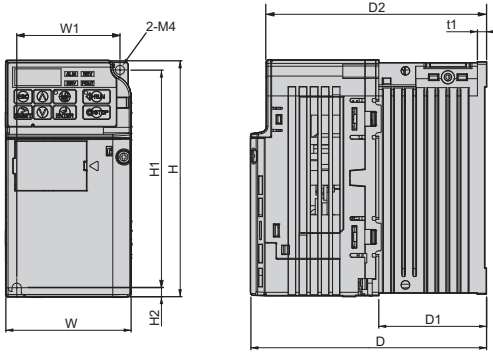
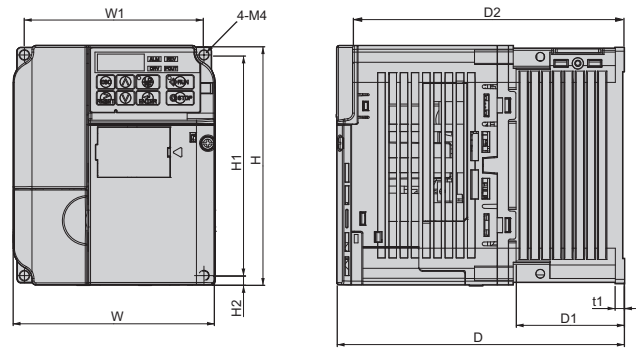


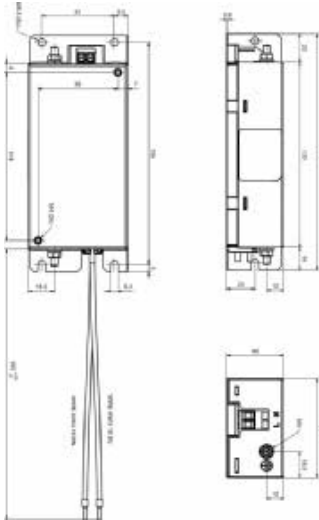
Figure 2



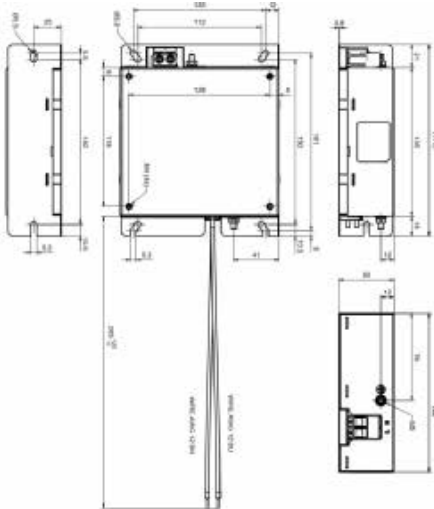
| Voltage class      | Max. applicable motor output kW | Drive model JZA□ | Figure | Dimensions in mm |     |     |       |     |    |      |       |      | Weight |
|--------------------|---------------------------------|------------------|--------|------------------|-----|-----|-------|-----|----|------|-------|------|--------|
|                    |                                 |                  |        | W1               | H1  | W   | H     | D   | t1 | H2   | D1    | D2   |        |
| Single-phase 200 V | 0.12                            | B0P1             | 1      | 56               | 118 | 68  | 128   | 76  | 3  | 5    | 6.5   | 67.5 | 0.6    |
|                    | 0.25                            | B0P2             |        |                  |     |     |       | 0.6 |    |      |       |      |        |
|                    | 0.55                            | B0P4             | 2      | 96               | 108 | 128 | 118   | 5   | 58 | 38.5 | 109.5 | 1.0  |        |
|                    | 1.1                             | B0P7             |        |                  |     |     | 1.7   |     |    |      |       |      |        |
|                    | 1.5                             | B1P5             |        |                  |     |     | 1.8   |     |    |      |       |      |        |
| Three-phase 200 V  | 0.12                            | 20P1             | 1      | 56               | 118 | 68  | 128   | 76  | 3  | 5    | 6.5   | 67.5 | 0.6    |
|                    | 0.25                            | 20P2             |        |                  |     |     |       | 0.6 |    |      |       |      |        |
|                    | 0.55                            | 20P4             | 2      | 96               | 108 | 128 | 108   | 5   | 58 | 38.5 | 119.5 | 0.9  |        |
|                    | 1.1                             | 20P7             |        |                  |     |     | 1.1   |     |    |      |       |      |        |
|                    | 1.5                             | 21P5             |        |                  |     |     | 1.7   |     |    |      |       |      |        |
|                    | 2.2                             | 22P2             | 2      | 128              | 140 | 128 | 129   | 5   | 5  | 65   | 134.5 | 1.7  |        |
|                    | 4.0                             | 24P0             |        |                  |     |     | 1.7   |     |    |      |       |      |        |
| Three-phase 400 V  | 0.37                            | 40P2             | 2      | 96               | 118 | 108 | 128   | 81  | 5  | 5    | 10    | 72.5 | 1.0    |
|                    | 0.55                            | 40P4             |        |                  |     |     |       | 99  |    |      |       |      | 1.2    |
|                    | 1.1                             | 40P7             | 2      | 128              | 140 | 128 | 137.5 | 5   | 5  | 58   | 145.5 | 1.7  |        |
|                    | 1.5                             | 41P5             |        |                  |     |     | 1.7   |     |    |      |       |      |        |
|                    | 2.2                             | 42P2             |        |                  |     |     | 1.7   |     |    |      |       |      |        |
|                    | 3.0                             | 43P0             | 2      | 128              | 140 | 128 | 154   | 5   | 5  | 65   | 134.5 | 1.7  |        |
|                    | 4.0                             | 44P0             |        |                  |     |     | 2.4   |     |    |      |       |      |        |

EMC Filters

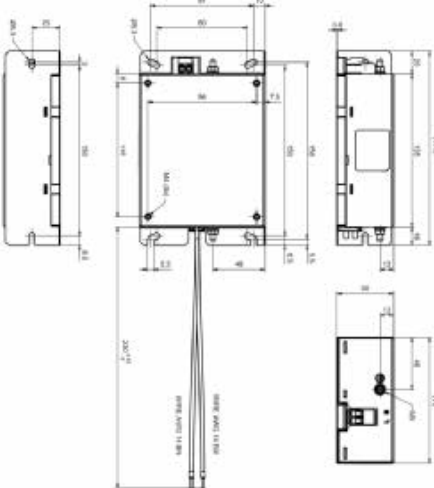
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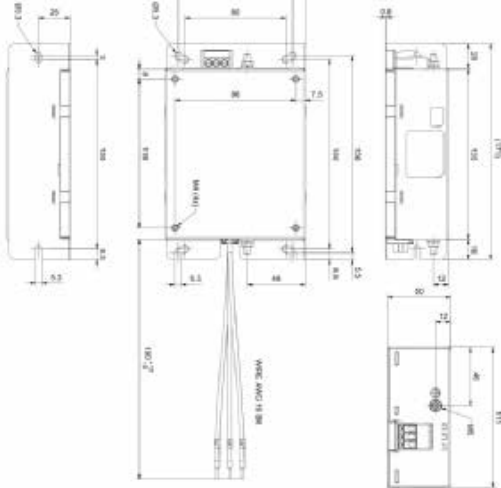
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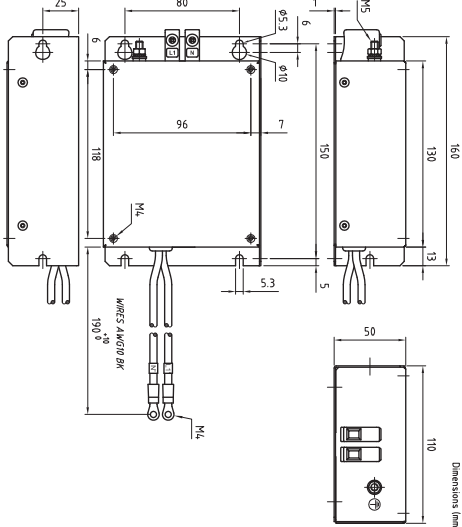
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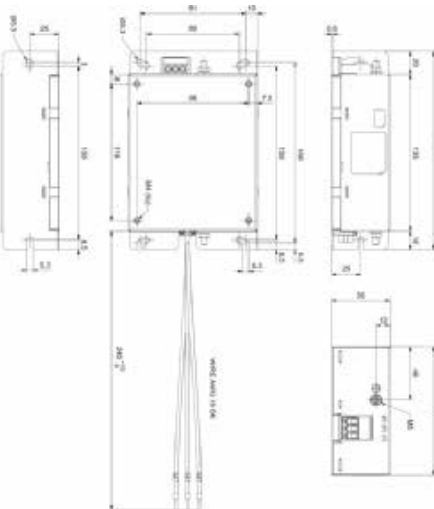
AX-FIC4005-SE



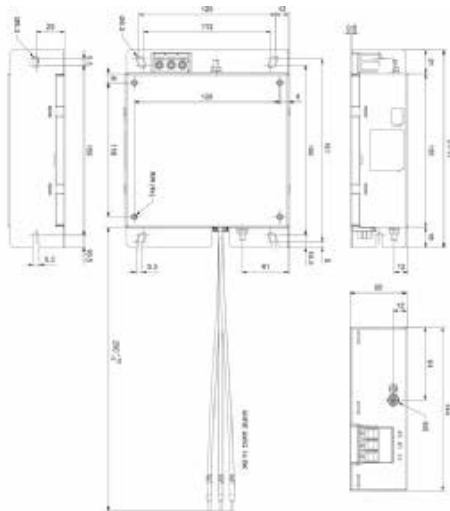
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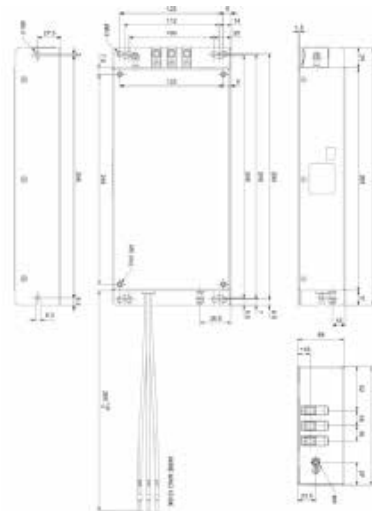
AX-FIC4010-SE



AX-FIC4015-SE

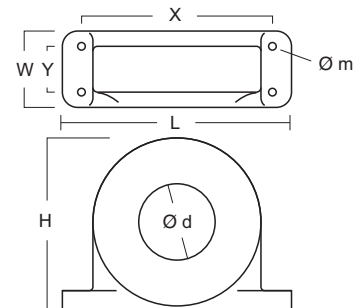


AX-FIC4030-SE



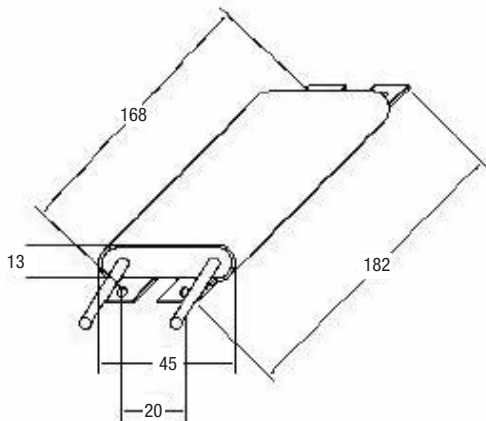
Chokes

| Description      | D diameter | Motor KW | Dimensions |    |    |    |   |   | Weight Kg |
|------------------|------------|----------|------------|----|----|----|---|---|-----------|
|                  |            |          | L          | W  | H  | X  | Y | m |           |
| A1000-FEV2102-RE | 21         | < 2.2    | 85         | 22 | 46 | 70 | - | 5 | 0.1       |
| A1000-FEV2515-RE | 25         | < 15     | 105        | 25 | 62 | 90 | - | 5 | 0.2       |

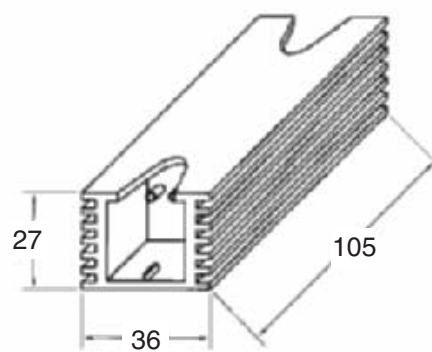


Resistor Dimensions

A1000-REJ0K15xxx

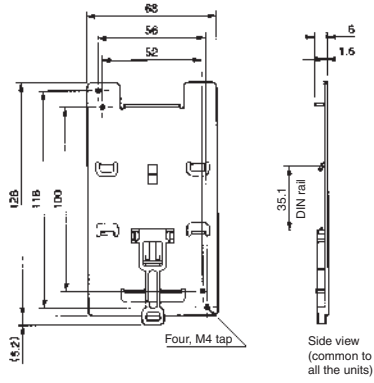


A1000-REJ0K10xxx

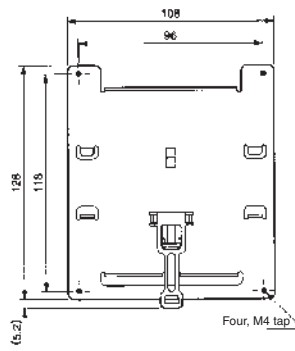


DIN rail mounting bracket

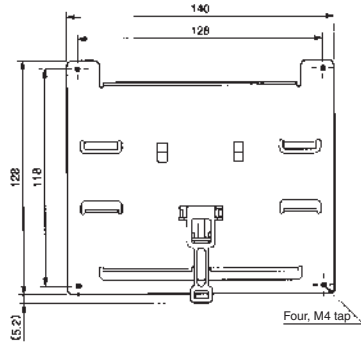
EZZ08122A



EZZ08122B



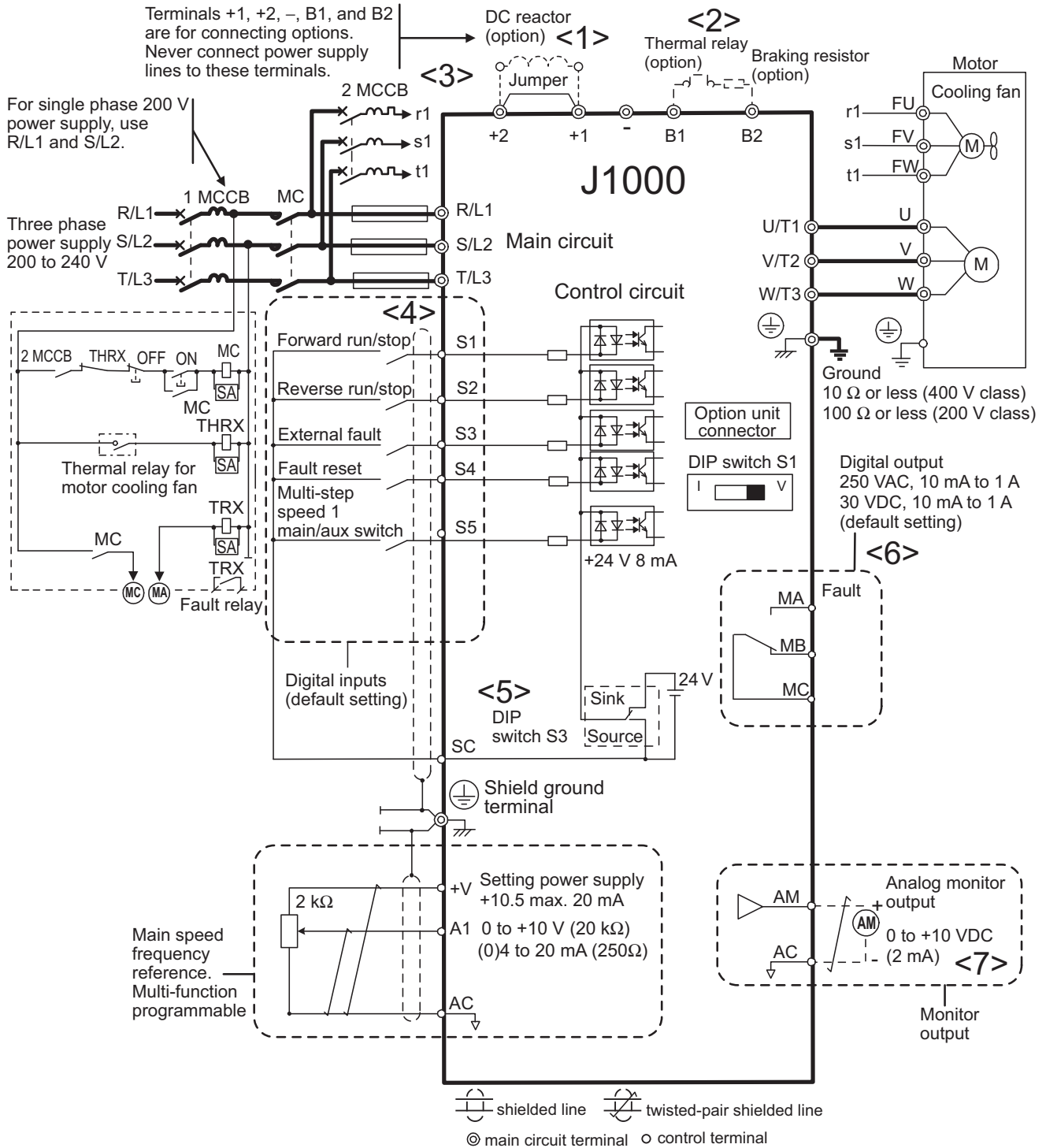
EZZ08122C



| Drive JZ□            |                              | DIN rail mounting bracket |
|----------------------|------------------------------|---------------------------|
| 3-phase 200 VAC      | 20P1/ 20P2 / 20P4/ 20P7      | EZZ08122A                 |
|                      | 21P5/ 22P2                   | EZZ08122B                 |
|                      | 24P0                         | EZZ08122C                 |
| Single-phase 200 VAC | B0P1/ B0P2/ B0P4             | EZZ08122A                 |
|                      | B0P7/ B1P5                   | EZZ08122B                 |
| 3-phase 400 VAC      | 40P2/ 40P4/ 40P7/ 41P5/ 42P2 | EZZ08122B                 |
|                      | 44P0                         | EZZ08122C                 |

Installation

Standard connections



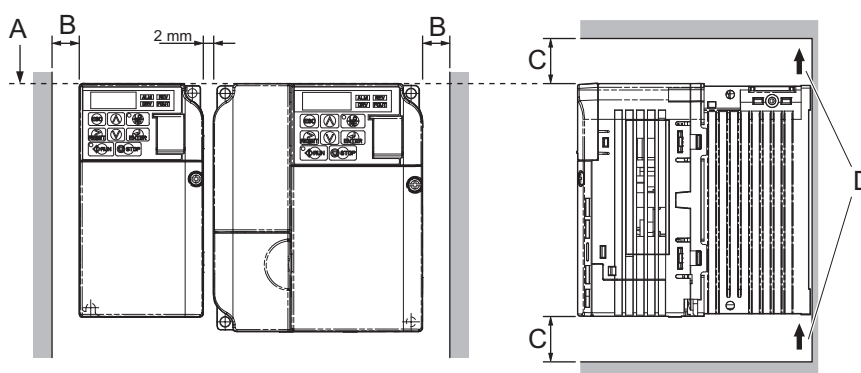
Main circuit

| Terminal         | Name                            | Function (signal level)  |
|------------------|---------------------------------|--|
| R/L1, S/L2, T/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 S/L2 (T/L3 is not connected to anything) |
| U/T1, V/T2, W/T3 | Drive output                    | Used to connect the motor  |
| B1, B2           | Braking resistor connection     | Available for connecting a braking resistor or the braking resistor unit option.   |
| +2, +1           | DC reactor connection           | Remove the short bar between +2 and +1 when connecting DC reactor (option)   |
| +1, -            | DC power supply input           | For power supply input (+1: positive electrode; - : negative electrode)*   |
| ⊕                | Grounding                       | For grounding (grounding should conform to the local grounding code.)  |



Control Circuit

| Type                   | No. | Signal name                           | Function   | Signal level  |
|------------------------|-----|---------------------------------------|--|---|
| Digital input signals  | S1  | Multi-function input selection 1      | Factory setting: runs when CLOSED, stops when OPEN.  | 24 VDC, 8 mA photocoupler insulation                            |
|                        | S2  | Multi-function input selection 2      | Factory setting: runs when CLOSED, stops when OPEN.  |   |
|                        | S3  | Multi-function input selection 3      | Factory setting: External Fault (N.O.)   |   |
|                        | S4  | Multi-function input selection 4      | Factory setting: Fault reset   |   |
|                        | S5  | Multi-function input selection 5      | Factory setting: Multi-step speed cmd 1  |   |
|                        | SC  | Multi-function input selection Common | Common for control signal  |   |
| Analog input signal    | FS  | Power Supply for Frequency Setting    | +10 V (allowable max current 20 mA)  |   |
|                        | FR1 | Main Speed Freq Ref                   | Voltage input or current input<br>0 to +10 VDC (20 kΩ) (resolution 1/1000)<br>4 to 20 mA (250 Ω) or 0 to 20 mA (250 Ω) Resolution: 1/500 |   |
|                        | FC  | Frequency reference common            | 0 V  |   |
| Digital output signals | MA  | NO contact output                     | Factory setting: "fault"   | Contact capacity<br>250 VAC, 1 A or less<br>30 VDC, 1 A or less |
|                        | MB  | NC Output                             |  |   |
|                        | MC  | Relay Output common                   |  |   |
| Analog output signals  | AM  | Analog monitor output                 | Factory setting: "output frequency" 0 to +10 V output Resolution: 1/1000   | 0 to 10 V 2 mA or less<br>Resolution: 8 bits                    |
|                        | AC  | Analog monitor common                 | 0 V  |   |



A- Line up the tops of the drives.

B- 30 mm minimum.

C - 100 mm minimum

D - Airflow direction

Drive heat loss

Three-phase 200 V class

| Model JZA                |                 | 20P1        | 20P2 | 20P4 | 20P7       | 21P5 | 22P2  | 24P0  |
|--------------------------|-----------------|-------------|------|------|------------|------|-------|-------|
| Drive capacity kVA at HD |                 | 0.3         | 0.6  | 1.1  | 1.9        | 3.0  | 4.2   | 6.7   |
| Drive capacity kVA at ND |                 | 0.5         | 0.7  | 1.3  | 2.3        | 3.7  | 4.6   | 7.5   |
| Rated current (A) at HD  |                 | 0.8         | 1.6  | 3    | 5          | 8    | 11    | 17.5  |
| Rated current (A) at ND  |                 | 1.2         | 1.9  | 3.5  | 6.0        | 9.6  | 12.0  | 19.6  |
| Heat loss W HD           | Fin             | 4.3         | 7.9  | 16.1 | 27.4       | 54.8 | 70.7  | 110.5 |
|                          | Inside unit     | 7.3         | 8.8  | 11.5 | 15.9       | 23.8 | 30.0  | 43.3  |
|                          | Total heat loss | 11.6        | 16.7 | 27.7 | 43.3       | 78.6 | 100.6 | 153.8 |
| Heat loss W ND           | Fin             | 4.7         | 7.2  | 14.0 | 35.6       | 48.6 | 57.9  | 93.3  |
|                          | Inside unit     | 7.9         | 9.4  | 13.4 | 16.9       | 25.0 | 29.6  | 45.0  |
|                          | Total heat loss | 12.6        | 16.6 | 28.5 | 43.1       | 73.6 | 87.5  | 138.2 |
| Cooling Method           |                 | Self Cooled |      |      | Fan Cooled |      |       |       |

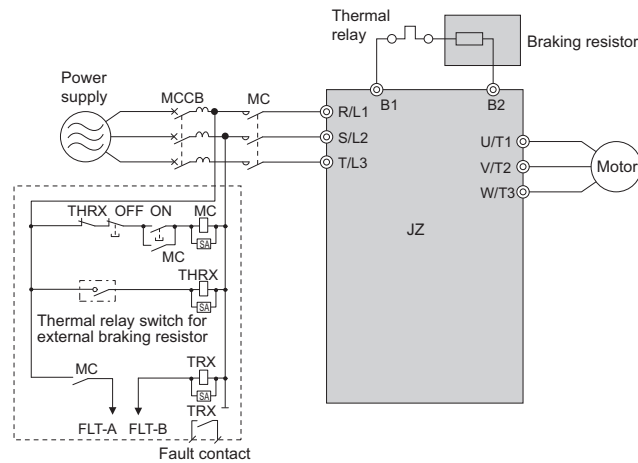
Single-phase 200 V class

| Model JZA                |                 | B0P1        | B0P2 | B0P4 | B0P7       | B1P5 |
|--------------------------|-----------------|-------------|------|------|------------|------|
| Drive capacity kVA at HD |                 | 0.3         | 0.6  | 1.1  | 1.9        | 3.0  |
| Drive capacity kVA at ND |                 | 0.5         | 0.7  | 1.3  | 2.3        | 3.7  |
| Rated current (A) at HD  |                 | 0.8         | 1.6  | 3    | 5          | 8    |
| Rated current (A) at ND  |                 | 1.2         | 1.9  | 3.5  | 6.0        | 9.6  |
| Heat loss W HD           | Fin             | 4.3         | 7.9  | 16.1 | 42.5       | 54.8 |
|                          | Inside unit     | 7.4         | 8.9  | 11.5 | 19.0       | 25.9 |
|                          | Total heat loss | 11.7        | 16.7 | 27.7 | 61.5       | 80.7 |
| Heat loss W ND           | Fin             | 4.7         | 7.2  | 15.1 | 26.2       | 48.6 |
|                          | Inside unit     | 8.4         | 9.6  | 14.3 | 20.8       | 29.0 |
|                          | Total heat loss | 13.1        | 16.8 | 28.3 | 56.5       | 77.6 |
| Cooling Method           |                 | Self Cooled |      |      | Fan Cooled |      |

## Three-phase 400 V class

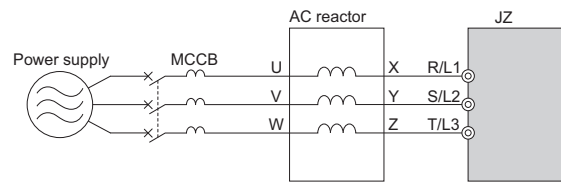
| Model JZA                |                 | 40P2        | 40P4 | 40P7 | 41P5       | 42P2  | 43P0  | 44P0  |
|--------------------------|-----------------|-------------|------|------|------------|-------|-------|-------|
| Drive capacity kVA at HD |                 | 0.9         | 1.4  | 2.6  | 3.7        | 4.2   | 5.5   | 7.0   |
| Drive capacity kVA at ND |                 | 0.9         | 1.6  | 3.1  | 4.1        | 5.3   | 6.7   | 8.5   |
| Rated current (A) at HD  |                 | 1.2         | 1.8  | 3.4  | 4.8        | 5.5   | 7.2   | 9.2   |
| Rated current (A) at ND  |                 | 1.2         | 2.1  | 4.1  | 5.4        | 6.9   | 8.8   | 11.1  |
| Heat loss W HD           | Fin             | 19.2        | 28.9 | 42.3 | 70.7       | 81.0  | 84.6  | 107.2 |
|                          | Inside unit     | 11.4        | 14.9 | 17.9 | 26.2       | 30.7  | 32.9  | 41.5  |
|                          | Total heat loss | 30.6        | 43.7 | 60.2 | 96.9       | 111.7 | 117.5 | 148.7 |
| Heat loss W ND           | Fin             | 8.2         | 15.5 | 26.4 | 37.5       | 49.7  | 55.7  | 71.9  |
|                          | Inside unit     | 9.2         | 13.1 | 15.8 | 20.0       | 26.3  | 29.4  | 43.6  |
|                          | Total heat loss | 17.4        | 28.6 | 42.2 | 57.5       | 76.0  | 85.1  | 115.5 |
| Cooling Method           |                 | Self Cooled |      |      | Fan Cooled |       |       |       |

### Connections for braking resistor



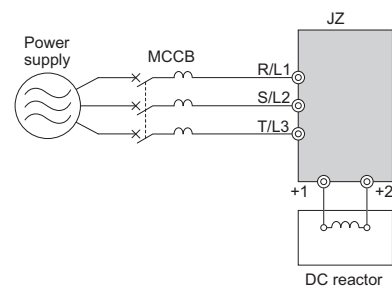
### AC reactor

| 200 V class                     |                 |               | 400 V class                     |                 |               |
|---------------------------------|-----------------|---------------|---------------------------------|-----------------|---------------|
| Max. applicable motor output kW | Current value A | Inductance mH | Max. applicable motor output kW | Current value A | Inductance mH |
| 0.12                            | 2.0             | 2.0           |                                 |                 |               |
| 0.25                            | 2.0             | 2.0           | 0.2                             | 1.3             | 18.0          |
| 0.55                            | 2.5             | 4.2           | 0.4                             |                 |               |
| 1.1                             | 5               | 2.1           | 0.75                            | 2.5             | 8.4           |
| 1.5                             | 10              | 1.1           | 1.5                             | 5               | 4.2           |
| 2.2                             | 15              | 0.71          | 2.2                             | 7.5             | 3.6           |
| 4.0                             | 20              | 0.53          | 4.0                             | 10              | 2.2           |

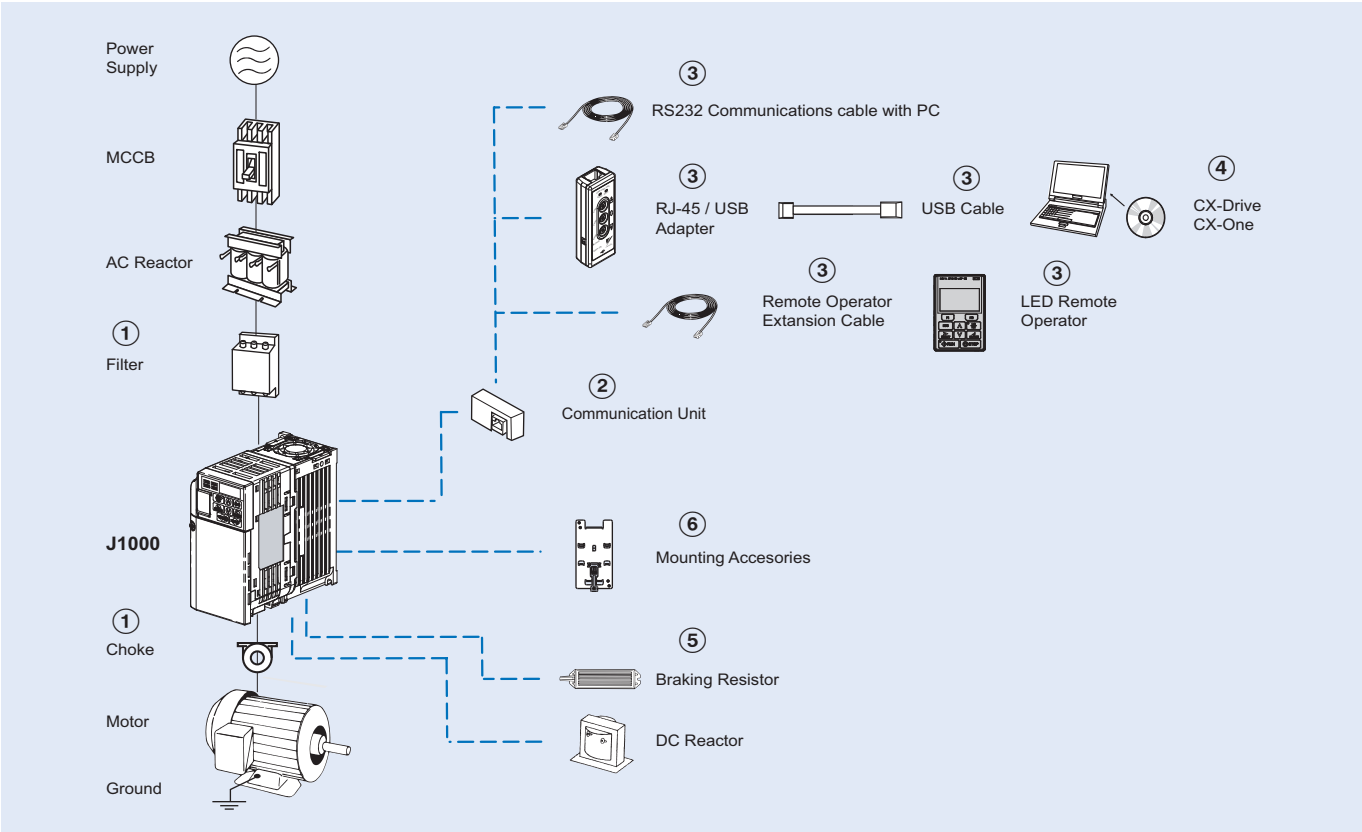


### DC reactor

| 200 V class                     |                 |               | 400 V class                     |                 |               |
|---------------------------------|-----------------|---------------|---------------------------------|-----------------|---------------|
| Max. applicable motor output kW | Current value A | Inductance mH | Max. applicable motor output kW | Current value A | Inductance mH |
| 0.12                            |                 |               |                                 |                 |               |
| 0.25                            | 5.4             | 8             | 0.2                             | 3.2             | 28            |
| 0.55                            |                 |               | 0.4                             |                 |               |
| 1.1                             |                 |               | 0.75                            |                 |               |
| 1.5                             | 18              | 3             | 1.5                             | 5.7             | 11            |
| 2.2                             |                 |               | 2.2                             |                 |               |
| 4.0                             |                 |               | 4.0                             |                 |               |
|                                 |                 |               | 4.0                             | 12              | 6.3           |



Ordering information



J1000

|         | Specifications |        |             |        | Model      |
|---------|----------------|--------|-------------|--------|------------|
|         | Heavy Duty     |        | Normal Duty |        | Standard   |
| 1x200 V | 0.1 kW         | 0.8 A  | 0.2 kW      | 1.2 A  | JZAB0P1BAA |
|         | 0.2 kW         | 1.6 A  | 0.4 kW      | 1.9 A  | JZAB0P2BAA |
|         | 0.4 kW         | 3.0 A  | 0.75 kW     | 3.5 A  | JZAB0P4BAA |
|         | 0.75 kW        | 5.0 A  | 1.1 kW      | 6.0 A  | JZAB0P7BAA |
|         | 1.5 kW         | 8.0 A  | 2.2 kW      | 9.6 A  | JZAB1P5BAA |
| 3x200 V | 0.1 kW         | 0.8 A  | 0.2 kW      | 1.2 A  | JZA20P1BAA |
|         | 0.2 kW         | 1.6 A  | 0.4 kW      | 1.9 A  | JZA20P2BAA |
|         | 0.4 kW         | 3.0 A  | 0.75 kW     | 3.5 A  | JZA20P4BAA |
|         | 0.75 kW        | 5.0 A  | 1.1 kW      | 6.0 A  | JZA20P7BAA |
|         | 1.5 kW         | 8.0 A  | 2.2 kW      | 9.6 A  | JZA21P5BAA |
|         | 2.2 kW         | 11.0 A | 3.0 kW      | 12.0 A | JZA22P2BAA |
|         | 4.0 kW         | 17.5 A | 5.5 kW      | 19.6 A | JZA24P0BAA |
| 3x400 V | 0.2 kW         | 1.2 A  | 0.4 kW      | 1.2 A  | JZA40P2BAA |
|         | 0.4 kW         | 1.8 A  | 0.75 kW     | 2.1 A  | JZA40P4BAA |
|         | 0.75 kW        | 3.4 A  | 1.5 kW      | 4.1 A  | JZA40P7BAA |
|         | 1.5 kW         | 4.8 A  | 2.2 kW      | 5.4 A  | JZA41P5BAA |
|         | 2.2 kW         | 5.5 A  | 3.0 kW      | 6.9 A  | JZA42P2BAA |
|         | 3.0 kW         | 7.2 A  | 3.7 kW      | 8.8 A  | JZA43P0BAA |
|         | 4.0 kW         | 9.2 A  | 5.5 kW      | 11.1 A | JZA44P0BAA |

① Line filters

| Drive                   |                    | Standard                   |                   | Low leakage                   |                   |
|-------------------------|--------------------|----------------------------|-------------------|-------------------------------|-------------------|
| Voltage                 | Model JZA□         | Reference                  | Rated current (A) | Reference                     | Rated current (A) |
| 3-Phase<br>200 VAC      | 20P1 / 20P2 / 20P4 | AX-FIC4005-SE              | 4.3               | AX-FIC4005-SE-LL              | 4.3               |
|                         | 20P7               | AX-FIC4010-SE              | 9.4               | AX-FIC4010-SE-LL              | 9.4               |
|                         | 21P5 / 22P2        | AX-FIC4015-SE              | 14                | AX-FIC4015-SE-LL              | 14                |
|                         | 24P0               | AX-FIC4030-SE              | 24                | AX-FIC4030-SE-LL              | 24                |
| Single-Phase<br>200 VAC | B0P1 / B0P2 / B0P4 | AX-FIC1010-SE              | 7.3               | AX-FIC1010-SE-LL              | 7.3               |
|                         | B0P7               | AX-FIC1020-SE              | 13.8              | AX-FIC1020-SE-LL              | 13.8              |
|                         | B1P5               | AX-FIM1024-SE <sup>1</sup> | 27                | AX-FIM1024-SE-LL <sup>1</sup> | 27                |
|                         |                    | AX-FIC1030-SE <sup>2</sup> | 24                | AX-FIC1030-SE-LL <sup>2</sup> | 24                |
| 3-Phase<br>400 VAC      | 40P2 / 40P4 / 40P7 | AX-FIC4005-SE              | 4.3               | AX-FIC4005-SE-LL              | 4.3               |
|                         | 41P5 / 42P2 / 43P0 | AX-FIC4010-SE              | 9.4               | AX-FIC4010-SE-LL              | 9.4               |
|                         | 44P0               | AX-FIC4015-SE              | 14                | AX-FIC4015-SE-LL              | 14                |

1. No UL approved
2. No footprint

Note: Filters for 200V Three-phase inverter are not footprint

① Chokes

| Model            | Diameter | Description                         |
|------------------|----------|-------------------------------------|
| A1000-FEV2102-RE | 21       | Recommended for motors below 2.2 KW |
| A1000-FEV2515-RE | 25       | Recommended for motors below 15 KW  |

② Communication cards

| Type         | Model     | Description                                | Function   |
|--------------|-----------|--|--|
| Option units | SI-232/JC | RS-232C serial communication interface     | • RS232C communications interface to connect the drive to a PC or the optional copy unit |
|              | SI-232/J  | Remote operator interface                  | • RS232C communication interface for usage with the external LED operator JVOP-182       |
|              | SI-485/J  | RS-422/485 Serial communications interface | • Interface for RS-422/485 communications using the MEMOBUS/Modbus RTU protocol          |
|              | AI-V3/J   | Potentiometer Option                       | • Potentiometer option for setting the frequency reference directly at the drive         |

③ Accessories

| Types            | Model             | Description               | Functions   |
|------------------|-------------------|---------------------------|---|
| Digital operator | JVOP-182          | LED remote operator       | Remote operator with LED display and copy function, cable length max. 3m.   |
|                  | A1000-CAVOP300-EE | Remote operator cable     | 3 meters cable for connecting remote operator   |
| Accessories      | JVOP-181          | USB converter / USB cable | Allows the user to copy and verify parameter settings between drives. Can also be used as adapter to connect the drive to a PC USB port. SI-232/JC option is required |
|                  | A1000-CAVPC232-EE | PC connection cable       | RS232 PC tool connection cable  |

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 |

⑤ Braking unit, braking resistor unit

| Voltage                            | Max. applicable motor output kW | Drive            |         |                               | Braking resistor unit                  |              |             |                  |
|------------------------------------|---------------------------------|------------------|---------|-------------------------------|--|--------------|-------------|------------------|
|                                    |                                 | Drive model JZA□ |         | Connectable min. resistance Ω | Drive-mounted type (3 %ED, 10 sec max) |              |             |                  |
|                                    |                                 | 3-phase          | 1-phase |                               | Type                                   | Resistance Ω | No. of used | Braking torque % |
| 200 V<br>(single-/<br>three-phase) | 0.12                            | 20P1             | B0P1    | 300                           | A1000-REJ0K15400-IE                    | 400          | 1           | 220              |
|                                    | 0.25                            | 20P2             | B0P2    | 300                           |  |              |             | 220              |
|                                    | 0.55                            | 20P4             | B0P4    | 200                           | A1000-REJ0K15200-IE                    | 200          | 1           | 220              |
|                                    | 1.1                             | 20P7             | B0P7    | 120                           |  |              |             | 125              |
|                                    | 1.5                             | 21P5             | B1P5    | 60                            | A1000-REJ0K15100-IE                    | 100          | 1           | 125              |
|                                    | 2.2                             | 22P2             | -       | 60                            | A1000-REJ0K15070-IE                    | 70           | 1           | 120              |
|                                    | 4.0                             | 24P0             | -       | 32                            | A1000-REJ0K15062-IE                    | 62           | 1           | 100              |
| 400 V<br>(three-phase)             | 0.37                            | 40P2             | -       | 750                           | A1000-REJ0K10750-IE                    | 750          | 1           | 230              |
|                                    | 0.55                            | 40P4             | -       | 750                           |  |              |             | 230              |
|                                    | 1.1                             | 40P7             | -       | 510                           |  |              |             | 130              |
|                                    | 1.5                             | 41P5             | -       | 240                           | A1000-REJ0K15400-IE                    | 400          | 1           | 125              |
|                                    | 2.2                             | 42P2             | -       | 200                           | A1000-REJ0K15300-IE                    | 300          | 1           | 115              |
|                                    | 3.0                             | 43P0             | -       | 100                           | A1000-REJ0K15400-IE                    | 400          | 2           | 105              |
|                                    | 4.0                             | 44P0             | -       |                               |  |              |             |                  |

⑥ Mounting accessories

| Types                                 | Model       | Description  | Applicable models JZA□                             |
|---------------------------------------|-------------|--|--|
| DIN Rail                              | EZZ08122A   | Necessary to mount the drive on a DIN rail                               | 20P1/20P2/20P4/20P7<br>B0P1/B0P2/B0P4              |
|                                       | EZZ08122B   |  | 21P5/22P2<br>B0P7/B1P5<br>40P2/40P4/40P7/41P5/42P2 |
|                                       | EZZ08122C   |  | 24P0<br>B2P2<br>44P0                               |
| Heatsink external mounting attachment | 100-034-075 | Additional items to mount the drive with the heatshink out of the panel. | 20P1/20P2<br>B0P1/B0P2                             |
|                                       | 100-034-076 |  | 20P4<br>B0P4                                       |
|                                       | 100-034-077 |  | 20P7   |
|                                       | 100-034-078 |  | 40P2   |
|                                       | 100-034-79  |  | 21P5/22P2<br>B1P5<br>41P5/42P2/43P0                |
|                                       | 100-034-80  |  | 24P0<br>B2P2<br>44P0                               |
|                                       | 100-036-357 |  | B4P0   |
|                                       | 100-036-418 |  | B0P7<br>40P4/40P7                                  |

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.  
To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.