YASKAWA

J1000

Compact Inverter Series

www.yaskawa.eu.com

Focus on Application

Customer orientation and application focus – two attributes of machine equipment YASKAWA offers with its J1000 compact inverter drive series. The J1000 meets all automation requirements for compact applications with variable speed operation and energy saving characteristics. A wide range of useful functions upgrade your machine and offer great potentials. The concept of small size and easy handling with the famous YASKAWA reliability makes the J1000 an alternative in the drive market not only cost wise.

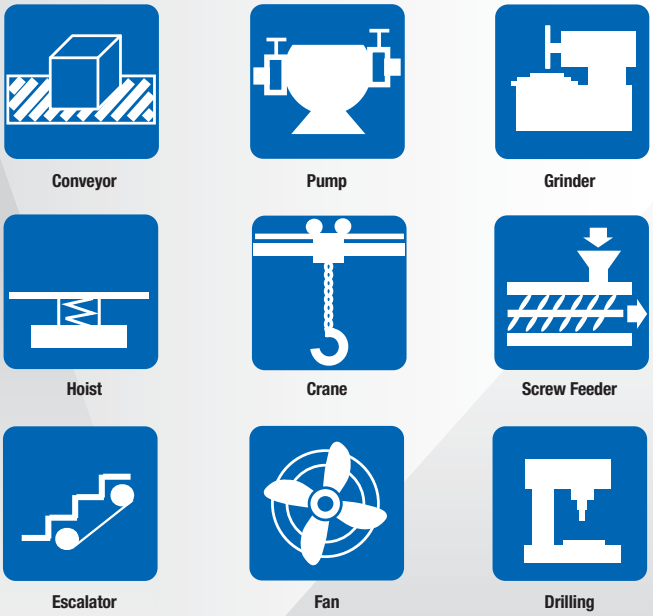
Wherever You Are - Our Support Team is Always Close to You

More than 14.600 Employees Worldwide

More than 1.350 Employees in our Global Service Network

More than 1.250 Employees in Europe

Applications



Features & Functions

Performance

- Outstanding power to size ratio and gapless side-by-side installation reduce the mounting space to a minimum
- International Standards: RoHS, CE, cUL, UL compliance
- High starting torque
- Accurate speed, regardless of load conditions
- Speed Search for smooth start of coasting motors
- Stall prevention for reliable handling of overload conditions

Functions

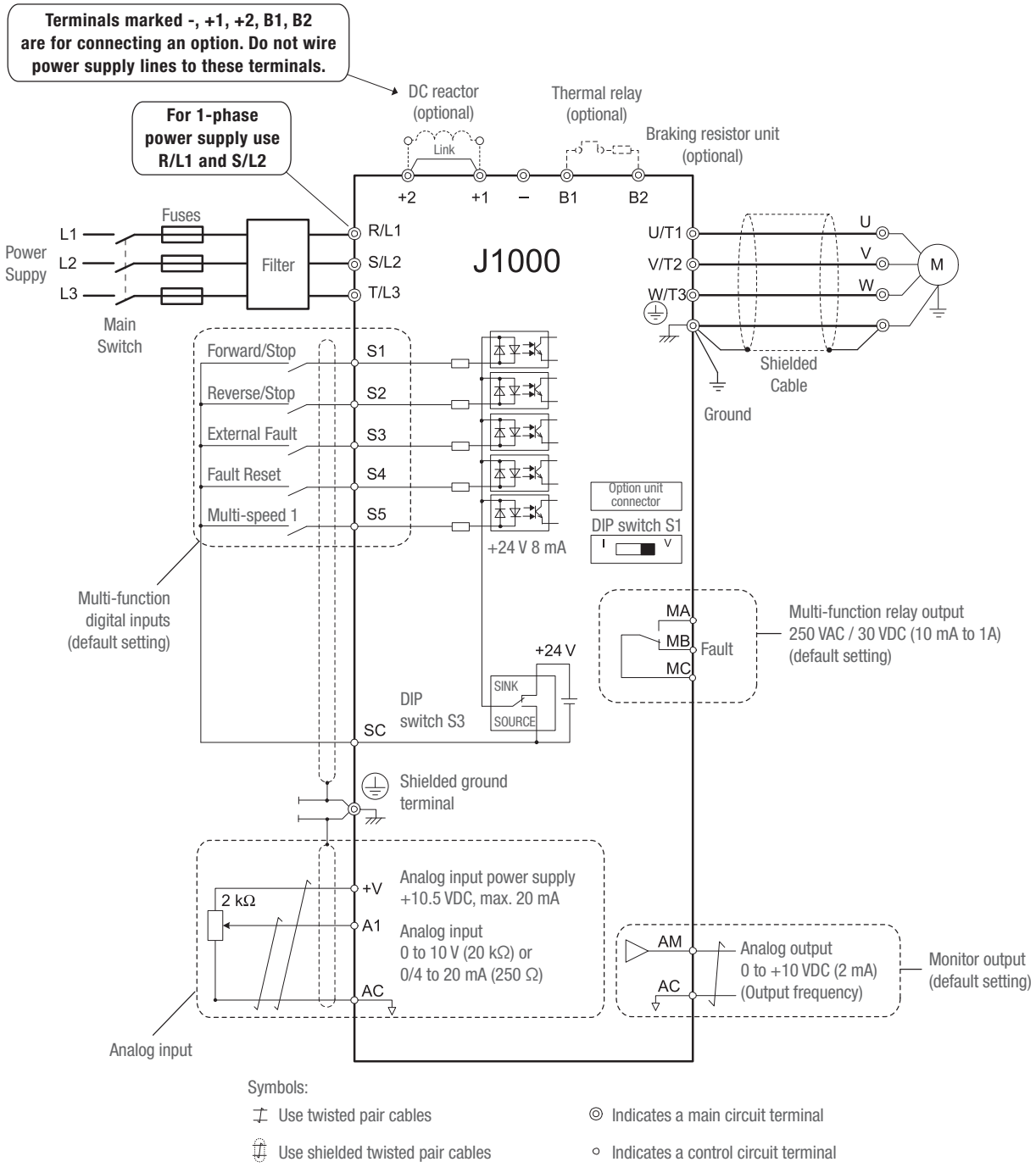
- J1000 automatically sets parameters needed for major applications. The same easily understandable parameter structure like in other YASKAWA 1000 series drives allows hassle free setup in shortest time.
- Parameter Verify, lists changed settings
- Built-in Digital Operator with 5-digit display
- Small Design – Big Power: 150% overload in heavy duty mode. 120% overload in normal duty mode allowing smaller size inverter to do the job of a bigger one.
- Drive Wizard Plus – Freely available parameter set-up and maintenance tool

Options

- Parameter Copy Unit
- LED and LCD Remote Operator
- Serial Communication Option – Compatible with RS-422/485 Interface for MEMOBUS communication
- Speed Potentiometer
- EMC-Filter
- Braking Resistors

Technical Information

Connection Diagram



Model Code

CIMR- J C B A 0001 B A A

Product Series
J1000

Region Code
C: Europe

Voltage Class
B: Single-phase 230 VAC
2: Three-phase 230 VAC
4: Three-phase 400 VAC

Specification
A: Standard

Inverter Model No.
0001 to 0020

Type
B: Standard fin, IP20 without top cover
J: Finless (IP20)

Coating and Protection
A: Standard

Version
A: Version A

IP20 Enclosure

Self-cooled, Fan-cooled

Single-phase, 200 V class

Catalog Code CIMR-JC	Fig.	Dimensions in mm									Weight (kg)	Cooling
		W	H	D	W1	H1	H2	D1	D2	t1		
BA0001B	1	68	128	76	56	118	5	6.5	67.5	3	0.6	Self-cooled
BA0002B	1	68	128	76	56	118	5	6.5	67.5	3	0.6	Self-cooled
BA0003B	1	68	128	118	56	118	5	38.5	109.5	5	1.0	Self-cooled
BA0006B	2	108	128	137.5	96	118	5	58	129	5	1.7	Self-cooled
BA0010B	2	108	128	154	96	118	5	58	145.5	5	1.8	Fan cooled

Three-phase, 200 V class

Catalog Code CIMR-JC	Fig.	Dimensions in mm									Weight (kg)	Cooling
		W	H	D	W1	H1	H2	D1	D2	t1		
2A0001B	1	68	128	76	56	118	5	6.5	67.5	3	0.6	Self-cooled
2A0002B	1	68	128	76	56	118	5	6.5	67.5	3	0.6	Self-cooled
2A0004B	1	68	128	108	56	118	5	38.5	99.5	5	0.9	Self-cooled
2A0006B	1	68	128	128	56	118	5	58.5	119.5	5	1.1	Fan cooled
2A0010B	2	108	128	129	96	118	5	58	120.5	5	1.7	Fan cooled
2A0012B	2	108	128	137.5	96	118	5	58	129	5	1.7	Fan cooled
2A0020B	2	140	128	143	128	118	5	65	134.5	5	2.4	Fan cooled

Three-phase, 400 V class

Catalog Code CIMR-JC	Fig.	Dimensions in mm									Weight (kg)	Cooling
		W	H	D	W1	H1	H2	D1	D2	t1		
4A0001B	2	108	128	81	96	118	5	10	72.5	5	1.0	Self-cooled
4A0002B	2	108	128	99	96	118	5	28	90.5	5	1.2	Self-cooled
4A0004B	2	108	128	137.5	96	118	5	58	129	5	1.7	Self-cooled
4A0005B	2	108	128	154	96	118	5	58	145.5	5	1.7	Fan cooled
4A0007B	2	108	128	154	96	118	5	58	145.5	5	1.7	Fan cooled
4A0009B	2	108	128	154	96	118	5	58	145.5	5	1.7	Fan cooled
4A0011B	2	140	128	143	128	118	5	65	134.5	5	2.4	Fan cooled

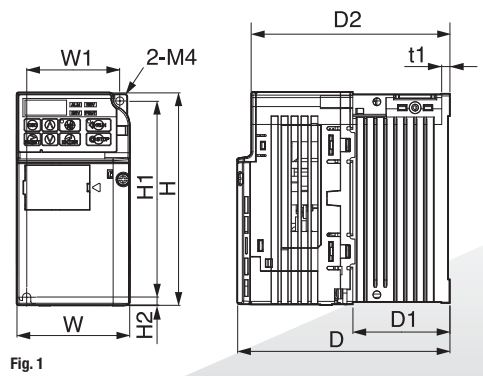


Fig. 1

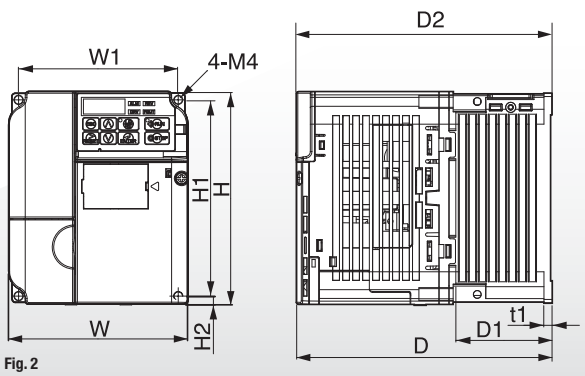


Fig. 2

IP20 Enclosure

Cold Plate

Single-phase, 200 V class

Catalog Code CIMR-JC	Fig.	Dimensions in mm								Weight (kg)
		W	H	D	W1	H1	H2	D2	t1	
BA0001J	1	68	128	71	56	118	5	62.5	3	0.6
BA0002J	1	68	128	71	56	118	5	62.5	3	0.6
BA0003J	1	68	128	81	56	118	5	72.5	3	0.8
BA0006J	2	108	128	76	56	118	5	67.5	4	0.6
BA0010J	2	108	128	76	56	118	5	67.5	4	0.6

Three-phase, 200 V class

Catalog Code CIMR-JC	Fig.	Dimensions in mm								Weight (kg)
		W	H	D	W1	H1	H2	D2	t1	
2A0001J	1	68	128	71	56	118	5	62.5	3	0.6
2A0002J	1	68	128	71	56	118	5	62.5	3	0.6
2A0004J	1	68	128	71	56	118	5	62.5	3	0.7
2A0006J	1	68	128	71	56	118	5	62.5	3	0.7
2A0008J	2	108	128	71	96	118	5	62.5	4	1.0
2A0010J	2	108	128	71	96	118	5	62.5	4	1.0
2A0012J	2	108	128	71	96	118	5	71.0	4	1.0
2A0018J	3	140	128	71	128	118	5	69.5	4	1.3
2A0020J	3	140	128	79.5	128	118	5	69.5	4	1.3

Three-phase, 400 V class

Catalog Code CIMR-JC	Fig.	Dimensions in mm								Weight (kg)
		W	H	D	W1	H1	H2	D2	t1	
4A0001J	2	108	128	71	96	118	5	62.5	4	0.9
4A0002J	2	108	128	71	96	118	5	62.5	4	0.9
4A0004J	2	108	128	79.5	96	118	5	71.0	4	1.0
4A0005J	2	108	128	96	96	118	5	87.5	4	1.0
4A0007J	2	108	128	96	96	118	5	87.5	4	1.1
4A0009J	2	108	128	96	96	118	5	87.5	4	1.1
4A0011J	3	140	128	78	128	118	5	69.5	4	1.3

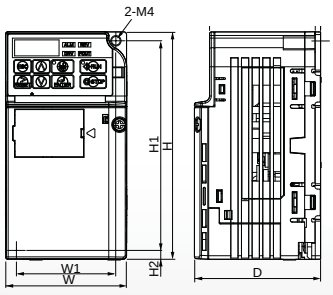


Fig. 1

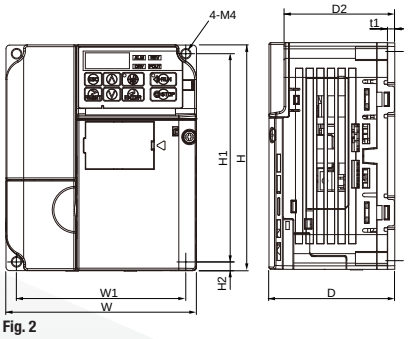


Fig. 2

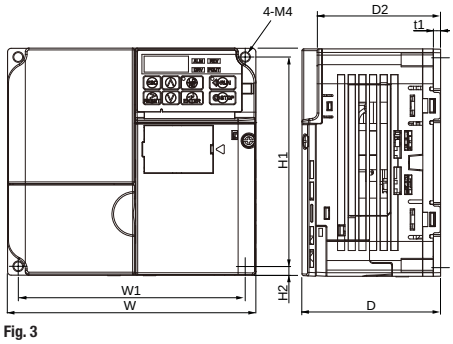


Fig. 3

Specifications

Control characteristics	
Control methods	V/f Control
Frequency Control Range	0.01 to 400 Hz
Frequency Accuracy	Digital input: within ±0.01% of the max. output frequency (-10 °C to +50 °C) Analog input: within ±0.5% of the max. output frequency (25 °C ±10 °C)
Frequency Setting Resolution	Digital input: 0.01 Hz Analog input: 1/1000 of max. frequency
Starting Torque	150% / 3 Hz
Speed Control Range	1:20
Main Control Functions	Momentary power loss ride-thru, Speed search, Multi-Step Speed (max. 9 steps), Accel/decel time switch, S-curve accel/decel, 3-wire sequence, Cooling fan on/off, Slip compensation, Torque compensation, Frequency jump, Upper/lower limits for frequency reference, DC injection braking at start and stop, Overexcitation braking, Fault restart, Motor stall prevention ...
Protection function	
Motor Protection	Motor overheat protection based on output current
Momentary Overcurrent Protection	Drive stops when output current exceeds 200% of Heavy Duty Rating
Overload Protection	120% for 60 sec at normal duty, 150% for 60 sec at Heavy Duty
Overvoltage Protection	200 V class: Stops when DC bus exceeds approx. 410 V, 400 V class: Stops when DC bus exceeds approx. 820 V
Undervoltage Protection	Stops when DC bus voltage falls below the following levels: 190 V (3-phase 200 V), 160 V (single-phase 200 V), 380 V (3-phase 400 V), 350 V (3-phase 380 V)
Drive Overheat Protection	Protected by thermistor
Operating environment	
Area of Use	Indoors
Ambient Temperature	-10 °C to +50 °C (IP20 open chassis)
Humidity	95 RH% or less (non-condensing)
Storage Temperature	-20 °C to +60 °C
Altitude	Max. 1000 m (output derating of 1% per 100 m above 1000 m, max. 3000 m)
Shock	10 to 20 Hz (9.8 m/s²) max., 20 to 55 Hz (5.9 m/s²) max.
Standards	CE, UL, cUL, RoHS

200 V class							
Three Phase Inverter Model CIMR-JC2A	**0001**	**0002**	**0004**	**0006**	**0010**	**0012**	**0020**
Single Phase Inverter Model CIMR-JCBA	**0001**	**0002**	**0003**	**0006**	**0010**	**–**	**–**
Motor output kW at normal duty	0.2	0.4	0.75	1.1	2.2	3.0	5.5
Motor output kW at heavy duty	0.1	0.2	0.4	0.75	1.5	2.2	4.0
Rated output current at normal duty [A]*1	1.2	1.9	3.5 (3.3)	6.0	9.6	12.0	19.6
Rated output current at heavy duty [A]	0.8*2	1.6*2	3*2	5.0*2	8.0*3	11.0*3	17.5*3
Rated output power at normal duty [kVA]*1	0.5	0.7	1.3	2.3	3.7	4.6	7.5
Rated output power at heavy duty [kVA]	0.3	0.6	1.1	1.9	3.0	4.2	6.7
Max. output voltage	Single and Three-phase power supply: three-phase 200 to 240 V (relative to input voltage)						
Max. output frequency	400 Hz						
Rated input voltage	Three-phase 200 to 240 V +10%/-15%, Single-phase 200 to 240 V +10%/-15%						
Rated input frequency	50/60 Hz, ±5%						

400 V class							
Three Phase Inverter Model CIMR-JC4A	**0001**	**0002**	**0004**	**0005**	**0007**	**0009**	**0011**
Motor output kW at normal duty	0.4	0.75	1.5	2.2	3.0	3.7	5.5
Motor output kW at heavy duty	0.2	0.4	0.75	1.5	2.2	3.0	3.7
Rated output current at normal duty [A]*1	1.2	2.1	4.1	5.4	6.9	8.8	11.1
Rated output current at heavy duty [A]*3	1.2	1.8	3.4	4.8	5.5	7.2	9.2
Rated output power at normal duty [kVA]*1	0.9	1.6	3.1	4.1	5.3	6.7	8.5
Rated output power at heavy duty [kVA]*3	0.9	1.4	2.6	3.7	4.2	5.5	7.0
Max. output voltage	Three-phase 380 to 480 V (proportional to input voltage)						
Max. output frequency	400 Hz						
Rated input voltage	Three-phase 380 to 480 V +10%/-15%						
Rated input frequency	50/60 Hz +/-5%						

*1 This value assumes a carrier frequency of 2 kHz to Swing PWM. Increasing the carrier frequency requires a reduction in current.

*2 This value assumes a carrier frequency of 10 kHz. Increasing the carrier frequency requires a reduction in current.

*3 This value assumes a carrier frequency of 8 kHz. Increasing the carrier frequency requires a reduction in current.

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